
Final
Environmental Assessment
Demolish Abandoned Pier
Marine Corps Base Hawaii, Kaneohe Bay,
Oahu, Hawaii



Prepared for:
Marine Corps Base Hawaii

Prepared by:
Department of the Navy
Naval Facilities Engineering Command, Pacific
December 2017

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UNITED STATES MARINE CORPS

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

ENVIRONMENTAL ASSESSMENT

DEMOLISH ABANDONED PIER

MARINE CORPS BASE HAWAII KANEOHE BAY, OAHU, HAWAII

Pursuant to the Council on Environmental Quality (Code of Federal Regulations [CFR] Title 40, Parts 1500-1508 et seq.) regulations implementing the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] §4321, et seq.); Marine Corps Order P5090.2A, Change 3, Environmental Protection and Compliance Manual; and the USMC NEPA Manual, version 2.0, the United States Marine Corps (USMC) gives notice that an Environmental Assessment (EA) has been prepared for the demolition of an abandoned pier at Marine Corps Base Hawaii, Kaneohe Bay, Oahu, Hawaii. Based on the EA analysis, the proposed action will result in no significant impacts to the human or natural environment; therefore, an Environmental Impact Statement (EIS) is not required.

Proposed Action: The proposed action is to demolish the abandoned former Naval Ocean Systems Center (NOSC) pier, Facility 1662, located at Marine Corps Base Hawaii, Kaneohe Bay. The pier is located within waters of Kaneohe Bay. The proposed action includes demolition of concrete decking and support pilings. The existing pier is deteriorated, with no access to or from the shoreline, having one isolated section of concrete decking on piles, and another section consisting only of concrete support pilings extending above the surface without decking. There is no operational or mission requirement for the pier. The existing structure constitutes a navigational hazard within an active Waterfront Operations area, and a danger to personnel. The pier is not eligible for listing in the National Register of Historic Places (NRHP). The proposed action would: demolish and remove the existing section of concrete decking; demolish and remove pier pilings by cutting them, using diver-operated pneumatic cutting tools, as close to the bottom as feasible; and remove any existing utility lines associated with the pier. The demolition will be effected from floating vessels, primarily a barge with a crane for lifting the concrete sections after cutting, and support vessels such as tugboats. Debris removed would be hauled away for recycling and/or landfill disposal, as appropriate.

Background: The original pier, consisting of a wooden deck on concrete piles, was constructed in 1975 for the Naval Undersea Center (NUC) on the western side of Mokuapele Peninsula for use by research boats. NUC merged with another Navy laboratory to become the Naval Ocean Systems Center (NOSC) in 1977. NOSC upgraded or added to the original pier in order to support its research and development mission. The concrete-capped extension of the pier was constructed circa 1980. From the end of the NOSC mission at MCBH in 1993 to 2001, the pier was used for recreational fishing. The original pier consisted of a wooden walkway from shore, mounted on 24 concrete piles; the additional concrete-decked wing was mounted on 28 concrete piles. Due to increased security measures, the pier became off-limits for recreational use. The wooden walkway portion of the pier was removed in 2011, and the remaining concrete-capped portion of the pier has continued to deteriorate. All that remains of the pier are the concrete piles that supported the wooden walkway, and the now-isolated concrete-deck section (approximately 200 by 13 feet/2,600 square feet), with its supporting piles.

Alternatives Analyzed: The proposed action is the only viable alternative, other than the no-action alternative, due to the navigational safety hazard posed by the pier. The only potential alternatives that

**FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR AN ENVIRONMENTAL ASSESSMENT DEMOLISH
ABANDONED PIER, MARINE CORPS BASE HAWAII KANEOHE BAY**

could be considered would be in the methodology used in pier demolition. Demolition via use of explosives to cut the pilings was not considered a viable alternative and was not given serious consideration.

Environmental Effects: The EA evaluated the direct, indirect, and cumulative impacts of the proposed action and the no-action alternative as related to air quality, noise, biological resources, water resources, wetlands, floodplains and flooding, visual resources, and hazardous wastes. Because the proposed action is the removal of an off-shore pier, involving no construction of a replacement facility, the proposed action would have little or no impact upon floodplains and flooding, wetlands, topography and soils, infrastructure, recreation, traffic, socio-economic issues, or land use compatibility. Environmental impacts will primarily be limited to the marine environment, in terms of potential impacts to marine protected species, essential fish habitat, and water quality.

