Draft Final

PROGRAMMATIC ENVIRONMENTAL ASSESSMENT FOR ROUTINE MAINTENANCE AND REPAIR AT MILITARY OCEAN TERMINAL CONCORD, CA

SEPTEMBER 2021

This page intentionally left blank.

DRAFT
PROGRAMMATIC ENVIRONMENTAL ASSESSMENT FOR ROUTINE MAINTENANCE AND REPAIR AT MILITARY OCEAN TERMINAL CONCORD, CA

Submitted to:
Military Ocean Terminal Concord
5110 Port Chicago Highway
Concord, CA 94520

September 2021

Printed on 30% Post-Consumer Recycled Paper

This page intentionally left blank.

PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

FOR

ROUTINE MAINTENANCE AND REPAIR AT

MILITARY OCEAN TERMINAL CONCORD, CA

Proponent: Military Ocean Terminal Concord

NEPA Lead Agency: Military Ocean Terminal Concord

APPROVAL

This Programmatic Environmental Assessment for Routine Maintenance and Repair at MOTCO meets the requirements of NEPA, 40 CFR 1500-1508 and 32 CFR 651, effective July 30, 1979. The Agency relied on the earlier version of the Council on Environmental Quality (CEQ) regulations as the PEA was substantially completed prior to the effective date of the new version of the CEQ regulations published July 16, 2020 and effective September 14, 2020.

7 September 2021

Date

CLOVER.LUKE.RYLE.1162294306

Digitally signed by CLOVER.LUKE.RYLE.1162294306
Date: 2021.09.07 10:28:42 -07'00'

Luke R Clover
LTC, LG
CDR, 834th Trans BN (SDDC)
Military Ocean Terminal Concord

FINDING OF NO SIGNIFICANT IMPACT

(33 C.F.R. pt. 230-325)

Routine Maintenance and Repair at Military Ocean Terminal,

Concord, CA

Calendar Years 2021 - 2031

1. Introduction: The Military Ocean Terminal, Concord (MOTCO), proposes to implement routine maintenance and repair activities for a period of 10 years (2021 through 2031). The types of installation facilities identified for routine maintenance are waterfront facilities, railyard and rail lines, road transportation and pavement systems, utilities, buildings and structures, landscaping, fencing and security.

2. Action: The Proposed Action is to implement routine installation maintenance and repair activities for the following installation facilities: waterfront facilities, railyard and rail lines, road transportation and pavement systems, utilities, buildings and structures, landscaping, fencing and security. Specific project types and actions for these facilities are described for compliance under this Programmatic Environmental Assessment (PEA). These project actions were analyzed for environmental impacts. Projects not specifically identified in this PEA, or projects that exceed the criteria described for routine maintenance in this document shall require separate environmental compliance.

Best Management Practices (BMPs) to reduce impacts of maintenance actions are described in the Environmental Consequences section for each of the resources. Under the Proposed Action, BMPs will be implemented during routine maintenance and repair activities to minimize potential impacts to installation resources. Implementation of the suite of BMPs identified for each maintenance activity will ensure that the Proposed Action does not adversely affect environment resources on the installation and in the surrounding community.

3. Factors Considered: Factors considered for this Finding of No Significant Impact were direct, indirect, and cumulative impacts on water resources; geology, soils, and mineral resources; air quality; climate change and sea level rise; biological resources, including Federally-listed species; land use and recreation; traffic and transportation; noise; utilities, energy and sustainability; hazardous and toxic materials; socioeconomic and environmental justice; aesthetics and visual resources; and cultural resources. Environmental resources that are not affected by the routine maintenance and repairs include land use, population and regional growth.

4. Conclusion: Based on a review of the information incorporated in the Programmatic Environmental Assessment and supported by the administrative record,

the United States Army Corps of Engineers concludes the proposed activity will not significantly affect the quality of the physical, biological, and human environment. In addition, avoidance, minimization, and mitigation measures are proposed to further support this determination. Therefore, pursuant to the provisions of the National Environmental Policy Act of 1969, the preparation of an additional Environmental Impact Statement will not be required.

Date

Luke R Clover
LTC, LG
CDR, 834th Trans BN (SDDC)
Military Ocean Terminal Concord

This page intentionally left blank.

ACRONYMS AND ABBREVIATIONS	
µg/m^3	micrograms per cubic meter
µm	micrometers
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ACM	asbestos containing material
ACP	access control point
ACZA	ammoniacal copper zinc arsenate
AIRFA	American Indian Religious Freedom Act
AR	Army Regulation
Army	U.S. Army
ARPA	Archaeological Resources Protection Act
AST	aboveground storage tank
AT/FP	anti-terrorism/force protection
BAAQMD	Bay Area Air Quality Management District
BCDC	Bay Conservation and Development Commission
BMP	best management practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CCWD	Contra Costa Water District
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CNEL	community noise equivalent level
CO	carbon monoxide
CO^2	carbon dioxide
CPRC	California Public Resources Code
CPS	Coastal Pelagic Species
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibels
dBA	A-weighted decibels
DOD	Department of Defense
DPW	Directorate of Public Works
DTSC	California Department of Toxic Substances Control
EO	Executive Order

ACRONYMS AND ABBREVIATIONS	
EP	Engineering Pamplet
EPA	Environmental Protection Agency
ER	Engineering Regulation
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FNSI	Finding of No Significant Impact
FS	Feasibility Study
FTA	Federal Transit Administration
FWCA	Fish and Wildlife Coordination Act
FY	Fiscal Year
GHG	greenhouse gas
HPT	hydraulic profiling tool
HTRW	hazardous, toxic, and radioactive substances/wastes
HVAC	heating, ventilation, and air conditioning
HWMP	Hazardous Waste Management Plan
ICRMP	Integrated Cultural Resources Management Plan
ICRP	Installation Climate Resilience Plan
IDG	Installation Design Guide
INRMP	Integrated Natural Resources Management Plan
IPMP	Integrated Pest Management Plan
IPS	installation planning standards
IR	installation restoration
LBP	lead-based paint
Leq	equivalent energy level
Leqh	hour equivalent energy level
LTM	long-term maintenance
LUC	land-use control
MBTA	Migratory Bird Treaty Act
mg/L	milligrams per liter
mg/m^3	milligrams per cubic meter
MMPA	Marine Mammal Protection Act
MMRP	Military Munitions Response Program
MOTCO	Military Ocean Terminal Concord
MRS	Munitions Response Sites
MW	megawatt
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
Navy	U.S. Navy

ACRONYMS AND ABBREVIATIONS	
NEPA	National Environmental Policy Act
NFA	no further action
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NMSA	National Marine Sanctuaries Act
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
O^3	ozone
Pb	lead
PCB	polychlorinated biphenyl
PCG	Pacific Coast Groundfish
PCNMNM	Port Chicago Naval Magazine National Memorial
PCS	Pacific Coast Salmon
PEA	Programmatic Environmental Assessment
PM_{10}	inhalable particles, with diameters less than or equal to 10 micrometers
$PM_{2.5}$	fine particulate matter, with diameters less than or equal to 2.5 micrometers
PP	Proposed Plan
ppb	parts per billion
ppm	parts per million
RA	Remedial action
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REC	Record of Environmental Consideration
RI	Remedial Investigation
ROD	Record of Decision
ROI	Region of Influence
ROW	right of way
RPMP	Real Property Master Plan
SAV	submerged aquatic vegetation
SCCWRP	Southern California Coastal Water Research Project
SDDC	Surface Deployment and Distribution Command
SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
SHPO	State Historic Preservation Office(r)
SIP	State Implementation Plan
SLR	sea level rise
SO_2	sulfur dioxide
SOP	standard operating procedure
SPCCP	Spill Prevention, Control, and Countermeasures Plan
SWPPP	Storm Water Pollution Prevention Plan

ACRONYMS AND ABBREVIATIONS	
SWRCB	State Water Resources Control Board
SY	square yards
TAC	toxic air contaminant
TDS	total dissolved solids
U.S.	United States
USACE	U.S. Army Corps of Engineers
USBOR	U.S. Bureau of Reclamation
USC	U.S. Code
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USOSHA	U.S. Occupational Health and Safety Administration
VOC	volatile organic compound

EXECUTIVE SUMMARY

This Programmatic Environmental Assessment (PEA) analyzes the potential environmental consequences of the United States Army (Army) programmatic and routine maintenance and repair actions at the Military Ocean Terminal Concord (MOTCO) Installation. These routine maintenance and repair actions are necessary to sustain, enhance, and modernize the Installation's existing utilities and infrastructure to meet the Army and U.S. Department of Defense (DOD) missions. The Army began preparing this PEA in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [U.S.C.] § 4321 et seq.); Council on Environmental Quality (CEQ) NEPA regulations (40 Code of Federal Regulations [CFR] Parts 1500–1508); and Army's NEPA regulations (32 CFR Part 651). As the internal draft EA was circulated for review prior to the September 14, 2020 effective date of CEQ's updated NEPA regulations, CEQ's pre-2020 version of its NEPA regulations apply.

ES-1 Background

MOTCO's infrastructure was initially constructed by the U.S. Navy (Navy) during World War II. While the Army first began operations at MOTCO in 1997, the Installation was transferred from the Navy to the Army in 2008 as a result of recommendations issued by the Base Realignment and Closure Commission. This installation is the primary West Coast common-user transshipment terminal, home to the SDDC's 834th Transportation Battalion.

Primary MOTCO infrastructure elements include four wharves / piers; railyards and rail lines; a road transportation system; utilities; and buildings. Certain routine maintenance and repair activities may in part qualify for categorical exclusions under Appendix B of the Army's National Environmental Policy Act (NEPA) regulations, but require additional evaluation and analysis where these undertakings have the potential to impact sensitive habitat or species, or other environmental resources. Undertakings described in the Proposed Action may also have been partially covered by previous NEPA analysis but are being evaluated programmatically in this EA to ensure that the entire suite of routine actions are evaluated Installation-wide.

Routine actions and emergent small-scale restoration or modernization requirements at MOTCO are not usually covered under an existing planning program such as the Installation's Real Property Master Plan (RPMP), and its principal components such as the current Installation Development Plan (IDP), Installation Design Guide (IDG), Integrated Natural Resources Management Plan (INRMP), and the Integrated Cultural Resources Management Plan (ICRMP). MOTCO has identified a list of maintenance and repair actions that are routine in nature and often require rapid implementation (e.g., in response to weather-related / accelerated deterioration of conditions). Because of the presence of sensitive habitats and species throughout much of the Installation, a need exists to streamline the environmental review process for these projects that critically support MOTCO's mission.

ES-2 Purpose and Need

The *purpose* of the Proposed Action is to programmatically evaluate for a suite of infrastructure maintenance and repair actions at MOTCO. These actions comprise relatively small-scale, routine measures and are necessary to support and fulfill MOTCO's mission. In some cases, these activities require short-notice or unscheduled mobilization to address developing infrastructure issues and are necessary to allow the Installation to continue to accomplish its mission safely and efficiently.

The *need* for the Proposed Action is driven by the presence of large-scale areas of sensitive habitat and of multiple Federally-listed sensitive, threatened, and endangered species on the Installation and in the adjacent Suisun Bay. Maintenance and repair requirements often intersect or pass through these sensitive habitats, especially in the case of linear infrastructure (i.e. transportation, utilities). Actions which in most cases might be covered under a Categorical Exclusion (CX) are being evaluated as part of an overall "hard look" ensuring that best management practices and mitigations are adequate to protect the environment. MOTCO currently implements maintenance and repair actions on a project-specific review basis. Evaluating the maintenance and repair actions as a whole will allow the Installation to manage these activities more effectively.

ES-3 Proposed Action

The Proposed Action is being undertaken in accordance with Army Regulation (AR) 200-1, Environmental Protection and Enhancement. This regulation implements Federal, State, and local environmental laws and DOD policies for preserving, protecting, conserving, and restoring the quality of the environment. AR 200-1 is used in conjunction with 32 Code of Federal Regulations Part 651 (32 CFR 651), which provides Army policy on NEPA (42 USC 4321–4347) requirements, and supplemental program guidance, which the proponent of this regulation may issue, as needed, to assure that programs remain current.

Table ES-1 presents a compilation of project types and routine actions that have recurred in recent years and are likely to be necessary in the future as identified within seven infrastructure categories:

- Waterfront Facilities
- Railyard and Rail Lines
- Road Transportation and Pavement Systems
- Utilities
- Buildings and Structures
- Landscaping
- Fencing and Security

Under the Proposed Action, maintenance and repair activities would be conducted at the MOTCO Installation over the next 10 years (2021-2031) in a manner that would enhance the mission of MOTCO, improve the efficiency of the environmental review process, and ensure that adequate environmental protection occurs. While some or all of these activities taken individually would be eligible for a Categorical Exclusion from NEPA review, due to the collective nature of these activities and the presence of sensitive species and habitat, and other environmental resources at MOTCO, a PEA is required to evaluate potential impacts. This is especially true of linear infrastructure which may move in and out of those habitats.

The PEA develops a site-specific project-level screening process, best management practices (BMPs), and standard operating procedures (SOPs) that could be applied to each action evaluated under a subsequent Record of Environmental Consideration (REC) and/or Categorical Exclusion, if needed. Programmatic consultations with the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), California State Historic Preservation Office (SHPO), Bay Conservation and Development Commission (BCDC), and other agencies will be conducted concurrently with the PEA. Regulatory permits such as Clean Water Act (CWA) Section 401/404 permits would be applied for on a site-specific basis, as needed, following completion of the PEA.

The overall intent of this PEA is to cover environmental review for routine actions. It is not intended to address environmental impacts associated with new military construction, beyond the kinds of modernization or recapitalization actions specifically identified. Types of projects not listed in Table ES-1 are not covered by this PEA.

ES-4 Alternatives

As a result of master planning and ongoing environmental management programs, the following alternatives are addressed:

- No Action
- Proposed Action (infrastructure maintenance and repair over a 10-year period)

Under the No Action Alternative, MOTCO would continue its current practice of environmental review and permitting of projects on a case-by-case scenario. Environmental analysis of some incidental maintenance and repair tasks may be missed. Implementation of the No Action Alternative would maintain the status quo and its selection would impact MOTCO's ability to sustain, enhance, and modernize its infrastructure and, ultimately, mission capability. This alternative does not meet the project's purpose and need, or objectives. Additional project alternatives were considered but dismissed and not fully analyzed in this PEA.

Table ES-1. Programmatic and Routine Actions

Programmatic Project Type	Action Description
Waterfront Facilities	
Berthing / Mooring Systems and Signage	Removal and replacement of berthing / mooring system components, including marine hardware, fixtures, fittings, fasteners, and fenders. Replacement parts to be engineered according to current industry standards. Placement of individual signs or markers required to improve safety and security of the Installation and or mariner safety. Replacement of floating docks or other mooring apparatus to aid in fire and emergency services berthing.
Pile Repair	Wooden pile repairs including partial replacement or application of a structural pile jacket or polypropylene wrap. Concrete piles may be wrapped or repaired using industry standard concrete repair techniques.
Pile and Pile Cap Replacement	Individual wooden piles that cannot be repaired as described above due to structural integrity concerns, would be replaced with the same size, diameter, and material as the existing piles. Up to 20 per year. Where structurally feasible, wooden pile clusters would be replaced with concrete or composite material. i.e.: Fender system or mooring dolphin piles. Pile caps are an above water repair that would be replaced in-kind according to industry standards.
Wharf and Trestle Decking	Degraded or damaged decking would be replaced with wood, concrete, or asphalt. Stringers, bracing, and accessory components would be replaced with marine-grade hardware, fixtures, fittings, fasteners including any federal or state required improvements.
Gantry Cranes and Rails	Replacement of rails, cables, or physical or mechanical components of the Installation's cranes. Preventative maintenance would include replacement of filters and fluids, electrical improvements, minor corrosion abatement, and spot painting. Projects would be limited to 10 feet from footprint of existing facilities.
Anti-Terrorism / Force Protection (AT/FP)	Measures necessary to provide safety and security including installation of fire suppression systems may include installation of cameras, high-intensity lighting features, etc. AT/FP installation would occur on existing facilities (e.g., wharves / piers).
Shoreline Erosion Control	Reinforcement and repair of the existing shoreline riprap would use similar materials currently associated with this feature. Working limits would be within 20 feet of the existing area and accessed from the shore-side only.
Railyard and Rail Lines	
Rail Expansion	Projects limited to no more than 3 miles of linear track or 15,000 square yards (SY) (3.1 acres) of total yard expansion over the 10-year period.

Programmatic Project Type	Action Description
Track / Rail, Siding, Turnout, and Cross-tie Replacement	Routine maintenance, repair, and replacement of track segments to include replacement of worn or undersized rail track, treated wooden cross-ties, components such as anchors, wheel stops, grounding rods, bump posts etc. Projects limited to less than 0.5 mile of consecutive linear trackage and no more than 6 miles total in over the 10-year project period. Work would be concentrated within the rail bed, with an area of disturbance limited to 50 feet either side of the ballast to allow for equipment access. Minor adjustments to rail footprint may be necessary to correct deficiencies in track geometry within this area of disturbance.
Ballast Replacement	Replacement / replenishment of ballast rocks along any part of the rail network. Projects limited to a 50-foot buffer from existing edge of ballast.
Crossing, Switching System, and Signal Upgrades	Includes at-grade crossing installation and modification, routine repair, and maintenance of mechanical, electrical, and other switching and signalization systems components necessary to support the controlled flow of rail traffic throughout MOTCO. Projects to meet current Federal Railroad Administration standards. Projects limited to 50-foot buffer from existing switching and signal systems.
Crossing, Abutment, and Transfer Pad Extensions and Upgrades	Includes maintenance and upgrades of rail abutments to address safety concerns at at-grade crossings and where existing transfer pads require additional surface area to accomplish site-specific tasks. Projects limited to a 10-foot buffer from existing crossings and transfer pads.
Road Transportation System	
Road Resurfacing	Pavement repairs, including sealing, milling, patching, and resurfacing not to exceed 5,000 SY (3.1 acres) of pavement area to be replaced per year Installation-wide. Projects limited to no more than 0.5 mile per year.
Road Grading and Base Replacement	Minor grading, re-profiling, and resurfacing of unimproved aggregate roadways and fire breaks. Road base may be replaced or upgraded to facilitate longer-term solutions to maintenance issues. Projects limited to no more than 10 miles of unimproved road per calendar year. Working limits within 20 feet of the existing area.
Culverts and Stormwater Drainage	Maintain positive drainage away from roadways and pavement by keeping drainage swales and conveyance system free of debris and vegetation, and excavation to return ditches to their original design levels when needed. Replace damaged or undersized culverts and components in conjunction with roadway repairs or failure of conveyance system elements. Minor grading and alteration of flow patterns to address storm water flow issues (e.g. ponding / localized flooding of pavements). Overall system issues and maintenance needs discussed further under Utilities. Stormwater drainage and culvert projects would be conducted within a 50-foot project buffer.

Programmatic Project Type	Action Description
Bridge Strengthening and Elevated Road Crossings	Minor corrosion abatement and spot painting. Includes footing and foundation patching and repairs such as wood, metal or concrete replacement, and minor seismic upgrades such as the addition of stiffeners or re-enforcement of columns etc. Projects limited to 50-foot buffer from existing features.
Geometry Improvements	Shoulder widening, curb installation, repair replacement, minor adjustments to profile or slope.
Holding Pad / Transfer Pad Maintenance, Repair, and Improvements	Pavement repairs, including sealing, milling, patching, and resurfacing not to exceed 9,000 SY (1.9 acres) of pavement replacement per year Installation-wide. Enlargement of existing ammunition pads to enhance use (e.g. addition of curbing, turning aprons, etc.). May occur in conjunction with rail system improvements.
Parking Lots / Ammo Lots, Staging Areas, and Other Miscellaneous Pavements Expansion, Maintenance, and Repair	Staging areas, parking and ammo lot expansion limited to less than 1 acre of pavement area per year in previously disturbed or inland areas. Repairs include sealing, milling, patching, and resurfacing limited to less than 1 acre of pavement area per year Installation-wide.
Lighting, Traffic Safety, Signage, and Pavement Markings	Repair and replacement of traffic safety features and signage. Projects limited to 20 feet from the edge of existing road surface.
Utilities	
Aboveground and Underground Utility Systems	Includes removal of old / inactive lines, component upgrades and replacements (e.g. poles, lines, transformers, backflow preventers, and stand-alone elements such as leach fields, generators, fuel tanks etc.), excavation, and directional boring. Disturbance limited to within 20 feet of existing utility rights-of-ways for project work.
Storm Water System Upgrades	Maintenance and repair of existing retention basins would not exceed 25 percent of total basin size per year. Removal, rerouting, and replacement of existing storm water piping plus additional piping needed to meet regulatory requirements and functionality.
Lightning Protection Systems	Installation, maintenance, repair, or replacement of lighting protection systems to including building mounted components or stand-alone catenary structures. Installation would be accessory to existing facilities. Area of disturbance limited to within 100 feet of the existing facility footprint as a wider buffer is required for the tall, expansive lightning protection infrastructure.
Solar Installation(s) (<5 megawatts [MW])	Installation of solar photovoltaic panels and associated storage and distribution components in previously disturbed or inland areas. Up to 1 MW per location.

Programmatic Project Type	Action Description
Buildings	
Minor Building / Structure Expansions	Projects limited to an addition of up to 2,000 SF or 25% of existing building square footage, whichever is less for any facility located in previously disturbed or inland areas
Interior Maintenance and Repairs	Interior maintenance activities include annual preventative maintenance of interior systems such as insulation, painting, lighting, phone, gas, plumbing heating, ventilation, and air conditioning (HVAC) systems, security, fire alarms, fire protection, and energy-saving electronic monitoring and control systems. Changes to floorplans may be conducted within the existing footprint. Interior renovations limited to 100,000 square feet per year.
Exterior Maintenance and Repairs	Includes lighting, HVAC, electrical communication management systems (fiber optics), electrical, plumbing, gas, sidewalks, new siding, stucco repair, painting, window/door replacement, and roofing.
Anti-Terrorism / Force Protection (AT/FP) and Seismic Retrofits	Seismic and AT/FP retrofit activities may be triggered for modernization projects as dictated by mission critical decisions or as a result of security recommendations. May include both interior and exterior features such as installation of isolation bearings and structural re-engineering of frame and or foundation elements for building hardening to meet DOD minimum anti-terrorism standards for buildings. Work area would be confined to within 30 feet of building footprint. When feasible, and frequently in conjunction with other routine maintenance activities, small-scale building retrofits to address earthquake preparedness and resiliency would be accomplished.
Berms, Barricades, and Accessory Safety / Security Structures	Earthen / earth-filled berms and physical barriers are part of the explosive safety and AT/FP programs. Includes removal, grading to repair damage from subsidence, erosion, rodent burrows etc., and revegetation to stabilize slopes. Accessory structures such as, guard booths, security towers etc. may be installed, repaired relocated, or replaced, as necessary.
Landscaping	
Maintenance and Beautification of Inland Cantonment Common Areas	Includes installation or upgrade of irrigation systems for the establishment of plantings, implementation of new planting programs, tree pruning, mowing, etc. consistent with the MOTCO Installation Design Guide (IDG). Application of herbicides and pesticides would be in accordance with the MOTCO Integrated Pest Management Plan (IPMP, U.S. Army 2021d).
Maintenance of Tidal Operational Areas	Manual brush clearing and removal of debris within 10 feet of rail lines and operational buildings. Tree pruning to maintain clear line of site and fire safety. Chemical treatment for invasive species removal as specified in the INRMP (June 2018) and IPMP (U.S. Army 2021d).

Programmatic Project Type	Action Description
Fencing & Security	
Fence Installation and Repair	Installation, repair, and replacement of the perimeter fence and interior areas requiring fencing for safety and/or security.
Anti-Terrorism / Force Protection (AT/FP) Measures	Includes the installation of mechanical and electronic security measures (e.g., cameras, intrusion detection systems, vehicle barriers, bollards, etc.).

ES-5 Public Involvement

During the PEA development process (November 2018), MOTCO sent scoping letters to the USFWS, NMFS, NPS, U.S. Environmental Protection Agency (USEPA) Region 9, U.S. Army Corps of Engineers (USACE) Regulatory Division, California State Clearinghouse, SHPO, BCDC, San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), California Department of Fish and Wildlife (CDFW), Cortina Band of Indians, and Ione Band of Miwok Indians. These letters notified these agencies and Federally-recognized tribes of the Proposed Action and associated consultations and solicited comments. No responses to these letters were received. Additional coordination continued with USFWS, NMFS, USACE Regulatory Division, SHPO, BCDC, NPS, and SFBRWQCB on consultation and permitting in support of the Proposed Action.

In accordance with 32 CFR Part 651.35, the draft Finding of No Significant Impact (FNSI) for this PEA will be made available to the public for review and comment for 30 days prior to the initiation of the Proposed Action. A notification of the draft FNSI will be published in the *Contra Costa Times*. The draft FNSI will be distributed to agencies and tribes listed in the above paragraph and any other agencies, organizations, and individuals that have expressed interest in the project. The draft FNSI will articulate the deadline for receipt of comments, availability of the PEA for review, and steps required to obtain the PEA. The draft FNSI and PEA will be available at the Concord Public Library and Bay Point Library and at:
https://www.sddc.army.mil/motco/Pages/MOTCO.aspx.

Although this PEA is not a joint NEPA/California Environmental Quality Act (CEQA) document, it includes CEQA-specific analysis to facilitate and expedite permit issuance from state agencies. The intent is for state agencies issuing permits to be able to use this PEA to meet CEQA requirements.

ES-6 Environmental Consequences

Based upon the programmatic evaluation performed in this PEA, the Proposed Action would not be anticipated to result in significant impacts and, therefore, would not contribute to adverse

cumulative impacts within the region. Therefore, MOTCO has determined an EIS is unnecessary for implementing the Proposed Action, and that a FNSI is appropriate.

ES-7 Best Management Practices

The following is a list of BMPs for applicable resource categories under the Proposed Action. Implementation of these BMPs during routine maintenance and repair actions would keep project impacts below the significance thresholds.

- AIR-1. Reduce vehicle use by developing a trip management plan for maintenance and repair projects.
- AIR-2. Reduce unnecessary idling from project vehicles and heavy equipment, placing a time restriction of five minutes on vehicle idling.
- AIR-3. Ensure project vehicles are maintained to perform at state and federal certification levels. Lease new equipment and use USEPA “Tier 4” engines in off-road equipment where practicable.
- AIR-4. Perform periodic project inspections to ensure compliance with these mitigation measures.
- BIO-1. Pollution and erosion control: Similar to GEO-1 construction BMPs would be used in accordance with the MOTCO NPDES Permit and SWPPP for proposed actions that involve earthwork. Site-specific spill pollution prevention and erosion control measures will be put in place to minimize or eliminate impacts to habitat from soil erosion, runoff, and spills.
- BIO-2. Stormwater management: For proposed actions that involve temporary actions such as the reconditioning, reconstructing, or replacement of pavement, replacement of a stream crossing, or permanent actions that may otherwise increase the contributing impervious surface area within the vicinity of the project, the Installation SWPPP will be followed with a site-specific Stormwater Management Plan. The SWPPP / Stormwater Management Plan would be implanted in a manner to protect habitat from changing volumes of stormwater runoff.
- BIO-3. Site restoration: For proposed actions that would have the potential to result in the disturbance of riparian vegetation, soils, or streambanks, a site restoration plan would be developed prior to construction, and restoration would be commensurate with the scale of the action.
- BIO-4. Heavy equipment and vehicle use: Heavy equipment necessary to implement proposed actions will be selected and operated as necessary to minimize adverse effects on the environment (e.g., minimally sized, low pressure tires).

- BIO-5. Use of chemicals, fuels, lubricants, or biocides will be in compliance with all local, state, and Federal regulations. This is necessary to minimize the possibility of contamination of habitat or poisoning of wildlife. All uses of such compounds will observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other state and Federal legislation.
- BIO-6. Approved work windows (e.g. daily construction will occur during daylight hours. In-water work will be completed in the approved delta smelt work window between August 1 and November 30 or as otherwise specified during consultation with USFWS and NMFS).
- BIO-7. Piling installation: Replacement pilings would involve the replacement of same-size piles with either concrete, steel, or treated wood piles. When practical, a vibratory hammer will be used for piling installation. If an impact hammer is needed to install concrete piles or proof piles, noise attenuation measures would be implemented.
- BIO-8. Piling removal: Specific practices would be followed to minimize creosote release from treated piles and/or sediment disturbance and resuspension.
- BIO-9. Deck replacement: Specific practices would be followed for proposed actions that involve the removal and replacement of existing decking.
- BIO-10. Biological Monitoring for projects where the resource agencies and the Army have agreed on monitoring.
- BIO-11. Reporting and/or Notification of Regulatory agencies.
- CR-1. Follow current ICRMP procedures (U.S. Army, 2018). The ICRMP includes 18 SOPs for cultural resources compliance procedures. ICRMP SOPs applicable to the Proposed Action include the following:
    - SOP-1: Maintenance and Care for Historic Buildings and Structures
    - SOP-2: Disposal or Demolition of Excess Property
    - SOP-3: Mission Training of Military and Tenant Personnel
    - SOP-4: Emergency Actions
    - SOP-5: Inadvertent Discovery of Archaeological Deposits/Cultural Materials
    - SOP-7: Department of Public Works Activities
    - SOP-10: Section 106 Process
    - SOP-11: Tribal Consultation Process
    - SOP-12: Compliance with Executive Order 13007: Indian Sacred Sites
    - SOP-13: Government to Government Relations
    - SOP-14: Properties of Traditional Religious and Cultural Importance
    - SOP-15: Native American Graves Protection and Repatriation Act
    - SOP-16: Archaeological Resources Protection Act of 1979
    - SOP-17: Antiquities Act of 1906
    - SOP-18: National Park Service Consultation Process

- CR-2. Although substantial excavation work is not a typical part of routine maintenance and repair operations, potential excavation in areas with high or moderate archaeological potential at MOTCO should have an archaeological survey done prior to construction or be conducted in the presence of an archaeological monitor. In the event that archaeological deposits are encountered during any excavation activities, the activity must stop and the MOTCO Environmental Coordinator must be notified. If bone is present within the deposit, a qualified professional will determine if the materials represent human remains.
- GEO-1. Use of construction BMPs in accordance with the MOTCO NPDES Permit and SWPPP. The BMPs would include but not be limited to the following:
    - Schedule excavations (e.g., utility work) to minimize land disturbance during rainy and dry seasons;
    - Provide soil stabilization to steep slope work areas;
    - Provide sediment controls to intercept and slow down stormwater flows;
    - Cover stockpiled soil;
    - Use dust suppressants, such as watering soils and unpaved roadways;
    - Preserve existing vegetation where no construction activities are planned; and
    - Replant/revegetate all exposed disturbed areas immediately upon completion of projects.
- GHG-1. Increase acquisition and use of electric fleet vehicles.
- HM-1. The Installation Hazardous Waste Management Plan (HWMP) will be followed during project activities with regard to the proper storage, use, and disposal of hazardous, toxic, and radioactive substances/wastes.
- HM-2. Where ACM and/or LBP is present on project actions (e.g., building exterior renovations) develop and adhere to a debris containment and collection plan for protection of worker safety and the environment. A containment system would be placed around applicable work areas to collect all dust and debris where ACM/LBP is disturbed. These waste building materials would be segregated and disposed of properly.
- HM-3. Coordinate any work within IR site boundaries with Installation Environmental Chief to ensure no impacts to remedial measures.
- LU-1. To the extent possible the Army will work with the National Park Service (NPS) to attempt to avoid disruptive project activities during times that conditions of quiet and reverence are important for ceremonial events at the Port Chicago Naval Magazine National Memorial (PCNMNM) Site.
- NS-1. Project workers should wear appropriate protection to limit hearing damage during maintenance and repair activities. U.S. Occupational Health and Safety

Administration (USOSHA) regulations, DOD Instruction 6055.12, *Hearing Conservation Program* and Army Pamphlet 40-501, *Hearing Conservation Program*.

- NS-2. A potential sound measure that could be considered on a project action basis is temporary sound barriers near a high project-related noise source.
- NS-3. Construction would take place during weekday, daytime hours (Monday through Friday from 7:00 am to 5:00 pm.
- TR-1. Develop traffic control plans for project actions that describe traffic detours away from applicable project activities, particularly road maintenance and repairs. Distribute traffic control plans to Installation employees.
- WR-1. Continue with routine maintenance of permanent and temporary landscape irrigation systems per the Installation SWPPP. Continue with quarterly inspections, sampling, and annual reporting, as described in the SWPPP.
- WR-2. Use of construction BMPs in accordance with the MOTCO National Pollution Discharge Elimination System (NPDES) Permit and SWPPP.
- WR-3. Monitoring adjacent stormwater outfalls and conduits when conducting maintenance and repair activities and perform simultaneous maintenance on these features as needed to keep them operational.
- WR-4. No vehicles or equipment (except for small watercraft) will be refueled within 100 feet of wetlands or aquatic habitats unless a bermed and lined refueling area is constructed. Any vehicles driven and/or operated within or adjacent to wetlands or aquatic habitats will be checked and maintained daily to prevent leaks of materials. No vehicles will be fueled on wharves or piers or over water (except for small watercraft).
- WR-5. For projects requiring water use, reduce the use of water in maintenance and repair activities by application of conservation measures. Examples would include using more drought-tolerate plantings in landscaping to reduce irrigation requirements and recycling water used in power washing.
- WR-6. For in-water work (e.g., pile replacements) floating booms will be in place in the work area to assist in capture of floating debris and potential fluid spills from project activities.

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY v

1.0 INTRODUCTION 1-1

1.1 Background 1-1
1.2 Regulatory Authorities 1-2
1.3 Study Area 1-4
1.3.1 Waterfront Facilities 1-4
1.3.2 Railyard and Rail Lines 1-4
1.3.3 Road Transportation System 1-5
1.3.4 Utilities 1-5
1.3.5 Buildings 1-22
1.3.6 Landscaping 1-22
1.3.7 Fencing and Security 1-22
1.4 Previous Studies and Environmental Documents 1-22
1.5 Purpose and Need 1-23
1.6 Scope and Content of the Programmatic EA 1-24
1.6.1 Decision to Be Made 1-25

2.0 PROPOSED ACTION AND ALTERNATIVES 2-1

2.1 Introduction 2-1
2.2 Proposed Action 2-1
2.3 Alternatives Considered 2-1
2.3.1 No Action 2-2
2.3.2 Proposed Action 2-2
2.4 Alternative Considered but Eliminated from Detailed Study 2-3
2.5 Alternatives Impacts Comparison Matrix 2-3
2.6 Mitigation Measures and Monitoring Procedures 2-3
2.7 Preferred Alternative 2-3

3.0 AFFECTED ENVIRONMENT 3-1

3.1 Water Resources 3-1
3.1.1 Regulatory Setting 3-1
3.1.2 Existing Conditions - Potable Water 3-3
3.1.3 Existing Conditions - Surface Water 3-4
3.1.4 Existing Conditions – Groundwater 3-4
3.1.5 Existing Conditions – Stormwater 3-5
3.1.6 Existing Conditions – Wetlands 3-5
3.1.7 Existing Conditions – Floodplains 3-7
3.1.8 Existing Conditions – Tidal Circulation 3-7
3.2 Geology, Soils, and Mineral Resources 3-7
3.2.1 Regulatory Setting 3-7
3.2.2 Existing Conditions – Geology 3-10
3.2.3 Existing Conditions – Soils 3-10
3.2.4 Existing Conditions – Sediments 3-11
3.2.5 Existing Conditions – Seismicity 3-11
3.2.6 Existing Conditions – Mineral Resources 3-12
3.3 Air Quality 3-12
3.3.1 Regulatory Setting 3-12

TABLE OF CONTENTS (CONTINUED)

Page

3.3.2 Existing Conditions - Air Quality 3-17
3.4 Climate Change and Sea Level Rise (SLR) 3-17
3.4.1 Regulatory Setting 3-18
3.4.2 Existing Conditions – Climate Change and Sea Level Rise 3-18
3.5 Biological Resources 3-19
3.5.1 Regulatory Setting 3-19
3.5.2 Existing Conditions - Vegetation, Wildlife, and Aquatic Species 3-22
3.6 Land Use and Recreation 3-29
3.6.1 Regulatory Setting 3-29
3.6.2 Existing Conditions - Land Use and Recreation 3-30
3.7 Traffic and Transportation 3-33
3.7.1 Regulatory Setting 3-33
3.7.2 Existing Conditions - Traffic and Transportation 3-33
3.8 Noise 3-34
3.8.1 Regulatory Setting 3-34
3.8.2 Existing Conditions - Noise 3-36
3.9 Utilities, Energy, and Sustainability 3-36
3.9.1 Regulatory Setting 3-36
3.9.2 Existing Conditions – Utilities, Energy and Sustainability 3-38
3.10 Hazardous and Toxic Materials/Wastes 3-39
3.10.1 Regulatory Setting 3-39
3.10.2 Existing Conditions – Hazardous Materials/Wastes 3-42
3.11 Socioeconomics and Environmental Justice 3-49
3.11.1 Regulatory Setting 3-49
3.11.2 Existing Conditions – Socioeconomics 3-50
3.11.3 Existing Conditions – Environmental Justice 3-50
3.12 Aesthetics / Visual Resources 3-50
3.12.1 Regulatory Setting 3-51
3.12.2 Existing Conditions – Visual, Scenic, and Aesthetic Resources 3-51
3.13 Cultural Resources 3-51
3.13.1 Regulatory Setting 3-52
3.13.2 Existing Conditions – Cultural Resources 3-53

4.0 ENVIRONMENTAL CONSEQUENCES 4-1

4.1 Water Resources 4-1
4.1.1 Approach to Analysis 4-1
4.1.2 Environmental Impacts 4-2
4.1.3 Best Management Practices – Water Resources 4-4
4.2 Geology, Soils, and Mineral Resources 4-5
4.2.1 Approach to Analysis 4-5
4.2.2 Environmental Impacts 4-5
4.2.3 Best Management Practices – Geology, Soils, and Mineral Resources 4-6
4.3 Air Quality 4-7
4.3.1 Approach to Analysis 4-7
4.3.2 Environmental Impacts 4-7
4.3.3 Best Management Practices – Air Quality 4-9
4.4 Climate Change 4-9
4.4.1 Approach to Analysis 4-9
4.4.2 Environmental Impacts 4-10
4.4.3 Best Management Practices – Climate Change 4-10

TABLE OF CONTENTS (CONTINUED)

Page

4.5 Biological Resources 4-11
4.5.1 Approach to Analysis 4-11
4.5.2 Environmental Impacts 4-11
4.5.3 Best Management Practices – Vegetation and Wildlife 4-13
4.6 Land Use and Recreation 4-17
4.6.1 Approach to Analysis 4-17
4.6.2 Environmental Impacts 4-17
4.6.3 Best Management Practices – Land Use and Recreation 4-18
4.7 Traffic and Transportation 4-18
4.7.1 Approach to Analysis 4-18
4.7.2 Environmental Impacts 4-19
4.7.3 Best Management Practices – Traffic and Transportation 4-19
4.8 Noise 4-19
4.8.1 Approach to Analysis 4-19
4.8.2 Environmental Impacts 4-20
4.8.3 Best Management Practices – Noise 4-20
4.9 Utilities, Energy, and Sustainability 4-21
4.9.1 Approach to Analysis 4-21
4.9.2 Environmental Impacts 4-21
4.9.3 Best Management Practices – Utilities, Energy, and Sustainability 4-22
4.10 Hazardous and Toxic Materials 4-22
4.10.1 Approach to Analysis 4-22
4.10.2 Environmental Impacts 4-22
4.10.3 Best Management Practices – Hazardous and Toxic Materials 4-24
4.11 Socioeconomics and Environmental Justice 4-24
4.11.1 Approach to Analysis 4-24
4.11.2 Environmental Impacts 4-25
4.11.3 Best Management Practices – Socioeconomics and Environmental Justice 4-25
4.12 Aesthetics/Visual Resources 4-25
4.12.1 Approach to Analysis 4-25
4.12.2 Environmental Impacts 4-26
4.12.3 Best Management Practices – Aesthetics/Visual Resources 4-26
4.13 Cultural Resources 4-26
4.13.1 Approach to Analysis 4-26
4.13.2 Environmental Impacts 4-27
4.13.3 Best Management Practices – Cultural Resources 4-28
4.14 Summary of Best Management Practices 4-29
4.15 Cumulative Effects 4-32
4.15.1 Introduction 4-32
4.15.2 Cumulative Effects of the Proposed Action 4-33

5.0 PUBLIC INVOLVEMENT 5-1

5.1 General 5-1
5.2 Public Involvement 5-1
5.3 Distribution List 5-2

6.0 COMPARISON OF ALTERNATIVES AND CONCLUSIONS 6-1

6.1 Comparison of the Environmental Consequences of the Alternatives 6-1
6.2 Conclusions 6-1

TABLE OF CONTENTS (CONTINUED)

Page

7.0 REFERENCES 7-1

8.0 GLOSSARY 8-1

9.0 LIST OF PREPARERS 9-1

LIST OF APPENDICES

APPENDIX A Sample Project Checklist 2

LIST OF FIGURES

Page

Figure 1-1. Regional Map 1-6
Figure 1-2. Installation Map 1-8
Figure 1-3a. Site Map – Proposed Projects 1-10
Figure 1-3b. Site Map – Proposed Projects 1-12
Figure 1-3c. Site Map – Proposed Projects 1-14
Figure 1-3d. Site Map – Proposed Projects 1-16
Figure 1-3e. Site Map – Proposed Projects 1-18
Figure 1-3f. Site Map – Proposed Projects 1-20
Figure 3-1. Wetlands 3-6
Figure 3-2. Floodplains 3-8
Figure 3-3. Vegetation Habitat Map 3-23
Figure 3-4. Faunal Special Species 3-24
Figure 3-5. Land Use Map 3-31
Figure 3-6. Installation Restoration Program Sites 3-45

LIST OF TABLES

Page

Table ES-1. Programmatic and Routine Actions viii
Table 1-1. Environmental Approval/Permit Requirements 1-3
Table 2-1. Programmatic and Routine Actions 2-0
Table 3-1. Summary of National and California Ambient Air Quality Standards 3-14
Table 3-2. Installation Restoration Sites List and Status 3-46
Table 4-1. General Conformity Air Quality *de Minimis* Thresholds 4-8
Table 4-2. Best Management Practices Summary 4-30
Table 4-3. Cumulative Action Evaluation 4-35
Table 6-1. Summary of Potential Environmental Impacts on Environmental Resources 6-1

This page intentionally left blank.