Consultations with the National Marine Fisheries Service under the Endangered Species Act and the Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Fishery Conservation and Management Act included the development of a number of appropriate Best Management Practices and Conservation Measures to minimize and mitigate the temporary, construction-related impacts. These practices and measures include, but are not limited to: inspecting vessels to be used for the presence of invasive marine species such as corals; conducting the demolition during periods of calm seas and weather; use of observers to monitor the presence of protected marine species such as the Hawaiian monk seal and the green sea turtle; the use of turbidity-containment devices such as silt curtains; controls placed on the operation of demolition-related vessels in the project area (e.g., careful placement of anchors to minimize impact on coral), including when protected species are detected near the project area (e.g., reduced engine speed); and avoiding work during the coral spawning season.

In addition to the controls and practices listed above, a Navy qualified diver will inspect the project site prior to the start of demolition activities to verify whether any invasive coral species are present. If so, it will be determined whether it is safe to remove the pier pilings with the coral attached or if the piling would require wrapping to prevent the inadvertent spreading of such coral in the area. At the same time, the underwater site inspection will allow determination of the feasibility of removing and relocating any protected coral species that may be present. Also, sound levels produced by the underwater equipment used to remove the piles will be monitored to determine if a pre-set clear distance of 150-feet, at an agreed-upon prescribed 120-decibel (dB) level, would be sufficient to prevent harm to marine mammals. Work will cease if a marine mammal approaches the designated clear distance, and would not resume until it is determined that the animal has left the area. If the underwater noise level proves to be greater than 120 dB at 150 feet from the work site, the safe distance from the site would be increased until the level falls to 120 dB or lower.

An analysis of cumulative impacts concluded that the proposed action will not result in any long-term impacts that could not be avoided, minimized or mitigated. The Hawaii Coastal Zone Management Office has acknowledged that the proposed action is an activity that is covered by the Navy and Marine Corps *de minimis* list under the Coastal Zone Management Act, and would not result in any reasonably foreseeable direct or indirect effects upon uses or resources within the Hawaii Coastal Zone.

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Public Involvement: A 15-day public review period of the Draft FONSI was initiated with a Notice of Availability (NOA) published in the Honolulu Star-Advertiser on September 7, 8, and 9, 2017, as well as in the September 8, 2017 edition of *The Environmental Notice*, the bi-monthly bulletin of the Hawaii Department of Health, Office of Environmental Quality Control. The draft FONSI and the EA were available to the public on the MCB Hawaii website at:

<http://www.mcbhawaii.marines.mil/unit-home/featured-Information/pier-demolition/>

An e-mail address and a standard mailing address were provided in the NOA for comments. One comment, from the State of Hawaii Department of Health, Environmental Planning Office, which did not result in any changes to the EA or Draft FONSI, was received during the public comment period.

Finding: Based on the EA analysis, and considering the context and intensity of anticipated environmental effects, the USMC has determined that the proposed action will have no significant impacts on the quality of the human or natural environment. Consequently, an EIS is not required.

The EA and FONSI are available at the website provided above, and are on file at Naval Facilities Engineering Command Pacific, 258 Makalapa Drive, Suite 100, JBPHH, HI 96860-3134 (Attention: EV21 Project Mgr MCBH Pier EA).

24 DEC 17
Date


R. LIANEZ
Colonel, U.S. Marine Corps
Commanding Officer
Marine Corps Base Hawaii

COVER SHEET

Responsible Agency: United States Marine Corps

Title of Document: Demolish Abandoned Pier
Marine Corps Base Hawaii, Kaneohe Bay
Oahu, Hawaii

Point of Contact: Naval Facilities Engineering Command, Pacific
258 Makalapa Drive, Suite 100
Joint Base Pearl Harbor-Hickam, HI 96860-3134
Attn: EV21 Project Mgr. MCBH Pier EA

Type of NEPA Document: Environmental Assessment

Abstract:

Marine Corps Base Hawaii is proposing to demolish Facility 1662, the abandoned former Naval Ocean Systems Center (NOSC) pier, located within waters of Kaneohe Bay at Marine Corps Base Hawaii, Kaneohe Bay, Oahu, Hawaii, to include concrete decking and support pilings. The existing pier is abandoned, partially demolished, has no access to or from the shoreline, and currently has one isolated section of concrete decking on piles, and another section consisting only of concrete support pilings extending above the water. There is no requirement for the pier. The existing structure constitutes a navigational hazard and a danger to personnel. The pier is not eligible for listing in the National Register of Historic Places. The proposed action would: demolish and remove the existing section of concrete decking; demolish and remove all existing pier pilings by cutting them just above the bottom of the bay; and remove any existing utility lines associated with the pier. No significant environmental impacts are anticipated.