1.0 INTRODUCTION

1.1 BACKGROUND

The U.S. Army's (Army's) Military Ocean Terminal Concord (MOTCO) has prepared this Programmatic Environmental Assessment (PEA) to address the environmental effects of programmatic and routine maintenance and repair actions necessary to sustain, enhance, and modernize the MOTCO Installation's existing utilities and infrastructure to meet the Army and U.S. Department of Defense's (DOD's) missions. This PEA has prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [U.S.C.] § 4321 et seq.); Council on Environmental Quality (CEQ) NEPA regulations (40 Code of Federal Regulations [CFR] Parts 1500–1508); and Army's NEPA regulations (32 CFR Part 651). As the internal draft EA was circulated for review prior to the September 14, 2020 effective date of CEQ's updated NEPA regulations, CEQ's pre-2020 version of its NEPA regulations apply. The Surface Deployment and Distribution Command (SDDC) at MOTCO is the NEPA lead agency for this EA. MOTCO is located on Suisun Bay, 30 miles northeast of San Francisco, in Contra Costa County. MOTCO's infrastructure was constructed by the U.S. Navy beginning in WWII and operated as a Navy installation. The U.S. Army MOTCO began operations in 1997. Under a Base Realignment and Closure (BRAC) process, the installation was transferred to the Army in 2008. This installation is the primary West Coast common-user transshipment terminal, home to the SDDC's 834th Transportation Battalion.

Primary MOTCO infrastructure elements include three wharves and a pier (Wharves 2, 3, 4, referred to in previous documents as "Piers 2, 3, and 4," and the Barge Pier); railyards and rail lines; a road transportation system including transfer and holding pads; utilities (water, wastewater, and electricity); and buildings (operations, administration, maintenance, warehouse/supply, ammunition holding/storage, and security). MOTCO's current planning documents include Installation Master Plan (2015), Real Property Master Plan (RPMP 2011), 2016 Installation Development Plan (IDP; U.S. Army 2016), and Installation Planning Standards (IPS 2021) provide detailed descriptions of the Installation's history and mission functions, and comprehensive lists and assessments of existing and planned infrastructure.

Certain routine maintenance and repair activities have been determined to qualify for Categorical Exclusions (CX, 32 CFR 651, Appendix B of the Army's NEPA regulations), and various Army-wide and MOTCO-specific documents address a variety of routine actions. Other routine and recurring actions at MOTCO do not currently have standardized or streamlined NEPA-compliant documentation, or are not covered under an existing program or plan. Therefore, a need exists to streamline the environmental review process for these projects that critically support MOTCO's mission. If this PEA determines that no adverse significant or cumulative impacts would occur, additional analyses would not be necessary to support implementation of the discrete maintenance and repair actions assessed herein.

MOTCO has compiled a list of maintenance and repair actions that have not been previously reviewed, but are routine in nature and often require rapid implementation (e.g., in response to weather-related / accelerated deterioration of conditions), have recurred in recent years, and are likely to be necessary in the future. The maintenance and repair actions for infrastructure described in Section 1.1.1 (below) are summarized in Table 2-1.

1.2 REGULATORY AUTHORITIES

Key federal laws, Army Regulations (ARs), and Executive Orders (EOs) that are applicable to the development of this PEA are listed below. Additional details on these laws, as well as other regulatory drivers in place to ensure the protection of environmental resources, are presented in the Regulatory Setting section for each environmental resource area analyzed in Section 3.0.

- NEPA
- 32 CFR 651 (Environmental Analysis of Army Actions)
- 36 CFR 800 (Protection of Historic Properties)
- Antiquities Act
- Clean Water Act (CWA)
- Safe Drinking Water Act
- Coastal Zone Management Act (CZMA)
- National Marine Sanctuaries Act (NMSA)
- Endangered Species Act (ESA)
- Magnuson-Stevens Fishery Conservation and Management Act
- Native American Graves Protection and Repatriation Act (NAGPRA)
- Archaeological Resources Protection Act (ARPA)
- Marine Mammal Protection Act (MMPA)
- American Indian Religious Freedom Act (AIRFA)
- Federal Wildlife Coordination Act (FWCA)
- Rivers and Harbors Act
- National Historic Preservation Act (NHPA)
- National Register of Historic Places (NRHP)
- Migratory Bird Treaty Act (MBTA)
- Clean Air Act (CAA)
- Noise Control Act
- AR 200-1, Environmental Protection and Enhancement
- AR 405-70, Utilization of Real Property
- EOs
    - 11514 – Protection and Enhancement of Environmental Quality
    - 11988 – Floodplain Management
    - 11990 – Protection of Wetlands
    - 12088 – Federal Compliance with Pollution Control Standards

- 12373 – Intergovernmental Review of Federal Programs
- 12898 – Environmental Justice in Minority and Low-Income Populations
- 13045 – Protection of Children from Environmental Health Risks and Safety Risks
- 13175 – Consultation and Coordination with Indian Tribal Governments
- 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds
- 13327 – Federal Real Property Asset Management
- 13693 – Planning for Federal Sustainability

In addition to these applicable environmental laws, regulations, and EOs, there are several specific regulatory agency approvals and permitting requirements that apply to the proposed Project. Compliance with regulatory permitting processes and permit requirements can also be addressed programmatically; however, some project types may require individual permits prior to initiating work. Table 1-1 lists some of the state and federal agencies with environmental permitting and approval requirements that may apply to maintenance and repair projects at MOTCO.

Table 1-1. Environmental Approval/Permit Requirements

Permits and Approvals	Agency
CWA, Section 404 / Rivers and Harbors Section 10 Permit	U.S. Army Corps of Engineers (USACE)
CWA, Section 401 Permit	Regional Water Quality Control Board (RWQCB)
CZMA – Consistency Determination	Bay Conservation and Development Commission (BCDC)
Magnuson-Stevens Fishery Conservation and Management Act – Essential Fish Habitat Assessment	National Marine Fisheries Service (NMFS)
ESA, Section 7 Consultation	U.S. Fish and Wildlife Service (USFWS) and NMFS
NHPA, Section 106 Consultation	State Historic Preservation Office (SHPO)
Lake or Streambed Alteration	California Department of Fish and Wildlife (CDFW)

This PEA is a public document intended for use by the Army, other governmental agencies, and the public to enable a determination and evaluation of potential environmental consequences of the proposed projects, identification of mitigation measures to reduce or eliminate adverse effects, and an examination of feasible alternatives to the proposed projects. The programmatic and qualitative impact analyses in this document are based on the regulatory setting and resource constraints information that was readily available at the time of preparation. The information contained in this PEA will be reviewed and considered by the Army and MOTCO Installation Directorate of Public Works (DPW) prior to the final decision to approve, deny, or modify the proposed infrastructure projects.

1.3 STUDY AREA

Located along Suisun Bay in north-central Contra Costa County, California, MOTCO sits in the East San Francisco Bay Area, with Oakland 20 miles to the southwest, Sacramento 65 miles to the northeast, and Concord approximately five miles to the south of the Installation, and is about 10 miles east of the Carquinez Straight that connects Suisun Bay to San Pablo Bay (Figure 1-1 Regional Map).

The Installation includes an approximately 115-acre administrative complex (Inland Area / Administrative District) and an approximately 6,242-acre Tidal Area (Mission District), which are connected by a road running parallel to and west of Port Chicago Highway. The Tidal Area includes about 2,045 acres of islands located in Suisun Bay (Figure 1-2 Installation map). The MOTCO restricted area extending from the shore to the ship channel includes the navigational approaches to the wharves (33 CFR Part 334).

MOTCO's Real Property inventory includes 141 general buildings/structures, numerous magazines, barricaded magazines, berms, and bridges / trestles, as well as 38 paved areas, (e.g., parking lots), 4 wharves / piers, 27 miles of road, and about 38 miles of railroad track. The basic layout of MOTCO and its infrastructure are illustrated in Figures 1-3a through 1-3f). All of these facilities require regular maintenance and repairs. Information about buildings and structures at MOTCO was provided in the *Final ICRMP Update 2017-2022* and is summarized below.

1.3.1 Waterfront Facilities

Structures in the Tidal Area consist of piers and wharves and associated operational support buildings and structures, including offices and the Barge Pier (used for docking of all small watercraft at MOTCO). There are three operational wharves located along the Tidal Area's shoreline of Suisun Bay: Wharf 2, Wharf 3, and Wharf 4 (Wharf 1 was an original World War II-era structure and was destroyed in the Port Chicago explosion on July 17, 1944). Each of the wharves originally included wood trestle bridges to facilitate rail access to the western end of the wharves where materials were loaded onto rail cars. All three operational wharves have had concrete extensions added to their eastern ends allowing trains to continue back to land in a loop, rather than requiring them to back up.

1.3.2 Railyard and Rail Lines

The MOTCO-owned railroad network consists of approximately 38 miles of track, more than 270 turnouts, two classification yards, 11 railroad crossings, and 38 barricaded rail sidings. There are six railroad bridges and trestles in the tidal area at MOTCO. Some of the older track is not currently in use.

1.3.3 Road Transportation System

The vehicular transportation system includes three transfer pads and eight holding pads in the Tidal Area, as well as vehicle parking, open storage, and staging areas located throughout MOTCO. The current real property inventory includes 38 paved transport areas and 3 bridges. The transport system areas do not include repairs previously evaluated in the *Environmental Assessment for General Repair of Bridges, Roads, and Utilities at Military Ocean Terminal Concord* (U.S. Army, 2017).

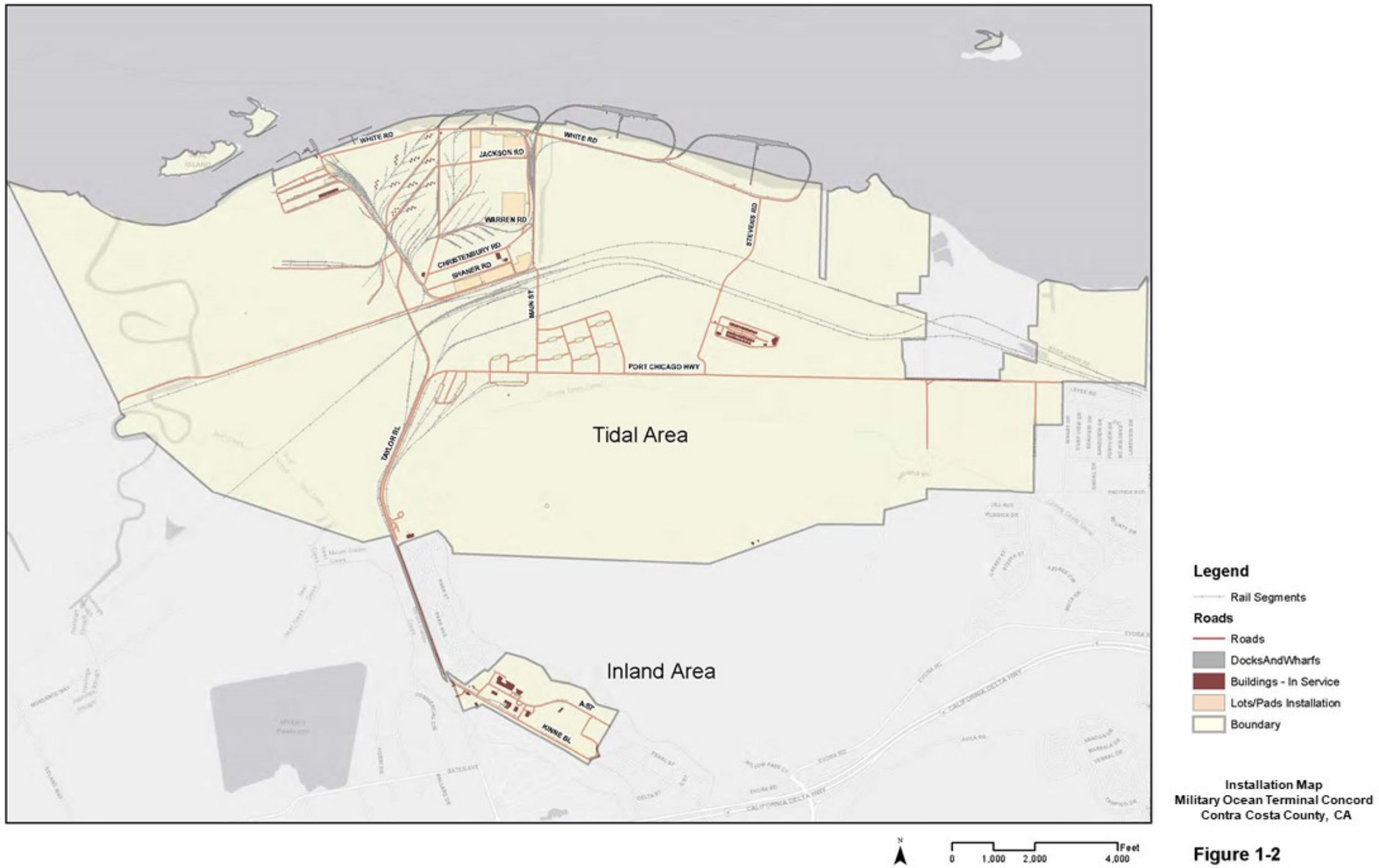
1.3.4 Utilities

While the *Environmental Assessment for General Repair of Bridges, Roads, and Utilities at Military Ocean Terminal Concord* (U.S. Army, 2017) covers maintenance for some MOTCO utilities along roadways, this PEA is applicable for MOTCO utilities outside of the road network including water, sewer, communication, and electricity, as shown on Figure 1-3. There will be no impact to wetlands and undisturbed habitat areas from the maintenance and repair of utilities. If a utility crosses into these areas, maintenance and repair work would be addressed in a separate NEPA document.



Regional Map
Military Ocean Terminal Concord
Contra Costa County, CA

This page intentionally left blank.



Installation Map
Military Ocean Terminal Concord
Contra Costa County, CA

Figure 1-2

This page intentionally left blank.

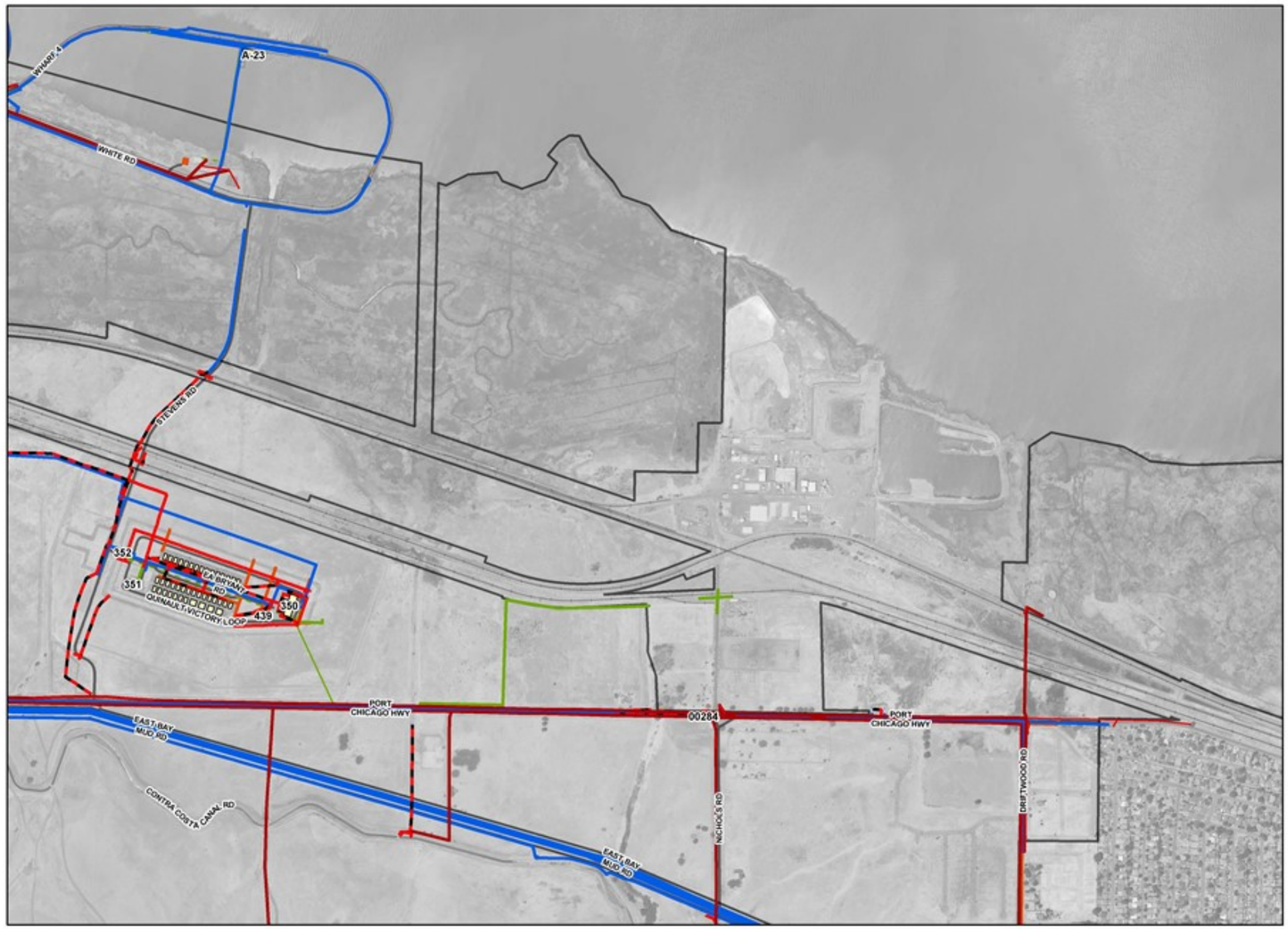


Site Map for
Military Ocean Terminal Concord
Contra Costa County, CA

Figure 1-3a

Site Map – Proposed Projects

This page intentionally left blank.

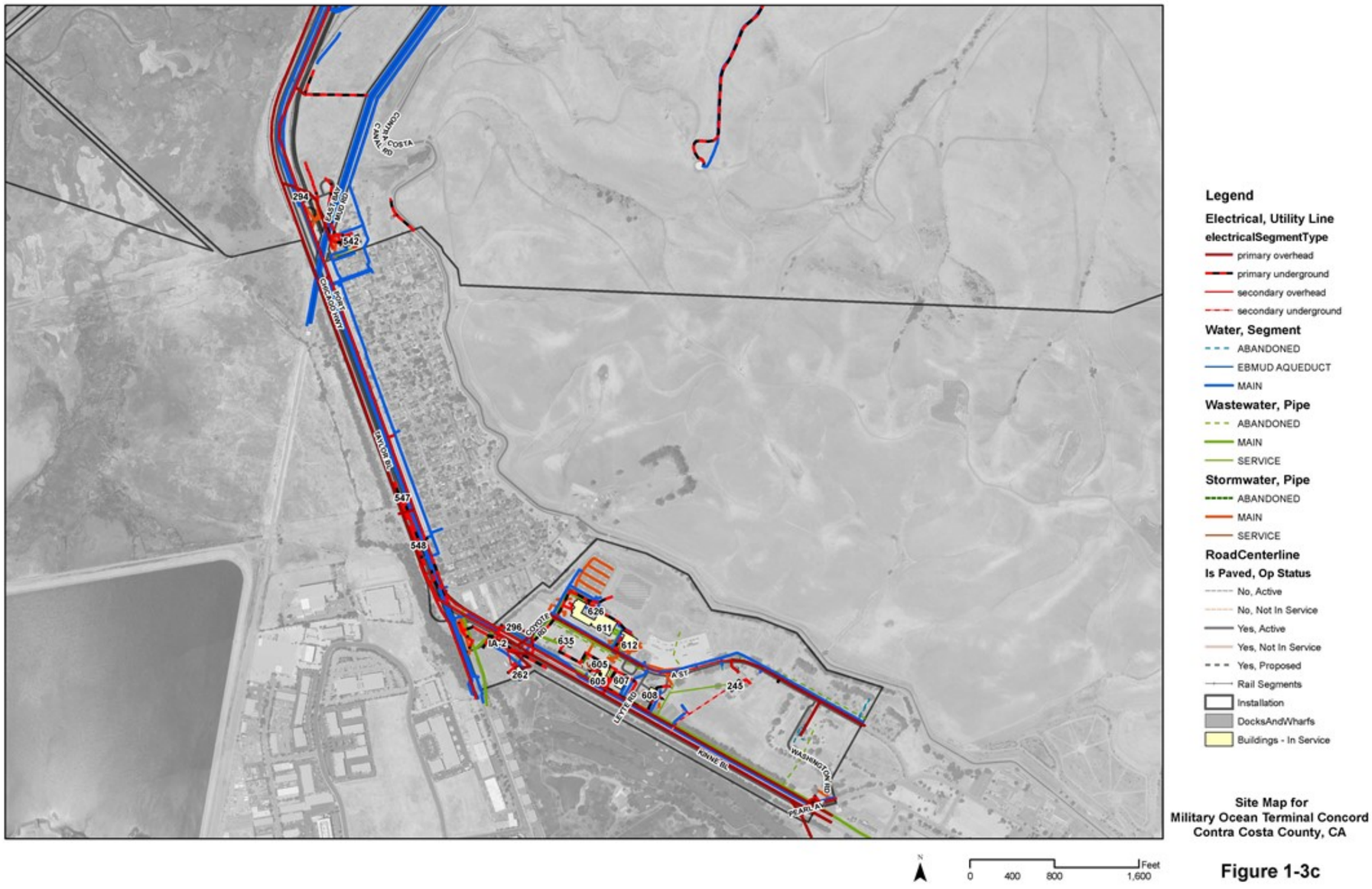


Site Map for
Military Ocean Terminal Concord
Contra Costa County, CA

Figure 1-3b

Site Map – Proposed Projects

This page intentionally left blank.

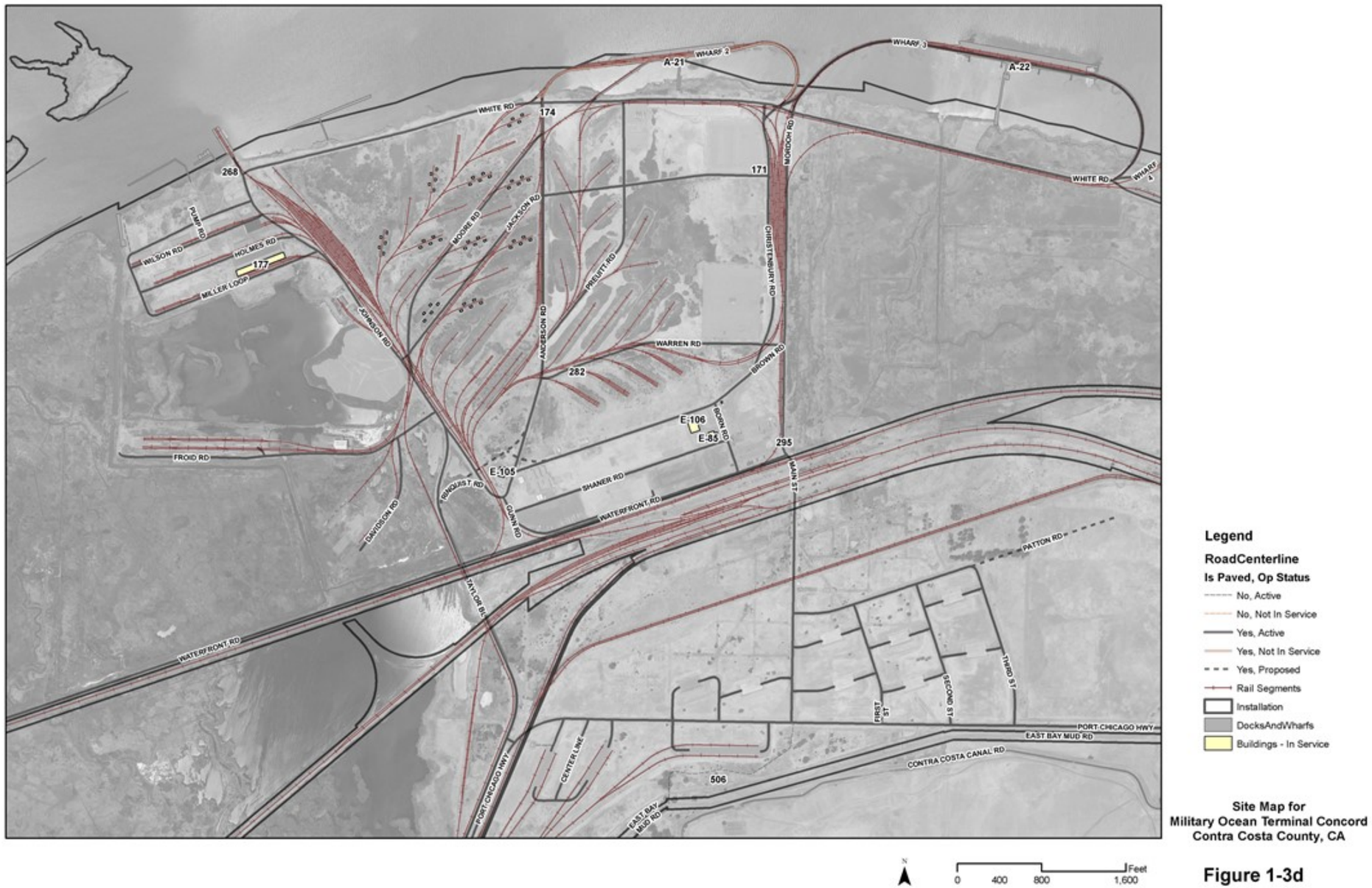


Site Map for
Military Ocean Terminal Concord
Contra Costa County, CA

Figure 1-3c

Site Map – Proposed Projects

This page intentionally left blank.



Site Map for
Military Ocean Terminal Concord
Contra Costa County, CA

Figure 1-3d

Site Map – Proposed Projects

This page intentionally left blank.

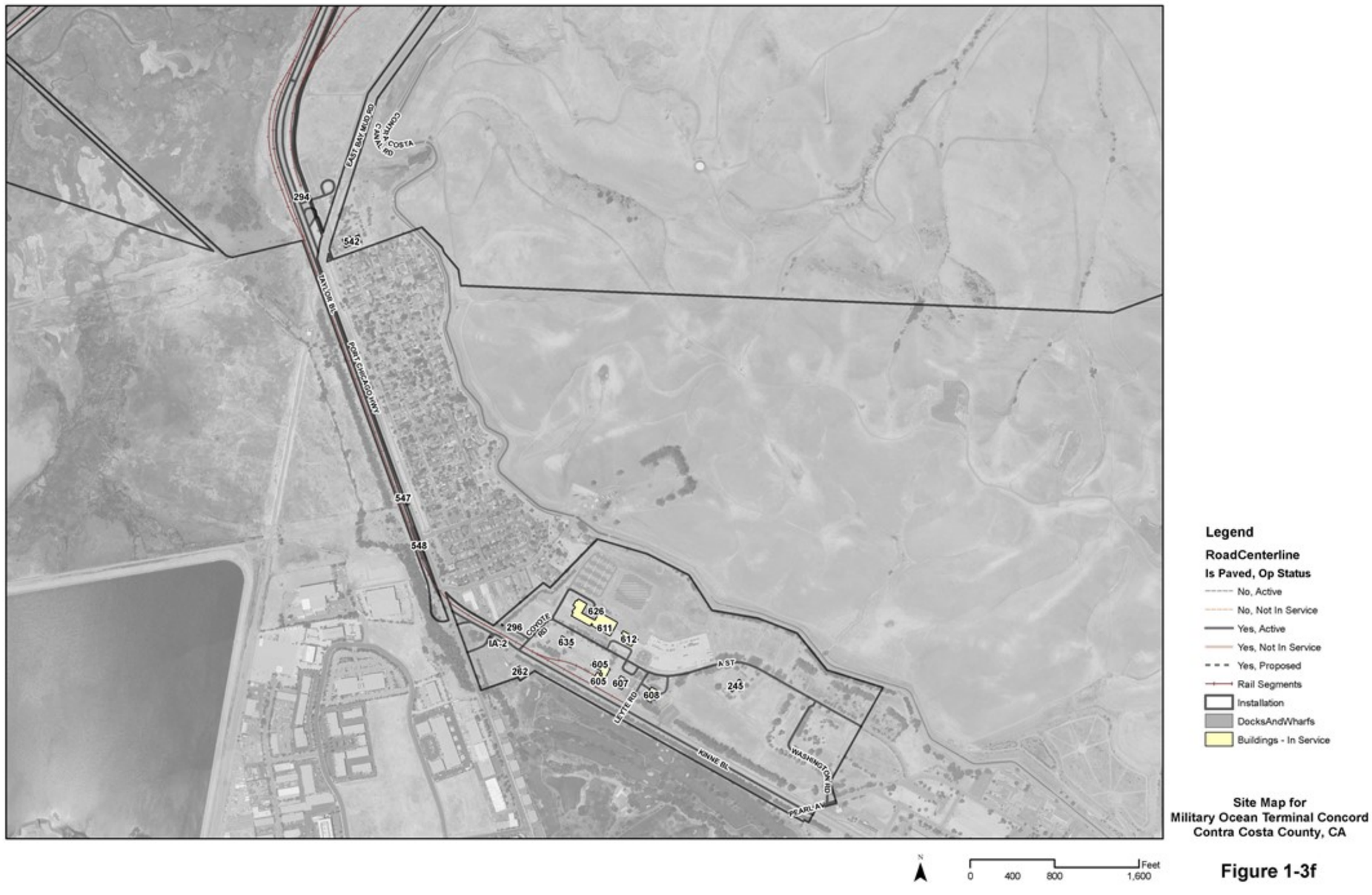


Site Map for
Military Ocean Terminal Concord
Contra Costa County, CA

Figure 1-3e

Site Map – Proposed Projects

This page intentionally left blank.



Site Map for
Military Ocean Terminal Concord
Contra Costa County, CA

Figure 1-3f

Site Map – Proposed Projects

This page intentionally left blank.

1.3.5 Buildings

A wide variety of buildings and structures are located in both the Tidal and Inland areas. These include office, security, training, public works, utility, and operational buildings, as well as sheds, shops, generators, and other general support facilities. Since 2009, construction in the Inland Area has included locomotive wash rack, locomotive maintenance, electrical substation, headquarters, fire station, Army Reserve Center (2 buildings), DPW Facility, maintenance and storage facility, and two photovoltaic (solar energy) arrays.

There are numerous magazines located in the "Q Area" that were originally designed and built to support weapons storage and maintenance. The magazines are arranged in one single row and one double row. Each magazine is covered by tapered earthen berms over metal-plate vaults, and the magazines are separated by concrete access roads. Additional facilities in the "Q Area" consist of support structures that provide a variety of storage, maintenance, and security functions.

1.3.6 Landscaping

Landscaping is the planted vegetative cover in and around facilities throughout the installation, excluding native vegetation in the wetlands and other protected natural areas. Landscaping is essential for stabilizing soil and preventing non-point source runoff.

1.3.7 Fencing and Security

Fencing are the primary structures for defining areas on the installation and managing access for safety and security. Other physical and electronic infrastructure are included in this category.

1.4 PREVIOUS STUDIES AND ENVIRONMENTAL DOCUMENTS

In addition to this PEA for routine maintenance and repair projects, MOTCO is currently preparing or has recently completed NEPA-compliant plans, EAs, and an Environmental Impact Statement (EIS), including the following:

- *Final PEA and Finding of No Significant Impact for Implementation of a Real Property Master Plan, Integrated Natural Resources Management Plan, and Integrated Cultural Resources Management Plan at Military Ocean Terminal Concord* (2013)
- *Final Military Ocean Terminal Concord Integrated Cultural Resources Management Plan Update 2017-2022*
- *Final Military Ocean Terminal Concord Integrated Natural Resources Management Plan* (2018)

- *Final EIS for the Modernization and Repair of Piers 2 and 3 at Military Ocean Terminal Concord, CA* (2015)
- *Environmental Assessment for General Repair of Bridges, Roads, and Utilities at Military Ocean Terminal Concord, CA* (2017)
- Draft Programmatic Environmental Assessment for Mission Activities and Facility Reinvestment at Military Ocean Terminal Concord, California (2020)
- *Draft Environmental Assessment for Military Ocean Terminal Concord (MOTCO) Wharf Maintenance Dredging Project Contra Costa County, Concord, California Calendar Years 2022-2031* (2021)

These documents provide useful background information regarding MOTCO's history, physical setting, and operations; however, they were determined to not sufficiently address potential impacts associated with programmatic maintenance and repair activities. As such, these documents are not appropriate from which to tier analyses of potential impacts associated with this Proposed Action, though are referenced in this PEA, as applicable.

1.5 PURPOSE AND NEED

The *purpose* of the Proposed Action is to programmatically allow for a suite of infrastructure maintenance and upgrade actions at MOTCO. These actions comprise relatively small-scale, routine measures (e.g., road re-paving) and are necessary to support and fulfill MOTCO's mission. In some cases, these activities require short-notice or unscheduled mobilization to address developing infrastructure issues. These small-scale activities would support MOTCO in accomplishing its mission.

This PEA is intended to address the potential environmental impacts of the Proposed Action. Part of the goal of this PEA is to make sure maintenance and repair activities are being conducted in a manner that is consistent and compliant with environmental regulations.

The *need* for the Proposed Action is driven by maintenance and repair requirements necessary to ensure the viability of operations at MOTCO. MOTCO currently implements maintenance and repair actions on a project-specific review basis, which could lead to deferred / delayed actions, duplicative environmental reviews, cost and schedule over-runs, and a degradation in MOTCO's infrastructure. This can impact MOTCO's mission capabilities.

To fulfill the purpose and need identified above, MOTCO would perform routine maintenance and repair utilizing a Record of Environmental Consideration (REC) and Checklist where appropriate that ensures compliance with applicable environmental regulations. MOTCO would also perform as-needed maintenance and repair activities on short notice and/or unscheduled conditions, not requiring individual project consideration and approval.

Ultimately, specific project objectives include:

- Streamlining the NEPA analysis process, to avoid unnecessary and costly duplication of effort;
- Conducting maintenance and repair actions in a manner that adequately protects the environment, including Federally-listed species;
- Ensuring consistency with applicable MOTCO and Army policies, regulations, and consultation efforts; and
- Providing the forces that work and train on MOTCO with state-of-the-art and modernized infrastructure.

1.6 SCOPE AND CONTENT OF THE PROGRAMMATIC EA

This PEA identifies, documents, and evaluates the potential direct, indirect, and cumulative environmental effects of the maintenance and repair projects proposed over a 10-year planning horizon, using 2021 as the base year. An interdisciplinary team consisting of archaeologists, biologists, engineers, economists, environmental scientists, master planners, and military personnel analyzed the proposed federal actions. The relevant adverse and beneficial effects associated with the actions are identified.

Section 1.0 of this PEA covers the Purpose and Need, describes the project objectives, briefly addresses the project's relationship to other plans and policies, and presents the regulatory framework. Section 2.0, Proposed Action and Alternatives, describes the alternatives development process for the project, and the Proposed Action/Project and its alternatives. Section 3.0, Affected Environment, presents the regulatory and environmental setting for the project, and qualitatively addresses anticipated environmental impacts of the project alternatives. Section 4.0, Environmental Consequences, presents a summary of impacts and mitigation measures, and describes cumulative effects. Section 5.0, Public Involvement, describes the public scoping and public review process, including agency coordination. Section 6.0, Comparison of Alternatives and Conclusions, provides a comparison of the environmental consequences of the project alternatives. Section 7.0, References, provides the list of documents used in preparation of this PEA. Section 8.0, Glossary, defines terms used in this document. Section 9.0, List of Preparers, provides a list of agency and consultant staff who contributed to the preparation of the PEA.

Environmental resources addressed in this document include: Water Resources; Geology, Soils and Mineral Resources; Air Quality; Climate Change; Vegetation and Wildlife; Land Use and Recreation; Traffic and Transportation; Noise; Utilities, Energy, and Public Services; Hazardous and Toxic Materials/Wastes; Sustainability; Socioeconomics and Environmental Justice; Aesthetics/Visual Resources; and Cultural Resources. Per 40 CFR Part 1501.7 (a)(3), the CEQ recommends agencies identify and eliminate from detailed study any issues that are not

significant. Because of the programmatic nature of this analysis, all resource areas listed above were examined. A brief discussion of resources determined not to be significant will be provided in Section 3.0.

To ensure proper utilization of this PEA, and to facilitate compliance with CEQ guidance (40 CFR Parts 1500-1508) and the Army NEPA rule (32 CFR Part 651), a REC template and accompanying checklist forms are included and provide a framework for assessing Installation- and project-specific environmental impacts for maintenance and repair activities (Appendix A). If conditions outlined in the checklist are met, and if procedures and mitigations are adopted at the Installation-level, a REC or a CX may be prepared that incorporates by reference this PEA, and the Proposed Action may proceed.

As specified under NEPA and CEQ regulations (40 CFR 1500-1508), a monetary cost-benefit analysis is not required as part of a NEPA-compliant PEA. The Proposed Action and its alternatives have been developed based on military training needs and mission requirements. As such, no quantitative financial assessment has been performed as part of this PEA.

1.6.1 Decision to Be Made

The primary legislation affecting the decision-making process is NEPA, which requires that federal agencies consider potential environmental consequences of their proposed actions. The law's intent is to protect, restore, or enhance the environment through well-informed federal decisions, with public and agency input. The CEQ was established under NEPA for the purpose of implementing and overseeing federal policies as they relate to this process. In 1978, the CEQ issued Regulations for Implementing the Procedural Provisions of the NEPA (40 CFR §1500-1508 [CEQ ,1978]). These regulations specify that an EA be prepared to:

- Briefly provide sufficient analysis and evidence for determining whether to prepare an EIS or a Finding of No Significant Impact (FNSI), the latter of which is the "decision document" that would close the PEA process when no unavoidable significant impacts are identified;
- Aid in an agency's compliance with NEPA when no EIS is necessary; and
- Facilitate preparation of an EIS when one is necessary.

The decision to be made by the Installation Commander of MOTCO is whether or not the Proposed Action qualifies for a FNSI under NEPA, or whether an EIS must be prepared.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This section characterizes the Proposed Action and alternatives, including the No Action Alternative. Proposed project alternatives considered but dismissed are also discussed. The NEPA Guidelines emphasize the need for an evaluation of a range of alternatives. The federal NEPA lead agency is responsible for selecting the range of alternatives. NEPA requires that federal agencies explore and objectively evaluate a range of reasonable alternatives to provide a clear basis for choice among options by the decision-makers and the public (40 CFR 1502.14). At minimum, a project alternative (Proposed Action) and the No Action Alternative must be evaluated.

2.2 PROPOSED ACTION

The Proposed Action consists of programmatic and routine maintenance and repair actions at MOTCO over the next 10 years (2021-2031). These maintenance and repair actions, presented in Table 2-1, are intended to sustain, enhance, and modernize existing Installation infrastructure to meet the Army and DOD missions. The overall intent of the PEA is to improve the efficiency of the environmental review process and ensure that adequate environmental protection occurs for minor maintenance projects. Projects not specifically listed in Table 2-1 are not covered by this PEA, nor is it intended to address environmental impacts associated with new construction. This includes construction of new roads and buildings, extensive renovations, new landscaping, and any other projects outside of the parameters listed in Table 2-1.

2.3 ALTERNATIVES CONSIDERED

This PEA is prepared to analyze potential environmental effects associated with routine maintenance and repair activities that support MOTCO's mission, goals, and objectives. The goals of MOTCO are built on the commitment of the Army to provide the right service, at the right time, and within the right cost to the assigned service members, civilian work force, and family members at all Army installations. As a result of master planning, environmental management, and public scoping, the following alternatives are addressed:

- No Action;
- Proposed Action (infrastructure maintenance and repair over a 10-year period).

Other alternatives considered and dismissed from analysis are described in Section 2.4, along with the reasons for dismissal.

2.3.1 No Action

An environmental analysis of the No Action Alternative is required by CEQ regulations to serve as a benchmark against which the Proposed Action and its alternatives can be evaluated. The No Action Alternative is defined as the environmental baseline conditions that would result (and continue) if the Proposed Action was not implemented. Under the No Action Alternative, MOTCO would continue its current practice of environmental review and permitting of projects on a case-by-case scenario. NEPA-compliant evaluation and documentation would be conducted for each individual project without a holistic review of the infrastructure's current and long-range maintenance and repair needs. Environmental analysis of some incidental maintenance and repair tasks and application of mitigation measures may be inconsistent. Implementation of the No Action Alternative would simply maintain the status quo and its selection would impact MOTCO's ability to sustain, enhance, and modernize its infrastructure and, ultimately, mission capability. This alternative does not meet the project's purpose and need, or objectives. However, per CEQ stipulations, it will be carried forward for analyses in the PEA.

2.3.2 Proposed Action

This alternative evaluates programmatic and routine maintenance and repair actions necessary to sustain, enhance, and modernize existing MOTCO Installation infrastructure such that it is capable of meeting its assigned Army and DOD missions. The MOTCO DPW identified programmatic and routine actions in Table 2-1 for analysis during the 10-year performance period from 2021 until 2031. These maintenance and repair projects would be in addition to larger actions such as construction of new security access control points (ACP), buildings, etc. and implementation of the INRMP and ICRMP, potential impacts of which have been evaluated in previously completed NEPA-compliant and other management and decision documents.

Programmatic consultations with the USFWS, NMFS, SHPO, BCDC, and other agencies will be conducted concurrently with this PEA development. Following completion of this PEA and issuance of the FNSI, if applicable, MOTCO would implement the Proposed Action within the Installation boundaries over a 10-year timeframe, and regulatory permits (i.e.: CWA Section 401/404 permits) would be applied for on a site-specific basis, as needed. The identified proposed maintenance and repair projects would then be evaluated with the developed checklist leading to preparation of a REC or a CX where appropriate to include the applicable BMPs and SOPs included herein. If individual/site-specific projects require additional NEPA-compliant documentation or permits, MOTCO would prepare tiered NEPA documents incorporating the findings of this PEA and would apply for appropriate permits.

Once a proposed programmatic or routine action is planned for implementation, MOTCO would complete an analysis of the project using a MOTCO-specific checklist (sample in Appendix A) to assess the scope and potential impacts of the project. The checklist screening process includes

consideration of sensitive resources (e.g., wetlands, surface waters, protected species, and cultural sites), environmental constraints (e.g., contaminated sites), and whether the action would involve an increase of pollutants (e.g., air, noise, discharges). Potential impacts to resources would be coordinated through MOTCO environmental staff. The proponent would also employ applicable BMPs, SOPs, or other environmental stewardship guidelines listed in the *Final Standard Operating Procedures to Support the INRMP* (August 2015) for each project, thereby reducing or avoiding adverse impacts to environmental resources. Where necessary, appropriate regulatory agency consultation and NEPA documentation, typically in the form of a REC, would be completed for these routine actions.

Table 2-1. Programmatic and Routine Actions

Infrastructure Category	Programmatic Project Type	Action Description
Waterfront Facilities	Berthing / Mooring Systems and Signage	Removal and replacement of berthing / mooring system components, including marine hardware, fixtures, fittings, fasteners, and fenders. Replacement parts to be engineered according to current industry standards. Placement of individual signs or markers required to improve safety and security of the Installation and or mariner safety. Replacement of floating docks or other mooring apparatus to aid in fire and emergency services berthing.
	Pile Repair	Wooden pile repairs including partial replacement or application of a structural pile jacket or polypropylene wrap. Concrete piles may be wrapped or repaired using industry standard concrete repair techniques.
	Pile and Pile Cap Replacement	Individual wooden piles that cannot be repaired as described above due to structural integrity concerns, would be replaced with the same size, diameter, and material as the existing piles. Up to 20 per year. Where structurally feasible, wooden pile clusters would be replaced with concrete or composite material. ie: Fender system or mooring dolphin piles. Pile caps are an above water repair that would be replaced in-kind according to industry standards.
	Wharf and Trestle Decking	Degraded or damaged decking would be replaced with wood, concrete, or asphalt. Stringers, bracing, and accessory components would be replaced with marine-grade hardware, fixtures, fittings, fasteners including any federal or state required improvements.
	Gantry Cranes and Rails	Replacement of rails, cables, or physical or mechanical components of the Installation's cranes. Preventative maintenance would include replacement of filters and fluids, electrical improvements, minor corrosion abatement, and spot painting. Projects would be limited to 10 feet from footprint of existing facilities.
	Anti-Terrorism / Force Protection (AT/FP)	Measures necessary to provide safety and security including installation of fire suppression systems may include installation of cameras, high-intensity lighting features, etc. AT/FP installation would occur on existing facilities (e.g., wharves).
	Shoreline Erosion Control	Reinforcement and repair of the existing shoreline riprap would use similar materials currently associated with this feature. Working limits would be within 20 feet of the existing area and accessed from the shore-side only.
Railyard and Rail Lines	Rail Expansion	Projects limited to no more than 3 miles of linear track or 15,000 square yards (SY) (3.1 acres) of total yard expansion over the 10-year period.
	Track / Rail, Siding, Turnout, and Cross-tie Replacement	Routine maintenance, repair, and replacement of track segments to include replacement of worn or undersized rail track, treated wooden cross-ties, components such as anchors, wheel stops, grounding rods, bump posts etc. Projects limited to less than 0.5 mile of consecutive linear trackage and no more than 6 miles total in over the 10-year project period. Work would be concentrated within the rail bed, with an area of disturbance limited to 50 feet either side of the ballast to allow for equipment access. Minor adjustments to rail footprint may be necessary to correct deficiencies in track geometry within this area of disturbance.
	Ballast Replacement	Replacement / replenishment of ballast rocks along any part of the rail network. Projects limited to a 50-foot buffer from existing edge of ballast.
	Crossing, Switching System, and Signal Upgrades	Includes at-grade crossing installation and modification, routine repair, and maintenance of mechanical, electrical, and other switching and signalization systems components necessary to support the controlled flow of rail traffic throughout MOTCO. Projects to meet current Federal Railroad Administration standards. Projects limited to 50-foot buffer from existing switching and signal systems.
	Crossing, Abutment, and Transfer Pad Extensions and Upgrades	Includes maintenance and upgrades of rail abutments to address safety concerns at at-grade crossings and where existing transfer pads require additional surface area to accomplish site-specific tasks. Projects limited to a 10-foot buffer from existing crossings and transfer pads.

Infrastructure Category	Programmatic Project Type	Action Description
Road Transportation System	Road Resurfacing	Pavement repairs, including sealing, milling, patching, and resurfacing not to exceed 5,000 SY (3.1 acres) of pavement area to be replaced per year Installation-wide. Projects limited to no more than 0.5 mile per year.
	Road Grading and Base Replacement	Minor grading, re-profiling, and resurfacing of unimproved aggregate roadways and fire breaks. Road base may be replaced or upgraded to facilitate longer-term solutions to maintenance issues. Projects limited to no more than 10 miles of unimproved road per calendar year. Working limits within 20 feet of the existing area.
	Culverts and Stormwater Drainage	Maintain positive drainage away from roadways and pavement by keeping drainage swales and conveyance system free of debris and vegetation, and excavation to return ditches to their original design levels when needed. Replace damaged or undersized culverts and components in conjunction with roadway repairs or failure of conveyance system elements. Minor grading and alteration of flow patterns to address storm water flow issues (e.g. ponding / localized flooding of pavements). Overall system issues and maintenance needs discussed further under Utilities. Stormwater drainage and culvert projects would be conducted within a 50-foot project buffer.
	Bridge Strengthening and Elevated Road Crossings	Minor corrosion abatement and spot painting. Includes footing and foundation patching and repairs such as wood, metal or concrete replacement, and minor seismic upgrades such as the addition of stiffeners or re-enforcement of columns etc. Projects limited to 50-foot buffer from existing features.
	Geometry Improvements	Shoulder widening, curb installation, repair replacement, minor adjustments to profile or slope.
	Holding Pad / Transfer Pad Maintenance, Repair, and Improvements	Pavement repairs, including sealing, milling, patching, and resurfacing not to exceed 9,000 SY (1.9 acres) of pavement replacement per year Installation-wide. Enlargement of existing ammunition pads to enhance use (e.g. addition of curbing, turning aprons, etc.). May occur in conjunction with rail system improvements.
	Parking Lots / Ammo Lots, Staging Areas, and Other Miscellaneous Pavements Expansion, Maintenance, and Repair	Staging areas, parking and ammo lot expansion limited to less than 1 acre of pavement area per year in previously disturbed or inland areas. Repairs include sealing, milling, patching, and resurfacing limited to less than 1 acre of pavement area per year Installation-wide.
	Lighting, Traffic Safety, Signage, and Pavement Markings	Repair and replacement of traffic safety features and signage. Projects limited to 20 feet from the edge of existing road surface.
Utilities	Aboveground and Underground Utility Systems (electrical, fiber optic, phone, potable water, sanitary and storm sewer, and gas)	Includes removal of old / inactive lines, component upgrades and replacements (e.g. poles, lines, transformers, backflow preventers, and stand-alone elements such as leach fields, generators, fuel tanks etc.), excavation, and directional boring. Disturbance limited to within 20 feet of existing utility rights-of-ways (ROWs) for project work.
	Storm Water System Upgrades	Maintenance and repair of existing retention basins would not exceed 25 percent of total basin size per year. Removal, rerouting, and replacement of existing storm water piping plus additional piping needed to meet regulatory requirements and functionality.
	Lightning Protection Systems	Installation, maintenance, repair, or replacement of lighting protection systems to including building mounted components or stand-alone catenary structures. Installation would be accessory to existing facilities. Area of disturbance limited to within 100 feet of the existing facility footprint as a wider buffer is required for the tall, expansive lightning protection infrastructure.
	Solar Installation(s) (<5 megawatts [MW])	Installation of solar photovoltaic panels and associated storage and distribution components in previously disturbed or inland areas. Up to 1 MW per location.

Infrastructure Category	Programmatic Project Type	Action Description
Buildings	Minor Building / Structure Expansions	Such expansions would be limited to an addition of up to 2,000 SF or 25% of existing building square footage, whichever is less for any facility located in previously disturbed or inland areas.
	Interior Maintenance and Repairs	Interior maintenance activities include annual preventative maintenance of interior systems such as insulation, painting, lighting, phone, gas, plumbing heating, ventilation, and air conditioning (HVAC) systems, security, fire alarms, fire protection, and energy-saving electronic monitoring and control systems. Changes to floorplans may be conducted within the existing footprint. Interior renovations limited to 100,000 square feet per year.
	Exterior Maintenance and Repairs	Includes lighting, HVAC, electrical communication management systems (fiber optics), electrical, plumbing, gas, sidewalks, new siding, stucco repair, painting, window / door replacement, and roofing.
	Anti-Terrorism / Force Protection (AT/FP) and Seismic Retrofits	Seismic and AT/FP retrofit activities may be triggered for modernization projects as dictated by mission critical decisions or as a result of security recommendations. May include both interior and exterior features such as installation of isolation bearings and structural re-engineering of frame and or foundation elements for building hardening to meet DOD minimum anti-terrorism standards for buildings. Work area would be confined to within 30 feet of building footprint. When feasible, and frequently in conjunction with other routine maintenance activities, small-scale building retrofits to address earthquake preparedness and resiliency would be accomplished.
	Berms. Barricades, and Accessory Safety / Security Structures	Earthen / earth-filled berms and physical barriers are part of the explosive safety and AT/FP programs. Includes removal, grading to repair damage from subsidence, erosion, rodent burrows etc., and revegetation to stabilize slopes. Accessory structures such as, guard booths, security towers etc. may be installed, repaired relocated, or replaced, as necessary.
Landscaping	Maintenance and Beautification of Inland Cantonment Common Areas	Includes installation or upgrade of irrigation systems for the establishment of plantings, implementation of new planting programs, tree pruning, mowing, etc. consistent with the MOTCO Installation Design Guide (IDG) and Installation Planning Standards (IPS). Application of herbicides and pesticides would be in accordance with the MOTCO Integrated Pest Management Plan (IPMP, U.S. Army 2018c).
	Maintenance of Tidal Operational Areas	Manual brush clearing and removal of debris within 10 feet of rail lines and operational buildings. Tree pruning to maintain clear line of site and fire safety. Chemical treatment for invasive species removal as specified in the INRMP (June 2018) and IPMP (U.S. Army 2018c).
Fencing & Security	Fence Installation and Repair	Installation, repair, and replacement of the perimeter fence and interior areas requiring fencing for safety and/or security.
	Anti-Terrorism / Force Protection (AT/FP) Measures	Includes the installation of mechanical and electronic security measures (e.g., cameras, intrusion detection systems, vehicle barriers, bollards, etc.).

2.4 ALTERNATIVE CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

Development of the project alternatives included consideration of one additional alternative that was considered but eliminated for reasons described below.

Partial Implementation of Maintenance Program: Partial implementation of the MOTCO maintenance program does not accomplish the purpose and need for the Proposed Action. Partial implementation would consist of deferring a portion of maintenance actions based on priorities. This partial implementation program would not meet the purpose and need of the Proposed Action or fulfill the mission of the Installation, would not be cost effective, and would pose safety risks to MOTCO personnel. Therefore, this alternative was dismissed from further consideration.

2.5 ALTERNATIVES IMPACTS COMPARISON MATRIX

To comply with 40 CFR Part 1502.14 and following completion of the PEA, MOTCO will develop an impacts comparison matrix to emphasize the issues and options associated with each alternative considered. This table will summarize the differences in potential environmental effects between the Preferred Action Alternative and No Action Alternative. The comparison matrix is provided in Section 5.

2.6 MITIGATION MEASURES AND MONITORING PROCEDURES

Following completion of the PEA, MOTCO will develop a tabular summary listing BMPs for programmatic and routine maintenance to address any potentially substantive impacts identified as a result of this environmental analysis. The summary of BMPs is provided in Table 4-2 and Appendix A.

2.7 PREFERRED ALTERNATIVE

The preferred alternative is to address the implementation of programmatic and routine maintenance plans under a single NEPA document. Implementation of this alternative allows for the MOTCO DPW to conduct programmatic and routine maintenance and repair actions to sustain, enhance, and modernize existing MOTCO Installation infrastructure to meet Army and DOD missions (refer to Table 2-1).

3.0 AFFECTED ENVIRONMENT

This section describes the environmental baseline conditions of each resource area. Environmental baseline conditions are the "as is" or "before the action" conditions at MOTCO. The baseline facilitates subsequent identification and quantification of changes in conditions that would result from the proposed action. The resources that would be affected and described in this section include Water Resources; Geology, Soils and Mineral Resources; Air Quality; Vegetation and Wildlife; Land Use and Recreation; Traffic and Transportation; Noise; Utilities, Energy, and Sustainability; Hazardous and Toxic Materials/Wastes; Socioeconomics and Environmental Justice; Aesthetics/Visual Resources; and Cultural Resources.

The geographic extent of the "affected environment" or "Region of Influence" (ROI) is determined by the potential for impacts from the proposed action. The ROI can change depending on the resource category. For instance, soils may be impacted within the Installation, so the affected environment for soils would be MOTCO; however, the air quality ROI would be the geographic extent that emissions could possibly impact the regional air quality.

3.1 WATER RESOURCES

This section describes the potable water supply available to MOTCO, and the Installation's available surface and groundwater resources, stormwater quality, wetlands, floodplains, and tidal areas. The study area is encompassed by the physical boundaries of MOTCO, as described in Section 1.3.

3.1.1 Regulatory Setting

This section describes the federal, state, and local regulations and agreements applicable to the water supplies of the study area.

3.1.1.1 Federal

Clean Water Act

The federal CWA includes provisions for improving surface water and stormwater quality. Under the CWA, Section 402, discharge of pollutants from non-point sources (including construction sites) into navigable waters is prohibited, unless the discharges are in compliance with a National Pollution Discharge Elimination System (NPDES) permit. This pertains to construction sites where soil erosion (sediment) and other pollutant discharges (construction-related materials) could affect water quality. For construction sites with disturbed soil areas of one acre or more, construction activities must comply with a NPDES Stormwater Construction General Permit. The permitting process in California is described in section 3.1.1.2.

Safe Drinking Water Act

Enacted in 1974, the Safe Drinking Water Act gave the USEPA the authority to establish drinking water regulations to protect human health from contaminants in the nation's drinking water supply (Title XIV, Part B). As a result, the USEPA set primary (health-based) and secondary (aesthetic-based) drinking water standards. The primary drinking water standards consist of contaminant-specific standards, known as Maximum Contaminant Levels, which are enforceable at the federal level. Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic or aesthetic effects, such as taste or color.

Executive Order 11988 – Floodplain Management

EO 11988 of May 24, 1977, requires each federal agency to evaluate the potential effects of any actions it may take in a floodplain; to ensure that its planning programs and budget requests reflect consideration of flood hazards and floodplain management; and to prescribe procedures to implement the policies and requirements of this Order. If an agency proposes to conduct, support, or allow an action to be located in a floodplain, the agency shall consider alternatives to avoid adverse effects and incompatible development in the floodplains. If the head of the agency finds that the only practicable alternative consistent with the law and EO 11988 requires siting in a floodplain, the agency shall, prior to taking action, (i) design or modify its action in order to minimize potential harm to or within the floodplain, consistent with regulations issued in accord with Section 2(d) of EO 11988, and (ii) prepare and circulate a notice containing an explanation of why the action is proposed to be located in the floodplain.

Executive Order 11990 – Protection of Wetlands

EO11990 of 1977 is intended to avoid, to the extent possible, the long and short term adverse impacts associated with the destruction or modification of wetlands, and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. Federal agencies are required, to the extent permitted by law, to avoid undertaking or providing assistance for new construction located in wetlands, unless the head of the agency finds (1) that there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. In making this finding the head of the agency may take into account economic, environmental, and other pertinent factors.

Rivers and Harbors Act

Section 10 of the Rivers and Harbors Appropriation Act of 1899 prohibits the creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the U.S. USACE permitting is required to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, or other structures in any port, roadstead,

haven, harbor, canal, navigable river, or other water of the U.S., outside established harbor lines, or where no harbor lines have been established.

3.1.1.2 State

California Stormwater Permitting

In California, the Stormwater Construction General Permit authorizes discharges of stormwater associated with construction activities that are in compliance with all requirements and conditions of the Stormwater Construction General Permit. All discharges are prohibited except stormwater and non-stormwater discharges specifically authorized in the General Permit. For each project greater than one acre in area, Permit Registration Documents would be prepared for submission to the State Water Resources Control Board (SWRCB) and would include a Notice of Intent, Risk Assessment, site map, SWPPP, a signed certification statement, and payment of fees.

3.1.1.3 Local

Contra Costa Water District

The Contra Costa Water District (CCWD) provides potable water to approximately 500,000 people in central and eastern Contra Costa County. The CCWD ordinances provide rules and restrictions on water use and drought management. A temporary drought charge and mandatory water-use reductions for roughly a quarter million people in Central Contra Costa County was eliminated in June 2016.

3.1.2 Existing Conditions - Potable Water

Potable water is water that is drinkable based on health and aesthetic standards. MOTCO receives its potable water from a connection with a CCWD water trunk line at ACP 1 on Port Chicago Highway. The existing water distribution system at the site includes one water storage tanks with three pump stations.

The CCWD provides water treated at the Bollman Water Treatment Plant in Concord. The major supply source of CCWD's water is the Sacramento–San Joaquin Delta. The CCWD has the capacity to treat water for the current Installation population. In addition, the Tidal Area has access to an auxiliary water supply feed from the East Bay Municipal Utility District, which provides MOTCO with a non-potable water source. All major facilities at MOTCO are connected to the potable water supply (City of Concord, 2010).

3.1.3 Existing Conditions - Surface Water

MOTCO is located on Suisun Bay in the East San Francisco Bay region, about 10 miles east of the Carquinez Straight that connects Suisun Bay to San Pablo Bay. Suisun Bay is a shallow basin between Chipps Island to the east, at the west end of the Sacramento-San Joaquin River Delta, and the Carquinez Straight to the west. The San Francisco Bay/Sacramento-San Joaquin Delta make up the largest estuary on the West Coast (BCDC, 1998). Most of the water in the Tidal Area is brackish. Water quality in Suisun Bay is considered impaired by USEPA due to the presence of contaminants from agricultural and industrial sources (U.S. Army, 2015a).

Suisun Bay is a 303(d) listed Category 5 waterbody, per the list of impaired and threatened waters maintained by the SWRCB. Primary constituents of concern include chlordane, dichloro diphenyl trichloroethane, dieldrin, dioxin compounds, furan compounds, invasive species, polychlorinated biphenyls, selenium, mercury (SFBRWQCB, 2012).

Freshwater at MOTCO originates as precipitation, from groundwater springs in the Los Medanos Hills and from channel flow within the Salt Creek watershed. Surface drainages including streams ditches, canals, and sloughs across the Installation all drain ultimately northward toward Suisun Bay. The six sloughs at the Installation (Hastings, Otter, Belloma, Anderson, Wharf 4, and East) eventually drain to Suisun Bay. Nichols Creek drains from hills south of the Installation and empties into the wetlands on the north end of MOTCO. Some flow is restricted by engineering controls at MOTCO including culverts and tide gates. In addition to past diking and filling of wetlands the natural drainage pattern at MOTCO has been altered by the roads, rail lines, and the Contra Costa Canal that all transect the Tidal Area (U.S. Army, 2013a).

The Contra Costa Canal traverses the Inland Area along the northern edge of MOTCO's Inland Area and traverses the Tidal Area south of the Port Chicago Highway at the base of the foothills. The Contra Costa Canal is owned and managed by the U.S. Bureau of Reclamation (USBOR) (U.S. Army, 2018).

3.1.4 Existing Conditions – Groundwater

MOTCO lies within the boundaries of the Clayton Valley and Pittsburg Plain Groundwater Basins, as defined in the California Water Quality Control Plan, San Francisco Bay Region (SWRCB, 2017). The existing and potential beneficial uses identified for these groundwater basins include the following: municipal and domestic supply, industrial process supply, industrial service supply, and agricultural supply.

Shallow groundwater at MOTCO contains average total dissolved solids (TDS) at levels that are significantly higher than the 3,000-milligrams per liter (mg/L) level that SWRCB Resolution 88-63 (SWRCB, 2006) sets as a maximum for a municipal or domestic water supply, and the 10,000

mg/L level set forth in USEPA's groundwater classification guidelines (USEPA, 1998). The elevated TDS is primarily related to the proximity of brackish water from Suisun Bay and is also influenced by groundwater contaminants on Installation sites undergoing remediation as described in Section 3.9.2.

Groundwater in the Tidal Area occurs in a shallow unconfined water-bearing zone that is predominantly composed of fine-grained silty clays. Depth to groundwater ranges from about five feet to 45 feet below the ground surface in the Tidal Area. The prevailing groundwater flow direction is to the northwest. Groundwater at MOTCO is not used as a drinking water source (Cabrera Services and Tetra Tech, 2016).

3.1.5 Existing Conditions – Stormwater

An Installation-wide SWPPP was prepared for MOTCO in accordance with the requirements of the California SWRCB General Permit for Discharges of Storm Water Associated with Industrial Activities (General Permit No. CAS000001, effective 1 July 2015). The SWPPP includes a description of potential pollution sources, BMPs for preventing water quality impairment, and a plan for stormwater quality monitoring. The main objectives of the SWPPP are to provide information on how MOTCO controls discharge of pollutants from stormwater and to provide practical guidance on implementing the SWPPP. Stormwater also affects habitat and sediment. The Installation contains 20 sites with industrial activities that have the potential to impact stormwater quality. The Inland Area drains into four retention basins. Of the 21 stormwater outfalls at MOTCO, Outfalls ADL2-3A and ADL4-3A are monitored for industrial stormwater runoff. Outfalls 4-1, 3-1, 4-2, 4-3 and 5-1 along with ADL 2-3A and ADL 4-3A are visually monitored under the MOTCO industrial stormwater program. All other outfalls at MOTCO discharge to wetlands or directly to the Suisun Bay. All outfalls are gravity flow only (U.S. Army, 2019).

3.1.6 Existing Conditions – Wetlands

Wetlands at MOTCO are primarily estuarine via connection with Suisun Bay. There are also small areas of palustrine (inland, freshwater) wetlands that support brackish vegetation due to the presence of saline soils and poor drainage. National Wetland Inventory data indicate 3,175 acres of potential wetlands occur at MOTCO. These include 404 acres of estuarine subtidal wetlands, 2,687 acres of estuarine intertidal wetlands, and 84 acres of estuarine wetlands (U.S. Army, 2015a). The offshore islands and the majority of the marshlands at MOTCO are part of a Wetland Preserve Area established in 1984 as a Memorandum of Understanding between the Navy and the USFWS and later as part of MOTCO's INRMP. The locations of wetlands at MOTCO with respect to the proposed projects are shown on Figure 3-1. National Wetland Inventory data are a national scale mapping based on soils, topography, and aerial photograph interpretation. Approximately 3,154 acres of wetlands and other features are potentially USACE jurisdictional Waters (U.S. Army 2021e).

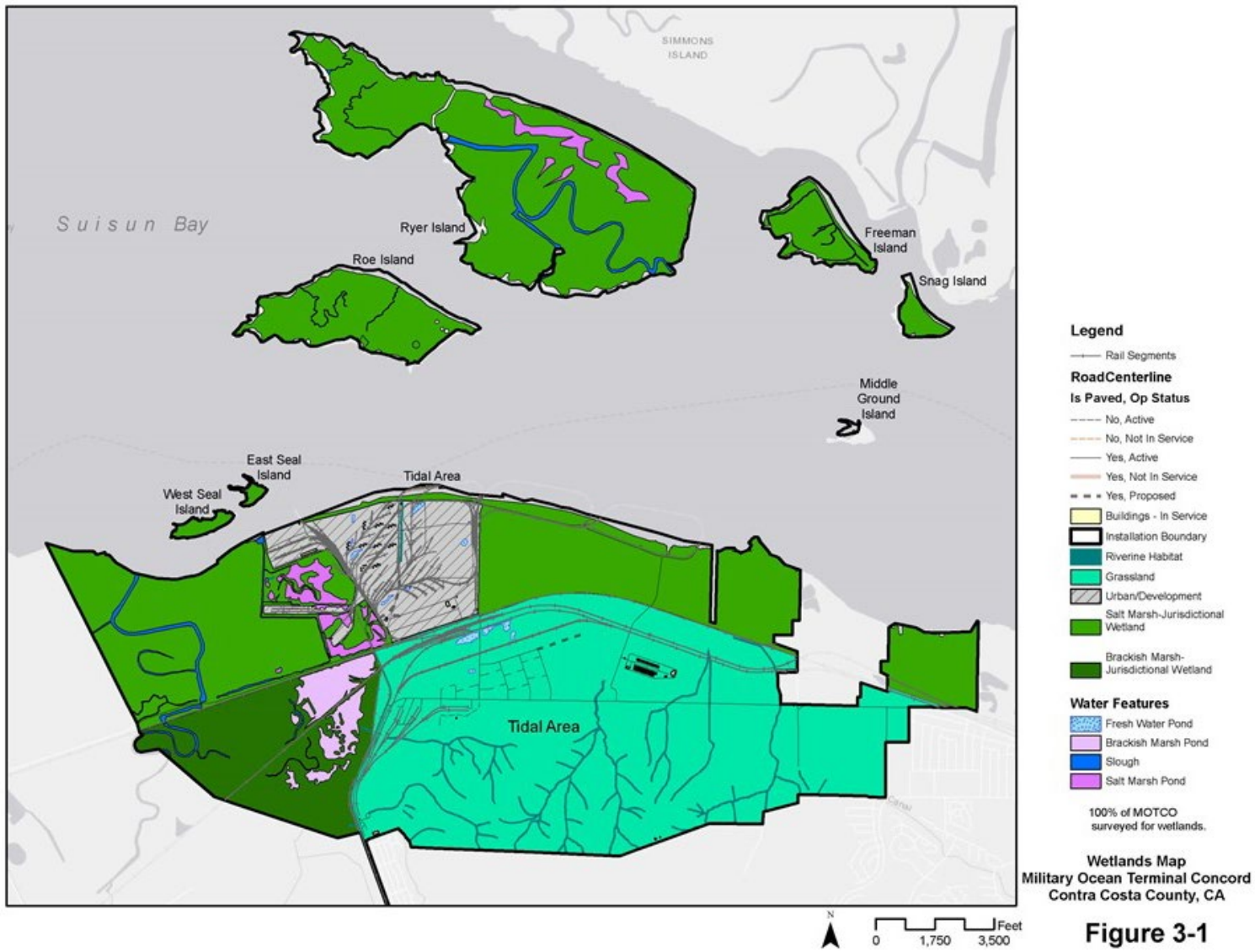


Figure 3-1

Wetlands

The State of California has a policy of no net loss of wetlands and requires all impacts to wetlands be mitigated under Section 401 of the CWA. The USACE requires CWA Section 404 permitting for work in jurisdictional wetlands, which are defined as having a significant nexus to navigable waters. The State may assert jurisdiction over some waters not subject to USACE permit jurisdiction (U.S. Army, 2013a).

3.1.7 Existing Conditions – Floodplains

The 100-year floodplain represents those areas that could be inundated in the event of high flood water levels expected to occur once every 100 years as a result of precipitation, high tides, and storm surges. Development within the 100-year floodplain is constrained by regulatory requirements. EO 11988, Floodplain Management, directs federal agencies to provide leadership in avoiding direct or indirect development of floodplains. Flood hazard areas in the Inland Area at MOTCO based on mapping by the Federal Emergency Management Agency (FEMA) (Figure 3-2) include a floodway that affects ACP 1, several bridges, Johnson Road, and the Tidal Area floodplain. Based on an analysis by the Army in 2013, most existing facilities within the Tidal Area are not within the 100-year floodplain. Land along Suisun Bay in the Tidal Area is within the 100-year floodplain. Mount Diablo/Seal Creek, which discharges to tidal marshes on MOTCO, floods various parts of its watershed nearly annually (U.S. Army, 2013a).

3.1.8 Existing Conditions – Tidal Circulation

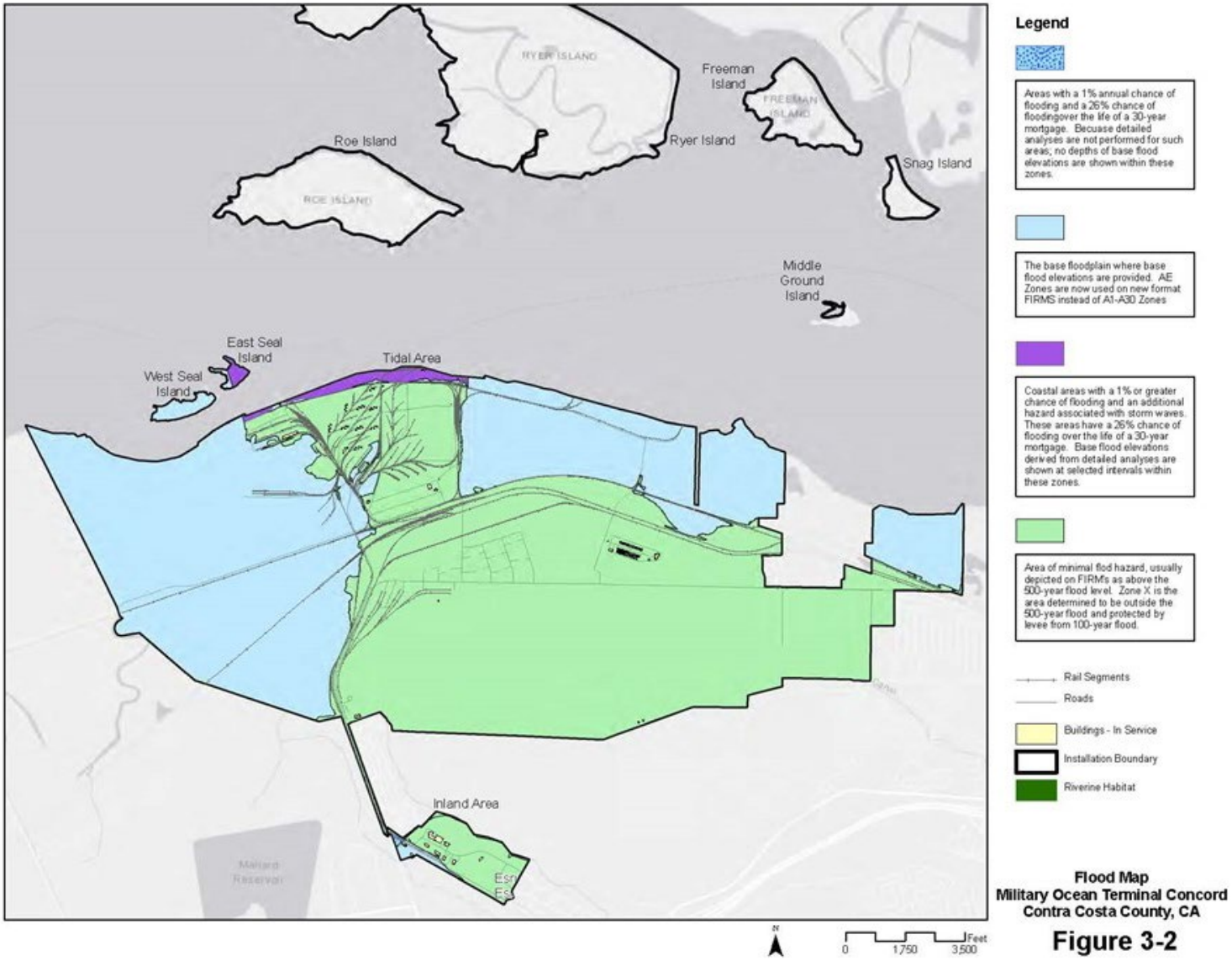
Brackish waters from Suisun Bay inundate the tidal marsh during high tides via a network of natural and artificial channels. Extensive ditching and berms located along ditches have resulted in muted tidal inundation/circulation in most portions of MOTCO's Tidal Area marshes and Hastings Slough. In addition, natural flow paths have been altered by ditching alongside elevated roadways and railroad tracks. Areas of open water in the eastern portion of Salt Creek Marsh and Tug Slough Marsh have limited tidal circulation, with observed changes of water surface elevation on the order of 1-foot over the course of a 6-foot tidal fluctuation in Suisun Bay (U.S. Army, 2018).

3.2 GEOLOGY, SOILS, AND MINERAL RESOURCES

This section describes geology, soils, and mineral resources in the study area. This section also discusses the potential for seismic events, landslides, and liquefaction in the study area and provides the basis to determine whether the Proposed Action could increase their occurrence or affect the proposed construction. The study area is the portions of MOTCO where potential maintenance and repair activities would occur.

3.2.1 Regulatory Setting

This section describes the federal, state, and local regulations and agreements applicable to geology, soils, and mineral resources of the study area.



Flood Map
Military Ocean Terminal Concord
Contra Costa County, CA

Figure 3-2

Floodplains

3.2.1.1 Federal

Clean Water Act

The federal CWA includes provisions for reducing soil erosion relevant to water quality as previously described in Section 3.1.1.1.

Clean Air Act

The federal CAA also includes provisions for reducing soil erosion relevant to air quality. On maintenance and repair sites, exposed soil surfaces are vulnerable to wind erosion, and small soil particulates are carried into the atmosphere. Suspended particulate matter ($PM_{2.5}$ and PM_{10}) is one of the six criteria air pollutants of the CAA (see Section 3.3.1.1 for additional details). Maintenance and repair sites may be required to implement wind erosion BMPs for reducing air quality and soil erosion effects.

Historic Sites Act

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features."

3.2.1.2 State

Alquist-Priolo Earthquake Fault Zoning Act

The 1972 Alquist-Priolo Earthquake Fault Zoning Act (California Public Resources Code [CPRC] 2621 et seq.) requires local agencies to regulate development within earthquake fault zones to reduce the hazards associated with surface fault ruptures. The act also regulates construction in earthquake fault zones.

Seismic Hazards Mapping Act

The 1990 Seismic Hazards Mapping Act (CPRC 2690–2699.6) addresses strong ground shaking, liquefaction, landslides, or other ground failures as a result of earthquakes. This Act requires statewide identification and mapping of seismic hazard zones that are used by cities and counties to adequately prepare the safety element of their general plans and protect public health and safety (California Geological Survey, 2003). Local agencies are also required to regulate development in any seismic hazard zones, primarily through permitting. Permits for development projects are not issued until geologic investigations have been completed and mitigation has been developed to address any issues.

3.2.2 Existing Conditions – Geology

MOTCO is located in the Coast Ranges geological province of west-central California, which consists of deep alluvial materials underlain by basement rock of the Sierran Block province. It is sited at the northern terminus of the Diablo Range, where the north-south trending Coast Ranges meet Suisun Bay. Non-marine sedimentary rocks compose the northern slope of the Los Medanos Hills and the lowermost reaches of the Inland Area. Surficial deposits of sandstone are unconformably underlain by a basement complex of sedimentary, igneous, and metamorphic rocks that form most of the northern half of the coastal hills and lie beneath Suisun Bay (U.S. Army, 2018).

MOTCO's natural landscape is characterized by a flat, low-lying marsh at the northern half of the Tidal Area, and hills that rise abruptly to approximately 600 feet above sea level within the south half of the Tidal Area. Most of the Tidal Area's built environment consists of fill material deposited during the construction of the Installation. No geologic features protected by the Historic Sites Act of 1935 are present at MOTCO.

3.2.3 Existing Conditions – Soils

The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service has mapped 20 soil types at MOTCO. The Tidal Area is composed of muck soils of the Joice-Reyes Association. These soils are very deep and poorly drained and consist of silty clays and saline mucks. The soils formed in saltwater marshes from hydrophytic plant material and fine-textured mineral alluvium from mixed parent rocks. The Joice mucks form uniform wetlands that are subject to saltwater inundation, most commonly at high tide. Because these soils have poor drainage, they are also subject to freshwater flooding and ponding following heavy rainfall and surface runoff from the adjacent inlands (USDA, 1977 and Army, 2018)

The Inland Area is composed primarily of soils belonging to the Altamont Diablo-Fontana Association. These soils are found to be moderately deep to deep. They formed in material weathered from soft, fine-grained sandstones and shales. This Association is composed of varying degrees of Altamont clay and Fontana silty clay loam, depending on the degree of slope. Steeper slopes (50 - 70% have a higher percentage of Fontana silty clay loams. On bare soils, runoff is medium to high and erosion hazard is moderate to high.

Soils in the developed areas of MOTCO are mapped as Urban Land, which indicates they are heavily developed (i.e., covered by at least 75% buildings or asphalt) (USDA, 1977). Urbanization and alteration of natural hydrology patterns in the MOTCO watersheds has led to increased stream bank erosion, and sediment-laden flows entering the tidal marshes and Suisun Bay (USACE, 2011).

3.2.4 Existing Conditions – Sediments

The majority of deep-water, subtidal habitat in Suisun Bay is comprised of unconsolidated bottom sediments. The John F. Baldwin Ship Channel is located just offshore of MOTCO between the mainland and the islands. Regular dredging of the Baldwin Ship Channel is conducted annually. Three access channels to the MOTCO wharves have not been dredged since 1986. Sediments in the access channels to the MOTCO wharves are predominantly sandy due to strong tidal currents which tend to keep finer grained materials in suspension. Underneath the wharves and piers, and immediately inshore from them, sediments consist of finer-grained silt and clay which settle out of suspension where currents and turbulence are reduced by the piers (U.S. Army, 2015a).

In the Tidal Area, soils consist of silty clay and saline muck – soils that are very deep and poorly drained. In the deep-water, subtidal habitat, substrate is mostly comprised of unconsolidated bottom sediments, with some areas of sand where tidal currents are stronger.

Within the MOTCO Restricted Zone, approximately 211 acres have been mapped as shallow bay (<18’ deep), and five acres have been mapped as deep bay/channel (>18’ deep) (USACE, 2011). The John F. Baldwin Ship Channel averages 35 feet deep and is maintained by regular dredging.

Results from the Southern California Coastal Water Research Project (SCCWRP) indicate that Suisan Bay contains contaminated sediments (SCCWRP, 2013). Sediments adjacent to Wharves 2 and 3 were tested in 2014 by the Army and found to contain metals, ammonia, organochlorine pesticides, polychlorinated biphenyls (PCBs), and polynuclear aromatic hydrocarbons (PAHs) (NMFS, 2014).

3.2.5 Existing Conditions – Seismicity

MOTCO is located in a highly seismically active region with several major faults and fault zones in proximity. MOTCO is in Seismic Risk Zone 4, identified as a seismically active area by the Uniform Building Code. Areas within Zone 4 are expected to experience severe ground shaking and "major destructive damage" in response to seismic activity within the region (International Council of Building Officials, 1997). Based on estimates from geologists the fault systems in Contra Costa County have a probable 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 (California Geological Survey, 2002).

Liquefaction is the process in which water-saturated sand and silt change from a solid to a liquid state. Liquefaction can be caused by strong shaking of the sediments, which happens during an earthquake. Liquefied sediments lose their strength to support overlying structures. Areas with a shallow groundwater table or perched groundwater would be susceptible to liquefaction in a strong earthquake. The potential for liquefaction of soils during an earthquake at MOTCO is high

for portions of the Tidal Area containing artificial fill. The liquefaction potential is moderate in areas of MOTCO underlain by Quaternary period (2.588 million years ago to present) bay mud and alluvial deposits. The liquefaction potential is low in the upland Los Medanos Hills and associated alluvial fan areas (U.S. Geological Survey, 2006).

3.2.6 Existing Conditions – Mineral Resources

Approximately 65 percent of the Tidal Area, including the offshore islands, is under split estate rather than fee simple ownership. For the split estate areas the land surface is Federally-owned and the subsurface mineral estate is privately owned by others. A natural gas field on Ryer Island is the only mineral estate on MOTCO property (U.S. Army, 2015a). Future requests for lease agreements for mineral exploration or development at MOTCO would be subject to Army safety and security requirements, California Division of Oil, Gas, and Geothermal Resources regulatory requirements, and NEPA.

3.3 AIR QUALITY

This section describes air quality at MOTCO, as well as the regulatory and environmental setting. The study area includes the boundaries of MOTCO and adjacent areas where air emissions from potential maintenance and repair activities could migrate to.

3.3.1 Regulatory Setting

The following section describes the federal, state, and local rules and regulations applicable to the proposed project.

3.3.1.1 Federal

Clean Air Act

The CAA is a federal law that was created to reduce air pollution, set ambient air quality standards, and establish the regulatory authorities responsible for enforcing regulations designed to attain those standards. The CAA covers the entire country, but federal, state, and local levels of government have the responsibility to monitor air quality and meet the protection standards, including those for toxic air contaminants (TACs), as discussed below.