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ACRONYMS AND ABBREVIATIONS

BE	Biological Evaluation
BMP	Best Management Practices
CFR	Code of Federal Regulations
CIP	capital improvement project
CM	Conservation Measures
CWA	Clean Water Act
CZM	Coastal Zone Management
DAR	Division of Aquatic Resources
DBEDT	State of Hawai‘i Department of Business, Economic Development and Tourism
DLNR	Department of Land and Natural Resources
DoD	U.S. Department of Defense
DOH	State of Hawai‘i Department of Health
DoN	Department of the Navy
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
ft	feet/foot
FY	fiscal year
GHG	Greenhouse gas
HAR	Hawaii Administrative Rules
HCD	Habitat Conservation Division
HI	Hawaii
HPE	Hawaii Pacific Engineers
in	inch(es)
INRMP	Integrated Natural Resources Management Plan
IR	Installation Restoration
LEED	Leadership in Energy and Environmental Design
LHA	Landing Helicopter Assault
LHD	Landing Helicopter Dock
LID	low impact development
LZ	landing zone

MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MCCS	Marine Corps Community Services
MCBH	Marine Corps Base Hawaii
MCDC	Mōkapu Central Drainage Channel
MCTAB	Marine Corps Training Area Bellows
MOA	Memorandum of Agreement
MV-22	tilt-rotor aircraft, aka as the Osprey
NAVFAC	Naval Facilities Engineering Command
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOSC	Naval Ocean Systems Center
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NUC	Naval Undersea Center
NURDC	Naval Undersea Research and Development Center
PIRO	Pacific Islands Regional Office
rms	root mean square
SAIA	Sikes Act Improvement Act
SHPO	State Historic Preservation Officer
SOPs	standard operating procedures
sq km	square kilometers
U.S.	United States
USC	United States Code
USACE	United States Army Corps of Engineers
USMC	United States Marine Corps
WFO	Waterfront Operations
WMA	Wildlife Management Area

SUMMARY

Proposed Action. The proposed action is to demolish the abandoned former Naval Ocean Systems Center (NOSC) pier, Facility 1662, located at Marine Corps Base Hawaii, Kaneohe Bay, Oahu, Hawaii. The pier is located within waters of Kaneohe Bay. The proposed action includes demolition of concrete decking and support pilings. The existing pier is partially demolished, has no access to or from the shoreline, and currently has one isolated section of concrete decking on piles, and another section consisting only of concrete support pilings extending above the surface. There is no current operational or mission requirement for the pier. The existing structure constitutes a navigational hazard within an active Waterfront Operations area, and a danger to personnel. The pier is not eligible for listing in the National Register of Historic Places (NRHP).

The proposed action would:

- demolish and remove the existing section of concrete decking;
- demolish and remove pier pilings by cutting them just above the bottom of the bay;
- remove any existing utility lines associated with the pier.

Debris removed would be hauled away for recycling and/or landfill disposal, as appropriate.

Alternatives. During normal project planning, general consideration was given to options and alternatives. However, because the current situation constitutes a navigational and personnel hazard, combined with the lack of any serious environmental impacts or controversy, and the inherent advantage of the proposed action, only the proposed action was carried forward for analysis, along with the no-action alternative.

Environmental Consequences. The proposed action is not expected to have any significant adverse environmental impacts or unresolved issues, or be environmentally controversial. The environmental analysis of the proposed action included an underwater survey performed by a qualified marine ecologist, in order to assess the marine environment on the pier structures and surrounding area. Best Management Practices (BMPs) and Conservation Measures (CMs) will be employed to ensure that no significant impacts to environmental components or protected resources occur.

No significant, long-term, negative impact related to the following environmental components is expected as a result of implementation of the proposed action: air quality, noise, topography/soils, groundwater, drainage, population/housing/education, surrounding land use, cultural resources, traffic/circulation, recreational facilities, utilities/infrastructure/solid waste, or hazardous materials/hazardous waste. The proposed action is not subject to the General Conformity Rule under the Clean Air Act.

Positive long-term impact on visual and aesthetic resources, and an overall improved environment with marine habitat that would function unimpeded by the presence of manmade structures are expected as a result of implementation of the proposed action.

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1.0 PURPOSE AND NEED

1.1 INTRODUCTION

This Environmental Assessment (EA) addresses the demolition of remaining portions of a partly-demolished, abandoned small-boat pier that is currently a navigation and personnel hazard. The pier is located within an area that Waterfront Operations (WFO) uses to turn their boats around, and is considered an added obstruction and safety hazard to daily boat operations. The proposed action would demolish and remove an existing section of concrete decking and all remaining pier pilings. Any existing utility lines associated with the pier would also be removed.

Material/debris removed would be hauled away for recycling and/or landfill disposal. The pier is not eligible for listing in the National Register of Historic Places (NRHP).

This Environmental Assessment (EA) was prepared pursuant to the National Environmental Policy Act (NEPA), as amended (42 USC 4321 et seq.), and its implementing regulations issued by the Council on Environmental Quality (40 CFR Part 1500 - 1508), Marine Corps Order 5090.2 Change 3, and the USMC NEPA Manual (Sep 2011).

The goal of this EA is to ensure that comprehensive and systematic consideration is given to potential environmental impacts that may result from implementing the proposed action, or any reasonable alternative action, upon the natural, man-made, or social environment. The information presented in this EA will: result in a Finding of No Significant Impact (FONSI); lead to preparation of an Environmental Impact Statement (EIS); or result in no action taken on the proposal.

1.2 PROJECT LOCATION AND SURROUNDING ENVIRONMENT

The proposed action is located in the state of Hawaii, at Marine Corps Base Hawaii, Kaneohe Bay (hereinafter, MCBH) (Figures 1 - 3).

MCBH encompasses 2,951 acres (11.86 sq km) and is located on Oahu's northeastern shore, on Mokapu Peninsula. Mokapu Peninsula is bounded by Kaneohe Bay on the west, the Pacific Ocean to the north, Kailua Bay to the east, and residential development to the south. Kailua and Kaneohe are the communities nearest to MCBH.

1.3 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The *purpose* of the proposed action is to remove the partially-demolished, abandoned former pier structure.

The *need* for the proposed action is to correct the existing safety hazard posed by the remaining pier structure.

1.3.1 *Project Background*

The original wooden-deck-on-concrete-piles pier (Facility 1662) - referred to within this document as the T-Pier due to its later configuration when the concrete-deck extension was added (Figures 1 - 3 and Appendix A) - was constructed in 1975 for the Naval Undersea Center (NUC) on the western side of Mokapu Peninsula for use by research boats. NUC merged with another Navy laboratory to become the Naval Ocean Systems Center (NOSC) in 1977. NOSC apparently upgraded or added to the original pier in order to support its research and development mission. The concrete-capped extension of the pier was constructed circa 1980. From the end of the NOSC mission at MCBH in 1993 to 2001, the pier was used for recreational fishing. The original pier consisted of a wooden walkway from shore, mounted on 24 concrete piles; the additional concrete-decked wing was mounted on 28 concrete piles. Due to increased security measures, the pier became off-limits for recreational use. The wooden walkway portion of the pier was removed in 2011, and the remaining concrete-capped portion of the pier has continued to deteriorate. All that remains of the pier are the concrete piles that supported the wooden walkway, and the now-isolated concrete-deck section (approximately 200 by 13 feet/2,600 square feet), with its supporting piles.

1.4 ENVIRONMENTAL PERMITS AND CONSULTATIONS

Table 1 includes, but is not limited to, permits and agency/organization consultations or coordination that may be required to implement the proposed action:

Table 1. Agency Coordination and Permitting.