The federal CAA, as amended in 1990, currently comprises six titles:

- Title I – Air Pollution Prevention and Control
- Title II – Emission Standards for Moving Sources
- Title III – General
- Title IV – Acid Deposition Control
- Title V – Permits

- Title VI – Stratospheric Ozone Protection

Titles I and V contain the provisions that typically address emissions from construction projects and stationary sources (e.g., chemical plants and gas stations). Title I includes, among other provisions, requirements to (1) establish National Ambient Air Quality Standards (NAAQS) for air pollutants that protect human health with an adequate margin of safety, as well as public welfare, (2) limit emissions from new stationary sources, (3) prevent significant deterioration of air quality in regions with air quality that is already better than the NAAQS, and (4) develop state implementation plans (SIPs) that establish the steps to be taken to bring areas with air quality that is worse than the NAAQS back into attainment of the NAAQS by mandated attainment dates. As part of Title I, federal agencies cannot engage in, support in any way or provide financial assistance for, license or permit, or approve any activity that does not conform to an USEPA-approved SIP. The remaining CAA Titles do not apply to the proposed project.

National Ambient Air Quality Standards

As required by the federal CAA, the USEPA has established and continues to update the NAAQS for specific "criteria" air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide, sulfur dioxide (SO_2), inhalable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead. The two particulate matter categories refer to solid and liquid particles of dust, soot, aerosols, smoke, ash, pollen and other matter that are small enough to remain suspended in air for a long period. $PM_{2.5}$ refers to particulates with aerodynamic diameters less than or equal to 2.5 micrometers (µm) and PM_{10} have diameters less than or equal to 10 µm. The NAAQS for these pollutants represent the levels of air quality deemed necessary to protect the public health and welfare with an adequate margin of safety, see Table 3-1 for a list of these NAAQS.

The federal CAA requirements classify air basins (or portions thereof) as either "attainment" or "non-attainment" with respect to criteria air pollutants, based on whether the NAAQS have been achieved, and stipulate the preparation of air quality plans containing emission reduction strategies for those areas designated as "non-attainment." Non-attainment means that the air quality levels exceed the standards that have been established for that area. The San Francisco Bay Air Basin (which includes Contra Costa County) is in non-attainment for $PM_{2.5}$, PM_{10} and ozone (Bay Area Air Quality Management District [BAAQMD], 2017).

Table 3-1. Summary of National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1,2]	National Standards [3]	
			Primary [2, 4]	Secondary [2, 5]
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m^3)	-	-
	8-hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	Same as primary standard
Carbon monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	-
	8-hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	-
Nitrogen dioxide (NO_2)	Annual arithmetic mean	0.030 ppm (57 µg/m^3)	53 ppb (100 µg/m^3)	Same as primary standard
	1-hour	0.18 ppm (339 µg/m^3)	100 ppb	-
Inhalable particulate matter (PM_{10})	Annual arithmetic mean	20 µg/m^3	-	Same as primary standard
	24-hour	50 µg/m^3	150 µg/m^3	
Fine particulate matter ($PM_{2.5}$)	Annual arithmetic mean	12 µg/m^3	15 µg/m^3	Same as primary standard
	24-hour	-	35 µg/m^3	
Sulfur dioxide (SO_2) [6]	24-hour	0.04 ppm (105 µg/m^3)	-	-
	3-hour	-	-	0.5 ppm (1,300 µg/m^3)
	1-hour	0.025 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	-
Lead (Pb) [7]	30-day Average	1.5 µg/m^3	-	-
	Calendar Quarter	-	1.5 µg/m^3	Same as primary standard
	Rolling 3-Month Average	-	0.15 µg/m3	

Sources: California Code of Regulations Title 17 Section 7020 2010, and USEPA National Ambient Air Quality Standards (40 CFR Part 50) last updated 2010.

Notes: ppb = parts per billion; ppm = parts per million; µg/m3 = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter; – = no standard exists

[1] California standards for ozone, CO (except Lake Tahoe), NO_2, and particulate matter are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] Concentrations are expressed first in units in which they were issued (i.e., ppb, ppm or µg/m^3). Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[3] National standards (other than ozone, particulate matter, and those standards based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1 day. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[4] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[5] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[6] The USEPA strengthened the NAAQS for SO_2 on June 2, 2010, by establishing a new 1-hour standard. The USEPA also has revoked the annual and 24-hour standards because they will not add additional public health protection given the new 1-hour standard.

[7] The California Air Resources Board has identified lead as a toxic air contaminant with no threshold of exposure for adverse health effects. This action allows for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

State Implementation Plans

Counties or regions that are designated as federal non-attainment areas for one or more criteria air pollutants must prepare a SIP that demonstrates how the area would achieve attainment of the standards by the Federally mandated deadlines. In addition, those areas that have been re-designated from non-attainment to attainment are required to have a maintenance plan that shows how the area would maintain the standard for up to 10 years.

Contra Costa County had been designated a non-attainment area for ozone and particulate matter. The most recently adopted clean air plan for the BAAQMD is the 2010 Multi-Pollutant Clean Air Plan, which the BAAQMD adopted in September 2010.

General Conformity

Section 176(c) of the CAA requires that any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity must demonstrate that the action conforms to the applicable SIP required under Section 110(a) of the CAA (42 U.S.C. 7410[a]) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with a SIP's purpose to eliminate or reduce the severity and number of violations of the NAAQS and achieve expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and is subject to the regulations implementing the conformity requirements would, in fact, conform to the applicable SIP before the action is taken. Only those federal actions that take place in a region designated as an NAAQS non-attainment area or maintenance area must be evaluated for general conformity. This includes the proposed project.

3.3.1.2 State

The California Clean Air Act (CCAA) substantially added to the authority and responsibilities of the state's air pollution control districts. The CCAA establishes an air quality management process that generally parallels the federal process; however, it focuses on attainment of the California Ambient Air Quality Standards (CAAQS) that are, for certain pollutants and averaging periods, more stringent than the comparable NAAQS.

The CCAA requires that the CAAQS be met as expeditiously as practicable, but it does not set precise attainment deadlines. Instead, the CCAA established increasingly stringent requirements for areas that will require more time to achieve the standards. The air quality attainment plan requirements are based on the severity of air pollution problems caused by locally generated emissions. Upwind air pollution control districts are required to establish and implement emission control programs commensurate with the extent of pollutant transport to downwind districts. The San Francisco Bay Air Basin is in non-attainment for ozone and particulate matter, so a Multi-Pollutant Clean Air Plan was prepared by BAAQMD in 2010.

The California Air Resources Board (CARB) is responsible for developing emission standards for on-road motor vehicles and some off-road equipment in the state. In addition, the CARB develops guidelines for the local districts to use in establishing air quality permit and emission control requirements for stationary sources subject to the local air district regulations.

3.3.1.3 Local

The BAAQMD maintains air quality conditions in the plan area through comprehensive programs of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean-air strategy involves the preparation of plans and programs for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAQMD also inspects stationary sources, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements other programs and regulations required by the CAA and the CCAA.

On June 2, 2010, the BAAQMD's Board of Directors unanimously adopted thresholds of significance to assist in the review of projects under the California Environmental Quality Act (CEQA). The 2010 adopted thresholds of significance were challenged in a lawsuit. On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds. The court found that the adoption of the thresholds was a project under CEQA and ordered the BAAQMD to examine whether the thresholds would have a significant impact on the environment under CEQA before recommending their use. The court did not determine whether the thresholds are or are not based on substantial evidence and thus valid on the merits. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them they had complied with CEQA. The court's order permits the BAAQMD to develop and disseminate these CEQA Guidelines, as long as they do not implement the thresholds of significance. In light of the court's order, all references of the BAAQMD's June 2010 adopted thresholds, including related screening criteria, have been removed from the CEQA Guidelines (BAAQMD, 2012).

3.3.1.4 Toxic Air Contaminants

Air quality regulations also focus on TACs or hazardous air pollutants. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health effects may not be expected to occur. This contrasts with the criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 3-1). Instead, the USEPA and the CARB regulate hazardous air pollutants and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology for toxics to limit emissions. These, in conjunction with additional rules set forth by the BAAQMD, establish the regulatory framework for TACs. Under the BAAQMD's rules and regulations, all sources that possess the potential to emit TACs are required to obtain permits from the BAAQMD.

The BAAQMD limits emissions and public exposure to TACs through a number of programs, and it prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. Of the listed TACs, particulate emissions from diesel-fueled engines are the only type expected to result from the proposed project.

3.3.2 Existing Conditions - Air Quality

California is divided into 15 air basins for air pollution management. MOTCO is located in the San Francisco Bay Air Basin, known as the BAAQMD. The existing air quality conditions for the project area are the result of meteorological conditions and existing emission sources in the area. MOTCO is located downwind of the San Francisco/Oakland urban area that includes many air pollution sources. The San Francisco Bay Area is designated as a federal attainment area for CO, SO_2, and lead air quality standards; a federal marginal attainment area for the ozone standard; and a federal nonattainment area for $PM_{2.5}$. The Bay Area is designated as a state nonattainment area for ozone, $PM_{2.5}$ and PM_{10} (U.S. Army, 2015a).

Prescribed burning at MOTCO produces CO, $PM_{2.5}$ and PM_{10} emissions as well as other pollutants including carbon dioxide (CO_2) and methane. The State Smoke Management Guidelines, adopted by CARB, establish California's smoke management program framework. The BAAQMD Regulation 5, Subsection 401.11 addresses fire management for the purposes of range management and grazing (CARB, 2017). The MOTCO Fire Department manages the prescribed burns in accordance with these rules and regulations. This includes submitting a smoke management plan to BAAQMD for approval. As part of this process PM_{10} emissions are calculated for each burn (U.S. Army, 2013a).

3.4 CLIMATE CHANGE AND SEA LEVEL RISE (SLR)

This section describes the existing climate of San Francisco Bay/Sacramento-San Joaquin Delta Estuary and analyzes the potential impacts of the project alternatives. The Climate Change Section (2.2.5) from the *San Francisco Bay to Stockton, California, Navigation Improvement Project IGRR-EIS* (USACE 2020b), including Suisun Bay adjacent to MOTCO is incorporated by reference.

Observed environmental changes in California due to global warming include rising temperatures, rising sea levels, a lengthened growing season, and shifts in plant and animal ranges. At a local level, area surrounding the navigation channel may be at greater risk of changing weather patterns, such as the current drought affecting water resources, the increasing intensity of rainfalls that can cause localized flooding, and the local effects from SLR. As discussed above, because the effects of climate change are regional in nature, the environmental setting in regard to climate change is the same throughout the study area.

3.4.1 Regulatory Setting

On October 30, 2009, the USEPA published the final mandatory greenhouse gas (GHG) reporting rule in the Federal Register (74 FR 56260). This rule requires suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that directly emit 25,000 metric tons or more of CO_2 equivalent per year to submit annual reports to the USEPA. The regulatory setting for GHG emissions were discussed for the Suisun Bay Channel (USACE 2020b). Existing sources of GHGs in the study area are extensive and include vehicles, marine vessels, industry, and farms. However, the effect of GHGs differ from other pollutants in that they do not directly impact local or even regional settings and are not often the effect of individual large sources. Rather, excess GHG emissions from many different sources combine to increase mean global temperatures, which in turn have numerous direct and indirect effects on the environment and humans on regional and local scales.

EO 13514 and EO 13653 call for federal agencies to complete vulnerability assessments while EO 14030 focuses on climate-related financial risks. Engineering Regulation (ER) 1100-2-8162 provides guidance for incorporating the effects of future sea level change into project planning (USACE 2019a). Engineering Pamphlet (EP) describes procedures for evaluating sea level impacts and responses (USACE 2019b).

3.4.1.1 California Executive Order B-30-15 and Global Warming Solutions Act

California Executive Order B-30-15 (signed by Governor Brown on April 29, 2015) established a GHG emission reduction target for California of 40 percent below 1990 levels by 2030. California is on track to meet or exceed the current target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32).

3.4.2 Existing Conditions – Climate Change and Sea Level Rise

Greenhouse gasses are gas emissions that trap heat in the atmosphere and occur from natural resources and human activity. Scientific evidence indicates a trend of increasing global temperature corresponding with increased emissions of GHGs over the past century. One projected impact of this global warming is rising sea levels. The 2010 Quadrennial Defense Review called for a vulnerability assessment of DOD Installations to determine vulnerability to the impacts of climate change.

The Installation Climate Resilience Plan (ICRP) place MOTCO in the top ten of Army installations of concern for effects of sea level rise (U.S. Army 2021e). Sea level rise figures are based on the Digital Coast Sea Level Rise and Coastal Flooding Impacts Viewer (http://coast.noaa.gov/slr; NOAA 2017). The viewer represents sea level inundation at 1-foot increments up to 10 feet above mean higher high water. The viewer also shows predicted levels of inundation for marshlands,

economic and social vulnerability of areas that would result from SLR and the changes in flooding frequency. Although no time horizon is associated with each projected one-foot sea level rise, each map is meant to show how MOTCO could be affected in the future with additional constraints to development. The *Biological Assessment / Essential Fish Habitat Assessment for the San Francisco Bay to Stockton, California, Navigation Improvement Project* (Appendix G in USACE 2020b) describes the effects of sea level rise and increased water temperatures on special status fishes.

3.5 BIOLOGICAL RESOURCES

Biological resources include native or naturalized plants and animals and the habitats in which they occur. Sensitive biological resources are defined as those plants and animal species listed as threatened or endangered, or proposed as such, by USFWS, NMFS, and CDFW. This section describes the regulatory setting and existing conditions as they relate to biological resources that occur at MOTCO.

3.5.1 Regulatory Setting

The following section describes the federal, state, and local rules and regulations with respect to vegetation and wildlife potentially affected by implementation of the proposed project at MOTCO.

3.5.1.1 Federal

Endangered Species Act

The ESA and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Section 7 of the ESA requires federal agencies to aid in the conservation of listed species and ensure that the activities of federal agencies will not jeopardize the continued existence of listed species or adversely modify designated critical habitat. At the federal level, the USFWS and the NMFS are responsible for administration of the ESA.

Migratory Bird Treaty Act

The MBTA decrees that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected. Nearly all native North American bird species are protected by the MBTA. Under the MBTA, pursuing, taking, killing, or possessing migratory birds is unlawful. Projects that are likely to result in taking of birds protected under the MBTA would require the issuance of take permits from the USFWS. Activities that would require such a permit would include destruction of migratory bird nesting habitat during the nesting season when eggs or young are likely to be present. To comply with the MBTA and appropriate associated regulations (50 CFR), surveys are required to determine if nests would be disturbed and, if so, a buffer area with a specified radius around the nest would be established so that no disturbance or intrusion would be allowed until

the young had fledged and left the nest. If not otherwise specified in the permit, the size of the buffer area would vary with species and local circumstances (e.g., presence of busy roads) and would be based on the professional judgment of the monitoring biologist.

Marine Mammal Protection Act

The MMPA of 1972 protects all marine mammals. The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. An incidental take permit is required from the National Oceanographic and Atmospheric Administration (NOAA) for project activities with the potential to harm marine mammals.

National Marine Sanctuaries Act

The National Marine Sanctuaries Act (NMSA) authorizes the Secretary of Commerce to designate and protect areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational, or aesthetic qualities. Under the NMSA, sanctuaries are managed for multiple uses provided the uses are deemed compatible with resource protection by the Secretary of Commerce. The NMSA does not prohibit any type of use but leaves it up to the Secretary to determine, through a public process, which activities will be allowed and what regulations will apply to various uses.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act is the legal provision for promoting optimal exploitation of U.S. coastal fisheries. Enacted in 1976, it has since been amended in line with sustainability policy. Regional councils of the NMFS determine when a stock is overfished and apply both regional and individual catch limits. The NMFS has implemented the Fish Stock Sustainability Index, which measures key stocks according to their overfishing status and biomass levels. The Act includes national standards for management and outlines the contents of fishery management plans. In addition, it gives the Secretary of Commerce power to review, approve, and implement fishery management plans and other recommendations developed by the councils. NMFS is charged with stewardship of the nation’s living marine resources. With input from the regional councils and stakeholder groups, NMFS provides guidance for applying the National Standards of the Act.

Fish and Wildlife Coordination Act

The FWCA of the U.S. was enacted in 1934 to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. The FWCA provides the basic authority for the involvement of the USFWS in evaluating impacts to fish and wildlife from proposed water resource development projects. The FWCA authorizes the Secretaries of Agriculture and Commerce to provide assistance to and cooperate with Federal and State

agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife. Under this Act diversions or modifications to water bodies require consultation with the USFWS.

Executive Order 13112, Invasive Species

EO 13112 directs federal agencies to expand and coordinate their efforts to combat the introduction of invasive species; provide for their control; and take measures to minimize economic, ecological, and human health effects. In compliance with EO 13112, restoration of disturbed vegetation should be conducted using native plants and efforts to prevent the introduction of invasive plant species must be demonstrated.

3.5.1.2 State

California Endangered Species Act

The CDFW is responsible for administration of the California ESA. Unlike the federal ESA, there are no state agency consultation procedures under the California ESA. For projects that affect both a state and Federally-listed species, compliance with the federal ESA will satisfy the California ESA if the CDFW determines that the federal incidental take authorization is "consistent" with the California ESA. Projects that result in a take of a state-only listed species require a take permit under the California ESA. The federal and state acts also lend protection to species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or den locations, communal roosts, and other essential habitat.

Under state law, plant species may be formally designated rare, threatened, or endangered by CDFW. The California Native Plant Society operates its Rare Plant Program under an MOU with the CDFW. This MOU results in rare plant assessment, protection, and formalized cooperative ventures, such as data sharing and production of complementary information sources for rare plants.

California Fish and Game Code Sections 3500–3705, Migratory Bird Protection

Sections 3500–3705 of the California Fish and Game Code regulate the taking of migratory birds and their nests. These prohibit the taking of nesting birds, their nests, eggs, or any portion thereof during the nesting season. Typically, the breeding/nesting season is from February 1 through August 31. Depending on each year’s seasonal factors, the breeding season can start earlier and end later.

3.5.2 Existing Conditions - Vegetation, Wildlife, and Aquatic Species

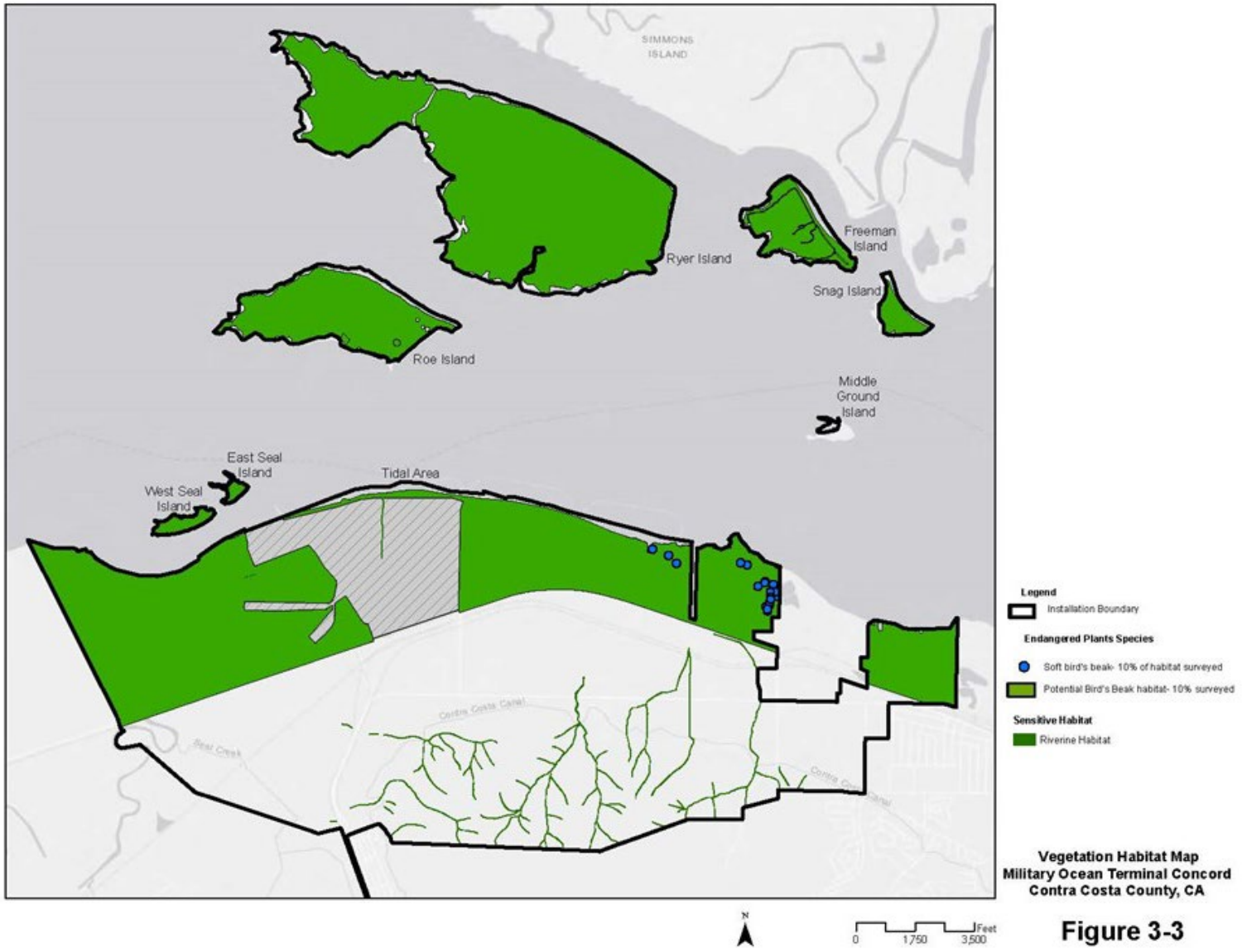
MOTCO occupies approximately 115 acres of Inland Area and 5,733 acres of Tidal Area and off-shore islands, including five miles of shoreline (U.S. Army, 2017). These areas have been altered historically with various development activities in the Inland Area and diking, dumping, and filling of the Tidal Area.

Twelve different habitat types have been defined at MOTCO including non-native annual grassland (1,706 acres), canals (7 acres), sloughs (32 acres), unimpaired tidal marshes (1,172 acres), muted tidal marshes (1,647 acres), diked marshes (12 acres), deep bay (5 acres), shallow bay (211 acres), tidal flats (4 acres), saline depressions (2 acres), and transitional brackish marsh (46 acres) (U.S. Army, 2017). In addition, a large portion (930 acres) of the Inland Area has been defined as “Developed/Disturbed” (U.S. Army, 2017).

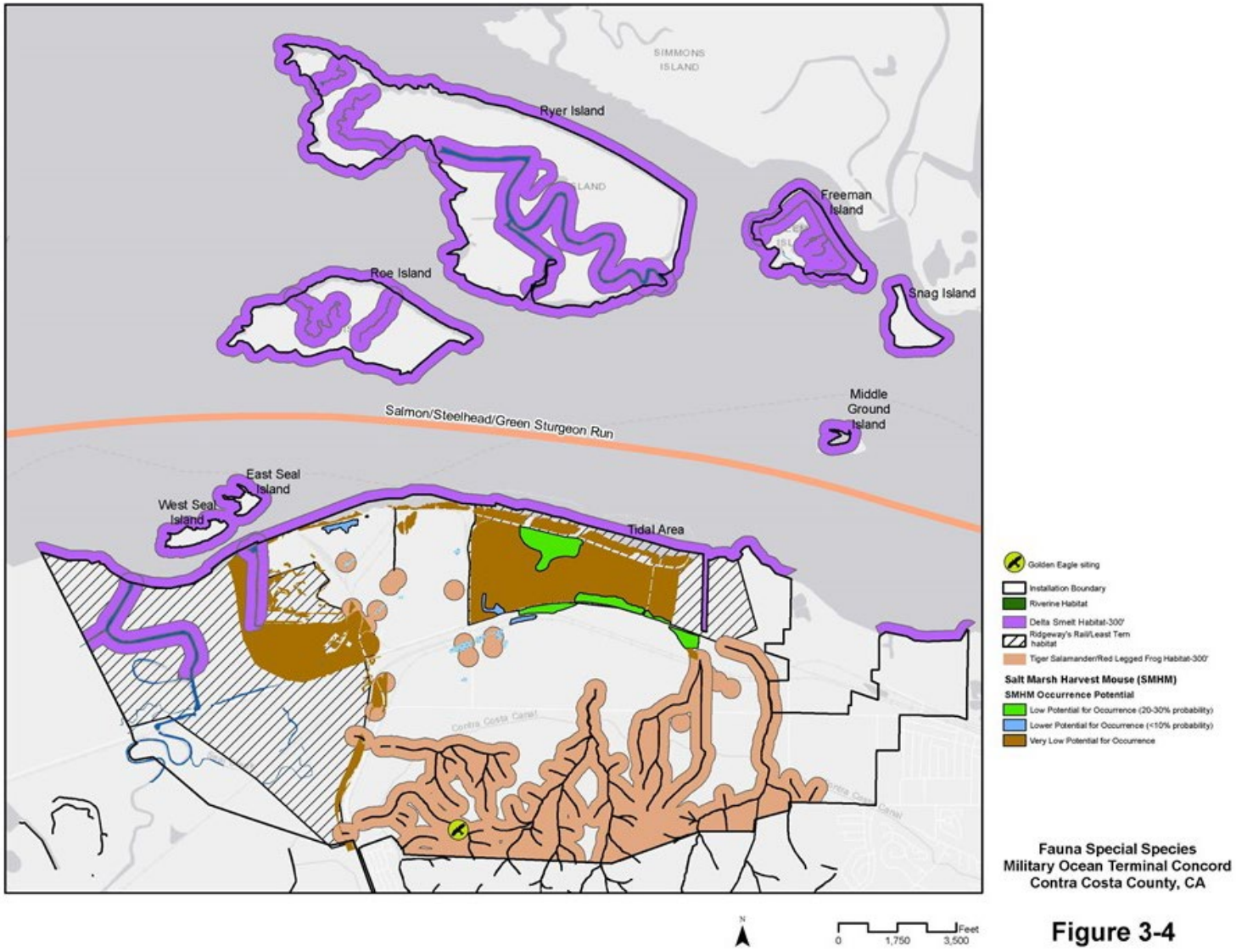
Previous biological surveys conducted at MOTCO identified the presence of species listed as Federally-threatened or endangered and habitat to support Federally-listed species as shown on Figures 3-3 and 3-4. Critical Habitat has also been designated in Suisun Bay (including MOTCO) for Delta Smelt, Green Sturgeon, and Chinook Salmon (U.S. Army, 2017). Additional information on vegetation, wildlife, and threatened and endangered species is provided in the following sections.

3.5.2.1 Vegetation

Vegetation at MOTCO varies throughout the Installation and can be generally split into three dominant categories: terrestrial vegetation, wetland/marsh vegetation, and aquatic vegetation. A brief summary of each category is provided below:



Vegetation Habitat Map



Fauna Special Species
Military Ocean Terminal Concord
Contra Costa County, CA

Figure 3-4

Faunal Special Species

Terrestrial Vegetation

Terrestrial portions of the site include developed and disturbed areas and nonnative grasslands. In the developed and disturbed portions of the site, vegetation is dominated by patchy populations of the non-native ice plant (*Carporbrotus edulis*). Dominant plant species in the non-native grasslands include wild oats (*Avena fatua*), ripgut grass (*Bromus diandrus*), Mediterranean barley (*Hordeum marinum*), and Italian ryegrass (*Lolium multiflorum*), along with a heavy infestation of the noxious, invasive yellow star thistle (*Centaurea solstitialis*) (U.S. Army, 2017).

Wetland Vegetation

Wetland habitat and associated vegetation within MOTCO varies greatly from non-tidal areas to low, mid, and high tide marsh areas.

The non-tidal brackish marsh areas are highly variable and often includes alkali heath (*Frankenia salina*), saltgrass (*Distichlis spicata*), pickleweed (*Salicornia virginica*), cattails (*Typha spp.*), alkali bulrush (*Scirpus maritimus* and closely related species) and three-square bulrush (*Scirpus americanus*), creeping spikerush (*Eleocharis macrostachya*), heliotrope (*Heliotropum currasavicum*), and Italian ryegrass (U.S. Army, 2017).

Plant species that are distinctly associated with high marsh areas at MOTCO are San Francisco Bay gumplant (*Grindelia stricta var. angustifolia*), western goldenrod (*Euthamia occidentalis*), salt marsh baccharis (*Baccharis douglasii*), western ragweed (*Ambrosia psilostachya*), tarragon (*Artemisia dracunculus*), and the rare soft bird's-beak (*Cordylanthus mollis ssp. mollis*) and Suisun Marsh aster (*Aster lentus*). The inland-transition portion of the high marsh zone is structurally dominated by coyote brush (*Baccharis pilularis*) (U.S. Army, 2017).

Plant species associated with the mid marsh areas at MOTCO is dominated by saltgrass, pickleweed, Baltic rush (the *Juncus balticus-lesueurii* complex), spearscale (*Atriplex triangularis*), jaumea (*Jaumea carnosa*), creeping spikerush, alkali heath, dodder (*Cuscuta salina*), arrowgrass (*Triglochin spp*.) (U.S. Army, 2017).

Low marsh and pond species include Hardstem tule (*Scirpus acutus*), California bulrush (*Scirpus californicus*), giant reed (*Phragmites australis*), three-square bulrush, alkali bulrush, cattails, and the invasive perennial pepperweed (*Lepidium latifolium*) (U.S. Army, 2017).

Aquatic Vegetation

Aquatic flora found in estuarine environments includes submerged aquatic vegetation (SAV) and various species of algae and phytoplankton. Also common in many estuaries is non-native aquatic vegetation. SAV includes vascular plants that are adapted for life under water. In general, the occurrence of aquatic vegetation in the subtidal habitats in the vicinity of MOTCO is not common due to the lack of hard substrate and high-water motion in the area (U.S. Army, 2017). However,

during shoreline habitat surveys at MOTCO biologists observed several small beds with eelgrass (*Zostera marina*) and sago pondweed (*Stuckenia pectinate*) inshore of the wharves in 2015 (U.S. Army, 2017 and 2018b). Surveys in 2016 found mostly sago pondweed and no eel grass at the previous locations.

3.5.2.2 Wildlife and Aquatic Species

Terrestrial Wildlife

Although both non-native grasslands and developed/disturbed areas are dominated by non-native species, this habitat is of great value to grassland wildlife, particularly where the grasslands mingle with marshlands along a broad ecotone on the upper edge of the Tidal Area (U.S. Army, 2017). Further, habitats found at MOTCO including the tidal areas mainland marshes and the marshes and shallows on the offshore islands, all can support a relatively high diversity of terrestrial wildlife species. A summary of terrestrial wildlife is provided below. Threatened and Endangered species are discussed in Section 3.4.2.3.

Mammals

Mammal species observed during surveys conducted in the late 1990s include rodents (e.g., a variety of mice, voles, and rat species), foxes, skunks, bobcat (*Lynx rufus*), mule deer (*Odocoileus heminus*), opossums, shrews, moles, bats, rabbits, and squirrels. A complete listing of species can be found in the INRMP (U.S. Army, 2017) completed for the Installation.

Birds

The California Bay-Delta Area including Suisun Marsh, Grizzly Island Wildlife Area, Hill Slough Wildlife Area, and Peytonia Slough Ecological Reserve and the surrounding marshes and uplands (annual grasslands) support over 291 bird species (U.S. Army, 2017). The American Bird Conservancy has determined that this area qualifies as a Nationally Important Bird Area (American Bird Conservancy, 2009). MOTCO is within this area and is important for breeding, migrating, and wintering songbirds, raptors, shorebirds, and waterfowl. All migratory birds found on MOTCO are protected by the MBTA. A complete list of birds expected to occur at MOTCO can be found in the latest INRMP.

Amphibians and Reptiles

A variety of amphibians including salamanders, newts, and frogs can be found at MOTCO. According to the INRMP the following amphibians have been observed at the Installation: California slender salamander (*Batrachoseps attenuates),* Arboreal salamander (*Aneides lugubris),* Rough-skinned newt (*Taricha granulosa),* Coast range newt (*Taricha t. torosa),* Sierran treefrog (*Pseudacris sierra),* Pacific chorus frog (*Pseudacris regilla*), American bullfrog (*Rana catesbiana),* and California (Western) toad (*Bufo californicus).*

In addition, numerous snakes, lizards and turtles also occur in habitats at MOTCO. Per the INRMP the following reptiles have been observed at the Installation: Northwestern pond turtle (*Actinemys m. marmorata),* Red-eared slider (*Trachemys scripta elegans),* San Francisco alligator lizard (*Elgaria coerulea coerulea),* California alligator lizard (*E. multicarinata multicarinata),* California legless lizard (*Anniella pulchra),* Coast horned lizard (*Anota coronatum),* Coast Range fence lizard (*Sceloporus occidentalis bocourtii),* Skilton's skink (*Plestiodon skiltonianus skiltonianus),* Gilbert's skink (*Plestiodon gilberti),* California whiptail (*Aspidoscelis tigris munda),* Northern rubber boa (*Charina bottae),* Western yellow-bellied racer (*Coluber constrictor Mormon),* Sharp-tailed snake (*Contia tenuis),* Pacific ring-necked snake (*Diadophis punctatus amabilis),* California king snake (*Lampropeltis getula californiae),* California striped racer (*Masticophis l. lateralis),* Pacific gopher snake (*Pituophis catenifer catenifer),* Diablo Range garter snake (*Thamnophis atratus zaxanthus),* Coast garter snake (*Thamnophis elegans terrestris),* California red-sided garter snake (*Thamnophis sirtalis infernalis),* Valley garter snake (*Thamnophis sirtalis fitchi),* and the Northern Pacific rattlesnake (*Crotalus oreganus oreganus)*.

Marine Species

In addition to some of the amphibian and reptile species mentioned above, MOTCO supports a wide range of aquatic / marine species including invertebrates, fish, and marine mammal species (discussed below). Threatened and Endangered species is discussed in Section 3.5.2.3.

Marine Invertebrates

Marine Invertebrates associated with estuarine soft-bottom environments include those that live in the sediments (infaunal), on top of the sediments (epifaunal), and in the water column (pelagic). It should be noted that as a whole, the San Francisco Bay-Delta region has been altered by the introduction of various non-native invertebrates (e.g., exotic oriental shrimp (*Crangon franciscorum*) (U.S. Army, 2017).

Studies specific to Suisun Bay have revealed species assemblages of small infauna and epifauna broken down by locations including channels and channel edges, shallow subtidal, and slough channels. The channels and channel edges are dominated by bivalves (*Corbula amurensis and Corbula fluminea*), polychaetes (*Marenzellaria viridis* and *Heteromastus filiformis*), cumacean (*Nippoleucon hinumensis*), isopod (*Synidotea laevidorsalis*), and barnacle (*Balanus improvises*). In shallow subtidal areas the dominant species include a bivalve (*C. amurensis*), a polychaete (*M. viridis*), and an amphipod species (*Monocorophium alienense*). In the slough channels, the benthic invertebrate communities are similar to those found in the shallow subtidal habitat described above, although species abundance is much lower (U.S. Army, 2017).

Fish

A large number of fish species are known to frequent estuarine waters, including some non-native species (e.g., striped bass, *Morone saxatilis*). Common bony fish species in Suisun Bay include various smelt species, gobies, small fish such as Pacific herring (*Clupea pallasii*), white sturgeon (*Acipenser transmontanus*), flatfish, and perches (U.S. Army, 2017).

Marine Mammals

Marine mammals generally require higher salinity conditions than those occurring near MOTCO, but several species have been known to venture into the waters of Suisun Bay including the California sea lion (*Zalophus californianus*), humpback whale (*Megaptera noveangilae*) and harbor seal (*Phoca vitulina*). Although sightings have been documented, sea lions are not frequent visitors of the Suisun Bay area. Harbor seals are known to occur in low abundance, although consistently in the vicinity of MOTCO, and have been sighted in the Sacramento and San Joaquin Rivers. All marine mammals are protected by the MMPA (U.S. Army, 2017).

3.5.2.3 Federally-Listed Species

Initial review of the USFWS Information, the MOTCO INRMP (U.S. Army, 2017), Biological Assessment (U.S. Army, 2019b), Biological Opinion issued by USFWS (2020), and NMFS correspondence (NMFS, 2020) were used to document observance or potential of occurrence for special-status wildlife species within the Action Area. The following Threatened or Endangered species are currently known to likely to occur on MOTCO:

Terrestrial Species

- Soft bird's-beak (*Cordylanthus mollis* ssp. *Mollis*, plant)
- California tiger salamander (*Ambystoma californiense*, amphibian)
- California red-legged frog (*Rana aurora draytoni*, amphibian)
- Ridgeway's Rail (*Rallus longirostris obsoletus*, bird)
- California Least Tern *(Sternula antillarum browni,* bird)
- Salt marsh harvest mouse (*Reithrodontomys raviventris*, mammal)

Marine Fish Species

- North American Green Sturgeon (*Acipenser medirostris*) and associated Critical Habitat
- Central Valley Steelhead (*Onchorhynchus mykiss*)
- Central California Coast Steelhead (*Onchorhynchus mykiss*)

- Central Valley Spring-run Chinook Salmon (*Onchorhynchus tshawytscha*) and associated Critical Habitat
- Sacramento River Winter-run Chinook Salmon (*Onchorhynchus tshawytscha*)
- Delta smelt (*Hypomesus transpacificus*) and associated Critical Habitat

In addition, the essential fish habitat includes Pacific Coast Groundfish (PCG), Coastal Pelagic Species (CPS), and Pacific Coast Salmon (PCS).

3.6 LAND USE AND RECREATION

This section presents the existing land use conditions found at MOTCO, and the areas immediately adjacent to MOTCO, which together comprise the study area. Land use generally refers to human modification of land, often for residential or economic purposes, and to preservation of natural resources.

3.6.1 Regulatory Setting

The following section describes the federal regulations applicable to the proposed project. Local general plans and community ordinances do not have jurisdiction over federal operations or development actions at MOTCO; however, MOTCO generally maintains compliance with local regulations.

3.6.1.1 Federal

Army Regulation 405-70, Utilization of Real Property

This regulation establishes planning and management procedures to ensure efficient use of Army real property. It covers preparing and maintaining annual reports for the use of land, facilities, and space, and it prescribes periodic Installation surveys.

Coastal Zone Management Act

States must develop Coastal Zone Management programs in order “to preserve, protect, develop and, where possible, to restore or enhance the resources of the nation’s Coastal Zone....” Each Coastal Zone Management Plan must identify coastal zone boundaries, define permissible land and water uses within the coastal zone, inventory and designate areas of particular concern within the coastal zone, identify means by which the state proposes to exert control over land and water uses, establish guidelines for priorities of uses within particular areas, and describe the organizational structure proposed to implement the management program.

Federal lands (i.e., lands owned, leased, or held in trust by the federal government) are excluded from the CZMA; however, Federally conducted activities on excluded lands that have spillover effects on non-excluded lands, water use, or natural resources of the coastal zone will require a

consistency determination. The requirements for consistency determinations are established in NOAA regulations.

The BCDC performs CZMA consistency review for projects in the San Francisco Bay Area. Nearly all work in the portion of the Suisun Marsh below the 10-foot contour level requires permits from BCDC.

Marine Protection, Research, and Sanctuaries Act

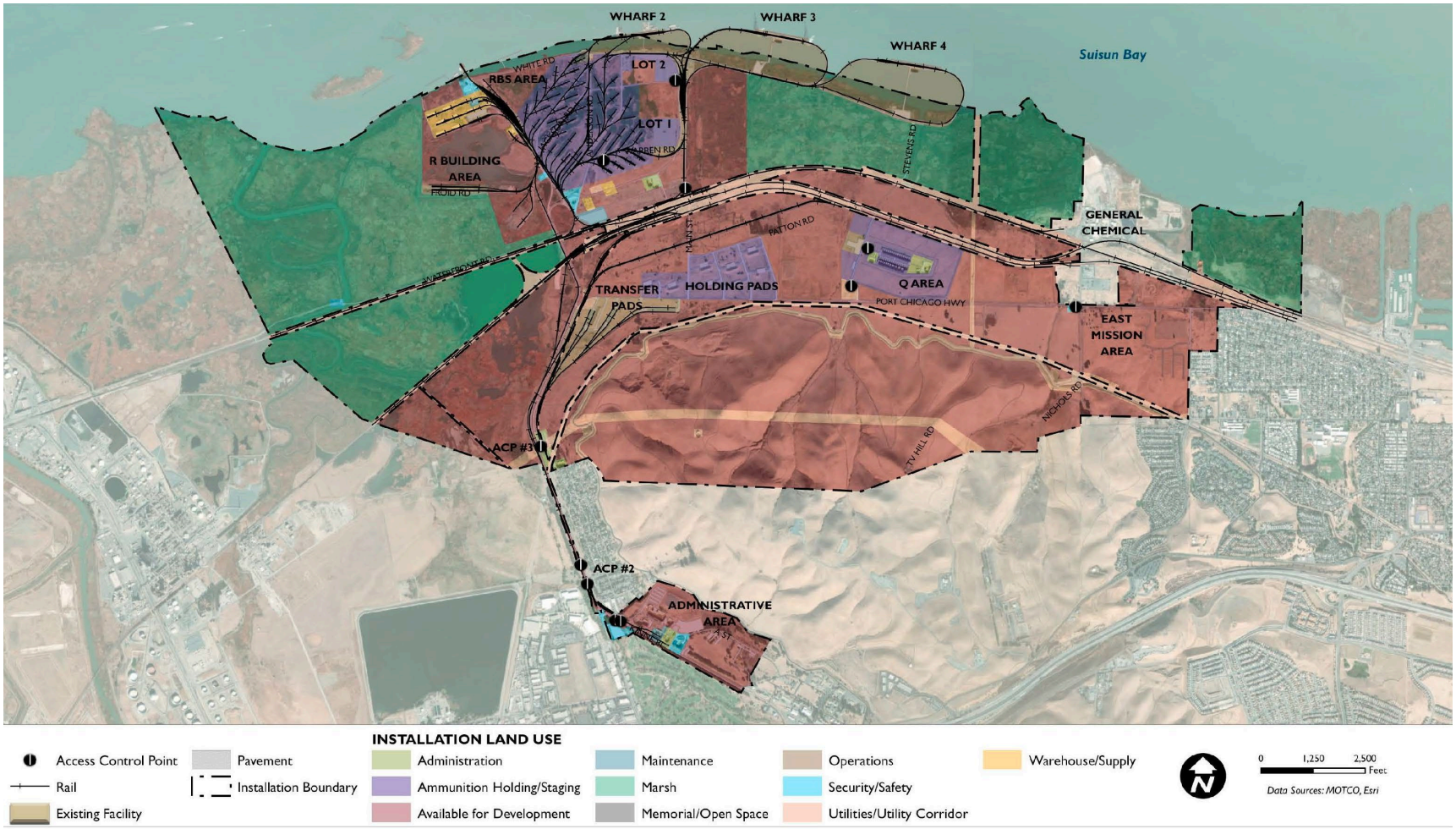
Titles I and II of the Marine Protection, Research, and Sanctuaries Act, also referred to as the Ocean Dumping Act, generally prohibits (1) transportation of material from the U.S. for the purpose of ocean dumping; (2) transportation of material from anywhere for the purpose of ocean dumping by U.S. agencies or U.S.-flagged vessels; (3) dumping of material transported from outside the U.S. into the U.S. territorial sea. A permit is required to deviate from these prohibitions.