<i>Permit or Consultation</i>	<i>Agency/Stakeholder</i>	<i>Status</i>
Coastal Zone Management (CZM) Act <i>de minimis</i> determination	Coastal Zone Management Program, State of Hawaii Office of Planning	Completed
Endangered Species Act (ESA) Section 7	U.S. Fish and Wildlife Service	Not Applicable
Marine Mammal Protection Act and Essential Fish Habitat Assessment	National Marine Fisheries Service	Consultation completed
National Historic Preservation Act (NHPA) Section 106	State of Hawaii Historic Preservation Officer; Native Hawaiian organizations; Historic Hawaii Foundation	Consultation completed
Section 404 Clean Water Act Permit, Discharge of Dredge or Fill Material	U.S. Army Corps of Engineers	As necessary
Section 401 Clean Water Act Permit, Construction in Navigable Waters	State of Hawaii Dept of Health Clean Water Branch	As necessary
Section 10 Rivers and Harbors Act Permit, Construction in Navigable Waters	U.S. Army Corps of Engineers	As necessary
National Pollutant Discharge Elimination System (NPDES) Permit	State of Hawaii Department of Health	As necessary

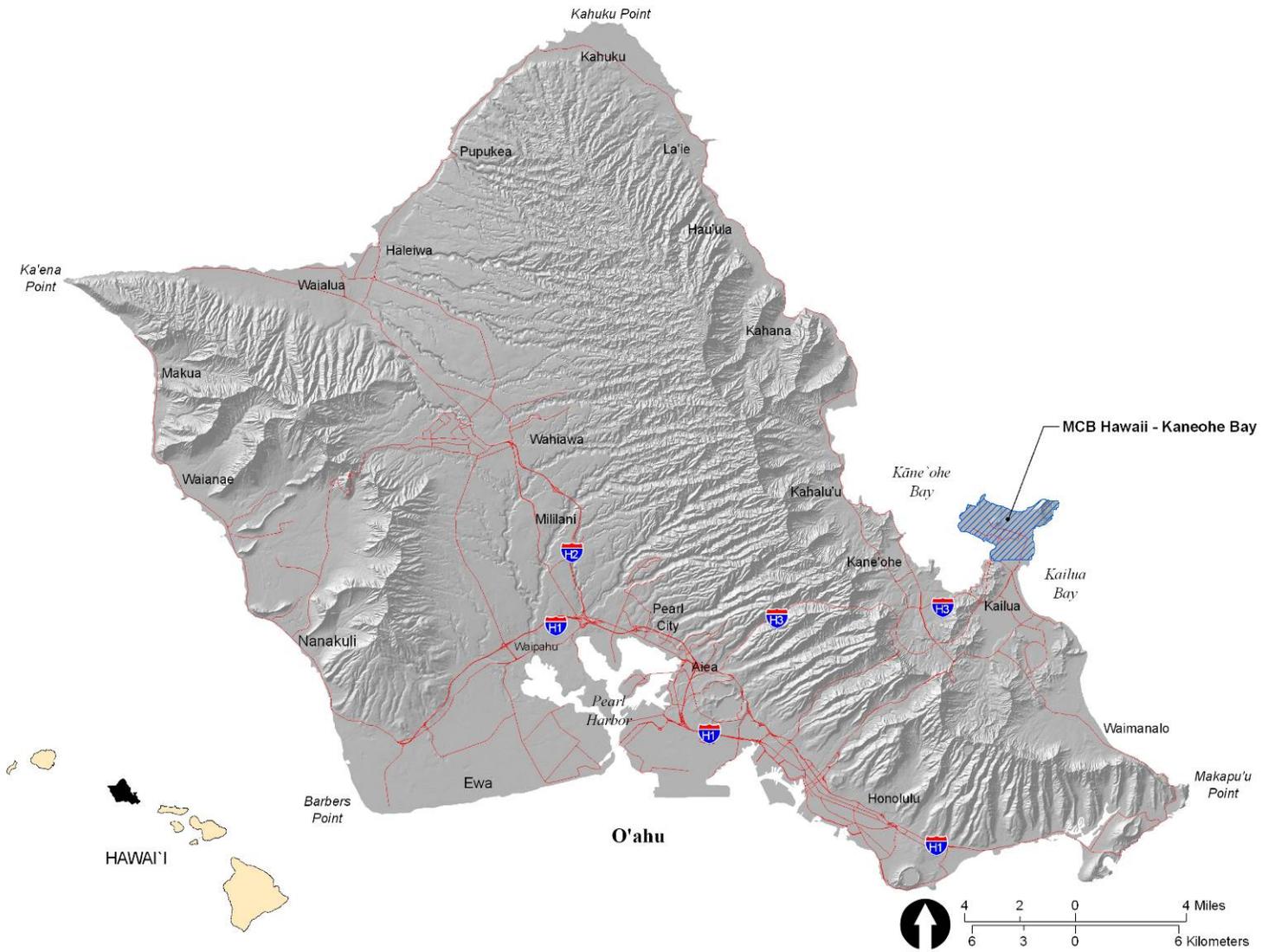


FIGURE 1. PROPOSED-ACTION LOCATION MAP.



FIGURE 2. PROJECT SITE LOCATION.



FIGURE 3. PROJECT SITE LOCATION (DETAIL).

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2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 DESCRIPTION OF THE PROPOSED ACTION

This EA addresses the demolition of existing, abandoned pier structures located within waters of Kaneohe Bay at MCBH. The proposed action would demolish and remove the existing section of concrete decking; demolish and remove all existing pier pilings by cutting them just above the bottom of the bay; and remove any existing utility lines associated with the pier. Material/debris removed would be hauled away for recycling and/or landfill disposal.

2.1.1 *Demolition Methodology*

The pier-demolition methodology is proposed to consist of the use of a crane operated from an anchored barge. The concrete-capped pier section would be removed first, followed by the 28 concrete piles under that section, and finally, by removal of all still-standing piles remaining of the 24 concrete piles that had supported the original wooden-deck pier. As many as ten (10) of the 24 piles have apparently collapsed and are lying on the bottom. At this time, there is no intent to disturb bottom sediments by attempting to remove any piles or portions of piles that may be lying on the bottom. Any piles that may be subsurface but still standing would be removed.

The pier pilings are generally 16.5-inch-diameter octagon-shaped concrete, with a length of about 28 feet, from approximately 3 feet above the water surface to the bottom of Kaneohe Bay (plus an unknown depth into the substrate). The proposed action includes cutting each pile, using diver-operated pneumatic cutting tools, as close to the bottom as feasible. No explosives are proposed for use during implementation of the proposed action.

During the proposed action, Best Management Practices (BMPs) and Conservation Measures (CMs) that are consistent with the MCBH Integrated Natural Resources Management Plan would be implemented, to the maximum extent practicable, in order to prevent or minimize environmental impact. BMPs and CMs include, but are not limited to:

- inspection of vessels to be used under the proposed action, in order to minimize the potential for introduction of invasive species;
- survey of the project action area by a qualified Navy Marine Ecologist, monitoring the sound profile of underwater demolition equipment in conjunction with a protective species buffer, dust and debris containment above the surface;
- use of bottom-anchored floating silt curtains to contain underwater debris from the demolition activity;
- drainage/erosion control on the shore-side staging area;
- containment of removed underwater debris, including seawater-suspended debris, while being transferred from water to barge and barge to shore, in order to minimize the potential spread of invasive species (coral, algae, invertebrates, etc.) that may be present on the piles;
- avoiding active demolition during events of extreme high tide;

- observing for presence of threatened/endangered marine mammals and turtles and stoppage of work should such species appear in the area.

The proposed BMPs and CMs are summarized in Tables 2, 3, and 4 (see Chapter 3). The complete lists of appropriate BMPs and CMs, along with Navy and agency correspondence are included in Appendix C.

2.2 ALTERNATIVES EVALUATED

2.2.1 *Proposed Action*

The proposed action is the only viable alternative, other than the no-action alternative, due to the navigational safety hazard posed by the pier. The only potential alternatives that could be considered would be in the methodology used in pier demolition. Demolition via use of explosives to cut the pilings was not considered a viable alternative and was not given serious consideration.

2.2.2 *No-Action Alternative*

Under the no-action alternative, the abandoned pier structures would remain in place and would be allowed to deteriorate under natural environmental conditions. The purpose of and need for the proposed action would not be met; a hazard to navigation and human safety would continue to exist for an unknown, but presumably lengthy period of time. In addition, the existing pier structures would continue to impact the visual/scenic/aesthetic environment of the area, and could facilitate the growth of invasive species in Kaneohe Bay.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes: (1) the environmental setting and baseline conditions of the existing environment that may be affected within or adjacent to the project area encompassed by the proposed action or the no-action alternative; and (2) the potential impacts related to environmental components that could result from the proposed action or no-action alternative. Resources and/or issues that are not likely to affect or be affected by the proposed action will not be discussed in depth herein. In most cases, no impact – or only temporary impact - upon environmental components is expected during the active phase (i.e., the proposed demolition) of the proposed action. These environmental components include:

- Air quality
- Acoustic environment/noise
- Marine resources (flora/fauna)
- Topography and soils
- Drainage
- Water resources (surface water, groundwater, wetlands)
- Terrestrial flora and fauna
- Natural hazards (flooding, seismic/tsunami, hurricane events)
- Socio-economic issues (population, housing, education, employment, disproportionate impact upon low-income populations)
- Surrounding land use
- Cultural resources (archaeological, historic)
- Traffic/circulation
- Recreation
- Visual/aesthetic resources
- Hazardous materials/waste
- Infrastructure (utilities, solid waste, etc.)