3.6.2 Existing Conditions - Land Use and Recreation

Installation and land use at MOTCO center on its function as an ammunition transshipment facility (Figure 3-5). The current land use pattern at MOTCO concentrates administrative uses in the Inland Area. Land use in the Tidal Area serves the primary mission of MOTCO, roughly divided into waterfront operations in the north adjacent to Suisun Bay, ammunition transfer and holding facilities in the center, and the “Q Area” to the east. Short-, mid-, and long-range Installation development plans in the MOTCO RPMP are being updated (U.S. Army, 2011b).

Outdoor recreation opportunities at MOTCO are extremely limited because of security needs and the safety factor associated with weapons and ammunition staging. Generally, the Installation is only accessible by authorized military and civilian personnel; however, public access has been allowed in the past, if prior request is made and visitors would not interfere with the Installation’s mission or planned military activities. The Port Chicago Naval Magazine National Memorial (PCNMNM), became a National Park Service (NPS) site in 2009; however, this memorial site is part of MOTCO and, therefore, has restricted access. Visitors must make reservations for tours with two weeks’ notice to be granted access (U.S. Army, 2017).

There is a mix of land uses adjacent to MOTCO including heavy and light industrial, recreation, high and medium density residential (mostly single family with some multi-family), agricultural, and public/semi-public lands. Notable adjacent land uses are described below:


WHARF 2
WHARF 3
WHARF 4
Suisun Bay
WHITE RD
RBS AREA
LOT 2
LOT 1
FARREN RD
R BUILDING AREA
FROID RD
STEVENS RD
MAIN ST
PATTON RD
GENERAL CHEMICAL
TRANSFER PADS
HOLDING PADS
Q AREA
PORT CHICAGO HWY
EAST MISSION AREA
NICHOLS RD
TV HILL RD
ACP #3
ACP #2
ADMINISTRATIVE AREA
INSTALLATION LAND USE
Access Control Point
Rail
Existing Facility
Pavement
Installation Boundary
Administration
Ammunition Holding/Staging
Available for Development
Maintenance
Marsh
Memorial/Open Space
Operations
Security/Safety
Utilities/Utility Corridor
Warehouse/Supply
0
1,250
2,500
Feet
Data Sources: MOTCO, Esri

Land Use Map

3.6.2.1 Heavy Industrial in Eastern Tidal Area

The eastern Tidal Area supports some heavy industrial land uses. There are two areas zoned for heavy industrial use: a 114-acre area north of the public railroad right of way (ROW), in between Middle Point Marsh and East Marsh; and a 35-acre area between ACP 5 and the public railroad ROW. The General Chemical West, LLC, Bay Point Works facility is an industrial site that occupies approximately 26 acres in this area north of the railroad ROW (U.S. Army, 2017).

3.6.2.2 East of Tidal Area

East of the Tidal Area is Bay Point, an unincorporated area of Contra Costa County that consists primarily of residential neighborhoods with some interspersed community commercial, neighborhood parks, churches, and a mobile home development. Bay Point Regional Shoreline Park borders MOTCO at the shoreline to the east. A large swath of industrial land lies along the railroad tracks (U.S. Army, 2017).

3.6.2.3 Los Medanos Hills South of Tidal Area

The Los Medanos Hills separate the Tidal and Inland Areas. This land is partially privately owned and is leased to the Pacific Gas and Electric Company. The site is used to meet long-term storage needs for natural gas. Compressed natural gas is injected directly into depleted underground oil and gas reservoirs, thus forming new reserves. Cattle grazing occurs on these lands as well (U.S. Army, 2017).

3.6.2.4 West and Southwest of the Tidal Area

Two land uses dominate unincorporated Contra Costa County land west of the Tidal Area: recreation and heavy industrial. The CDFW Point Edith Wildlife Area represents the recreational use, which extends north from Waterfront Road to Suisun Bay. Land use classified as heavy industrial to the west of the wildlife area consists of the Tesoro Golden Eagle Refinery. This refinery occupies 2,206 acres and has a crude oil capacity of 166,000 barrels per day (U.S. Army, 2017).

3.6.2.5 North of the Inland Area (Clyde and Los Medanos Hills)

The unincorporated community of Clyde (population approximately 700) is located between the Inland and Tidal Areas on the eastern side of Port Chicago Highway. Clyde consists of single-family residences with interspersed neighborhood recreation. An approximately two-acre light industrial area is located between the Inland Area and residential area (U.S. Army, 2017).

3.6.2.6 Northeast, East, and South of the Inland Area

The northeastern boundary of the MOTCO Inland Area is defined by the Contra Costa Canal. Adjacent land use is the Los Medanos Hills gas field noted above. Former adjacent Navy property includes Diablo Creek Golf Course to the southwest and former Navy administrative areas to the southeast of the Inland Area. Formal community reuse options (concordreuseproject.org) have been formulated for the former Navy administrative area, and Contra Costa County has expressed interest in emergency response training in this area (U.S. Army, 2017).

3.6.2.7 West of the Inland Area

Port Chicago Highway, a light industrial area, and Mallard Reservoir are located west of the Inland Area (U.S. Army, 2017).

3.7 TRAFFIC AND TRANSPORTATION

This section presents the existing conditions found on the transportation system within the study area, which consists of MOTCO, and the areas immediately adjacent to MOTCO.

3.7.1 Regulatory Setting

The Association of Bay Area Governments serves as the designated Metropolitan Planning Organization for the region. Local municipalities determine their own criteria for streets and roads, while the California Department of Transportation oversees state highways.

3.7.2 Existing Conditions - Traffic and Transportation

California Highway 4 provides the primary access to MOTCO with State Highway 242 and U.S. Interstate Highways 80, 580, 680, and 780 providing connections to Highway 4 from nearby cities in the Bay Area region. The Port Chicago exit from Highway 4 provides access to MOTCO's main gate and the Willow Pass exit provides access to ACP 5. During peak summer months Highway 4 near MOTCO experiences traffic volume between 80,000 and 157,000 vehicles per day. There are two primary access points at MOTCO: ACP 1 provides access to the Inland Area via Port Chicago Highway to Kinne Boulevard, and ACP 2 provides access to the Tidal Area via Port Chicago Highway to Taylor Boulevard. Other access includes ACP 3 adjacent to the community of Clyde, with ACPs 4 and 5, at the western and eastern ends of the Tidal Area respectively. Traffic congestion is not an issue on the Installation but there are issues with the inadequacy of road surfaces and capacities (U.S. Army, 2013a).

Bay Area Rapid Transit stations are located relatively near MOTCO, with the North Concord/Martinez Station located about one mile south of the main gate and the Pittsburg/Bay Point Station located about three miles southeast of ACP 5. Amtrak passenger trains pass through

MOTCO several times per day on freight rail tracks (U.S. Army, 2013a). There is no permissible water access to MOTCO by non-Army personnel.

3.8 NOISE

Noise is defined as any sound that is undesirable because it interferes with communication, impairs hearing, and/or diminishes the quality of the environment. With respect to noise, the study area consists of MOTCO and the areas immediately adjacent to MOTCO.

Many factors affect one's perception of noise including pitch, loudness, and the character of the noise. The standard unit of sound amplitude measurement is the decibel (dB). Because the human ear cannot hear all frequencies, a special scale has been devised to relate noise to human sensitivity, the A-weighted decibel (dBA) scale. The dBA scale de-emphasizes the low- and high-end frequencies and emphasizes those frequencies the human ear is able to hear. The following terms are typically used in analyzing noise:

- **Leq** – Equivalent energy level. The A-weighted sound level corresponding to a steady state sound level containing the same total energy as a time varying signal over a given sample period. Leq is typically computed over 1-, 8-, and 24-hour measurement periods;
- **Lmax** – The maximum A-weighted sound level during the measurement period;
- **Ldn** – Day-night average level. A 24-hour average Leq, with the addition of 10 dBA to the sound level during the hours of 10:00 P.M. to 7:00 A.M. to account for greater noise sensitivity of people at night;
- **CNEL** – Community Noise Equivalent Level. A 24-hour average Leq, with the addition of 5 dBA to sound levels from 7:00 P.M. to 10:00 P.M. and the addition of 10 dBA to sound levels from 10:00 P.M. to 7:00 A.M. CNEL is widely used in California and is similar to Ldn, except it increases noise levels by 5 dBA between 7:00 P.M. and 10:00 P.M.

3.8.1 Regulatory Setting

The following section describes the federal, state, and local noise guidance and regulations applicable to the proposed project.

3.8.1.1 Federal

The Noise Control Act of 1972 (Public Law 92-574) established a national policy to promote an environment for all Americans that is free from noise that would jeopardize their health and welfare. This Act authorized and directed federal agencies to carry out programs to further the policy declared in the Act. Each federal department or agency must comply with federal, state, interstate, and local requirements regarding control and abatement of environmental noise.

Army

To comply with the Noise Control Act, the Army has established a noise policy as part of AR 200-1 (Chapter 14; Army, 2007a).

The major goals of the Army's noise policy are to:

- Control operational noise to protect the health and welfare of people, on- and off-post, affected by all Army-produced noise, including on- and off-post noise sources;
- Reduce community annoyance from operational noise to the extent feasible, consistent with Army training and materiel testing mission requirements;
- Actively engage local communities in land use planning in areas subject to high levels of operational noise and a high potential for noise complaints.

The Army's noise policy establishes noise criteria for land use compatibility planning that are specific to aviation sources, impulsive military sources (such as artillery), and small arms firing ranges. None of these categories of noise criteria are directly applicable to MOTCO or the types of noise sources associated with the proposed project. The Army's operational noise policy states, "transportation and industrial noise will be assessed on a case by case basis using appropriate noise metrics, including USDOT guidelines." Therefore, the following section provides an overview of some of the key noise criteria used by the USDOTs various modal administrations.

U.S. Department of Transportation

The Federal Highway Administration (FHWA) has established noise abatement criteria used to determine effects and mitigation measures for new roadways or the reconstruction of existing roadways (23 CFR Part 772). The FHWA requires state Departments of Transportation to further define how the FHWA policy will be implemented in each state. Caltrans issued a revised Traffic Noise Analysis Protocol in May 2011 (Caltrans, 2011). The Caltrans noise policy effect criteria are based on 1-hour equivalent sound levels (Leqh) for the hour of the day with the highest traffic noise level. For residential exterior uses, a noise effect occurs under the Caltrans policy when:

- The predicted Leqh with the project is equal to or greater than 66 dBA, or
- The predicted Leqh with the project exceeds the existing Leqh by 12 dBA or more

Different criteria are specified for different land use types, in accordance with their sensitivity to annoyance from traffic noise.

The Federal Transit Administration (FTA) and Federal Aviation Administration (FAA) assess noise effects using different metrics, effect criteria, and procedures than the FHWA. FTA assesses operational noise effects on residential uses based on Ldn (24-hour Leq with 10 dB penalty on noise occurring at night). There is no single Ldn level that determines a noise effect under FTA

procedures; effects are determined through an equation/chart that takes into account both the existing noise level and the increase in noise levels due to the project (FTA, 2006). FAA also assesses noise effects using the Ldn metric (referring to it as day-night average sound level), but uses a predicted noise level above 65 Ldn as the basis for determining effects and land use compatibility (FAA, 2007).

The transportation noise criteria discussed above are all applicable to long-term operational noise exposure. For construction noise exposure, higher noise levels may be acceptable because of their temporary nature. The FHWA and the FAA have not established construction noise effect criteria in policy or regulations. The FTA's procedures suggest the following criteria as a reasonable basis for assessing construction noise effects:

- 8-hour daytime Leq – 80 dBA
- 8-hour nighttime Leq – 70 dBA
- 30-day Ldn – 75 dBA

The FTA and the FHWA recommend that the construction noise criteria for each project should take into account the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use.

3.8.2 Existing Conditions - Noise

The existing noise environment at MOTCO does not include major noise sources such as airfield operations or live-fire training. Noise sources include motor vehicle, heavy equipment, and railroad use and maintenance in support of mission activities. Commercial railroad use along Union Pacific and BNSF rail lines also contributes to noise at MOTCO (U.S. Army, 2013a).

3.9 UTILITIES, ENERGY, AND SUSTAINABILITY

This section describes existing utilities and public services within MOTCO, including wastewater, solid waste, energy, natural gas, electricity, and communications. Water services are described in Section 3.1. Sustainability, or the potential for renewable energy and recycling projects at MOTCO, is also discussed. The study area consists of the boundaries of MOTCO.

3.9.1 Regulatory Setting

The following section describes the federal and state rules and regulations applicable to utilities, energy, and sustainability at the proposed project.

3.9.1.1 Federal

Wastewater

The federal Water Pollution Control Act (Public Law 92-500), commonly known as the CWA, was promulgated in 1972 following a series of previous legislative efforts to establish water pollution control laws in the United States. The CWA, Section 402, NPDES Permit Program authorizes the issuance of individual or general permits to control municipal and industrial point source discharges, including those from wastewater and stormwater. The federal government has full authority to issue NPDES permits but may delegate the permit program to the state, and California has the authority to issue NPDES permits.

Solid Waste

The USEPA regulates the management of non-hazardous solid waste according to the Resource Conservation and Recovery Act (RCRA), Subtitle D. Under RCRA, the USEPA is also in charge of regulating the handling and disposal of hazardous wastes.

Energy

MOTCO is required to follow several executive orders and other documents pertaining to energy use by the federal government:

- EO 13423 (January 26, 2007) is intended to improve energy efficiency and reduce GHG emissions of the agency, through reduction of energy intensity by 3% annually through the end of Fiscal Year (FY) 15, or 30% by the end of FY15, relative to the baseline of the agency's energy use in FY03. EO 13423 also describes requirements for renewable energy use, sustainable environmental practices, and requirements for new construction in accordance with *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings set forth in the Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding* (2006).
- EO 13514 (Federal Leadership in Environmental, Energy, and Economic Performance) sets sustainability goals for federal agencies and focuses on making improvements in their environmental and energy performance. EO 13514 also requires federal agencies to set a 2020 GHG emissions reduction target, increase energy efficiency, and reduce petroleum consumption.
- Energy Policy Act of 2005 addresses energy production in the U.S. and describes energy management requirements for federal agencies, procurement of energy efficient products, federal building performance standards, and enhancing energy efficiency in management of federal lands.

- The Energy Independence and Security Act of 2007 is intended to move the U.S. towards greater energy independence and security and includes requirements for improving the energy performance of the federal government. This Act contains requirements for energy efficiency in federal vehicle fleets and sets energy reduction goals for federal buildings.

Executive Order 13693 – Planning for Federal Sustainability

The goal of EO 13693 of 2015 is to maintain Federal leadership in sustainability and GHG emission reductions. Federal agencies shall, where life-cycle cost-effective, beginning in FY16, unless otherwise specified, promote building energy conservation, efficiency, and management by reducing agency building energy intensity by 2.5 percent annually through the end of FY25, relative to the baseline of the agency's building energy use in FY15 and taking into account agency progress to date.

3.9.1.2 State

Wastewater

The California Water Code, Sections 13575–13583, contains the Water Recycling Act of 1991, which establishes a statewide goal of recycling one million acre-feet of water annually by the year 2010 and encourages retail water suppliers to increase the use of recycled water. The Health and Safety Code, the Water Code, and Title 22 and Title 17 of the California Code of Regulations (CCR) contain regulations for the treatment, use, and distribution of reclaimed water. The Porter Cologne Water Quality Control Act (California Water Code) regulates discharges of wastewater to surface and groundwater.

Solid Waste

Under the jurisdiction of the California EPA, the California Integrated Waste Management Board is charged with managing solid waste. Title 14, Chapter 3, of the CCR addresses minimum standards for solid waste handling and disposal.

The California Integrated Waste Management Act (AB 939) requires each county or incorporated city to prepare a Source Reduction and Recycling Element that shows how they will divert 25 percent of all solid waste from landfill or transformation facilities by January 1, 1995, and divert 50 percent of all solid waste by January 1, 2000.

3.9.2 Existing Conditions – Utilities, Energy and Sustainability

Wastewater and Solid Waste

A sanitary sewer system serves the Inland Area and the majority of the Tidal Area, with the exception of the eastern end. Much of the sewer piping at MOTCO is more than 50 years old and

targeted repair and replacement projects are ongoing. The Delta Diablo Sanitation District receives discharge from the Tidal Area and the Central Contra Costa Sanitation District receives discharge from the Inland Area. Treatment systems in both sanitation districts have adequate capacity to meet projected growth (U.S. Army, 2013a). Solid waste and recyclable materials generated at MOTCO are disposed of by Concord Disposal Services (U.S. Army, 2013a).

Energy

Pacific Gas & Electric Company provides natural gas to MOTCO. All major facilities at MOTCO are connected to the natural gas lines (U.S. Army, 2013a, 2020b). MOTCO receives electrical power from the Western Area Power Administration. Electricity is delivered to the Mission and Administrative Districts via 12 kilovolt transmission lines. The electrical system at MOTCO requires upgrades to meet current standards U.S. Army 2020b).

Renewable energy projects at MOTCO include installation of solar panels on select buildings and in Renewable Energy zone (U.S. Army 2020b). The potential for other projects is under evaluation.

3.10 HAZARDOUS AND TOXIC MATERIALS/WASTES

This section describes the methods and systems used to identify and manage hazardous, toxic, and radioactive substances/wastes (HTRW) associated with MOTCO and known hazardous waste disposal sites within the project area. The study area consists of the physical site boundaries of MOTCO.

3.10.1 Regulatory Setting

The USACE policy regarding hazardous waste disposal sites is presented in Engineering Regulation (ER) 1165-2-132 and was developed in response to the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended. The term HTRW includes any material listed as a “hazardous substance” under the CERCLA, “hazardous wastes” under the RCRA, “hazardous substances” identified under the CAA, “toxic pollutants” designated under the CWA, “hazardous air pollutants” designated under the CAA, and “imminently hazardous chemical substances or mixtures” under the Toxic Substances Control Act (USACE, 1992).

The objective of the Army guidance is to outline procedures to facilitate early identification and appropriate consideration of HTRW problems. When problems are identified, response actions must be acceptable to the USEPA and applicable state regulatory agencies. The USACE policy also requires that each civil works project must include a phased and documented review to provide early identification of known and potential HTRW sites that may be affected by a proposed federal project. The lead state regulatory agency in the environmental restoration program for

MOTCO is the SFBRWQCB, and the Department of Toxic Substances Control (DTSC), agencies within the California EPA. Expiration of HSC 25150.7 and regulation 22 CCR 67386.1 et seq. on December 31, 2020 resulted in changes to handling and disposal of treated wood waste. Locally, the lead regulatory agency for hazardous waste management is the Contra Costa County Health Services Department.

3.10.1.1 Hazardous Materials Releases

The CERCLA of 1980 (42 USC 9601 et seq.) regulates hazardous materials releases into the environment that occurred before 1986. Along with the Superfund Amendments and Reauthorization Act of 1986, it established the Superfund Program to clean up hazardous waste sites. The DOD's implementing program for Superfund is the Installation Restoration (IR) Program and is limited to clean-ups in the U.S.

3.10.1.2 Toxic Substances

The Toxic Substances Control Act of 1976 (15 USC 2601 et seq.) implements restrictions on certain chemical substances, including chlorofluorocarbons, PCBs, and asbestos. The law imposes restrictions to protect human health and environmental exposure to these highly toxic substances, requires chemical testing, and regulates the release of these chemicals into the environment.

3.10.1.3 Hazardous Waste

The RCRA of 1976, with amendments, establishes regulations to characterize hazardous waste and requirements for transporting, storing, and disposing of hazardous waste. RCRA places "cradle to grave" responsibility for hazardous waste on the generator of the waste. RCRA also covers universal wastes, which are hazardous wastes that are more common and pose a lower risk to people and the environment than other hazardous wastes. Railroad ties and wharf piers are treated wood waste are fully regulated California DTSC hazardous waste. Examples of common hazardous wastes are florescent lighting tubes that may contain mercury and potential PCBs found in florescent light fixture ballasts. Federal and state regulations identify universal wastes and provide rules for handling, recycling, and disposing of them (40 CFR Part 273; 22 CCR 66273.1 et seq.). All universal wastes are hazardous wastes but are managed under less stringent standards than other hazardous wastes.

3.10.1.4 Hazardous Materials Transportation

The Federal Hazardous Materials Transportation Law of 1988 (49 U.S. Code 100 et seq.), as amended, authorizes the USDOT to issue interstate and intrastate regulations regarding the transportation of hazardous material and waste on public roads, including packaging, handling, labeling, marking, placarding, and transporting.

3.10.1.5 Petroleum Storage Tanks

Federal and state regulations concerning underground storage of hazardous substances govern the management, operation, removal, and remedial action of underground storage tanks (USTs) (40 CFR Part 280; 23 CCR 2610 et seq.). Regulated USTs must include automated monitoring devices for leak detection, annual third-party testing, cathodic protection (i.e., a technique used to control the corrosion of metal surfaces), and overfill warning devices. Releases from USTs require following a protocol of remedial investigation, environmental sampling, and preparation of a feasibility study to implement a remedial action plan to remedy the environmental release.

The California Aboveground Petroleum Storage Act requires the owner or operator of a tank facility, with an aggregate storage capacity greater than or equal to 1,320 gallons of petroleum, to prepare and implement a spill prevention control and countermeasure plan in accordance with federal law.

3.10.1.6 Lead-Based Paint

Federal, state, and local regulations regulate the management of lead-based paint (LBP), LBP additives, and LBP hazards. The Army policy is to manage LBP in place, unless it presents an imminent health threat as determined by the Installation medical officer or unless operational, economic, or regulatory requirements dictate its removal. Army policy also imposes requirements to reduce the release of lead, lead dust, or LBP into the environment from deteriorating paint surfaces, building maintenance, or other sources on Army installations or on Army-controlled property.

3.10.1.7 Asbestos

The federal National Emissions Standards for Hazardous Air Pollutants regulations establish performance standards for the demolition and renovation of buildings with asbestos-containing material (ACM) (40 CFR Part 61). Federal and state rules and policies address not disturbing potentially friable ACM (which, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure) and provide removal standards for renovation and demolition projects. During demolition, maintenance, repair, remediation, or renovation of buildings, friable asbestos in ACM can be released into the air. Asbestos fibers can be released from various building materials, such as pipe and boiler wrap and other insulating materials and acoustic ceiling tiles.

3.10.1.8 Radon

No federal regulations require radon testing. California law requires radon testing and mitigation plans for new construction. Building permits are not issued until compliance is met (California Health and Safety Code 105430). The effects of human exposure to radon are uncertain primarily because it is difficult to isolate the effects from particular radiation sources. The effects of radiation

can occur at any dose, no matter how small; this widely accepted theory is called the linear no-threshold hypothesis. According to this theory, there is no level of exposure below which no adverse effect occurs. If the theory is correct, all exposure to radiation presents some health risk. The risk of lung cancer caused by exposure to radon through its inhalation is currently a topic of concern.

Army policy provides for ongoing radon management efforts. In accordance with AR 200-1, the Army maintains and updates records of completed radon assessments and includes radon testing results with real property and housing data to notify tenants and transferees of elevated radon levels. Army policy provides that indoor radon levels in newly constructed units and units converted to housing or continuously occupied structures (such as hospitals) located in high-radon level areas are to be tested prior to occupancy. Where elevated levels of radon are encountered, Army facilities managers are to adhere to abatement measures. In addition, AR 200-1 requires that radon be measured in newly constructed Army facilities.

3.10.2 Existing Conditions – Hazardous Materials/Wastes

MOTCO is a Small Quantity Generator of hazardous waste as defined under RCRA. Common hazardous wastes generated at MOTCO include hydrocarbon solvents, waste oil, latex waste, surplus, aged, and off-specification organics, and other organic solids. The Oil, Hazardous Substance, and Hazardous Waste Spill Contingency Plan identifies Army requirements for responding to unintentional releases of oil or hazardous substances (U.S. Army, 2013a). The transport and disposal of treated wood railroad ties and wharf piers is regulated by DTSC.

3.10.2.1 Installation Restoration Sites

Historic waste disposal practices deemed appropriate at the time and accidental spills of hazardous substances during daily operations led to the contamination of soils and groundwater in several locations throughout the Installation. The Navy implemented a CERCLA IR program in 1983 in order to collect and evaluate information in response to speculation that certain areas of the Installation had contamination above acceptable levels. Responsibility for the continuation of the IR program was transferred from the Navy to the Army with the transfer of MOTCO in 2008 (USACE, 2011).

The IR program is a series of eight steps that follow CERCLA beginning with a site investigation and, if necessary, ending in the remediation/clean-up of the site. The eight steps are:

- Preliminary Assessment/Site Inspection
- Remedial Investigation/Feasibility Study
- Record of Decision
- Remedial Design

- Remedial Action
- Remedy in Place/Response Complete
- Long-term Management
- Site Closeout

Eighteen current sites are identified as IR sites under MOTCO's IR program, as shown in Table 3-2. Additional original IR sites at MOTCO are located outside the current MOTCO boundaries, on former Navy property, as shown on Figure 3-6. Remaining sites from an initial 40 have been cleaned up and therefore removed from the current IR list. The status of remedial activities at most of these sites was summarized in the *Fourth Five-Year Review Report for MOTCO* (Dawson Technical, LLC, 25 September 2020).

3.10.2.2 Munitions Response Sites

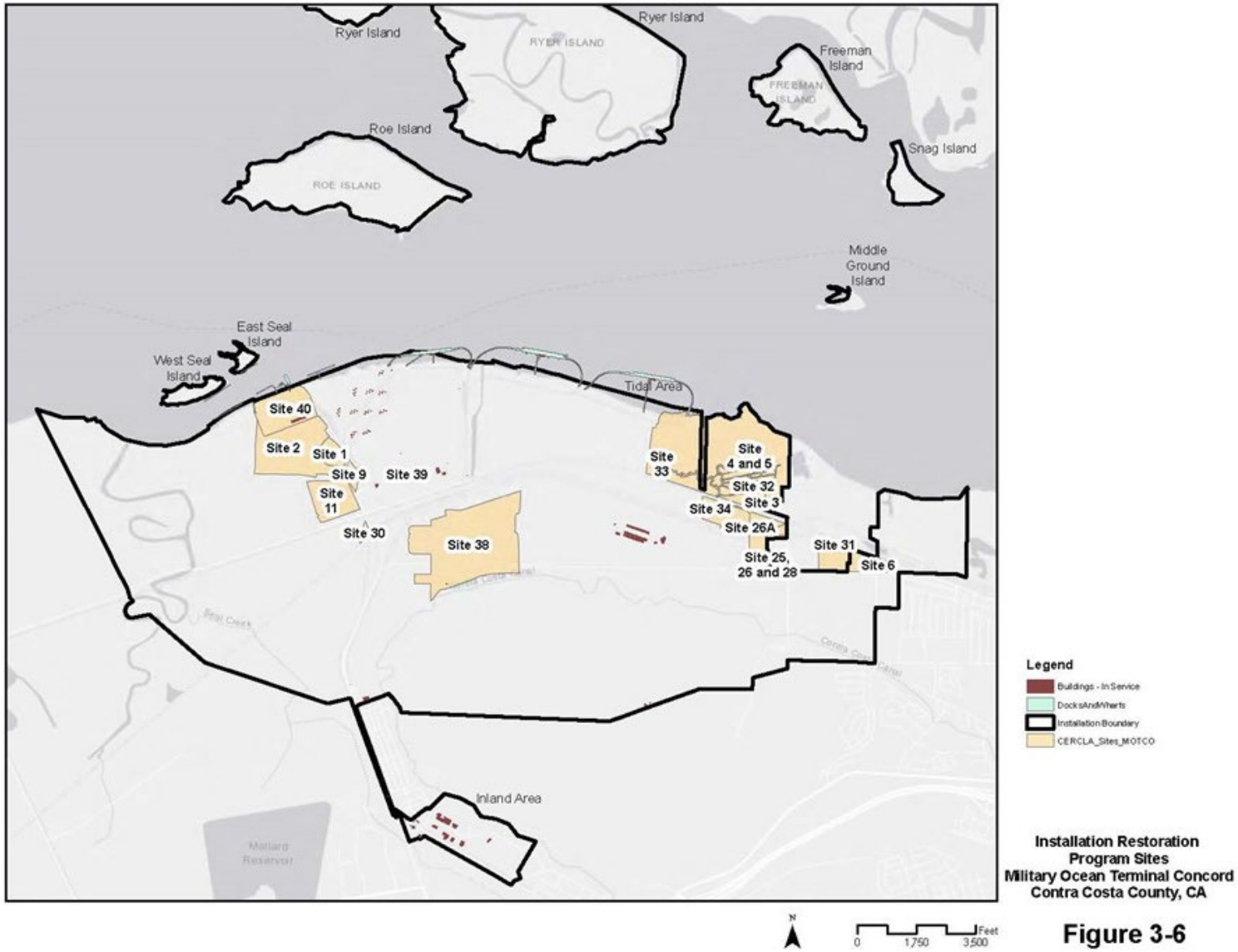
There are three Munitions Response Sites (MRSs) at MOTCO (see Figure 4-3). MRS 7 was formally used for open detonation of munitions between the early 1970s and 1974. It encompasses approximately 0.37 acre, and probable munitions detonated/destroyed at this site include bulk propellants and explosives, pyrotechnics, and small arms. MRS 8 and MRS 10 represent the 1944 Port Chicago explosion blast radius. MRS 8 encompasses approximately 4,945 acres including the main Tidal Area and Roe and Ryer islands. MRS 10 is approximately 4,830 acres (USACE, 2011). The Preliminary Assessment for the three sites was completed in 2007, and the Site Investigations concluded in 2011. Per Section 22 of the Federal Facility Agreement, the USEPA invoked informal dispute resolution on the draft final Military Munitions Response Program (MMRP) Remedial Investigation (RI) on Dec. 30, 2015. The Army and the regulatory agencies have met on a number of occasions to resolve the dispute and are close to resolution. The date of the final RI is to be established based on the informal dispute resolution. A more detailed cleanup exit strategy will be developed pending the results of the final RI/FS.

3.10.2.3 Storage Tanks

The Installation contains eight aboveground storage tanks (ASTs) containing diesel fuel and permitted with the BAAQMD. The ASTs are located as follows:

- Building 542, one 400-gallon diesel fuel for backup generator;
- Building IA-2, one 200-gallon diesel fuel for backup generator;
- Building 607, one 275-gallon diesel fuel for backup generator;
- Building E-105, one 79-gallon diesel fuel for backup generator;
- Building 544 and 545, Two 1,000-gallon diesel fuel for backup generators at cranes on Wharves 2 and 3;

- Building 546 (Radio Tower), one 275-gallon diesel fuel for backup generators;
- Building 608, one 101-gallon diesel fuel for backup generator;
- Building 245, one 275-gallon diesel fuel for backup generator.



Installation Restoration Program Sites
Military Ocean Terminal Concord
Contra Costa County, CA

Figure 3-6

Installation Restoration Program Sites

Table 3-2. Installation Restoration Sites List and Status

Site No.	Name	Waste Types	Status
1	Tidal Area Landfill	Petroleum, paints, pesticides, metals, PCBs	Remedial Action (RA) Stage Start Date: 27 June 2003 Quarterly groundwater monitoring is conducted for this site. Reports are submitted to agencies for their review and concurrence. Well Installation and Abandonment Work was initiated in December 2018. All new wells were installed, and the 1st sampling event was conducted in March 2019. 2 wells remain to be removed but must wait for an open species work window in Sept 2019. An Explanation of Significant Differences will be prepared to move groundwater monitoring under this site. ESD is not required, a memo to the file to move the groundwater under site 1 will be generated once contract mod is approved.
1A	Tidal Area Landfill (Groundwater)	Metals	Remedial Investigation (RI) / Feasibility Study (FS) Stage. Start Date: 15 March 2004. MOTCO and agencies have come to an agreement to draft Proposed Plan (PP) and ROD to close site 1A and move the groundwater monitoring under site 1. In addition, sites 2, 9, 11 will be included in the site 1a Record of Decision (ROD) to close out all sites for groundwater.
2	R Area	Metals, VOCs, SVOCs, pesticides, PCBs	FS Stage Start Date: 30 January 2002. The Land Use Control (LUC) inspections for Sites 1, 1a, 2, 9, 11, 31, and 31A are completed annually and submitted to agencies for concurrence. A PP and ROD for sites 2, 9, and 11 will be developed in FY19-FY20 to close out sites for soil.
3	RASS 2, Litigation Area	Metals	Long-Term Maintenance (LTM) Stage Start Date: 31 March 2003. RA implemented from 1992 to 1995. LTM in progress. Sites 3, 4, 5, 6, 25, 26, & 28 - Litigation Area LTM. Year 13 sampling was completed in Sept 2019. Year 14 sampling was completed in Sept 2020. Year 15 sampling is planned for Sept 2021.
4, 5	RASS 1, Litigation Area	Metals	LTM Stage Start Date: 31 March 2003. RA implemented from 1992 to 1995. LTM in progress. See information re: LTM under Site 3.
6	RASS 4, Litigation Area	Metals	LTM Stage Start Date: 31 March 2003 RA implemented from 1992 to 1995. LTM in progress. See information re: LTM under Site 3.
9	Froid and Taylor Roads	Metals, pesticides, ordnance items, VOCs, SVOCs	FS Stage Start Date: 30 January 2002 See information identified under Site 2.
11	Wood Hogger	VOCs, SVOCs, metals, dioxin, pesticides	FS Stage Start Date: 30 January 2002. See information identified under Site 2.
25, 26, 28	RASS 3, Litigation Area	Metals	LTM Stage Start Date: 31 March 2003 RA implemented from 1992 to 1995. LTM in progress. See information re: LTM under Site 3.
30	Taylor Boulevard Bridge	Metals, PCBs	Site Closeout Stage Start Date: 31 January 2002 RA implemented in October 2009, Completion Report issued October 2010
31	Fertilizer Plant	Metals	RI / FS Stage. Start Date: 10 December 2002 Proposed End Date: 20 February 2015. Site 31 – RA work initiated in May 2018 and is ongoing. See information on the Land use control (LUC) inspection under Site 2. The Army is responding to agency comments on the Draft Site 31 (Soil) LUC Remedial Design (RD). The final LUC RD was issued in July 2019.
31A	Fertilizer Plant (Groundwater)		A treatability study field investigation is in progress. A hydraulic profiling tool (HPT) investigation was completed in May 2017. A draft FS was prepared Oct 2018. RD with LUC is being prepared draft expected July 2019. Quarterly groundwater sampling is being conducted on this area and is submitted for agencies for their review. **See information on the Land use control (LUC) inspection under Site 2**

Site No.	Name	Waste Types	Status
32	Mosquito Ditches, Litigation Area	Metals	ROD Stage Start Date: 27 February 2006. Site 32 and 33 – LTM already in progress. Litigation Area Ditches and Slough The final inspection of the cap was conducted July 7, 2016. The post- remedial action baseline survey and sampling was completed in March 2017. **Final remedial action completion report is complete.** Annual monitoring of the cap is conducted in July/August each year.
33	Lost Slough, Litigation Area	Metals	ROD Stage Start Date: 27 February 2006 **See information on LTM under Site 32.**
38	Port Chicago Dump	Hazardous Substances	Site Inspection Stage Start Date: 1 August 2002. The Army completed the Phase II and III investigations in mid- December. A Draft Final RI report was submitted to Agencies in Oct 2018. RTCs have been addressed and the Final is scheduled July 2019. **MOTCO and Agencies are expanding the RI to cover the entire area of the former town of Port Chicago another 247 acres.**
39	Dry Cleaning Facility	Hazardous Substances	Site Inspection Stage Start Date: 1 August 2002 **Site closed with NFA required.**
40	Copper Smelter	Hazardous Substances	Site Inspection Stage Start Date: 1 August 2002 The Army completed the Phase II and III investigations in mid- December. A Draft Final RI report was submitted to Agencies in Oct 2018. RTCs have been addressed and the Final is scheduled July 2019. **A FS is scheduled for May 2019 with a draft FS report due by December 2019. Draft FS reviewed by agencies and RTCs are being generated.** TCRA for AOCs 1 and 2 was started in 2020, work to be completed in Feb 2021.

Sources: USACE, 2011, Army 2013, Cabrera Services and Tetra Tech, 2016, Correspondence from MOTCO Environmental Specialist, 2017.
Notes: DTSC = California Department of Toxic Substances Control; HPT = hydraulic profiling tool; LUC =land-use control; NFA = No Further Action; PCBs = polychlorinated biphenyls, PP = proposed plan; SVOCs =semi-volatile organic compounds; USEPA = U.S. Environmental Protection Agency; VOCs = volatile organic compounds; LTM = long-term maintenance; RI = remedial investigation; ROD= record of decision; FS = feasibility study.

This page intentionally left blank.

3.11 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

This section describes existing socioeconomic conditions in the region. The study area includes Contra Costa County and the communities of Concord, Bay Point, and Clyde, because these areas have the potential to be directly and indirectly affected by the proposed project.

Environmental Justice addresses the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. In particular, minority and low-income populations should not be disproportionately affected by implementation of a project. This section examines the potential effects on these populations from the proposed project.

3.11.1 Regulatory Setting

There are no specific regulations that are applicable to socioeconomics. Regulations pertaining to environmental justice are summarized below.

3.11.1.1 Federal

Executive Order 12898 – Environmental Justice in Minority and Low-Income Populations

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs all federal agencies to meet environmental justice by identifying and addressing disproportionately high and adverse human health or environmental effects of their federal action(s) on minority and low-income populations. Each federal agency must analyze the environmental effects, including human health, economic, and social effects of their action(s).

Executive Order 13045 – Protection of Children from Environmental Health and Safety Risks

EO 13045 applies to economically significant rules under EO 12866 (Regulatory Planning and Review) that concern an environmental health or safety risk that USEPA has reason to believe may disproportionately affect children. Environmental health risks or safety risks refer to risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest. When promulgating a rule or regulation of this description, USEPA must evaluate the effects of the planned regulation on children and explain why the regulation is preferable to potentially effective and reasonably feasible alternatives.

3.11.1.2 State

California law defines environmental justice as the “fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of

environmental laws, regulations, and policies" (California Government Code 65040.12(e)). The State law designates the Governor's Office of Planning and Research as the coordinating agency in State government for environmental justice programs. The State law also requires the Office of Planning and Research to develop guidelines for incorporating environmental justice into general plans (California Government Code 65040.12).

3.11.2 Existing Conditions – Socioeconomics

MOTCO employs about 160 people, including military, civilian, and contractor personnel. There are approximately an additional 50 base operating support contractors and tenants. Further, during mission events, there are about 75 additional personnel present for contracted terminal operations and as stevedore personnel. These personnel totals are less than 0.1 percent of the total employment for Contra Costa County, which was 344,558 in 2019 (U.S. Census Bureau 2021).

Based on 2019 population data (U.S. Census Bureau 2021), Contra Costa has 1,153,526 people, a 9.9 percent increase from the 2010 Census. The distribution of race and ethnicity for the County was: White 65.1 percent, Black / African-American 9.5 percent, American Indian/Alaskan Native 1.0 percent, Asian 18.3 percent, Native Hawaiian/Other Pacific Islander 0.6 percent, Hispanic/Latino 26.0 percent, and Two or More Races 5.4 percent.

Based on the 2019 population data there are 394,769 total housing units in Contra Costa County of which 93.8 percent are occupied. Of the occupied units, 65.9 percent are Owner-occupied and 34.1 percent are Renter-occupied (U.S. Census Bureau, 2021).

The 2019 poverty level in Contra Costa County was 7.9 percent. In California overall the 2019 poverty rate was 11.8 percent and, in the U.S. overall, it was 10.5 percent (U.S. Census Bureau, 2021).

3.11.3 Existing Conditions – Environmental Justice

Neighborhoods adjacent to MOTCO have greater proportions of minority and low-income populations than Contra Costa County as a whole (U.S. Army, 2013a). Therefore, adverse project impacts that extend beyond the boundaries of MOTCO must be evaluated for potential disproportionate impacts to these populations. The adjacent community of Bay Point received an USEPA environmental justice grant in 2007 due to its residents' exposure to disproportionately high exposures to toxic chemicals from nearby vehicle and industrial sources (U.S. Army, 2015a).

3.12 AESTHETICS / VISUAL RESOURCES

This section describes the existing visual, scenic, and aesthetic resources within the Project Study Area. Generally defined, visual resources are natural resources, landforms, vegetation, and

human-made structures in the environment that generate one or more sensory reactions and evaluations for the observer. The Study Area consists of all portions of MOTCO, including adjacent land and water areas (e.g., Suisun Bay).

3.12.1 Regulatory Setting

Installation Planning Standards

MOTCO's Installation Planning Standards (IPS) establishes standards for the visual, scenic, and aesthetic quality of development in the project study area (U.S. Army 2016, 2021a). The IPS include criteria for buildings, streets, and landscaping. The IPS guidance for buildings includes exterior building materials and colors. At a minimum, the landscape standards provide the appropriate type and placement of landscape elements, including natural landscape features and landscape-related force protection standards. Landscape standards identify the Installation's landscape themes, while addressing both design intent and appropriate plant materials.

3.12.2 Existing Conditions – Visual, Scenic, and Aesthetic Resources

There are two distinct and relatively rare viewsheds at MOTCO: 1) the marshland/waterfront views at Suisun Bay and marshlands of the Wetland Preserve; and 2) the Los Medanos Hills that provide rolling grassland background views at MOTCO. Both viewsheds are minimally disturbed by current MOTCO operations. MOTCO personnel and visitors to the PCNMNM are the primary observers of these viewsheds (U.S. Army, 2013a).

Since the implementation of the IPS and the IDG, common design elements have been incorporated into development at MOTCO resulting in uniformity in visual elements. Future development will be conducted in accordance with these standards.

3.13 CULTURAL RESOURCES

This section presents information on cultural resources that exist within the Project Study Area, which consists of the Installation boundaries. Cultural resources addressed by the NHPA include buildings, sites, structures, districts, and objects eligible for or listed in the NRHP. Cultural resources are also regulated under the ARPA of 1979, which protects archaeological resources; the NAGPRA of 1990, which provides for the protection of Native American graves and to return Native American cultural items to lineal descendants and culturally affiliated Indian tribes and Native Hawaiian organizations; and the AIRFA of 1978, which protects and preserves the traditional religious rights and cultural practices of American Indians. Although these laws and regulations have general applicability, not all are directly relevant to the routine infrastructure maintenance actions outlined herein. Therefore, this section will primarily address those resources known or likely to be found within the project study area, which consists of all portions

of MOTCO, as well as adjacent land known to contain historic properties eligible for, or listed in, the NRHP.

3.13.1 Regulatory Setting

The following section describes the federal and state rules and regulations applicable to cultural resources the proposed project.

3.13.1.1 Federal

National Historic Preservation Act

The NHPA of 1966, as amended, is the principal federal law that governs federal agencies, including the Army, in the treatment of historic properties and is closely linked with the evaluation of effects on cultural resources under NEPA.

Section 106 of the NHPA, as implemented in 36 CFR Part 800, requires federal agencies to consider the effects of Federally funded, regulated, or licensed undertakings on cultural resources listed on or eligible for inclusion in the NRHP; moreover, the federal agency must afford the Advisory Council on Historic Preservation (ACHP) the opportunity to comment in the event that an undertaking will have an adverse effect on a cultural resource that is eligible for or listed in the NRHP. Under current regulations, the federal agency consults with the cognizant SHPO or the Tribal Preservation Officer under the oversight of the ACHP.

For the purposes of this PEA, cultural resources include historic archaeological sites, prehistoric sites, and standing architectural structures, historic districts, cultural landscapes, and memorials. The identification of significant cultural resources depends on professional cultural resource surveys carried out by qualified professionals and with reference to established contexts and regulatory protocols.

Archeological Resources Protection Act and Antiquities Act

The ARPA defines archaeological resources as any material remains of past human life or activities that are of archaeological interest. The ARPA requires that federal permits be obtained before cultural resource investigations are initiated on federal land and that the investigators consult with the appropriate Federally-recognized Native American tribes prior to initiating archaeological studies on sites of Native American origin.

The Antiquities Act of 1906 established a system of permits for conducting archaeological and paleontological investigations on federal land and specified penalties for non-compliance. Some antiquities permits issued under this law remain in effect. New permits are now issued under the ARPA and its implementing regulations (43 CFR Part 7).

Native American Graves Protection and Repatriation Act of 1990

The NAGPRA mandates that federal agencies consult with Federally-recognized Native American tribes regarding planned excavation on federal lands, which may result in the excavation of Native American human remains and other cultural items. NAGPRA also establishes procedures agencies must follow in the event of an inadvertent discovery of Native American remains and/or cultural items. Cultural items include Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony.

American Indian Religious Freedom Act of 1978

The AIRFA was enacted to protect and preserve the traditional religious rights and cultural practices of American Indians (Native Americans), Eskimos, Aleuts, and Native Hawaiians. These rights include, but are not limited to, access to sacred sites, freedom to worship through ceremonial and traditional rights, and use and possession of objects considered sacred. The AIRFA requires governmental agencies to eliminate interference with the free exercise of Native religion and to accommodate access to and use of religious sites to the extent that the use is practicable and is not inconsistent with an agency's essential functions.

DOD Instruction 4715.16 and Integrated Cultural Resources Management Plans

DOD Instruction 4715.16 requires Installations to develop an ICRMP as an internal compliance and management tool to integrate cultural resources management with ongoing mission activities. MOTCO's latest ICRMP, which was completed in 2018, provides guidance on the management of cultural resources and ensures MOTCO is in compliance with existing laws, including the NHPA.

3.13.2 Existing Conditions – Cultural Resources

MOTCO includes the PCNMNM, which was designated by Congress in 1992 and became part the 392nd Unit of the National Park System in October 2009. The memorial commemorates an explosion and resulting fire that occurred at the site on July 17, 1944, killed 320 men, injured 390 more people, and accounted for 15 percent of all African American casualties during World War II. The 0.5-acre memorial is located at the shoreline in the former location of Pier 1 and consists of paved walking paths, several historical interpretive panels, and a flagpole. Although the PCNMNM l is located within MOTCO, it is operated and maintained by the NPS (U.S. Army, 2018).

Multiple cultural resources investigations have been conducted at MOTCO. Only one land-based resource at MOTCO has been determined eligible for listing in the NRHP. This eligible resource is the Contra Costa Canal, which is managed by the USBOR. Although no other National Register-eligible sites have been identified within MOTCO, four Areas of Historic Interest have been identified within the Installation. The standing pilings associated with the former location of Pier 1 is an Area of Historical Interest as the site of the July 17, 1944, ammunition explosion. The other

three Areas of Historical Interest are the locations of former settlements, homesteads, and mines. The 1944 explosion may have also resulted in underwater cultural resources, the extent of which is unknown.

Only two sites with archaeological components have been discovered and recorded within MOTCO (U.S. Army, 2018). 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 and the Getty Oil Site. The Nichols School site consists of a concrete walkway and other building remnants from the former school, which was built in 1913. The Getty Oil site is a mixed deposit of building debris from the Getty Oil Company that operated between 1930 and 1970. No archaeological sites have been discovered in the Inland Area or on the seven islands.

In addition to these two sites, magnetic and side scan sonar surveys were completed in 2012 of the offshore areas past Wharves 2 and 3. The results of those surveys indicated there is metal debris located near the wharves some of which is likely munitions and fragments of the ships from the Port Chicago explosion. A submerged cultural resources survey was conducted of this area in 2013 and the findings indicated the underwater resources and unidentified objects found may be eligible for listing in the NRHP. These findings have been coordinated with SHPO and NPS (U.S. Army, 2015a).

No Native American sacred sites have been identified at MOTCO (U.S. Army, 2018). No items subject to NAGPRA have been recovered from, or identified at, MOTCO through cultural resources studies conducted to date. Four Federally-recognized American Indian groups have been identified with potential interest in MOTCO: the Bay Miwok, Ohlone/Constanoan, Plains Miwok, and Patwin/Wintun.

The ACHP 2006 *Program Comment for World War II and Cold War Era (1939-1974) Ammunition Storage Facilities* applies to all DOD ammunition storage facilities built before 1975 (ACHP 2006). This document includes 53 Railroad Ammunition facilities at MOTCO. Undertakings including maintenance and repair actions at these facilities are covered under the ACHP document and therefore standard Section 106 procedures do not apply to these pre-1975 ammunition facilities. The ICRMP document also contains relevant SOPs for Maintenance and Care for Historic Buildings and Structures (SOP-1), Inadvertent Discovery of Archaeological Deposits/Cultural Material (SOP-5), and DPW Activities (SOP-7).

The ICRMP identifies areas with high or moderate archaeological potential at MOTCO, which have been defined according to soil type, topography, and the area's proximity to a freshwater source, which is where most of the major prehistoric habitation sites in Contra Costa County occur (U.S. Army, 2000b). These areas consist of the historic marsh boundaries in the Tidal Area, and near the current and former path of Mt. Diablo Creek.

Areas previously surveyed for archaeology and that have produced negative results are considered to have low potential for archaeological sites. Moreover, most of the steep slopes of the hills at the southeast area of the Tidal Area are considered to have low archaeological potential.

This page intentionally left blank.

4.0 ENVIRONMENTAL CONSEQUENCES

This section describes the potential direct, indirect, and cumulative effects of implementing the Proposed Action or the No Action Alternative, as well as BMPs that would further reduce the severity of identified adverse impacts BMPs are considered integral to project implementation, and they are not considered separate from the proposed project.

Implementation of the Proposed Action includes continuation of routine maintenance and repairs conducted at MOTCO. As described in Section 1.5, this PEA identifies, documents, and evaluates the potential direct, indirect, and cumulative environmental effects of the maintenance and repair projects proposed over a 10-year planning horizon, using 2021 as the base year. The intent of this PEA is to analyze of impacts of the routine maintenance and repairs and take steps to prevent to the extent possible these impacts, likely via a Record of Environmental Consideration (REC) and Checklist for specific tasks listed in Table 2-1.

Impact determinations were made in accordance with the Army NEPA Guidance Manual. The following terms are used throughout analysis of the various environmental impact categories as a convention to indicate the relative degree of severity of predicted impacts:

- Negligible – No impact or minimal impacts are anticipated
- Minor Adverse – Minor impact anticipated
- Moderate Adverse – Moderate impact anticipated (less than significant)
- Significant Adverse – Significant impact anticipated (may be mitigated to less than significant)
- Beneficial – Beneficial impacts resulting from the action

4.1 WATER RESOURCES

4.1.1 Approach to Analysis

Factors, considered in determining the potential for significant impact to water resources, include any long-term impacts (chemical, physical, or biological effects) that would adversely alter the historical baseline or violate standard water quality conditions, as well as project actions adversely impacting a water body currently considered impaired under CWA. Significant impacts to water resources would occur if Federal or State water quality regulations or standards for surface water or groundwater are violated, if existing water resources are directly or indirectly impacted from water extraction activities due to increased demand, if activities were located in a regulatory floodplain without an appropriate flood study, if activities fail to adequately address upstream drainage as it is conveyed through the project area or into downstream surface water or wetland areas, or if activities change drainage flows and/or patterns, impacting downstream areas beyond design capacities.

4.1.2 Environmental Impacts

4.1.2.1 No Action Alternative

Under the No Action Alternative, maintenance and repair activities would continue its current practice of environmental review and permitting of projects on a case-by-case scenario. On an individual project basis, potential effects could result from the following:

Routine maintenance and repair operations at MOTCO requires some use of water in cleaning of structures, etc. Vehicles used during these operations in unpaved areas would have a minor effect on surface water quality from increased erosion in these areas and subsequent stormwater runoff.

In addition, potential water quality impacts can result from releases into groundwater, wetlands, and surface waterways from leaking or spilled vehicle fluids (e.g., gasoline, diesel fuel, motor oil). In the event of a spill, Installation personnel are trained to isolate and clean-up spills in accordance with established contingency plans and spill response procedures (i.e., Installation-specific Spill Prevention, Control, and Countermeasures Plan [SPCCP]). Implementation of SOPs and BMPs would further limit potential adverse effects to water resources during maintenance and repair operations. Roadway paving projects that are greater than one-acre would require construction permitting under NPDES.

In- and out-of-water infrastructure maintenance and repair at waterfront facilities has the potential for significant impacts to water resources including from oil and chemical spills during in-water work and work on wharves / piers and shoreline facilities. Following the Installation SWPPP and SPCCP during maintenance and repair activities in these areas would mitigate potential impacts. Pile driving and pile removing activity for piling replacement can result in increased turbidity from disturbance of bottom sediments. During in-water work, debris and damaged pile sections will be slowly lifted from the water and placed on the work surface within a containment basin designed to contain all sediment. The removed materials will then be properly disposed of offsite.

Some replacement pilings on the wharves / piers may consist of wood treated with ammoniacal copper zinc arsenate (ACZA). The ACZA preserves the wood pilings from termites, fungi, and marine borers (mollusks and crustaceans) but can produce short-term adverse effects when leached into the marine environment. Other timber pilings may be wrapped before or during installation to limit impacts.

Maintenance and repair projects at railyard and rail lines has the potential to impact water resources from soil erosion caused by vehicles. Routine maintenance and repair actions would also include work on bridges over water crossings, where water resources could be impacted by spills and debris. Similar impacts could occur from maintenance and repair projects along the road transportation system, including work on water crossings.

Utility maintenance and repair projects can require excavation to access underground utilities, resulting in soil stockpiles that could runoff into waterways. Building maintenance includes cleaning of structures, which would slightly affect the Installation water supply. Runoff of this cleaning water may have particles, dust, and chemical residues that could affect quality of Installation waterways.

Use of herbicides and pesticides on landscaping maintenance and repair projects could affect water quality if not handled correctly (U.S. Army 2018c). Use of native plant species in landscaping would conserve water usage and diminish the use of fertilizers, pesticides, and herbicides since native plants typical require less watering and chemical use than non-native plants. Fencing and security projects have the potential to affect free-flowing waterways if not engineered to avoid these restrictions. Perimeter fencing at MOTCO is adjacent to tidal wetland areas (e.g., in the vicinity of Wharf 4) and repair activity could impinge on wetland areas where fencing construction had previously occurred. The overall impact to water resources from the No Action Alternative is minor adverse.

4.1.2.2 Proposed Action Alternative

Routine maintenance and repair operations conducted at MOTCO would be generally the same as those occurring currently and under the No Action Alternative. Water supply would be utilized in cleaning and landscaping, and project vehicle trips would have the potential to impact water quality. Similar standard procedures and BMPs would be implemented to reduce potential impacts. Potential parking lot and/or building expansions under the Proposed Action would only be in previously disturbed or inland areas. Allowable expansion of buildings, staging areas, parking and ammo lots may increase impervious area up about 1 acre per year. New paved roads and parking lots would be analyzed as separate projects. There would be little net increase in impervious surface as part of the Proposed Action as maintenance and repair would be primarily to existing paved areas and work would be limited to previously disturbed areas. There would be no increase in the quantity of stormwater runoff other than where expansion of staging areas with pavement has increased the impervious area. Roadway paving projects that are greater than one-acre would require construction permitting under NPDES.

Regulatory agency consultation is being performed to determine whether permitting is required under Section 10 of the Rivers and Harbor Act of 1899 and Section 404 of the CWA for pile replacement. A CWA Section 401 Water Quality Certification from the SFBRWQCB would include assurances that BMPs would be used to minimize potential impacts to water quality.

A difference under the Proposed Action would be in streamlining of the permit and approval process. The repair and maintenance tasks listed in Table 2-1 would be conducted by staff utilizing a checklist specifying environmental control equipment and environmental protection procedures, as well as the appropriate water resources BMPs for each task (Appendix A). This programmatic standard procedure would help reduce the potential for environmental impacts that

exist when performing these activities in the absence of a programmatic procedure. This benefit would be compounded over the 10-year period of the Program. The overall impact to water resources from the Proposed Action is minor adverse.

Conclusion of Effect

Ongoing maintenance and repair operations have minor adverse effects on water resources. These activities are currently ongoing and occur within established areas and conducted consistent with the Installation's SWPPP and SPCCP, which would limit potential impacts to water quality. Under the Proposed Action, adherence to current project controls and implementation of standardized procedures for all maintenance and repair tasks would result in long-term less-than-significant minor impacts to water resources.

4.1.3 Best Management Practices – Water Resources

If implementing the Proposed Action, implementation of sound watershed management practices, can allow for control of water quality in an ecologically appropriate manner during routine maintenance and repair activities. BMPs will include the following to minimize impacts:

- WR-1. Continue with routine maintenance of landscape irrigation system per the Installation SWPPP. Continue with quarterly inspections, sampling, and annual reporting, as described in the SWPPP.
- WR-2. Use of construction BMPs for erosion control in accordance with the MOTCO NPDES Permit and SWPPP.
- WR-3. Monitoring adjacent stormwater outfalls and conduits when conducting maintenance and repair activities and perform simultaneous maintenance on these features as needed to keep them operational.
- WR-4. No vehicles or equipment (except for small watercraft) will be fueled on wharves piers, over water or within 150 feet of wetlands or aquatic habitats unless a bermed and lined refueling area is constructed. Any vehicles driven and/or operated within or adjacent to wetlands or aquatic habitats will be checked and maintained daily to prevent leaks of materials.
- WR-5. For projects requiring water use, reduce the use of water in maintenance and repair activities by application of conservation measures. Examples would include using more drought-tolerate native plantings in landscaping to reduce irrigation requirements and recycling water used in power washing.
- WR-6. For in-water work (e.g., pile replacement, wrapping or concrete repair) floating booms will be in place in the work area to assist in capture of floating debris and potential fluid spills from project activities.

- WR-7. For selection of treated wood pilings, select products that have been certified through a third party (e.g. Western Wood preservers Institute) to be treated to proper retention standards that maximize fixation of ACZA and minimize leaching rates.

4.2 GEOLOGY, SOILS, AND MINERAL RESOURCES

4.2.1 Approach to Analysis

An impact would be considered significant to geology, soils, and mineral resources if there were unanticipated substantial adverse impacts to the environment, violations of the CWA or CAA (pertaining to dust control) due to the Proposed Action. Adverse impacts would also occur if activities were to decrease seismic safety of buildings and structures, or if mineral resources (e.g. natural gas) were impacted in a way that jeopardized use of these resources and/or depleted them in an unsustainable manner.

4.2.2 Environmental Impacts

4.2.2.1 No Action Alternative

Under the No Action Alternative, MOTCO would continue its current practice of environmental review and permitting of maintenance and repair projects on a case-by-case scenario. Routine maintenance and repair operations at MOTCO require regular vehicle trips across the Installation. Vehicles used during these operations in unpaved areas have a minor adverse impact on soil erosion. Implementation of BMPs specified in the Installation SWPPP typically limit potential adverse effects to soil resources. Maintenance and repair projects greater than one-acre in area (e.g., potential rail yard expansion) would require coverage under the NPDES Construction Activity General Permit.

Routine maintenance and repair projects on the road transportation system will primarily be within previously disturbed and inland areas, although some projects may add additional impervious surface to the Installation. Building and parking lot expansions would only be onto previously disturbed and inland areas. Seismic safety of buildings would benefit from retrofit projects.

Maintenance and repair projects on railyard and rail lines or involving buildings and fencing and security would not have impacts outside the construction zone buffers on geology, soils, and mineral resources other than the off-road vehicle impacts. There may be limited impacts to the surface soil horizons within the construction zones. The proposed action would not affect on-site mineral resources, namely natural gas below the eastern end of the Installation.

Offshore work on waterfront facilities would have the potential to suspend sediments in the water column. This impact would be short-term and temporary,

4.2.2.2 Proposed Action Alternative

Routine maintenance and repair operations conducted at MOTCO would be generally the same as those occurring currently and under the No Action Alternative. Project vehicle trips would have the potential to increase soil erosion although most trips would occur on paved roads. Maintenance and repair activities would not include substantial excavations that could affect mineral resources in split estate areas. Any trees removed during landscaping projects would be replaced using native vegetation consistent with the IDG and IPS to limit soil erosion impacts. Similar SOPs and BMPs would be implemented to reduce potential impacts.

As described under water resources a difference under the Proposed Action would be in streamlining of the permit and approval process. The maintenance and repair tasks listed in Table 2-1 would be conducted by staff utilizing a checklist specifying environmental control equipment and environmental protection procedures as well as the appropriate soil/geology BMPs for each task. This programmatic standard procedure would help reduce the potential for environmental impacts that exist when performing these activities in the absence of a programmatic procedure. This benefit would be compounded over the 10-year period of the Program. Seismic safety of new buildings would be addressed under separate construction projects. The overall impact to soil, geology, and mineral resources from the Proposed Action is minor adverse.

Conclusion of Effect

Ongoing maintenance and repair operations have minor adverse effects on soil resources, specifically with respect to soil erosion. These activities are currently ongoing and occur within established areas and typically conducted consistent with the Installation's SWPPP, which would limit potential impacts to soil erosion. Under the Proposed Action, adherence to current project controls and implementation of standardized procedures for all maintenance and repair tasks would result in long-term less-than-significant minor impacts to soil resources. Maintenance and repair activity would have no impact on geology or mineral resources. Retrofitting of existing buildings would have a beneficial impact.

4.2.3 Best Management Practices – Geology, Soils, and Mineral Resources

If implementing the Proposed Action, implementation of sound soil erosion prevention practices, can allow for maintenance of soil resources during routine maintenance and repair activities. BMPs will include the following to minimize impacts:

- GEO-1. Use of construction BMPs in accordance with the MOTCO NPDES Permit and SWPPP. The BMPs would include but not be limited to the following:
    - Schedule excavations (e.g., utility work) to minimize land disturbance during rainy and dry seasons;
    - Provide soil stabilization to steep slope work areas;

- Provide sediment controls to intercept and slow down stormwater flows;
- Cover stockpiled soil;
- Use dust suppressants, such as watering soils and unpaved roadways;
- Preserve existing vegetation where no construction activities are planned; and
- Replant/revegetate all exposed disturbed areas immediately upon completion of construction.

4.3 AIR QUALITY

4.3.1 Approach to Analysis

Significant impacts to air quality would occur if Federal or state air quality regulations or standards for air quality are violated. The 1990 Amendments to the CAA require that Federal agency activities conform to the SIP with respect to achieving and maintaining attainment of NAAQS and to addressing air quality impacts. The USEPA General Conformity Rule requires that a conformity analysis be performed which demonstrates that a proposed action does not: 1) cause or contribute to any violation of any NAAQS in the area; 2) interfere with provisions in the SIP for maintenance or attainment of any NAAQS; 3) increase the frequency or severity of any existing violation of any NAAQS; or 4) delay timely attainment of any NAAQS, any interim emission reduction goals, or other milestones included in the SIP. Provisions in the General Conformity Rule allow for exemptions from performing a conformity determination only if total emissions of individual nonattainment area pollutants resulting from a proposed action fall below the *de minimis* threshold values. Significant impacts could also occur if new project activities were located in the shoreline area where sea level rise was forecasted to occur due to climate change.

4.3.2 Environmental Impacts

4.3.2.1 No Action Alternative

Under the No Action Alternative, MOTCO would continue its current practice of environmental review and permitting of projects on a case-by-case scenario. Impacts to air quality associated with the current conditions are short-term and orders of magnitude below the *de minimis* thresholds shown in Table 4-1. Impacts on air quality would primarily be a result of engine combustion emissions from vehicles and dust generation from vehicle maneuvers, heavy equipment (e.g. paving machines) on unpaved and unimproved roadways. Combustion emissions resulting from these activities are considered mobile sources and would produce localized short-term elevated air pollutant concentrations that should not result in any sustained significant impacts on regional air quality. The overall impact from the No Action Alternative would be a minor adverse impact.

4.3.2.2 Proposed Action Alternative

Routine maintenance and repair operations conducted at MOTCO would be generally the same as those occurring currently and under the No Action Alternative. Impacts to air quality associated with the Proposed Action would be short-term and orders of magnitude below the *de minimis* thresholds shown in Table 4-1. These emissions are already occurring as a result of routine maintenance and repairs. The Proposed Action is located within the BAAQMD and the general conformity requirements apply as described in Section 3.3.1.1. A proposed project is exempt from the conformity rule (presumed to conform) if the total net project-related emissions are less than the *de minimis* thresholds established by the conformity rule. In accordance with the air conformity requirements of 40 CFR 51.853/93.153(b)(1), the applicable *de minimis* thresholds are as follows:

Table 4-1. General Conformity Air Quality *de Minimis* Thresholds

	CO	NO_x	$PM_{2.5}$	PM_{10}	SO_2	VOC
Applicable Threshold (tons/year)	100	100	100	100	100	100

Source: 40 CFR 93.153
Notes: CO = carbon monoxide; NOx = nitrogen oxides; $PM_{2.5}$ = fine particulate matter, with diameters less than or equal to 2.5; PM_{10} = inhalable particles, with diameters less than or equal to 10 micrometers; SO2 = sulfur dioxide; VOC = volatile organic compounds

The air quality analysis for this PEA refers exclusively to regulatory requirements and air quality impacts within the BAAQMD as all project-related work would occur within the BAAQMD. The minimal amounts of vehicle trips around the Installation for the routine maintenance and repair projects do not currently come close to meeting or exceeding the conformity requirements for air emissions shown in Table 4-1 nor would they exceed these requirements under any reasonably foreseeable future scenario. Air emissions for larger scale demolition and construction repair projects were calculated in the Army's previous PEA for General Repair of Bridges, Roads, And Utilities (U.S. Army, 2017). That analysis indicated that all emissions would be below five percent of the applicable thresholds in Table 4-1, and most would be less than one percent. Emissions from the Proposed Action would be at a similar order of magnitude.

A difference under the Proposed Action would be in streamlining of the permit and approval process. The maintenance and repair tasks listed in Table 2-1 would be conducted by staff utilizing a checklist specifying environmental control equipment and environmental protection procedures as well as the appropriate air quality BMPs for each task. This programmatic standard procedure would help reduce the potential for environmental impacts that exist when performing these activities. This benefit would be compounded over the 10-year period of the Program.

Conclusion of Effect

Normal maintenance and repair operations under the No Action Alternative have minor adverse effects on air quality. These activities are currently ongoing and contributing to the existing air

quality. Under the Proposed Action, air emissions would be magnitudes of order below the thresholds for conformity with the SIP. Adherence to project controls and implementation of standardized procedures for all maintenance and repair tasks would result in minor adverse impacts to air resources.

4.3.3 Best Management Practices – Air Quality

Air emission effects from the Proposed Action could be reduced by the following BMPs:

- GEO-1. The measures intended to reduce soil erosion in GEO-1 (Section 4.2.3) would also reduce airborne dust particles.
- AIR-1. Reduce vehicle use by developing a trip management plan for maintenance and repair projects.
- AIR-2. Reduce unnecessary idling from project vehicles and heavy equipment, placing a time restriction of five minutes on vehicle idling.
- AIR-3. Ensure project vehicles are maintained to perform at CARB and USEPA certification levels. Lease new equipment and use USEPA “Tier 4” engines in off-road equipment where practicable.
- AIR-4. Perform periodic project inspections to ensure compliance with these mitigation measures.
- GHG-1. Increase acquisition and use of electric fleet vehicles.

4.4 CLIMATE CHANGE

The San Francisco Bay Plan's Climate Change Policy (2017) states, in part, that "[w]hen planning shoreline areas or designing larger shoreline projects, a risk assessment should be prepared by a qualified engineer and should be based on the estimated 100-year flood elevation that takes into account the best estimates of future sea level rise. The Proposed Action will not affect use of waterfront facilities, but will consist of response actions/repairs when shoreline flooding damage does occur. The Bay Plan's Climate Change Policy further states that repairs of existing facilities, are exempt from the design criteria of resilience to a mid-century sea level rise projection.

4.4.1 Approach to Analysis

Factors considered in determining the potential for significant impact to climate include any long-term impacts that would result in additional GHG emissions. Significant impacts to climate would occur if Federal or state climate regulations or standards for GHG emissions are violated. This PEA uses the same methodology, thresholds or no impact findings as described in the San Francisco Bay to Stockton, California Navigation Improvement Study IGRR-EIS (USACE 2020).

Significant impacts could also occur if new project activities were located in the shoreline area where sea level rise was forecasted to occur due to climate change.

4.4.2 Environmental Impacts

4.4.2.1 No Action Alternative

Under the No Action Alternative, MOTCO would continue its current practice of environmental review and permitting of projects on a case-by-case scenario. There would be no temporary effects or cumulative impacts compared to the NEPA baseline, and it would not result in additional GHG emissions. Impacts on GHG emissions would primarily be a result of engine combustion emissions from mobile sources like vehicles. The overall impact from the No Action Alternative would be a minor adverse impact. Therefore, the No Action Alternative would not conflict with any applicable plans, policies, or regulations adopted to reduce GHG emissions and there would be no impact as compared to the NEPA baseline.

4.4.2.2 Proposed Action Alternative

Routine maintenance and repair operations conducted at MOTCO would be generally the same as those occurring currently and under the No Action Alternative. Impacts to GHG emissions associated with the Proposed Action would be short-term and are already occurring as a result of routine maintenance and repairs.

A difference under the Proposed Action would be in streamlining of the permit and approval process. The maintenance and repair tasks listed in Table 2-1 would be conducted by staff utilizing a checklist specifying environmental control equipment and protection procedures for each task. This programmatic standard procedure would help reduce the potential for environmental impacts that exist when performing these activities. This benefit would be compounded over the 10-year period of the Program.

Conclusion of Effect

Normal maintenance and repair operations under the No Action Alternative have minor adverse effects on GHG emissions. These activities are currently ongoing and contributing to the existing air quality. Under the Proposed Action, GHG emissions would be below the thresholds for conformity with the SIP. Adherence to project controls and implementation of standardized procedures for all maintenance and repair tasks would result in minor adverse impacts to air resources. Project effects would be negligible with respect to sea level rise from both alternatives since no new development would occur in the shoreline area.

4.4.3 Best Management Practices – Climate Change

GHG emission effects from the Proposed Action could be reduced by the following BMPs:

- GHG-1. Increase acquisition and use of electric fleet vehicles.
- AIR-1. Reduce vehicle use by developing a trip management plan for maintenance and repair projects.
- AIR-2. Reduce unnecessary idling from project vehicles and heavy equipment, placing a time restriction of five minutes on vehicle idling.
- AIR-3. Ensure project vehicles are maintained to perform at CARB and USEPA certification levels. Lease new equipment and use USEPA "Tier 4" engines in off-road equipment where practicable.
- AIR-4. Perform periodic project inspections to ensure compliance with these mitigation measures.

4.5 BIOLOGICAL RESOURCES

4.5.1 Approach to Analysis

Determination of the significance of potential impacts to biological resources is based on 1) the importance (i.e., legal, commercial, recreation, ecological, or scientific) of the resource; 2) the proportion of the resource that would be affected relative to its occurrence in the region; 3) the sensitivity of the resource to proposed activities; and 4) the duration of ecological ramifications.

Impacts to biological resources are significant if species or habitats of concern are adversely affected over relatively large areas, or if disturbances cause reductions in population size or distribution. Potential physical impacts such as habitat loss, noise, and impacts to water quality were evaluated to assess potential impacts to biological resources resulting from the proposed alternatives.

4.5.2 Environmental Impacts

4.5.2.1 No Action Alternative

Under the No Action Alternative, there would be no change in the approval process for maintenance and repair activities conducted at MOTCO. Each project would be evaluated and permitted individually. No change in the level or significance resulting from the implementation of individual projects would occur. Maintenance and repair projects would result in minor adverse effects on biological resources due to increased vehicle use on roads, increased noise generated during construction activities, increased turbidity or sedimentation generated during and post construction activities, and/or use of chemical applications. However, many of these potential effects are temporary in nature and with implementation of BMPs will be minor and less than significant.

4.5.2.2 Proposed Action Alternative

Plants, Wildlife, and Aquatic Species

Elements of the Proposed Action have the potential to affect habitat and/or species due to the following:

1. Vehicle use: Vehicle and heavy equipment use can directly impact amphibians, small mammals, or reptiles by crushing. Further if vehicles and/or equipment are not maintained and cleaned potential spills could cause direct and indirect affects to species and nearby habitat.

2. Increased noise: Increased noise generated primarily during pile driving activities could affect the behavior of birds, marine mammals, and fish species that occur in the Action Area. Further, increased sound pressure levels can lead to lethal and sub-lethal impacts to fish.

3. Increased turbidity or sedimentation: Increased turbidity will result from implementation of in-water activities such as pile wrapping. Increased turbidity during pile driving/removal activities can have direct effects on nearby fish including decreased foraging efficiency, gill abrasion, and larval mortality. Turbidity is also associated with the suspension of fine-grained sediments near the piles that may contain contaminants. Release of these contaminants may reduce water quality to which fish are exposed, and the quantity and quality of benthic invertebrate prey resources. Increased sedimentation generated during earthwork (e.g., removal of vegetation, grading of bare soil, etc.) and culvert replacement activities has the potential to affect nearby and downgradient surface water bodies by increasing the sediment load.

4. Chemical application use: The potential use of chemical applications during nuisance plant control can degrade habitats and affect nearby species. Invasive species treatment at MOTCO was addressed in the INRMP (2017) and IPMP (U.S. Army 2018c).

5. Some replacement pilings on the wharves / piers may consist of wood treated with ACZA. The ACZA preserves the wood pilings from termites, fungi, and marine borers (mollusks and crustaceans) but can produce adverse effects when leached into the marine environment.

These potential effects are temporary in nature. All expansion activities would be limited to disturbed and inland areas. Lighting upgrades are not expected to increase lighting to any sensitive bird or other habitat areas.

Minimal, if any, anticipated temporary loss of vegetation or habitat for species due to the proposed action would be limited to the construction buffer areas. Any permanent loss of vegetation or

habitat would be limited to the areas adjacent to existing facilities. There is no anticipated irrevocable loss of habitat or significant direct mortality of species would occur as a result of this alternative.

Federally-Listed Species Effects Determination

The actions proposed by the Army are not anticipated to adversely affect any Federally-listed species or their habitats. However, any activity that involves work in an area with Federally-listed species has the potential to negatively affect those resources without careful planning. The proposed actions may affect, not likely to adversely affect, Federally-listed species by disturbing the feeding, breeding, spawning, and/or sheltering of these species. Evaluation of the existing environment, species and habitat occurrences, proposed actions, and avoidance and minimization measures, and determined that elements of the proposed action have the potential to affect some listed species due to increased noise, increased turbidity or sedimentation, increased lighting, and/or use of chemical applications during invasive species removal as described under *Plants, Wildlife and Aquatic Species* above. Based on the analysis, effects to listed species and their habitat will be less than significant. A Biological Assessment was prepared for the Proposed Action and is included as Appendix B along with associated correspondence.

Conclusion of Effect

Normal maintenance and repair operations under the No Action Alternative have minor adverse effects on biological resources. These activities are currently ongoing and there would be no change in the level of impact to biological resources. Under the Proposed Action, minor adverse effects on biological resources would result. Adherence to project controls and implementation of standardized procedures for all maintenance and repair tasks would result in minor adverse impacts to biological resources. Under the Proposed Action, there would be no reduction in Federally-listed species population size or their habitat, and no change to occurrence of species or critical habitat in the region. Implementation of proposed actions would result in less than significant impacts to biological resources.

4.5.3 Best Management Practices – Vegetation and Wildlife

The following BMPs will be implemented to reduce the potential effect to species and their habitats. Additional species-specific BMPs may required as appropriate.

- BIO-1. Pollution and erosion control: Similar to GEO-1, construction BMPs would be used in accordance with the MOTCO NPDES Permit and SWPPP for proposed actions that involve earthwork. Site-specific spill pollution prevention and erosion control measures will be put in place to minimize or eliminate impacts to habitat from soil erosion, runoff, and spills. Protective measures would include:

- Practices to minimize erosion and sedimentation associated with the action (including staging areas, stockpiles, grading, etc.);
- Measures to prevent construction debris from entering wetlands and/or other waters (e.g., installation of silt fencing, preparation of airborne nuisance plan, keeping the site trash-free);
- Measures to prevent and control spills of hazardous materials including following the Installation Hazardous Waste Management Plan (HWMP; U.S. Army 2020a);
- Quantification of sediment or pollution loading (if required by State or Federal permits); and
- Monitoring, repair, and maintenance procedures for implemented measures (such as silt fencing), and reporting.

- BIO-2. Stormwater management: For proposed actions that involve temporary actions such as the reconditioning, reconstructing, or replacement of pavement, replacement of a stream crossing, or permanent actions that may otherwise increase the contributing impervious surface area within the vicinity of the project, the Installation SWPPP will be followed with a site-specific Stormwater Management Plan. The SWPPP/Stormwater Management Plan would be implanted in a manner to protect habitat from changing volumes of stormwater runoff.

- BIO-3. Site restoration: For proposed actions that would have the potential to result in the disturbance of riparian vegetation, soils, or streambanks, a site restoration plan would be developed prior to construction, and restoration would be commensurate with the scale of the action. To minimize or avoid sensitive habitats, the following measures will be implemented to facilitate site restoration:

  - Before construction, the boundaries of clearing limits and site access would be flagged to minimize unnecessary soil and vegetation disturbance.
  - Prior to construction, all temporary erosion control measures specified for the project will be inspected to ensure that they are in place and functional.
  - During site preparation, native materials displaced by construction will be conserved whenever possible for use during restoration. Native materials include large wood, native vegetation, topsoil, and channel materials (e.g., gravel, cobble, and boulders).
  - Proposed actions that include expansion would not be performed in areas of riparian, wetland, aquatic, or other areas of sensitive habitat. In areas to be cleared, native vegetation would be clipped at ground level to retain root mass and encourage the reestablishment of native vegetation.

- BIO-4. Heavy equipment and vehicle use: Heavy equipment necessary to implement proposed actions will be selected and operated as necessary to minimize adverse effects on the environment (e.g., minimally sized, low pressure tires). Measures include:

  - Minimal hard turn paths will be used for tracked vehicles.

- Temporary mats or plates will be placed within wet areas or areas containing sensitive soils.
- Heavy equipment and vehicles will be stored, fueled, and maintained in a vehicle staging area located at least 150 feet from any waterbody/wetland, or in an isolated hard zone such as a paved parking lot.
- Heavy equipment would be inspected daily for fluid leaks before leaving vehicle staging areas for operation within 50 feet of any waterbody.
- Equipment would be steam-cleaned before operational use below ordinary high water, and as often as necessary during operation to remain free of all external oil, grease, mud, seeds, organisms, and other visible contaminants.
- Generators, cranes, and any other stationary equipment operated within 150 feet of any waterbody will be maintained and protected as necessary to prevent leaks and spills from entering the water.
- Vehicular traffic will be confined to existing roads and the proposed access routes.
- Access roads, staging areas, and in-water work areas shall be clearly identified in the field using orange construction fence, signage, buoys, or similar as appropriate. Work shall not be conducted outside designated work areas.
- Vehicle speeds will be reduced to 15 mph during rain events.

- BIO-5. Use of chemicals, fuels, lubricants, or biocides will be in compliance with all local, State, and Federal regulations. This is necessary to minimize the possibility of contamination of habitat or poisoning of wildlife. All uses of such compounds will observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other State and Federal legislation.

- BIO-6. Approved work windows:

  - Daily construction will occur during daylight hours. In-water work will be completed in the approved delta smelt work window between August 1 and November 30, or as otherwise specified during consultation with NMFS.
  - Nighttime work near tidal marsh habitat will be avoided to the extent feasible. If nighttime work cannot be avoided, lighting will be directed to the work area, minimizing the lighting of tidal marsh habitat.
  - Work conducted adjacent to tidal marsh habitat will be avoided during the Ridgway's Rail breeding season from February 1 through August 31, unless survey has been completed to document absence.

- BIO-7. Piling installation: Replacement pilings would involve the replacement of similar-size piles with either concrete, steel, or treated wood piles. When practical, a vibratory hammer will be used for piling installation. If an impact hammer is needed to install concrete piles or proof piles, noise attenuation measures would be implemented, to include use of cushion pads or blocks. For selection of treated wood pilings, select products that have been certified through a third party (e.g. Western Wood preservers

Institute) to be treated to proper retention standards that maximize fixation of ACZA and minimize leaching rates.

- BIO-8. Piling removal: The following practices would be followed to minimize chemical release from treated piles and/or sediment disturbance and resuspension:
    - Install a floating surface boom to capture floating surface debris. If treated wood / debris falls into the water, it would be removed immediately.
    - Remove the pile using a vibratory hammer when possible. Never intentionally twist or break the pile; rather, slowly lift the pile from the sediment through the water column.
    - After removal, place the pile in a containment basin on a barge deck, pier, or shoreline without attempting to clean or remove any adhering sediment. Ensure staging area is designed / modified to contain all sediment and return flow which may otherwise be directed back to the waterway.
    - Dispose of all removed piles, floating surface debris, any sediment spilled on work surfaces, and all containment supplies at a permitted inland disposal site.
    - If timber breakage occurs or the pile becomes intractable during removal, make every attempt short of excavation to remove each pile; if a pile in uncontaminated sediment is intractable, breaks above the surface, or breaks below the surface, cut the pile or stump off at least 2 feet below the surface of the sediment.
    - For pile wrapping/jacketing during activities such as washing screen mesh openings shall not exceed 3/32 inch (2.38 mm) for woven wire for perforated plate screens or 0.0689 inch (1.75 mm) for profile wire screens, with a minimum 27% open area. Screen mesh openings shall not exceed ¼ inch (6.35 mm) for woven wire, perforated plate screens, or profile wire screens, with a minimum of 40% open area. The U.S. Department of the Army (DOA) proposes to repair up to 20 timber piles per year for up to 10 years by installing non-reactive, high-density polyethylene (HOPE) jackets on approximately 200 timber piles located under the main pier platform. Wrapping the pilings will result in a total of approximately 3064 linear feet of 0.06-inch-thick pile wrapping material in the Bay, totaling approximately 1.8 cubic yards..
- BIO-9. Deck replacement: For proposed actions that involve the removal and replacement of existing decking, the following practices will be used:
    - Floats and/or tarps will be placed below the active construction area to minimize the potential for debris to enter the water.
- BIO-10. Biological Monitoring for In-Water Projects:
    - For in-water actions, water quality monitoring would be completed in accordance with project specific Section 401 Water Quality Certification conditions.
    - Biological Monitoring will be conducted during in-water work activities and when project work is conducted adjacent to marsh areas. MOTCO environmental staff will conduct pre-activity inspections and progress inspections during and after the work.

- USFWS-approved biologist will conduct mandatory contractor/worker awareness training for construction personnel on in-water projects or those conducted adjacent to marsh areas. The awareness training will be provided to all construction personnel to brief them on the need to avoid effects to listed species and their habitat and the potential for any such wildlife species to occur on the site. If new construction personnel are added to the project, the contractor will ensure that the personnel receive the mandatory training before starting work. A representative will be appointed during the employee education program to be the contact for any employee or contractor who might inadvertently kill or injure a listed species or who finds a dead, injured, or entrapped species. The representative's name and telephone number will be provided to the USFWS prior to the initiation of any demolition or construction activity.