While some environmental components, such as air quality, noise, or traffic may be negatively impacted or cause negative impacts during the operational phase of the proposed action, these impacts are temporary in nature. Most potential impacts would be addressed via BMPs and CMs.

Environmental components that may be impacted or be of concern under the proposed action are discussed below.

3.1 SURFACE AND MARINE WATERS

The State of Hawaii regulates waters surrounding MCBH Bay's Mokapu Peninsula. Both Kaneohe Bay, to the west of the base, and Kailua Bay to the east, are heavily used for recreation, and contain numerous offshore islets that are seabird sanctuaries. Hawaii Administrative Rules (HAR), Chapter 11-54, Water Quality Standards, classifies Kaneohe Bay as marine water quality Class AA. Per HAR Ch 11-54, the state's goal for Class AA marine waters is that they remain as pristine as possible.

Within MCBH, surface water consists of the eight delineated ponds of the Nuupia Ponds Complex, and the Mokapu Central Drainage Channel (MCDC). A man-made channel approximately 6,235 ft (1,900 meters) long, the MCDC was designed to facilitate rapid flow of stormwater runoff from the relatively flat, low-lying inland areas of the peninsula to the Nuupia Ponds Complex, where it ultimately empties into the marine waters of Kaneohe Bay. The northern end of the MCDC originates at the southern edge of the Klipper Golf Course. From there, the channel flows south through the central area of the base, where an extensive system of box culverts, pipes, swales, and ditches conveys surface runoff into the MCDC. The MCDC does not drain to the ocean in the vicinity of the T-Pier.

It is typical of the Mokapu Peninsula to receive an average of 40 in (102 cm) of rain every year. This leaves low-lying, open areas throughout the base subject to flooding. Depending on the volume of precipitation and its duration, temporary pools or puddles can form which eventually evaporate. In low-lying areas where there is sparse vegetation, ephemeral wetlands may appear. These temporary areas of surface water have been observed to provide short-lived waterbird and shorebird, and are considered a normal part of the natural hydrologic cycle. Stormwater runoff from the base's storm drainage system, including that from industrial sites, is authorized under NPDES Permit # HI S000007, and addressed in the Final Storm Water Management Plan for Marine Corps Base Hawaii, dated April 2016.

3.1.1 *Potential Impacts*

Impact on surface water is considered to be significant if project actions affect water quality. Water quality may be affected when (1) soil-disturbing construction activities cause erosion of exposed soil from project areas—during heavy rains, runoff from these exposed areas has the potential to enter surface waters, thereby increasing turbidity and sedimentation in receiving waters—or (2) operational activities associated with an action causes pollutants to be discharged into receiving water.

3.1.1.1 Proposed Action

The proposed action would occur primarily within the ocean water off the western, Kaneohe Bay side of the base; therefore, there is potential for impact on marine waters of Kaneohe Bay. The proposed action may have an adverse effect if, during the removal operations, sediments close to where a diver may be cutting the piling are disturbed. The action of cutting the piling, movement of the diver, and other unforeseen actions could kick up plumes of sediment. Monitoring for silt plumes outside the containment curtains would be part of the work protocol. With the appropriate and agreed-upon BMPs and CMs (Tables 2, 3, and 4 and Appendix C) in effect, no significant impact on the marine waters of Kaneohe Bay is expected. Similarly, on the shore side, the proposed action is not expected to result in short-term adverse impacts on surface water because removed materials and debris resulting from demolition activities would be contained during the demolition period and properly disposed of, in accordance with all applicable regulations.

However, as with all construction activities that involve the disturbance of soil, the potential for temporary erosion, sedimentation, and runoff from a project site exists during storm events.