- BIO-11. Reporting and/or Notification:
  - Notification will be sent to the USFWS and NMFS prior to initiation of in-water project activities.
  - Annual reports will be submitted to USFWS and NMFS by January 15th of each year summarizing maintenance activities that were conducted including implementation of BMPs and any corrective measures taken.

4.6 LAND USE AND RECREATION

4.6.1 Approach to Analysis

Significance of potential land use impacts is based on the level of land use sensitivity in areas affected by a proposed action. In general, land use impacts would be significant if they would: 1) be inconsistent or noncompliant with applicable land use plans or policies; 2) preclude the viability of existing land use; 3) preclude continued use or occupation of an area; or 4) be incompatible with adjacent or vicinity land use to the extent that public health or safety is threatened.

Potential significant impacts to recreational resources would occur if there were the potential for loss of a large portion of a particular type of recreational need that could not be suitably substituted with a similar activity, or if demand could not be met by similar facilities or natural areas.

4.6.2 Environmental Impacts

4.6.2.1 No Action Alternative

Under the No Action Alternative, MOTCO would continue its current practice of environmental review and permitting of projects on a case-by-case scenario. The No Action Alternative would not result in changes in overall land use at MOTCO and the Army could continue to use MOTCO for its critical primary mission of munitions transport. There would be only short-term, temporary, and/or small changes to land use during maintenance and repair activities, and the overall impact

would be negligible. Recreation at MOTCO is very limited. The PCNMNM would continue to be operated and maintained by the NPS. There would be no impact to recreation from the No Action Alternative.

4.6.2.2 Proposed Action Alternative

Implementation of the Proposed Action would not result in changes in overall land use at MOTCO and would allow for the continued mission operations. There would be only short-term, temporary, and/or small changes to land use during maintenance and repair activities, and the overall impact would be negligible. Implementation of the Proposed Action would have no impact to recreation at MOTCO.

The Proposed Action would be consistent with the BCDC Coastal Management Program. No changes to land use in the coastal zone and no new development in the coastal zone would occur as a result of the Proposed Action. The BCDC coastal consistency determination will be provided as Appendix C following PEA review.

Conclusion of Effect

There will be no impact to land use from the No Action Alternative. The Proposed Action would allow for continued operations of MOTCO and completion of its primary mission; the impact to land use would be negligible. There would be no impact to recreation at MOTCO from either project alternative. The Proposed Action would be consistent with the BCDC Coastal Management Program.

4.6.3 Best Management Practices – Land Use and Recreation

- LU-1. To the extent possible, the Army will work with the NPS to attempt to avoid disruptive project activities during times that conditions of quiet and reverence are important for ceremonial events at the PCNMNM.

4.7 TRAFFIC AND TRANSPORTATION

4.7.1 Approach to Analysis

A significant transportation impact would be considered one that resulted in a substantial increase in traffic generation, a substantial increase in the use of connecting street systems or mass transit, or if on-site parking demand would not be met by projected parking space supply.

4.7.2 Environmental Impacts

4.7.2.1 No Action Alternative

Under the No Action Alternative, MOTCO would continue its current practice of environmental review and permitting of projects on a case-by-case scenario. There would not be significant impacts on traffic, only slight changes in traffic patterns as needed during some project activities (e.g., road repairs or work adjacent to a road/right-of-way). There would be some beneficial impact from maintenance and repairs to the road transportation system. The overall impact of the No Action Alternative would be negligible.

4.7.2.2 Proposed Action Alternative

Implementation of the Proposed Action would not result in changes in traffic at MOTCO and would be generally the same as those occurring currently and under the No Action Alternative. Vehicles trips for conducting maintenance and repair actions would continue at current levels. There would be minor temporary impacts to traffic flow in various locations where road maintenance and repairs were occurring. Traffic impacts would be short-term and likely distributed evenly in space across the Installation and temporally. The volume of traffic at MOTCO is not large enough to incur substantial traffic backups from temporary detours. Maintenance and repairs to the road transportation system would have a beneficial effect. The overall effect to traffic and transportation would be negligible.

Conclusion of Effect

There would be a minor adverse impact to traffic and transportation from the No Action Alternative, and a beneficial effect from the Proposed Action.

4.7.3 Best Management Practices – Traffic and Transportation

Traffic effects from the Proposed Action could be reduced by the following BMPs:

- AIR-1. Implementation of the trip reduction program listed in Section 4.3.3.
- TR-1. Develop traffic control plans for project actions that describe traffic detours away from applicable project activities, particularly road maintenance and repairs. Distribute traffic control plans to Installation employees.

4.8 NOISE

4.8.1 Approach to Analysis

Noise impact analyses typically evaluate potential changes to existing noise environments that would result from the implementation of a proposed action. These potential changes may be

beneficial if they reduce the number of sensitive receptors exposed to unacceptable noise levels. Conversely, impacts may be significant if they result in an introduction to unacceptable noise levels or increased exposure to unacceptable noise levels. Noise associated with an action is compared with existing noise conditions to determine the magnitude of potential impacts.

4.8.2 Environmental Impacts

4.8.2.1 No Action Alternative

Under the No Action Alternative, MOTCO would continue its current practice of environmental review and permitting of projects on a case-by-case scenario. Maintenance and repair events occur on a periodic basis and for a limited duration, often in conjunction with the operation of a variety of vehicles, trains, and heavy equipment during normal Installation operations. Normal maintenance and repair operations have minor adverse effects on noise at MOTCO and negligible effects on off-Installation receptors.

4.8.2.2 Proposed Action Alternative

Maintenance and repair operations already currently occur within the existing boundaries of MOTCO and the Proposed Action would not result in significant noise traveling off-base. Project noise would occur only during the short-term time of the maintenance and repair activity. Project noise would be audible to on-Installation receptors in the immediate vicinity of project work. Noise impacts would be negligible to off-site receptors. Normal maintenance and repair operations would have overall minor adverse impacts.

A difference under the Proposed Action would be in streamlining of the permit and approval process. The maintenance and repair tasks listed in Table 2-1 would be conducted by staff utilizing a checklist specifying environmental control equipment and environmental protection procedures, as well as the appropriate noise BMPs for each task. This programmatic standard procedure would help reduce the potential for environmental impacts that exist when performing these activities in the absence of a programmatic procedure. This benefit would be compounded over the 10-year period of the Program. The overall impact from noise due to the Proposed Action is minor adverse. Therefore, noise-related impacts associated with the Proposed Action would result in periodic short-term and less-than significant noise impacts.

Conclusion of Effect

There would be a minor adverse impact to the noise environment from the Proposed Action.

4.8.3 Best Management Practices – Noise

Noise effects from the Proposed Action could be reduced by the following BMPs:

- NS-1. Project workers should wear appropriate protection to limit hearing damage during maintenance and repair activities. USOSHA regulations, DOD Instruction 6055.12, *Hearing Conservation Program* and Army Pamphlet 40-501, *Hearing Conservation Program*.
- NS-2. A potential sound measure that could be considered on a project action basis is temporary sound barriers near a high project-related noise source.
- NS-3. Construction would take place during weekday, daytime hours (Monday through Friday from 7:00 am to 5:00 pm).

4.9 UTILITIES, ENERGY, AND SUSTAINABILITY

4.9.1 Approach to Analysis

Potential impacts (beneficial or adverse) to utilities and infrastructure are assessed with respect to anticipated new services, improvements to existing infrastructure, and/or capacity improvements needed. Impacts would be substantial if the Proposed Action were to exceed the capacity of the existing utility system such that significant expansion of facilities would be required.

4.9.2 Environmental Impacts

4.9.2.1 No Action Alternative

Under the No Action Alternative, MOTCO would continue its current practice of environmental review and permitting of projects on a case-by-case scenario. This process could cause a delay in making needed improvements to existing utility infrastructure. Maintenance and repair activities have a generally beneficial impact with respect to utilities, energy, and sustainability.

4.9.2.2 Proposed Action Alternative

The Proposed Action would have a beneficial effect on utility services as maintenance and repair actions would allow utilities to remain in service at current or improved levels. Some potential short-term, minor impacts to soil erosion and water resources would occur during temporary excavations for utility work as discussed in Sections 4.1 and 4.2. There would be no increased demand for utility services under the Proposed Action. Maintenance and repairs of the road transportation system would provide a benefit for efficient solid waste removal services with roadways adequate to accommodate waste and recycling trucks.

During project activities, solid waste in varying quantities would be generated. The disposal of project-derived wastes would be in accordance with local and state requirements and is not anticipated to affect adversely solid waste collection and disposal services currently provided in the region. Waste that is considered hazardous waste cannot be recycled and must be disposed

as discussed in Section 4.9. Creosote-treated wood from wharf / pier pile replacement will be recycled or disposed of as hazardous waste if the wood contains greater than 50 ppm creosote.

The Army's *Sustainable Design and Development Policy Update* (U.S. Army, 2013b), sets goals and requirements for renewable energy and water use. The Proposed Action would assist in meeting these sustainability requirements. For example, water utility maintenance and repair could include replacement of leaking pipes or installation of infrastructure for collection of recycled "gray water." The Proposed Action would also include occasional solar power installations on/over existing buildings or structures. These installations would typically involve a series of solar photovoltaic panels and associated storage and distribution components.

Conclusion of Effect

There would be a beneficial impact to utilities, energy, and sustainability from either of the project alternatives.

4.9.3 Best Management Practices – Utilities, Energy, and Sustainability

None identified.

4.10 HAZARDOUS AND TOXIC MATERIALS

4.10.1 Approach to Analysis

Federal, state, and local laws regulate the storage, handling, disposal, and transportation of hazardous materials and wastes; the primary purpose of these laws is to protect human health and the environment. The significance of potential impacts associated with hazardous substances is based on their toxicity, reactivity, ignitability, and corrosivity. Impacts associated with hazardous materials and wastes would be significant if the storage, use, transportation, or disposal of hazardous substances substantially increased the human health risk or environmental exposure.

4.10.2 Environmental Impacts

4.10.2.1 No Action Alternative

Under the No Action Alternative, MOTCO would continue its current practice of environmental review and permitting of projects on a case-by-case scenario. This process could result in inefficiencies in hazardous materials use and management. Without a streamlined procedure for conducting maintenance and repair actions, the potential exists to improperly use, store, and/or dispose of hazardous materials. Inefficiencies in processes would likely result in the use of larger volumes of hazardous materials. The No Action Alternative would have a minor adverse impact with respect to HTRW.

4.10.2.2 Proposed Action Alternative

Hazardous materials utilized associated with routine maintenance and repair operations include motor oil, gasoline, diesel fuel, paints, asphalts, cleaning agents, pesticides, herbicides, and hazardous building materials (ACM, LBP, and PCBs). No new hazardous substances would be used on the Installation as part of the Proposed Action. In the event of a spill, Installation personnel are trained to isolate and clean up releases in accordance with contingency plans and spill response procedures (i.e., the Installation's SPCCP). Any spill of hazardous materials on MOTCO property would be immediately reported to the MOTCO Fire Department, DPW, and Environmental Compliance Office. It is anticipated that only small amounts of hazardous wastes would be generated in project activities. These wastes would be disposed in accordance with manufacturer's specifications and hazardous waste regulatory standards.

Certified contractors are used in all renovation projects at MOTCO where hazardous building materials (e.g., ACM) are present. Under the Proposed Action, LBP encountered during maintenance and repair of existing buildings would follow the DOD LBP guidance and the LBP Hazard Management Plan.

The Proposed Action would result in occasional temporary disturbance into IR sites when repairs to roads, utilities, etc. are required in these areas. Where access to these locations is required, proper precautions will be taken to avoid contact with hazardous materials/wastes and to not impair remedial measures. Work within IR sites will be conducted in accordance with the Land Use Control and Implementation Plan, part of MOTCO's RPMP (U.S. Army, 2011b). That document includes laboratory analytical data for soil that indicates soil excavated from shallow depths across MOTCO can be reused as fill in other areas of the Installation with the exception of soil excavated at the intersection of White and Johnson roads. Soil in that area has shown elevated concentrations of metals and would not be reused in other areas under the Proposed Action.

Conclusion of Effect

Routine maintenance and repair operations would continue the current rate of hazardous materials use and hazardous waste generated. Implementation of existing hazardous waste management procedures such as those outlined in the Installation HWMP would reduce the impacts associated with generation of additional waste. Therefore, routine maintenance and repair operations would result in minor adverse effects from the storage, transport, and use of hazardous and toxic materials and wastes.

4.10.3 Best Management Practices – Hazardous and Toxic Materials

- HM-1. The Installation HWMP and SPCCP will be followed during project activities with regard to the proper storage, use, and disposal of HTRW and the response to any potential released of hazardous substances as a result of project activities.
- HM-2. Where ACM and/or LBP is present on project actions (e.g., building exterior renovations) develop and adhere to a debris containment and collection plan for protection of worker safety and the environment. A containment system would be placed around applicable work areas to collect all dust and debris where ACM/LBP is disturbed. These waste building materials would be segregated and disposed of properly.
- HM-3. Coordinate any work within IR site boundaries with Installation Environmental Coordinator to ensure no impacts to remedial measures.

4.11 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

4.11.1 Approach to Analysis

Significance of population and economic activity are assessed in terms of their direct effects on the local economy and related effects on other socioeconomic resources (e.g., housing). The magnitude of potential impacts varies depending on the location of a proposed action; for example, an action that creates 20 employment positions may be unnoticed in an urban area, but may have significant impacts in a more rural region. If potential socioeconomic impacts would result in substantial shifts in population trends, or adversely affect regional spending and earning patterns, they would be significant.

In order to comply with EO 12898, and ethnicity and poverty status in the vicinity of the Proposed Action area have been examined and compared to county, state, and national data to determine if any minority or low-income communities could potentially be disproportionately affected by implementation of the Proposed Action or alternatives. Data have been collected from previously published documents issued by Federal, state, and local agencies and from state and national databases (e.g., U.S. Bureau of Economic Analysis Regional Economic Information System).

The CEQ guidance states that “minority populations should be identified” where either: a) the minority population of the affected area exceeds 50 percent; or b) the population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographical analysis.” (CEQ, 1997).

4.11.2 Environmental Impacts

4.11.2.1 No Action Alternative

Under the No Action Alternative, MOTCO would continue its current practice of environmental review and permitting of projects on a case-by-case scenario. Maintenance and repair activities would occur at current levels, maintaining current employment. There would be no impacts to socioeconomics and environmental justice.

4.11.2.2 Proposed Action Alternative

Under the Proposed Action, maintenance and repair activities would occur at current levels, maintaining current employment. There would be no impact to socioeconomics from the Proposed Action. Project impacts described in this PEA would not extend beyond the boundaries of MOTCO. As discussed in previous sections, noise and air emissions impacts on the Installation would be short-term, less than significant and it is not anticipated that these impacts would travel off-base in any substantial amount. Therefore, impact of the Proposed Action would not disproportionately affect minority or low-income communities including the adjacent community of Bay Point, or adversely affect children's health and safety.

4.11.3 Best Management Practices – Socioeconomics and Environmental Justice

None identified.

Conclusion of Effect

There would be no impact to socioeconomics and environmental justice from either of the project alternatives.

4.12 AESTHETICS/VISUAL RESOURCES

4.12.1 Approach to Analysis

Determination of the significance of impacts to visual resources is based on the level of visual sensitivity in the area. Visual sensitivity is defined as the degree of public interest in a visual resource and concern over adverse changes in the quality of that resource. In general, an impact to a visual resource is significant if implementation of a proposed action would result in substantial alterations to an existing sensitive visual setting.

4.12.2 Environmental Impacts

4.12.2.1 No Action Alternative

Under the No Action Alternative, MOTCO would continue its current practice of environmental review and permitting of projects on a case-by-case scenario. The current visual features of the Installation would not change. Maintenance and repair activities would prevent existing facilities from deteriorating and would have a generally beneficial impact with respect to aesthetics/visual resources.

4.12.2.2 Proposed Action Alternative

Routine maintenance and repairs, including building upkeep and landscaping will improve the visual character of the Installation and have an overall beneficial impact. The Proposed Action would include occasional solar power installations on/over existing buildings or structures. These installations would typically involve a series of solar photovoltaic panels and associated storage and distribution components. Solar panels would be installed in a manner that would prevent annoying glare from affecting viewsheds on the Installation.

Conclusion of Effect

There would be a beneficial impact to aesthetics/visual resources from either of the project alternatives.

4.12.3 Best Management Practices – Aesthetics/Visual Resources

None identified.

4.13 CULTURAL RESOURCES

4.13.1 Approach to Analysis

Cultural resources are subject to review under both Federal and state laws and regulations. Section 106 of the NHPA empowers the ACHP to comment on Federally initiated, licensed, or permitted projects affecting cultural sites listed or eligible for inclusion on the NRHP.

Once cultural resources have been identified, significance evaluation is the process by which resources are assessed relative to significance criteria for scientific or historic research, for the general public, and for traditional cultural groups. Only cultural resources determined to be significant (i.e., eligible for the NRHP) are protected under the NHPA.

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may occur by 1) physically altering, damaging, or destroying all or part of a

resource; 2) altering the characteristics of the surrounding environment that contribute to resource significance; 3) introducing visual, audible, or atmospheric elements that are out of character with the property or alter its setting; or 4) neglecting the resource to the extent that it is deteriorated or destroyed.

Identifying the locations of proposed actions and determining the exact locations of cultural resources that could be affected can assess direct impacts. Both direct and indirect impacts can result from project-induced land clearing from the expansion of pavements and buildings, and land disturbance from changes to linear infrastructure. Visual changes in and around World War II era facilities have potential to change the characteristics and feel of the surrounding area. Duration and method of construction can have temporary impacts to the visual and atmospheric elements on the Installation's cultural resources.

4.13.2 Environmental Impacts

4.13.2.1 No Action Alternative

Under the No Action Alternative, MOTCO would continue its current practice of environmental review and permitting of projects on a case-by-case scenario. The NPS is responsible for the PCNMNM. The Nichols School and Getty Oil archaeological sites are not covered under routine maintenance and repair projects. There are no archaeological sites that are covered by maintenance and repair projects; however, each project must be evaluated for impact on the PCNMNM, any eligible sites and potential cultural resources.

4.13.2.2 Proposed Action Alternative

Under the Proposed Action, the Army would continue to manage cultural resources on MOTCO in accordance with the ICRMP and all applicable laws, regulations, and policies. Work offshore at waterfront facilities would be conducted in a manner protective of potential offshore cultural resources, including the potentially NRHP-eligible offshore site associated with the Port Chicago explosion. Since that site is located past Wharves 2 and 3 it is not anticipated that maintenance and repair activities associated with the piers will impact the potentially NRHP-eligible resources. Should underwater resources be encountered, the MOTCO Environmental Coordinator should be contacted.

Routine maintenance and repair actions for utilities would include repair of or replacement of water, gas, storm, and sewer lines within the original trench. None of these actions would affect identified cultural resources at MOTCO.

The Proposed Action would not affect the Contra Costa Canal. MOTCO does not perform maintenance and repair of the Canal. Currently there are no historic buildings identified within

MOTCO. However, MOTCO is currently considering the designation of an historic district near the PCNMNM. Any future historic buildings would benefit from regular maintenance and repairs.

Routine landscaping maintenance and repair actions would include minor land grading, lawn mowing, and planting. None of these actions would include substantial excavation and none affect identified cultural resources at MOTCO.

As noted in Section 3.12, no Native American sacred sites have been identified at MOTCO and four Federally-recognized American Indian groups have been identified with potential interest in MOTCO. It is not anticipated that the Proposed Action will have any impact on Native American sites or resources.

Conclusion of Effect

Normal maintenance and repair operations would have no adverse effects on cultural resources at MOTCO. Training would occur for construction crews working in sensitive areas. Adherence to the ICRMP and implementation of site-specific measures, as necessary, would ensure maintenance and repair operations would result in no adverse effect to cultural resources.

4.13.3 Best Management Practices – Cultural Resources

- CR-1. Follow ICRMP procedures (U.S. Army, 2018). The ICRMP includes 18 SOPs for cultural resources compliance procedures. ICRMP SOPs applicable to the Proposed Action include the following:
    - SOP-1: Maintenance and Care for Historic Buildings and Structures
    - SOP-2: Disposal or Demolition of Excess Property
    - SOP-3: Mission Training of Military and Tenant Personnel
    - SOP-4: Emergency Actions
    - SOP-5: Inadvertent Discovery of Archaeological Deposits/Cultural Materials
    - SOP-7: Department of Public Works Activities
    - SOP-10: Section 106 Process
    - SOP-11: Tribal Consultation Process
    - SOP-12: Compliance with Executive Order 13007: Indian Sacred Sites
    - SOP-13: Government to Government Relations
    - SOP-14: Properties of Traditional Religious and Cultural Importance
    - SOP-15: Native American Graves Protection and Repatriation Act
    - SOP-16: Archaeological Resources Protection Act of 1979
    - SOP-17: Antiquities Act of 1906
    - SOP-18: National Park Service Consultation Process

- CR-2. Although substantial excavation work is not a typical part of routine maintenance and repair operations, potential excavation in areas with high or moderate archaeological

potential at MOTCO should have an archaeological survey done prior to construction or be conducted in the presence of an archaeological monitor. In the event that archaeological deposits are encountered during any excavation activities, the activity must stop and the MOTCO Environmental Coordinator must be notified. If bone is present within the deposit, a qualified professional will determine if the materials represent human remains.

4.14 SUMMARY OF BEST MANAGEMENT PRACTICES

Table 4-2 lists the maintenance and repair project types for each infrastructure category and the applicable BMPs for each under the Proposed Action. The BMPs listed minimize the overall effects associated with the Proposed Action. These are management actions that the Army implements on an ongoing basis to provide environmental protection. Additional mitigation measures related directly to the Proposed Action are not proposed at this time but may be added pending the results of regulatory consultation.

Table 4-2. Best Management Practices Summary

Infrastructure Category	Programmatic Project Type	AIR				BIO											CR		GEO	GHG	HM			LU	NS			TR	WR						
		1	2	3	4	1	2	3	4	5	6	7	8	9	10	11	1	2	1	1	1	2	3	1	1	2	3	1	1	2	3	4	5	6	7
Waterfront Facilities	Berthing/Mooring Systems and Signage	Y	Y	Y	Y				Y		Y				Y	Y	Y			Y	Y			Y	Y		Y			Y	Y	Y		Y	
	Pile Repair	Y	Y	Y	Y				Y		Y				Y	Y	Y			Y	Y			Y	Y		Y			Y	Y	Y		Y	Y
	Pile and Pile Cap Replacement	Y	Y	Y	Y				Y		Y	Y	Y		Y	Y	Y			Y	Y			Y	Y					Y	Y	Y		Y	Y
	Pier and Trestle Decking	Y	Y	Y	Y				Y		Y			Y	Y	Y	Y			Y	Y			Y	Y		Y			Y	Y	Y		Y	
	Gantry Cranes & Rails	Y	Y	Y	Y				Y		Y				Y	Y	Y			Y	Y			Y	Y		Y			Y	Y	Y		Y	
	Anti-Terrorism and Force Protection	Y	Y	Y	Y				Y		Y				Y	Y	Y			Y	Y			Y	Y		Y			Y	Y	Y			
	Shoreline Erosion Control	Y	Y	Y	Y				Y		Y				Y	Y	Y			Y				Y	Y		Y			Y	Y	Y			
Railyard and Rail Lines	Rail Yard Expansion	Y	Y	Y	Y	Y	Y	Y	Y		Y						Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y		
	Track / Rail, Siding and Cross-Tie Replacement	Y	Y	Y	Y	Y	Y		Y		Y						Y		Y	Y	Y		Y		Y	Y	Y	Y		Y	Y	Y	Y		
	Ballast Replacement	Y	Y	Y	Y	Y	Y		Y		Y						Y		Y	Y	Y		Y		Y	Y	Y	Y		Y	Y	Y	Y		
	Crossing, Switching System and Signal Upgrades	Y	Y	Y	Y	Y	Y				Y						Y		Y	Y	Y		Y		Y	Y	Y	Y		Y	Y	Y	Y		
	Crossing, Abutment, and Transfer Pad Extensions and Upgrades	Y	Y	Y	Y	Y	Y	Y	Y		Y						Y		Y	Y	Y	Y	Y		Y	Y	Y	Y		Y	Y	Y	Y		
Road Transportation System	Road Resurfacing	Y	Y	Y	Y	Y	Y		Y		Y						Y		Y	Y	Y		Y	Y	Y	Y	Y	Y		Y	Y	Y	Y		
	Road Grading and Base Replacement	Y	Y	Y	Y	Y	Y		Y		Y						Y		Y	Y	Y		Y	Y	Y	Y	Y	Y		Y	Y	Y	Y		
	Culverts and Stormwater Drainage	Y	Y	Y	Y	Y	Y		Y		Y						Y		Y	Y			Y	Y	Y	Y	Y	Y		Y	Y	Y	Y		
	Bridge Strengthening and Elevated Road Crossings	Y	Y	Y	Y	Y			Y		Y								Y	Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y		
	Geometry Improvements	Y	Y	Y	Y	Y	Y		Y		Y						Y		Y	Y			Y	Y	Y	Y	Y	Y		Y	Y	Y	Y		
	Holding Pad/Transfer Pad Maintenance, Repair, and Improvements	Y	Y	Y	Y	Y	Y		Y		Y						Y		Y	Y			Y	Y	Y	Y	Y	Y		Y	Y	Y	Y		
	Parking Lots/Ammo Lots, Staging Areas, Other Miscellaneous Pavements Expansion, Maintenance, and Repair	Y	Y	Y	Y	Y	Y	Y	Y		Y						Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y		Y	Y	Y	Y		
	Lighting, Traffic Safety, Signage and Pavement Markings	Y	Y	Y	Y												Y		Y	Y	Y		Y	Y	Y		Y	Y		Y	Y	Y	Y		

Infrastructure Category	Programmatic Project Type	AIR				BIO											CR		GEO	GHG	HM			LU	NS			TR	WR						
		1	2	3	4	1	2	3	4	5	6	7	8	9	10	11	1	2	1	1	1	2	3	1	1	2	3	1	1	2	3	4	5	6	7
Utilities	Aboveground and Underground Utility Systems(electrical, fiber optic, phone, potable water, sanitary and storm sewer, and gas)	Y	Y	Y	Y	Y	Y	Y	Y		Y						Y	Y	Y	Y	Y			Y	Y	Y	Y	Y		Y	Y	Y			
	Storm Water System Upgrade	Y	Y	Y	Y	Y	Y		Y		Y						Y		Y	Y			Y	Y		Y	Y	Y		Y	Y	Y			
	Lightning Protection Systems	Y	Y	Y	Y	Y	Y	Y	Y		Y						Y	Y	Y	Y	Y			Y	Y	Y	Y	Y		Y	Y	Y			
	Solar Installation(s) (<5 MW)	Y	Y	Y	Y	Y	Y				Y						Y		Y	Y	Y	Y			Y		Y	Y		Y	Y	Y			
Buildings	Minor Building/Structure Expansions	Y	Y	Y	Y	Y	Y	Y	Y		Y						Y	Y	Y	Y	Y	Y	Y		Y	Y	Y			Y	Y	Y			
	Interior Maintenance and Repairs	Y			Y		Y		Y		Y						Y			Y	Y	Y			Y	Y	Y			Y	Y	Y			
	Exterior Maintenance, and Repairs	Y	Y	Y	Y		Y		Y		Y						Y		Y	Y	Y				Y	Y	Y			Y	Y	Y			
	Anti-Terrorism/Force Protection and Seismic Retrofits	Y	Y	Y	Y	Y	Y	Y	Y		Y						Y		Y	Y	Y				Y	Y	Y			Y	Y	Y			
	Berms, Barricades and Accessory Safety/Security Structures	Y	Y	Y	Y	Y	Y	Y	Y		Y						Y		Y	Y	Y	Y	Y		Y	Y	Y			Y	Y	Y			
Landscaping	Maintenance and Beautification of Inland Cantonment Common Areas	Y	Y	Y	Y	Y				Y	Y								Y	Y	Y		Y		Y		Y		Y	Y	Y	Y			
	Maintenance of Tidal Operational Areas	Y	Y	Y	Y	Y				Y	Y								Y	Y	Y		Y		Y		Y			Y	Y	Y			
Fencing & Security	Fence Installation and Repair	Y	Y	Y	Y	Y	Y			Y	Y								Y	Y			Y		Y		Y	Y		Y	Y	Y			
	Anti-Terrorism and Force Protection Measures	Y	Y	Y	Y						Y								Y	Y			Y		Y		Y	Y		Y	Y	Y			

AIR – Air quality; BIO – Biological Resources; CR – Cultural Resources; GEO – Geology; GHG – Green House Gas; HM – Hazardous materials; LU – Land use; NS - Noise; TR - Traffic; WR – Water resources

4.15 CUMULATIVE EFFECTS

4.15.1 Definition of Cumulative Impacts

The approach taken in the analysis of cumulative impacts in this document 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 to affected resource areas by the proposed action might interact with the impacts to 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?

NEPA requires analysis of cumulative environmental effects of a Proposed Action, or set of actions, on resources that may often be manifested only at the cumulative level, such as impacts on air quality, noise, biological resources, cultural resources, utility system capacities, and others.

This qualitative cumulative impacts-analysis is based on the potential effects of the Proposed Action when added to similar impacts from other projects in the region.

4.15.2 Cumulative Effects of the Proposed Action

The Army uses a process for cumulative effects analysis that follows the nine steps identified by CEQ (U.S. Army 2015a). The Preferred Action Alternative would result in the impacts identified throughout Section 4.0. These include potential less-than-significant adverse impacts to water resources, soils, air quality, biological resources, noise, and HTRW. Implementation of the Proposed Action would not be anticipated to result in significant impacts and would therefore not be anticipated to contribute to adverse cumulative impacts within the region. The Proposed Action would not contribute significantly to cumulative increases in air pollutant emissions or nuisance noise levels in the vicinity of MOTCO. The Project would not contribute to a cumulatively significant increase in the storage, transport, use, or generation of HTRW. These impacts would be further reduced through implementation of BMPs as identified in Section 4.0.

The Proposed Action would not increase the frequency and intensity of activities. Noise from the Installation is already a component of the local noise environment. These activities would result in only negligible cumulative impacts.

Similarly, no significant cumulative impacts would be anticipated as no maintenance and repair tasks would be required that would result in permanent loss or conversion of sensitive or threatened and endangered species habitat. Adherence to established permit conditions and implementation of BMPs addressing water resources, soil erosion, sedimentation, and management of hazardous materials would protect local and regional water resources. Maintenance and repair activities would be consistent with the Installation's INRMP, where applicable, which establishes management and restorative programs that minimize or offset impacts to biological resources. Measures to protect threatened and endangered species and their habitat would continue to be implemented.

The Army's 2013 PEA for Implementation of the RPMP (U.S. Army, 2011b), IDP (U.S. Army 2016a), and IPS (U.S. Army 2021a) for MOTCO analyzed a complex suite of master planning actions at MOTCO. Its cumulative effects analysis provided a summary of the numerous additional activities at MOTCO and within the region, including then-present and reasonably foreseeable actions. The ACP 5 project (U.S. Army 2017a) was a recent project showing potential for cumulative impacts. Since that time, the Installation INRMP and ICRMP have been updated and new projects have been initiated at MOTCO. An updated summary of related projects and cumulative effects is provided in Table 4-3.

Cumulative effects analysis for the RPMP PEA showed potential for minor cumulative effects for water resources, soils, air quality, noise when combined with past, present, and reasonably foreseeable future actions. For other resources categories evaluated, there would be either

minimal or no potential for cumulative effects, or a beneficial cumulative effect. By comparison, the Proposed Action would consist of much smaller-scale activities than the construction work of the RPMP projects, and the potential for cumulative effects in all resource categories would be similar, but less.

Table 4-3. Cumulative Action Evaluation

Action	Level of Analysis Completed or Planned	Decision Document (Date)	Lead Agency	Status
Past Actions				
Pier 4 Structural Repair Project	CX	REC (March 2009)	Army	Complete
Pier Wharf 3 Pile Wrapping	EIS	ROD (April 2015)	Army	Complete
Barge Pier Repair	CX	REC (Summer 2015)	Army	Complete
Repair Damaged Pilings at Piers 3 and 4	CX	REC (January 2011)	Army	Complete”
Facility Reduction Program Demolition	Programmatic EAs and CXs	FNSIs and RECs (February 2014) (August 2014)	Army	Demolition complete
Investigative Borings for Gate 5 Road Repair and Other Road Repair Geotechnical Investigations	CX	REC (August 2014)	Army	Borings complete
Repair and Modernization of Piers 2 and 3	EIS	ROD (April 2015)	Army	Pier 3 (now Wharf 3) piles installed
Repair and Modernization of Piers 2 and 3 Supplemental	EA	FNSI (January 2017)	Army	Pile Wrapping
Building 245 Renovations	CX	REC (June 2016)	Army	Complete
Construction and Operation of a U.S. Army Reserve Center at MOTCO Inland Area	EA	FNSI (August 2012)	Army	Construction Complete Operation On-going
Present and Reasonably Foreseeable Actions				
IRP Remedial Actions	Regulatory Consultations	NA	Army	On-going
Military Munitions Response Program	Regulatory Consultations	NA	Army	On-going
Real Property Master Plan Projects	EA	FNSI (June 2013)	Army	On-going
Barge Pier Repair	CX	REC (summer 2015)	Army	New
Floating Dock	CX	REC	Army	New
Facility Reduction Program Demolition	Programmatic EA and CXs	FNSIs and RECs (2014-2018)	Army	On-going
Repair of Bridges, Roads and Utilities at MOTCO	EA	FNSI (Summer 2017)	Army	On-going
Community Transportation Projects	NA	NA	Various	New
Lot 2 Lightning Protection System Modification	CX	REC[1] (TBD)	Army	On-going
ACP 5 Upgrades	EA	FNSI[1] (Early 2017)	Army	Updated
ACP 1 Upgrades	CX	REC[1] (TBD)	Army	Updated
Periodic Dredging of Piers	EA	FNSI[1] (Winter 2021)	Army	New
Mission Activities and Facility Reinvestment	Programmatic EA	ROD[1] (Spring 2019)	Army	On-going

Notes: [1]Anticipated decision document subject to change.
EA = Environmental Assessment; EIS = Environmental Impact Statement; CX = Categorical Exclusion; FNSI = Finding of No Significant Impact; NA = not applicable; REC = Record of Environmental Consideration; ROD = Record of Decision; TBD = to be determined

This page intentionally left blank.

5.0 PUBLIC INVOLVEMENT

5.1 GENERAL

The Army promotes public participation as required under the NEPA process. Consideration of the perspectives and involvement of interested persons supports open communication and enables better decision making. All agencies, organizations, and members of the public having a potential interest in the Proposed Action are encouraged to participate in the public involvement process. Throughout this process, information may be obtained through the MOTCO Environmental Manager via email at usarmy.scott.sddc.mbx.hqsddc-environmental@mail.mil. Public participation opportunities with respect to this PEA and decision making on the Proposed Action are guided by 32 CFR Part 651, which describes stakeholder involvement throughout the PEA process. In accordance with this regulation, environmental agencies and the public will be involved, to the extent practicable, in the preparation of a PEA. If the proponent elects to involve the public in the development of a PEA, 32 CFR 651.47 and Appendix C of this regulation may be used as guidance.

5.2 PUBLIC INVOLVEMENT

The Draft PEA and Draft FNSI were made available to the general public and applicable government agencies for review and comment during the 30-day period that commenced with publication of the Notice of Availability in the *Contra Costa Times* on **date**. Copies of these documents were available at the Concord Public Library and were sent directly to applicable agencies for their review. Comments on the Draft PEA were received from **X**. These comments are incorporated into and addressed in this Final PEA (Appendix C).

In addition, in accordance with Section 7 of the ESA the Army communicates regularly with USFWS and NMFS on the Proposed Action with respect to biological resources impacts. MOTCO will consult with these Agencies as appropriate.

Letters regarding intent to prepare the Draft PEA were sent to agencies listed in the distribution list in the following section, and the Draft PEA was also sent to these recipients for review and comment. Comments on the Draft PEA were received from **X**.

The Army prepared this PEA and FNSI concurrently with related studies and analysis required by the ESA of 1973, the Clean Water Act, the Coastal Zone Management Act, the Clean Air Act, other applicable environmental review laws and Executive Orders. In addition to the completed EA and associated Record of Decision, additional environmental review/permitting requirements expected with respect to the proposed project are listed in Section 1.1.

In conjunction with the NEPA process, Section 106 NHPA consultation must be completed with SHPO, the ACHP, and concerned Federally-recognized Native American tribes. Documentation

showing conditional concurrence from SHPO with respect to Section 106 was received on **date** and is included in Appendix **E**.

5.3 DISTRIBUTION LIST

California Department of Fish and Wildlife
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558

California Department of Toxic Substances Control
Berkeley Regional Office
700 Heinz Avenue
Berkeley, CA 94710

California Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

California State Clearinghouse
1400 Tenth Street
Sacramento, CA 95812

Concord Public Library
2900 Salvio Street
Concord, CA 94519

San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 95404

San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94111

U.S. Fish and Wildlife Service
Bay-Delta Fish and Wildlife Office
650 Capitol Mall, 8th Floor
Sacramento, CA 95814

U.S. Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way
Sacramento, CA 95825

National Marine Fisheries Service
The San Francisco Bay Branch
777 Sonoma Avenue, Room 325
Santa Rosa, CA 95404

National Park Service
Golden Gate National Recreation Area
Building 201, Fort Mason
San Francisco, CA 94123-0022

This page intentionally left blank.

6.0 COMPARISON OF ALTERNATIVES AND CONCLUSIONS

This PEA has evaluated the potential environmental impacts associated with ongoing routine maintenance and repair activities at MOTCO, as summarized in Section 4. Two alternatives were evaluated: the Preferred Action Alternative and No Action Alternative.

6.1 COMPARISON OF THE ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES

As summarized in Table 6-1, the Preferred Action Alternative would result in generally minor impacts to MOTCO and the surrounding area. As identified throughout Section 4, adverse impacts would be minimized by adhering to regulatory requirements and implementing site- and resource-specific BMPs.

The No Action Alternative was not found to satisfy the purpose of and need for the Proposed Action. This alternative would not enable MOTCO to maintain its vital infrastructure in a streamlined manner.

6.2 CONCLUSIONS

As described in Section 1.1, the intent of this PEA is to streamline future analyses of impacts related to routine maintenance and repair operations at MOTCO, presenting a representative analysis of anticipated regulatory requirements and environmental impacts. A REC Checklist for maintenance and repair tasks utilizing the infrastructure categories, programmatic project types and BMPs in Table 4-2 would facilitate individual tasks in a manner that ensures compliance with applicable regulations and optimizes environmental protection.

As maintenance projects are developed during the 10-year planning horizon, they would be screened via the PEA for NEPA compliance and to determine if they qualify for the preparation of a REC checklist or if they require additional site-specific environmental impact assessment and/or permitting. If future individual/site-specific projects require additional NEPA-compliant documentation or permits, MOTCO would prepare tiered NEPA-compliant documentation incorporating the findings of this PEA and would apply for appropriate permits.

Based upon the programmatic evaluation performed in this PEA, there would be no significant adverse impact, either individually or cumulatively, to the local environment or quality of life as a result of implementing the Preferred Action Alternative. Therefore, this PEA's analysis determines an EIS is unnecessary for implementing the Proposed Action, and that a FNSI is appropriate.

Table 6-1. Summary of Potential Environmental Impacts on Environmental Resources

Environmental Consequence	No Action Alternative	Alternative 1 - Programmatic Maintenance and Repair Actions
Water Resources	Moderate Adverse Impact. BMPs typically implemented and operations are consistent with Installation SWPPP, SPCCP, resource protection and regulatory requirements to offset impacts.	Minor Adverse Impact. Similar impacts as No Action although impacts would be reduced by standardizing operating procedures and environmental controls by task.
Geology, Soils, and Mineral Resources	Minor Adverse Impact. BMPs typically implemented consistent with Installation SWPPP to offset soil erosion impacts.	Minor Adverse Impact. Similar impacts as No Action although impacts would be reduced by standardizing operating procedures and environmental controls by task.
Air Quality	Minor Adverse Impact. Impacts due to the potential for dust generation from activities on unpaved roads and vehicle operation. Long-term, less-than-significant impact from ongoing air emissions. Air emissions would be magnitudes of order below the thresholds for conformity with the SIP	Minor Adverse Impact. Air emissions would be magnitudes of order below the thresholds for conformity with the SIP
Biological Resources	Minor Adverse Impact. Adherence to project controls and implementation of standardized procedures for all maintenance and repair tasks would result in moderate adverse impacts to biological resources.	Minor Adverse Impact. Similar impacts as No Action although impacts would be reduced by standardizing operating procedures and environmental controls by task.
Land Use and Recreation	No Impact.	No Impact.
Traffic and Transportation	Negligible Impact. Minor adverse impacts to traffic flow would be offset by improvements to the road transportation system.	Negligible Impact. Minor adverse impacts to traffic flow would be offset by improvements to the road transportation system.
Noise	Minor Adverse Impact. Short-term, localized noise associated with maintenance and repair activities.	Minor Adverse Impact Short-term, localized noise associated with maintenance and repair activities.
Utilities, Energy, and Sustainability	Beneficial Impact. Utility lines would be upgraded and repaired and services would be retained/improved.	Beneficial Impact. Utility lines would be upgraded and repaired and services would be retained/improved.
Hazardous and Toxic Materials	Minor Adverse Impact. Potential impacts due to HTRW use/generation from project activities. Impacts would be controlled through ongoing regulatory compliance.	Minor Adverse Impact. Potential impacts due to HTRW use/generation from project activities. Impacts would be controlled through ongoing regulatory compliance.
Socioeconomics and Environmental Justice	No Impact.	No Impact.
Aesthetics/Visual Resources	No Impact.	No Impact.
Cultural Resources	No Impact.	No Impact.
Cumulative Effects	No Impact.	No Impact.

This page intentionally left blank.

7.0 REFERENCES

Advisory Council on Historic Preservation (ACHP), 2006. Program Comment for World War and Cold War Era (1939-1974) Ammunition Storage Facilities. August

Cabrera Services, Inc. and Tetra Tech, Inc., 2016. Basewide Five-Year Review for Military Ocean Terminal Concord, Concord, California. September 2016.

California Air Resources Board, 2017. Title 17 of the California Code of Regulations, Subchapter 2. Smoke Management Guidelines for Agricultural and Prescribed Burning. May Viewed at https://www.arb.ca.gov/smp/regs/RevFinRegwTOC.pdf.

California Department of Transportation, 2011. Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects. May Viewed at California Traffic Noise Assessment Protocol

California Geological Survey, 2002. California Fault Parameters, San Francisco Bay Region. Viewed at http://www.conservation.ca.gov/cgs/rghm/psha/fault_parameters/htm/Pages/ca_flt_parameters_sfbay1.aspx

California State Water Resources Control Board, 2006. 1988 Resolution No. 88-63 as Amended 2006, Adoption of Policy Entitled "Sources of Drinking Water. May.

California State Water Resources Control Board, 2006. San Francisco Bay Basin (Region 2) Water Quality Control Plan. May.

City of Concord, 2010. Community Reuse Plan Final Environmental Impact Report. January. Viewed at http://www.concordreuseproject.org/pdf/deir_Jan2010/Ch16.pdf

Contra Costa County, 2005. Contra Costa County General Plan 2005 to 2020. January. Viewed at http://www.contracosta.ca.gov/4732/General-Plan

Federal Aviation Administration (FAA), 2007. Environmental Desk Reference for Airport Actions: Chapter 17, Noise. 2007. Viewed at: https://www.faa.gov/airports/environmental/environmental_desk_ref/media/desk-ref-chap17.pdf.

Federal Transit Administration, 2006. Transit Noise and Vibration Impact Assessment. May. Viewed at: Federal Transit Authority Noise and Vibration Manual. International Council of Building Officials. 1997. Uniform Building Code.

National Marine Fisheries Service (NMFS) 2014. Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Department of the Army's (DOA) proposed Modernization and Repair of Piers 2 and 3 Project at Military Ocean Terminal Concord, California. November 19, 2014.

National Marine Fisheries Service (NMFS) 2020. Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for Maintenance Dredging at Military Ocean Terminal Concord in Suisun Bay, Contra Costa County, California. April 10, 2020.

National Oceanic and Atmospheric Administration (NOAA), 2017. Digital Coast Sea Level Rise and Coastal Flooding Impacts Viewer, Viewed at http://coast.noaa.gov/slr . April.

San Francisco Bay Conservation & Development Commission. 1998. Final Environmental Impact Statement/Environmental Impact Report for the Long-Term Management Strategy for Bay Area Dredged Material. August.

San Francisco Bay Conservation & Development Commission, 2017. San Francisco Bay Plan. Viewed at http://www.bcdc.ca.gov/plans/sfbay_plan.html. May.

San Francisco Bay Regional Water Quality Control Board, 2012. Suisun Marsh TMDL. September.

Southern California Coastal Water Research Project (SCCWRP), 2013. Evaluation of Sediment Condition Using California's Sediment Quality Objectives Assessment Framework, Technical Report 764 July 2013. Accessed through: https://www.sccwrp.org/publications/search-results/

U.S. Army, 2011a. Army Regulation 385-10, The Army Safety Program. Rapid Action Revision (RAR) Issue Date: 4 October 2011. Headquarters, U.S. Department of the Army, Washington, DC.

U.S. Army, 2011b. Real Property Master Plan for Military Ocean Terminal Concord. Prepared by U.S. Army Corps of Engineers, Mobile District. May 2011.

U.S. Army, 2013a. Final Environmental Assessment for Implementation of a Real Property Master Plan, Integrated Natural Resources Management Plan, and Integrated Cultural Resources Plan at Military Ocean Terminal, Concord, CA. June.

U.S. Army, 2013b. Memorandum Sustainable Design and Development Plan Update. December.

U.S. Army, 2014a. Installation Design Guide (IDG). Military Ocean Terminal Concord, CA. April 2014.

U.S. Army, 2014b. Real Property Master Plan, Final Appendix E Land Use Control Implementation Plan Military Ocean Terminal Concord. May 2014.

U.S. Army, 2015a. Final Environmental Impact Statement for the Modernization and Repair of Piers 2 and 3 at Military Ocean Terminal, Concord, CA. February.

U.S. Army, 2015b. Military Ocean Terminal Concord Real Property Vision Plan. June 2015. Prepared by Woolpert, Inc. January 2015.

U.S. Army, 2015c. Military Ocean Terminal, Concord Final Standard Operating Procedures to Support the Integrated Natural Resources Management Plan. August 2015.

U.S. Army, 2015d. Installation Master Plan (IMP). Military Ocean Terminal Concord, CA. 2015.

U.S. Army, 2016a. Military Ocean Terminal, Concord Installation Development Plan. Prepared by Woolpert, Inc. January 2016.

U.S. Army, 2016b. Utility Master Plan Military Ocean Terminal, Concord Installation Development Plan. Prepared by Woolpert, Inc. January 2016.

U.S. Army, 2017a. Environmental Assessment for General Repair of Bridges, Roads, and Utilities at Military Ocean Terminal Concord, CA. June 2017.

U.S. Army, 2017b. Military Ocean Terminal Concord. *Final Integrated Natural Resources Management Plan 2017-2022*: October 2017.

U.S. Army, 2018a. Military Ocean Terminal Concord. *Integrated Cultural Resources Management Plan Update 2017-2022*: January 2018.

U.S. Army, 2018b. Military Ocean Terminal Concord. Submerged Aquatic Vegetation Survey Report for the Modernization and Repair of Pier 2 at Military Ocean Terminal Concord, CA: January 2018.

U.S. Army 2018c. Military Ocean Terminal Concord *Integrated Pest Management Plan*. September 2018.

U.S. Army, 2019a. Storm Water Pollution Prevention Plan, Military Ocean Terminal Concord, Concord, California. July.

U.S. Army, 2019b. Final Programmatic Biological Assessment for Routine Maintenance and Repair Actions. July 2019. Submitted on October 22, 2019 and amended on February 4, 2020.

U.S. Army, 2020a. Hazardous Material and Waste Management Plan. Military Ocean Terminal Concord, CA. April 2020.

U.S. Army, 2020b. Area Development Plan and Area Development Execution Plan. Mission and Administrative Districts. Military Ocean Terminal Concord, CA. Prepared by KFS, LLC and Pond & Company. November 2020.

U.S. Army, 2021a. Installation Planning Standards (IPS). Prepared by KFS, LLC and Pond & Company. May 2021.

U.S. Army, 2021b. Installation Climate Resilience Plan (ICRP). Prepared by Cardno. Draft May 2021.

U.S. Army, 2021c. Military Ocean Terminal Concord. *Military Ocean Terminal Concord (MOTCO) Wharf Maintenance Dredging Project Contra Costa County, Concord, California. Calendar Years 2022-2031.* Draft Environmental Assessment. Prepared by U.S. Army Corps of Engineers, Sacramento District. May 2021.

U.S. Army, 2021d. Draft Integrated Pest Management Plan (IPMP). Military Ocean Terminal Concord, CA. February 2021.

U.S. Army, 2021e. Aquatic Resources Delineation, Military Ocean Terminal Concord, Contra Costa County, California. Prepared by Vollmar Natural Lands Consulting, May 2021.

U.S. Army Corps of Engineers (USACE). 1992. Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects. Water Resource Policies and Authorities. Regulation No. 1165-2-132. June.

U.S. Army Corps of Engineers (USACE). 2019a. Engineer Pamphlet 1100-2-1, Procedures to Evaluate Sea Level Change: 13 Impacts, Responses, and Adaption. Washington, DC: U.S. Army Corps of Engineers Publications. 14 pgs.

U.S. Army Corps of Engineers (USACE). 2019b. Engineer Regulation 1100-2-8162, Incorporating Sea Level Change in 15 Civil Works Programs. Washington, DC: U.S. Army Corps of Engineers Publications. 16 pgs.

U.S. Army Corps of Engineers (USACE). 2020. Final Integrated General Reevaluation Report and Environmental Impact Statement, San Francisco Bay to Stockton, California, Navigation Improvement Project. Main Report and Appendix G. San Francisco District. January 2020.

U.S. Census Bureau, 2021. Quick Facts, Contra Costa County, California, the State of California, and the United States (national). Accessed 30 June 2021 at https://www.census.gov/en.html.

U.S. Council on Environmental Quality, 1997. Table PL1 and 2010 Census Redistricting Data (Public Law 94-171), Summary File, Table P1.

U.S. Department of Agriculture, Soil Conservation Service, 1977. Soil Survey of Contra Costa County. September.

U.S. Environmental Protection Agency (USEPA), 1998. Guidelines for Ground-Water Classification under the EPA Ground-Water Protection Strategy. June.

U.S. Executive Office of the President, 2015. Executive Order 13693. March. Viewed at https://obamawhitehouse.archives.gov/the-press-office/2015/03/19/executive-order-planning-federal-sustainability-next-decade

U.S. Fish and Wildlife Service (USFWS) 2020. Formal Consultation for Routine Maintenance and Repair Activities on Military Ocean Terminal Concord, Contra Costa County, California. June 22, 2020.

U.S. Geological Survey, 2006. Maps of Quaternary Deposits and Liquefaction Susceptibility in the Central San Francisco Bay Region, California.

This page intentionally left blank.

8.0 GLOSSARY

100-year Flood – A flood event of such magnitude that it occurs, on average, every 100 years; this equates to a one percent chance of its occurring in a given year.

Ambient - The environment as it exists around people, plants, and structures.

Ambient Air Quality Standards - Those standards established according to the CAA to protect health and welfare (AR 200-1).

Archaeological Resource – Any material of human life or activities that is at least 100 years of age and is of archaeological interest (32 CFR 229.3(a)).

Asbestos - Incombustible, chemical-resistant, fibrous mineral forms of impure magnesium silicate used for fireproofing, electrical insulation, building materials, brake linings, and chemical filters. Asbestos is a carcinogenic substance.

Attainment Area - Region that meets the National Ambient Air Quality Standard (NAAQS) for a criteria pollutant under the CAA.

Best Management Practices (BMPs) - Methods, measures, or practices to prevent or reduce the contributions of pollutants to United States waters. Best management practices may be imposed in addition to, or in the absence of, effluent limitations, standards, or prohibitions (AR 200-1).

Collections - Material remains that are excavated or removed during a survey, excavation or other study of a prehistoric or historic resource, and associated records that are prepared or assembled in connection with the survey, excavation or other study. §79.4 provides detailed definitions of the kinds of material remains that fall under the regulation.

Construction – A project that includes construction, development, conversion or extension of any kind.

Contaminants - Any physical, chemical, biological or radiological substances that have an adverse effect on air, water or soil.

Council on Environmental Quality (CEQ) - An Executive Office of the President composed of three members appointed by the President, subject to approval by the Senate. Each member shall be exceptionally qualified to analyze and interpret environmental trends; to appraise programs and activities of the federal government. Members are to be conscious of and responsive to the scientific, economic, social, aesthetic, and cultural needs of the Nation; and to formulate and recommend national policies to promote the improvement of the quality of the environment.

(SO_2), lead (Pb), nitrogen dioxide (NO_2), and particulate matter.

Cultural Items – As defined by NAGPRA, human remains and associated funerary objects, unassociated funerary objects (at one time associated with human remains as part of a death rite or ceremony, but no longer in possession or control of the federal agency or museum), sacred objects (ceremonial objects needed by traditional Native American religious leaders for practicing traditional Native American religions), or objects of cultural patrimony (having ongoing historical, traditional, or cultural importance central to a Federally-recognized tribe or Native Hawaiian organization, rather than property owned by an individual Native American, and which, therefore, cannot be alienated, appropriated, or conveyed by any individual of the tribe or group).

Cultural Resources - Historic properties as defined by the NHPA; cultural items as defined by NAGPRA; archaeological resources as defined by ARPA; sites and sacred objects to which access is afforded under AIRFA; and collections and associated records as defined in 36 CFR 79. Included are: traditional cultural properties and objects; archaeological sites; historic buildings, structures, and districts; and localities with social significance to the human community.

Cumulative Impact - The impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually over a period of time (40 CFR 1508.7).

dBA – "A-weighted" non-impulse noise measurement in decibels, weighted to match human hearing frequency response.

Decibel (dB) - A unit of measurement of sound pressure level.

Direct Impact - A direct impact is caused by a Proposed Action, and occurs at the same time and place.

Elevation - Raising a building and placing it on a higher foundation so the first or lowest floor is above flood levels.

Emission - A release of a pollutant.

Endangered Species - Any species which is in danger of extinction throughout all or a significant portion of its range.

Environmental Assessment (PEA) - An PEA is a publication that provides sufficient evidence and analysis to show whether a proposed system would adversely affect the environment or be environmentally controversial.

Erosion - The wearing away of the land surface by detachment and movement of soil and rock fragments through the action of moving water and other geological agents.

Facility - A building, structure, linear structure or other improvement to real property.

Fauna - Animal life, especially the animal characteristics of a region, period, or special environment.

Flora - Vegetation; plant life characteristic of a region, period, or special environment.

Floodplain - The relatively flat area or lowlands adjoining a river, stream, ocean, lake, or other body of water that is susceptible to being inundated by floodwaters.

FNSI - Finding of No Significant Impact, a NEPA document.

Geology - Science which deals with the physical history of the earth, the rocks of which it is composed, and physical changes in the earth.

Groundwater - Water found below the ground surface. Groundwater may be geologic in origin and as pristine as it was when it was entrapped by the surrounding rock or it may be subject to daily or seasonal effects depending on the local hydrologic cycle. Groundwater may be pumped from wells and used for drinking water, irrigation and other purposes. It is recharged by precipitation or irrigation water soaking into the ground. Thus, any contaminant in precipitation or irrigation water may be carried into groundwater.

Hazardous Substance - Hazardous materials are defined within several laws and regulations to have certain meanings. For this document, a hazardous material is any one of the following:

Any substance designated pursuant to section 311 (b)(2) (A) of the Clean Water Act.

Any element, compound, mixture, solution or substance designated pursuant to Section 102 of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Any hazardous as defined under the Resource Conservation and Recovery Act (RCRA).

Any toxic pollutant listed under Toxic Substances Control Act.

Any hazardous air pollutant listed under Section 112 of CAA.

Any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action pursuant to Subsection 7 of Toxic Substances Control Act.

The term does not include: 1) Petroleum, including crude oil or any thereof, which is not otherwise specifically listed or designated as a hazardous substance in a above. 2) Natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). c. A list of hazardous substances is found in 40 CFR 302.4.

Hazardous Waste - A solid waste, which when improperly treated, stored, transported or disposed of poses a substantial hazard to human health or the environment. Hazardous wastes are identified in 40 CFR 261.3 or applicable foreign law, rule, or regulation (see also solid waste).

Hazardous Waste Storage - As defined in 40 CFR 260.10, ". . . the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere".

Historic Property – Any material or human life or activities that is at least 50 years of age and is of cultural interest.

Historic resources – Any real or personal property, record, or lifeway. Includes: historic real property such as archaeological and architectural places, monuments, designed landscapes, works of engineering or other property that may meet the criteria for inclusion in the NRHP; historic personal property such as any artifact or relic; historic records to include any historical, oral- historical, ethnographic, architectural, or other document that provides a record of the past; and community resources/lifeways to include any resource that a community or interested group ascribes cultural value (references to historic real or personal property such as natural landscapes and cemeteries; references to real property such as vistas or viewsheds; or, references to the nonmaterial such as certain aspects of folklife, cultural or religious practices, languages, or traditions).

Indirect Impact - An indirect impact is caused by a Proposed Action, but occurs later in time or farther removed in distance, but is still reasonably foreseeable. Indirect impacts may include induced changes in the pattern of land use, population density or growth rate, and related effects on air, water, and other natural and social systems. For example, referring to the possible direct impacts described above, the clearing of trees for new development may have an indirect impact on area wildlife by decreasing available habitat.

Industrial Land Use – Land uses of a relatively higher intensity that are generally not compatible with residential development. Examples include light and heavy manufacturing, mining, and chemical refining.

Installation - The entire area within the perimeter of the Military Ocean Terminal Concord administered by the Army including facilities, utilities, lands, cultural and natural resources.

Jurisdictional wetland – Areas that meet the wetland hydrology, vegetation, and hydric soil characteristics, and have a direct connection to the Waters of the United States. These wetlands are regulated by the USACE.

Listed Species - Any plant or animal designated as a state or federal threatened, endangered, special concern, or candidate species.

Maintenance – A subcategory of repair for work that is required to preserve and maintain a facility for its designated functional purpose includes cyclic work to sustain components.

Major Impact - An impact which would be particularly large in magnitude, considering both context and intensity.

Minor Impact - An impact which would be of a smaller scale or would be more readily mitigated than impacts categorized as major.

Mitigation - Measures taken to reduce adverse impacts on the environment.

Mobile Sources - Vehicles, aircraft, watercraft, construction equipment, and other equipment that use internal combustion engines for energy sources.

Modernization - the alteration or replacement of facilities solely to implement new or higher standards, to accommodate new functions, or to replace building components that typically last more than 50 years (such as, the framework or foundation).

Monitoring – A process of inspecting and recording the progress of mitigation measures implemented.

National Ambient Air Quality Standards (NAAQS) - Nationwide standards set up by the USEPA for widespread air pollutants, as required by Section 109 of the Clean Air Act (CAA). Currently, six pollutants are regulated by primary and secondary NAAQS: carbon monoxide (CO), lead, (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter, and sulfur dioxide (SO_2).

National Environmental Policy Act (NEPA) – United States statute that requires all federal agencies to consider the potential effects of Proposed Actions on the human and natural environment.

Nonattainment Area - An area that has been designated by the EPA or the appropriate state air quality agency as exceeding one or more national or state ambient air quality standards.

Parcel - A plot of land, usually a division of a larger area.

Particulates or Particulate Matter - Fine liquid or solid particles such as dust, smoke, mist, fumes or smog found in air.

Physiographic Region - A portion of the Earth's surface with a basically common topography and common morphology.

Pollutant - A substance introduced into the environment that adversely affects the usefulness of a resource.

Potable Water - Water which is suitable for drinking.

Real Property – A building, the land on which it sits, and any permanent improvements or fixtures made to the property (for example, addition of built-in bookshelves).

Recapitalization - Major renovation or reconstruction activities (including facility replacements) needed to keep existing facilities modern and relevant in an environment of changing standards and missions. Recapitalization extends the service life of facilities or restores lost service life. It includes restoration and modernization of existing facilities. Recapitalization encompasses both renovation and replacement of existing facilities and essentially resets the Army's sixty-five year life-cycle period for the facility.

Remediation - A long-term action that reduces or eliminates a threat to the environment.

Repair – To restore a facility, system or component to such a condition that it may be used for its designated functional purpose.

Restoration - Restoration of real property to such a condition that it may be used for its designated purpose. Restoration includes repair or replacement work to restore facilities damaged by inadequate sustainment, excessive age, natural disaster, fire, accident, or other causes.

Riparian Areas - Areas adjacent to rivers and streams that have a high density, diversity and productivity of plant and animal species relative to nearby uplands.

River Basin - The land area drained by a river and its tributaries.

Sacred Site – Any specific, discrete, narrowly delineated location on federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion, provided that the tribe or appropriately authorized representative of an Indian religion has informed the agency of the existence of such a site. Further, EO 13007 directs each executive branch to (1) accommodate access to and ceremonial use of Indian sacred sites by Indian practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites. Agency heads also are directed to report actions and activities related to sacred sites on their property.

Sensitive Receptors - Include, but are not limited to, asthmatics, children, and the elderly, as well as specific facilities, such as long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, and childcare centers.

Significant Impact - According to 40 CFR 1508.27, "significance" as used in NEPA requires consideration of both context and intensity.

Context. The significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the Proposed Action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action.

Soil - The mixture of altered mineral and organic material at the earth's surface that supports plant life.

Solid Waste - Any discarded material that is not excluded by section 261.4(a) or that is not excluded by variance granted under sections 260.30 and 260.3 1.

Sustainment - maintenance and repair activities necessary to keep an inventory of facilities in good working order. It includes regularly scheduled adjustments and inspections, preventive maintenance tasks, and emergency response and service calls for minor repairs. It also includes major repairs or replacement of facility components that are expected to occur periodically throughout the life-cycle of facilities. This work includes regular roof replacement, refinishing of wall surfaces, repairing and replacement of heating and cooling systems, replacing tile and carpeting, and similar types of work. **Threatened species** - Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Topography - The relief features or surface configuration of an area.

Toxic Substance - A harmful substance which includes elements, compounds, mixtures, and materials of complex composition.

Traditional Cultural Property – A 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 the continuing cultural identity of the community. In order for a traditional cultural property to be found eligible for the NRHP, it must meet the existing criteria for eligibility as a building, site, structure, object, or district.

Undertaking – "An undertaking is a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; those requiring a federal permit, license, or approval; and those subject to state or local regulation administered pursuant to a delegation or approval by a federal agency" (36 CFR 800.16{y]).

Waters of the United States include the following: (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide. (2) All interstate waters including interstate wetlands. (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce.

Watershed - The region draining into a particular stream, river, or entire river system.

Wetlands - Areas that are regularly saturated by surface or groundwater and, thus, are characterized by a prevalence of vegetation that is adapted for life in saturated soil conditions. Examples include swamps, bogs, fens, marshes and estuaries.

Wildlife Habitat - Set of living communities in which a wildlife population lives.

9.0 LIST OF PREPARERS

U.S. Army Corps of Engineers, Sacramento District

Military Ocean Terminal Concord

Clover Leaf Solutions

Wood Environment & Infrastructure Solutions

Ganey Science

APPENDIX A

SAMPLE PROJECT CHECKLIST

This page intentionally left blank.

Record of Environmental Consideration (REC)

To (Environmental Officer): _____
From (Proponent): _____
Project title: _____

Brief description:

Anticipated date and/or duration of proposed action: .

Reason for using a REC as defined in 32 CFR 651.19 (choose one):

a. Adequately covered in the *Final Environmental Assessment for Implementation of an Integrated Natural Resources Management Plan at Military Ocean Terminal Concord, CA*, dated _ .
b. Categorically excluded under the provisions of CX ( )( ), 32 CFR Part 651, Appendix B (and no extraordinary circumstances, as defined in 32 CFR 651.29(b)(1)–(14), exist) because:

Date	Project Proponent
Date	Installation Environmental Coordinator

Military Ocean Terminal Concord

RECORD OF ENVIRONMENTAL CONSIDERATION
For

1. **Proponent(s).**

2. **Project Title.**

3. **Background and Location.**

4. **Proposed Action:**

5. **Anticipated Date of Proposed Action.**

6. **Reason for Using Record of Environmental Consideration.**
Pursuant to NEPA, the proposed action would be categorically excluded from further environmental review. In accordance with 32 CFR 65l.4, the following Categorical Exclusion applies:

This review is based upon current environmental laws, regulations, and requirements. If the project is not initiated within 180 days, there is a change in scope of work, or new environmental regulations are issued, this review becomes null and void and the

(2) Enclosures

project must be resubmitted to the NEPA coordinator to determine changes in requirements or level of NEPA analysis.

Since the Proposed Action is not considered to be a significant change in personnel or property use and the screening criteria were met the preparation of this REC is the appropriate NEPA documentation for the proposed action.

7. Screening Criteria.

No Extraordinary Circumstances exist per 32 CFR 651.29 and screening criteria (attached) have been reviewed.

By signing below, I acknowledge that I have read and understand the Record of Environmental Consideration.

8. Signatures.

	7 September 2021
Environmental Branch Chief	**Date**
Director of Public Works	**Date**

(2) Enclosures

Military Ocean Terminal Concord

Figure 1 Project Location

(2) Enclosures

Figure 2 Project Map

(2) Enclosures

HQ AMC Screening Criteria Part I

Requirement	Y or N	Action(s) to Take	
Emergency Action Required	Y/N	1. If (Y), then take immediate action and 2. Notify: HQ AMC, ASA (IE&E) DASA (ESOH), ACSIM Env Div, and CEQ 3. If (N), continue to next requirement	
Classified Action (follow AR 380-5 requirements)	Y/N	1. If (Y), then consult HQDA thru AMC on public participation, 2. Prepare REC, EA, or EIS as applicable 3. If (N), continue to next requirement	
Exempt by Law	Y/N	1. If (Y), obtain TJAG approval through HQ AMC, 2. Prepare REC, 3. If (N) or is denied by TJAG, continue to next requirement	
Categorically Excluded	Y/N	1. If (N) or extraordinary circumstances exist, continue to next requirement 2. If (Y), prepare and attach REC if required and list CX in (Y) box at left.	
Normally requires an EA	Y/N	Covered by existing EA/EIS	1. If (Y) prepare REC 2. If (N) continue to next level
	Y/N	Requires additional information	1. If (Y), prepare supplemental EA/EIS 2. Prepare FNSI or EIS 3. If (N), continue to next level
	Y/N	Requires new EA	1. If (Y), prepare EA, avoid duplication 2. Prepare FNSI or NOI, EIS and ROD 3. If (N) continue to next level
Normally requires an EIS	Y/N	Covered in an existing EIS	1. If (Y), prepare REC 2. If (N), continue to next level
	Y/N	Existing EIS requires supplementation	1. If (Y), prepare NOI, scoping not required. 2. Supplement existing EIS 3. Prepare ROD 4. If (N), continue to next level
	Y/N	Requires new EIS	1. If (Y), prepare NOI, initiate scoping 2. Prepare EIS 3. Prepare ROD

§32 CFR Part 651.12

(2) Enclosures

Military Ocean Terminal Concord

HQAMC Screening Criteria Part II

To use a CX, the proponent must meet the following three screening conditions	**Y or N**
1. The action has not been segmented. Determine that the action has not been segmented to meet the definition of a CX. Segmentation can occur when an action is broken down into small parts in order to avoid the appearance of significance of the total action. An action can be too narrowly denied, minimizing potential impacts in an effort to avoid a higher level of NEPA documentation. The scope of an action must include the consideration of connected, cumulative and similar actions. If (Y), complete EA/EIS.	Y/N
2. **No exceptional circumstances exist**. Determine if the action involves extraordinary circumstances that would preclude the use of a CX. Answer 1-14 of the next section and 1-4 of the section after that before proceeding. If (Y) to any, complete EA/EIS	Y/N
3. **One (or more) CX encompasses the proposed action**. Identify a CX (or multiple CXs) that potentially encompasses the proposed action (See Appendix B of 32 CFR Part 651). If no CX is appropriate, and the project is not exempted by statute or emergency provisions, an EA or an EIS must be prepared, before a proposed action may proceed. If (Y), complete and attach REC. If (N), complete EA/EIS. If a CX is appropriate and no REC is required, complete screening criteria only.	Y/N
Extraordinary circumstances that preclude the use of a CX If (Y) to any complete an EA or EIS	**Y or N**
1. Reasonable likelihood of significant effects on public health, safety, or the environment.	Y/N
2. Reasonable likelihood of significant environmental effects (direct, indirect, and cumulative)	Y/N
3. Imposition of uncertain or unique environmental risks.	Y/N
4. Greater scope or size than is normal for this category of action.	Y/N
5. Reportable releases of hazardous or toxic substances as specified in 40 CFR Part 302, Designation, reportable Quantities, and Notification.	Y/N
6. Releases of petroleum, oils, and lubricants (POL) except from a properly functioning engine or vehicle, application of pesticides and herbicides, or where the proposed action results in the requirement to develop or amend a Spill Prevention, Control, or Countermeasures Plan.	Y/N
7. When a review of an action that might otherwise qualify for a Record of Non-applicability (RONA) reveals that air emissions exceed de minimus levels or otherwise that a formal Clean Air Act conformity determination is required.	Y/N

§32 CFR Part 651.29

(2) Enclosures

HQAMC Screening Criteria Part II (continued)

Extraordinary circumstances that preclude the use of a CX If (Y) to any complete an EA or EIS	**Y or N**
8. Reasonable likelihood of violating any federal, state, or local law or requirements imposed for the protection of the environment.	Y/N
9. Unresolved effect on environmentally sensitive resources, as defined in the next section	Y/N
10. Involving effects on the quality of the environment that are likely to be highly controversial.	Y/N
11. Involving effects on the environment that are highly uncertain, involve unique or unknown risks, or are scientifically controversial.	Y/N
12. Establishes a precedent (or makes decisions in principle) for future or subsequent actions that are reasonably likely to have a future significant effect.	Y/N
13. Potential for degradation of already existing poor environmental conditions. Also, initiation of a degrading influence, activity, or effect in areas not already significantly modified from their natural condition.	Y/N
14. Introduction/employment of unproven technology	Y/N
If a proposed action would adversely affect "environmentally sensitive resources, unless the impact has been resolved through another environmental process (e.g. CZMA, NHPA, CWA, etc.) a CX cannot be used. Environmentally sensitive resources include 1-4 below. If (Y) to any of the below, complete an EA or EIS.	**Y or N**
1. Proposed Federally listed, threatened, or endangered species or their designated critical habitats.	Y/N
2. Properties listed or eligible for listing on the National register of Historic Places (AR 200-1, formerly AR-200-4)	
3. Areas having special designation or recognition such as prime or unique agricultural lands; coastal zones, designated wilderness or wilderness study areas; wild and scenic rivers; National Historic Landmarks (designated by the Secretary of the interior); 100-year floodplains; wetlands; sole source aquifers (potential sources of drinking water); National Wildlife Refuges; National Parks; areas of critical environmental concern; or other areas of high environmental sensitivity.	Y/N
4. Cultural Resources as defined in AR 200-1 (formerly AR 200-4)	Y/N

§32 CFR Part 651.29

(2) Enclosures

Best Management Practices for Routine Maintenance	
AIR-1	Reduce vehicle use by developing a trip management plan for maintenance and repair projects.
AIR-2	Reduce unnecessary idling from project vehicles and heavy equipment, placing a time restriction of five minutes on vehicle idling.
AIR-3	Ensure project vehicles are maintained to perform at CARB and USEPA certification levels. Lease new equipment and use USEPA “Tier 4” engines in off-road equipment where practicable.
AIR-4	Perform periodic project inspections to ensure compliance with these mitigation measures.
BIO-1	Pollution and erosion control: Similar to GEO-1 construction BMPs would be used in accordance with the MOTCO NPDES Permit and SWPPP for proposed actions that involve earthwork. Site-specific spill pollution prevention and erosion control measures will be put in place to minimize or eliminate impacts to habitat from soil erosion, runoff, and spills. Protective measures would include:
BIO-1a	Practices to minimize erosion and sedimentation associated with the action (including staging areas, stockpiles, grading, etc.);
BIO-1b	Measures to prevent construction debris from entering wetlands and/or other waters (e.g., installation of silt fencing, preparation of airborne nuisance plan, keeping the site trash-free);
BIO-1c	Measures to prevent and control spills of hazardous materials including following the Installation Hazardous Waste Management Plan (HWMP);
BIO-1d	Quantification of sediment or pollution loading (if required by State or Federal permits); and
BIO-1e	Monitoring, repair, and maintenance procedures for implemented measures (such as silt fencing), and reporting.
BIO-2	Stormwater management: For proposed actions that involve temporary actions such as the reconditioning, reconstructing, or replacement of pavement, replacement of a stream crossing, or permanent actions that may otherwise increase the contributing impervious surface area within the vicinity of the project, the Installation SWPPP will be followed with a site-specific Stormwater Management Plan. The SWPPP/Stormwater Management Plan would be implanted in a manner to protect habitat from changing volumes of stormwater runoff.
BIO-3	Site restoration: For proposed actions that would have the potential to result in the disturbance of riparian vegetation, soils, or streambanks, a site restoration plan would be developed prior to construction, and restoration would be commensurate with the scale of the action. To minimize or avoid sensitive habitats, the following measures will be implemented to facilitate site restoration:
BIO-3a	Before construction, the boundaries of clearing limits and site access would be flagged to minimize unnecessary soil and vegetation disturbance.
BIO-3b	Prior to construction, all temporary erosion control measures specified for the project will be inspected to ensure that they are in place and functional.
BIO-3c	During site preparation, native materials displaced by construction will be conserved whenever possible for use during restoration. Native materials include large wood, native vegetation, topsoil, and channel materials (e.g., gravel, cobble, and boulders).

BIO-4	Heavy equipment and vehicle use: Heavy equipment necessary to implement proposed actions will be selected and operated as necessary to minimize adverse effects on the environment (e.g., minimally sized, low pressure tires). Measures include BIO-4a-i.
BIO-4a	Minimal hard turn paths will be used for tracked vehicles.
BIO-4b	Temporary mats or plates will be placed within wet areas or areas containing sensitive soils.
BIO-4c	Heavy equipment and vehicles will be stored, fueled, and maintained in a vehicle staging area located at least 150 feet from any waterbody/wetland, or in an isolated hard zone such as a paved parking lot.
BIO-4d	Heavy equipment would be inspected daily for fluid leaks before leaving vehicle staging areas for operation within 50 feet of any waterbody.
BIO-4e	Equipment would be steam-cleaned before operational use below ordinary high water, and as often as necessary during operation to remain free of all external oil, grease, mud, seeds, organisms, and other visible contaminants.
BIO-4f	Generators, cranes, and any other stationary equipment operated within 150 feet of any waterbody will be maintained and protected as necessary to prevent leaks and spills from entering the water.
BIO-4g	Vehicular traffic will be confined to existing roads and the proposed access routes.
BIO-4h	Access roads, staging areas, and in-water work areas shall be clearly identified in the field using orange construction fence, signage, buoys, or similar as appropriate. Work shall not be conducted outside designated work areas.
BIO-4i	Vehicle speeds will be reduced to 15 mph during rain events.
BIO-5	Use of chemicals, fuels, lubricants, or biocides will be in compliance with all local, State, and Federal regulations. This is necessary to minimize the possibility of contamination of habitat or poisoning of wildlife. All uses of such compounds will observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other State and Federal legislation.
BIO-6	Approved work windows from Biological Opinions:
BIO-6a	Daily construction will occur during daylight hours. In-water work will be completed in the approved delta smelt work window between August 1 and November 30 or as otherwise specified during consultation with NMFS.
BIO-6b	Nighttime work near tidal marsh habitat will be avoided to the extent feasible. If nighttime work cannot be avoided, lighting will be directed to the work area, minimizing the lighting of tidal marsh habitat.
BIO-6c	Work conducted adjacent to tidal marsh habitat will be avoided during the Ridgway's Rail breeding season from February 1 through August 31 unless survey has been completed to document absence.
BIO-7	Piling installation: Replacement pilings would involve the replacement of similar-size piles with either concrete, steel, or treated wood piles. When practical, a vibratory hammer will be used for piling installation. If an impact hammer is needed to install concrete piles or proof piles, noise attenuation measures would be implemented, to include use of cushion pads or blocks. For selection of treated wood pilings, select products that have been certified through a third party (e.g. Western Wood preservers Institute) to be treated to proper retention standards that maximize fixation of ACZA and minimize leaching rates.

BIO-8	Piling removal: The following practices would be followed to minimize chemical release from treated piles and/or sediment disturbance and resuspension:
BIO-8a	Install a floating surface boom to capture floating surface debris. If treated wood / debris falls into the water, it would be removed immediately.
BIO-8b	Remove the pile using a vibratory hammer when possible. Never intentionally twist or break the pile; rather, slowly lift the pile from the sediment through the water column.
BIO-8c	After removal, place the pile in a containment basin on a barge deck, pier, or shoreline without attempting to clean or remove any adhering sediment. Ensure staging area is designed / modified to contain all sediment and return flow which may otherwise be directed back to the waterway.
BIO-8d	Dispose of all removed piles, floating surface debris, any sediment spilled on work surfaces, and all containment supplies at a permitted upland disposal site.
BIO-8e	If timber breakage occurs or the pile becomes intractable during removal, make every attempt short of excavation to remove each pile; if a pile in uncontaminated sediment is intractable, breaks above the surface, or breaks below the surface, cut the pile or stump off at least 2 feet below the surface of the sediment.
BIO-8f	For pile wrapping/jacketing during activities such as washing screen mesh openings shall not exceed 3/32 inch (2.38 mm) for woven wire for perforated plate screens or 0.0689 inch (1.75 mm) for profile wire screens, with a minimum 27% open area. Screen mesh openings shall not exceed ¼ inch (6.35 mm) for woven wire, perforated plate screens, or profile wire screens, with a minimum of 40% open area.
BIO-9	Deck replacement: For proposed actions that involve the removal and replacement of existing decking, the following practices will be used:
BIO-9a	Floats and/or tarps will be placed below the active construction area to minimize the potential for debris to enter the water.
BIO-10	Biological Monitoring for In-Water Projects.
BIO-10a	For in-water actions, water quality monitoring would be completed in accordance with project specific Section 401 Water Quality Certification conditions.
BIO-10b	Biological Monitoring will be conducted during project activities in-water, or adjacent to marsh, shoreline and other sensitive habitats. MOTCO environmental staff will conduct pre-activity inspections and progress inspections during and after the work.
BIO-10c	USFS-approved biologist will conduct mandatory contractor/worker awareness training for construction personnel on in-water projects or those conducted adjacent to marsh areas. The awareness training will be provided to all construction personnel to brief them on the need to avoid effects to listed species and their habitat and the potential for any such wildlife species to occur on the site. If new construction personnel are added to the project, the contractor will ensure that the personnel receive the mandatory training before starting work. A representative will be appointed during the employee education program to be the contact for any employee or contractor who might inadvertently kill or injure a listed species or who finds a dead, injured, or entrapped species. The representative's name and telephone number will be provided to the Service prior to the initiation of any demolition or construction activity.

BIO-11	Reporting and/or Notification.
BIO-11a	Notification will be sent to the Services prior to initiation of project activities in-water, or adjacent to marsh, shoreline and other sensitive habitats.
BIO-11b	Annual reports will be submitted to USFWS and NMFS by January 15th of each year summarizing maintenance activities that were conducted including implementation of BMPs and any corrective measures taken.
BIO-11c	Add document to PW references
CR-1h	SOP-11: Tribal Consultation Process
CR-1i	SOP-12: Compliance with Executive Order 13007: Indian Sacred Sites
CR-1j	SOP-13: Government to Government Relations
CR-1k	SOP-14: Properties of Traditional Religious and Cultural Importance
CR-1l	SOP-15: Native American Graves Protection and Repatriation Act
CR-1m	SOP-16: Archaeological Resources Protection Act of 1979
CR-1n	SOP-17: Antiquities Act of 1906
CR-1o	SOP-18: National Park Service Consultation Process
CR-2	Although substantial excavation work is not a typical part of routine maintenance and repair operations, potential excavation in areas with high or moderate archaeological potential at MOTCO should be conducted in the presence of an archaeological monitor. In the event that archaeological deposits are encountered during any excavation activities, the activity must stop and the MOTCO Environmental Coordinator must be notified. If bone is present within the deposit, a qualified professional will determine if the materials represent human remains.
GHG-1	Increase acquisition and use of electric fleet vehicles.
HM-1	The Installation HWMP and SPCCP will be followed during project activities with regard to the proper storage, use, and disposal of HTRW and the response to any potential released of hazardous substances as a result of project activities.
HM-2	Where ACM and/or LBP is present on project actions (e.g., building exterior renovations) develop and adhere to a debris containment and collection plan for protection of worker safety and the environment. A containment system would be placed around applicable work areas to collect all dust and debris where ACM/LBP is disturbed. These waste building materials would be segregated and disposed of properly.
HM-3	Coordinate any work within IR site boundaries with Installation Environmental Coordinator to ensure no impacts to remedial measures.
LU-1	To the extent possible the Army will work with the National Park Service to attempt to avoid disruptive project activities during times that conditions of quiet and reverence are important for ceremonial events at the Port Chicago Naval Magazine National Memorial Site.

NS-1	Project workers should wear appropriate protection to limit hearing damage during maintenance and repair activities. U.S. Occupational Health and Safety Administration regulations, DOD Instruction 6055.12, Hearing Conservation Program and Army Pamphlet 40-501, Hearing Conservation Program.
NS-2	potential sound measure that could be considered on a project action basis is temporary sound barriers near a high project-related noise source.
NS-3	Construction would take place during weekday, daytime hours (Monday through Friday from 7:00 am to 5:00 pm).
TR-1	Develop traffic control plans for project actions that describe traffic detours away from applicable project activities, particularly road maintenance and repairs. Distribute traffic control plans to Installation employees.
WR-2	Use of construction BMPs for erosion control in accordance with the MOTCO NPDES Permit and SWPPP.
WR-2	Use of construction BMPs for erosion control in accordance with the MOTCO NPDES Permit and SWPPP.
WR-3	Monitoring adjacent stormwater outfalls and conduits when conducting maintenance and repair activities and perform simultaneous maintenance on these features as needed to keep them operational.
WR-4	No vehicles or equipment (except for small watercraft) will be refueled over water or within 150 feet of wetlands or aquatic habitats unless a bermed and lined refueling area is constructed. Any vehicles driven and/or operated within or adjacent to wetlands or aquatic habitats will be checked and maintained daily to prevent leaks of materials. No vehicles will be fueled on wharves or piers or over water (except for small watercraft).
WR-6	For in-water work (e.g., pile replacement, wrapping or concrete repair) floating booms will be in place in the work area to assist in capture of floating debris and potential fluid spills from project activities.
WR-7	For selection of treated wood pilings, select products that have been certified through a third party (e.g. Western Wood preservers Institute) to be treated to proper retention standards that maximize fixation of ACZA and minimize leaching rates.