Clean Water Act (CWA) mandated protective measures, such as National Pollution Discharge Elimination System (NPDES) permits, if required for any aspect of the proposed action, would necessitate development of a Site-Specific Construction BMP Plan for stormwater runoff prior to commencing construction activities. The Site-Specific Construction BMP Plan would identify the most effective erosion, sedimentation, and runoff control measures to reduce the amount of soil and sediment transported off-site as a result of the proposed action.

In the long-term, the proposed action is not expected to result in adverse impacts to surface water. Application of appropriate in-water and shore-side construction/demolition BMPs would minimize the potential for contaminants to be discharged into surface waters from in-water work or from shore-side runoff.

3.1.1.2 No Action

The no-action alternative would not result in any impacts on shore-side surface water.

3.2 FLORA AND FAUNA

Terrestrial flora or fauna would not be expected to be impacted by the proposed action. There are no known incidents or occasions of ESA or Migratory Bird Treaty Act (MBTA) bird species utilizing the abandoned pier for nesting.

With respect to marine flora and fauna, a qualified Navy marine ecologist assessed the T-Pier underwater environment on December 12, 2013 (Appendix B) during a scuba-assisted reconnaissance-level survey of the piles to determine if snowflake coral (*Carijoa riisei*, an alien invasive species) and/or stony coral species proposed for ESA listing were present. The reconnaissance covered 42 of the original piles, including all 28 of the piles supporting the concrete-deck portion, and 14 of the piles not located under the concrete-deck section. Some of the piles away from the concrete-deck portion were observed to be lying on the bottom, presumably having broken or collapsed.

The survey found that all of the observed piles were heavily fouled. Organisms present on the pier piles were typical of those found on similar structures throughout the main Hawaiian Islands, such as in Honolulu Harbor, Pearl Harbor, Kaneohe Yacht Club, and Hilo Harbor. None of the species observed were unusual relative to their size, growth forms or total numbers, and no proposed ESA species were present.

Thick mats of algal turf were observed on the piles, as were crustose coralline algae and macro algae. The alien invasive macro algae *Gracillaria salicornia* was present on some of the piles. Some of the most obvious fouling invertebrates included parchment worms (*Chaetopterus sp.*), sea frost (*Salmacina dysteri*), feather duster worms (*Sebellastarte spectabilis*) and the erratic bryozoan (*Schizoporella errata*).

The snowflake coral, already established at many locations throughout Kaneohe Bay, was observed on only one of the 28 piles supporting the concrete deck portion of the T-Pier. The seven rows of pier piles oriented perpendicular to the shore had snowflake coral on four of the 14

piles. In addition, snowflake coral was observed growing on abandoned lines and chain hanging parallel to the piles.

Stony corals (Order Scleractinia) that were observed on the pier piles included *Montipora capitata*, *Montipora sp.*, *Pocillopora damicornis*, *Leptastrea purpurea*, and *Porites compressa*. None of the Scleractinian corals proposed for Threatened or Endangered status were confirmed to be present on the pier piles or the sea floor under the piles. All of the Scleractinian corals sighted were common Hawaiian species that are abundant in the Main Hawaiian Islands and throughout Kaneohe Bay.

On November 6, 2015, a separate, follow-up site reconnaissance of the pier area was conducted by the National Oceanic and Atmospheric Administration (NOAA), U.S. Fish and Wildlife Service (USFWS), and the State of Hawaii Department of Land and Natural Resources (DLNR) Division of Aquatic Resources (DAR). Inspection of the pier piles and surrounding area involved both snorkel (NOAA personnel) and scuba equipment (USFWS and DAR personnel). Notes from the inspection (see Appendix B) stated that a dozen or more pilings were evaluated, and that they were covered with fouling organisms such as tunicates, sponges, hydroids and cyanobacteria. Only a few small corals were observed on the piles, with no *Carijoa* species observed. Conclusions included mention that wrapping the pilings, which had been a consideration to prevent dispersal of *Carijoa*, would likely not be necessary, and that, with the recommended BMPs and CMs, the proposed action would not likely pose a significant impact to the marine environment.

Based upon the several agency assessments, little to no *Carijoa* species is growing on the pilings. However, a BMP has been developed stating that, as a precaution, before demolition commences, a cursory survey of the pilings would be done, and if any *Carijoa* species is identified, it would be removed and bagged for disposal or the portion of the piling with the *Carijoa* species would be wrapped prior to pile removal.

3.2.1 *Potential Impacts*

Potential impacts on the marine environment due to the proposed action may include the inadvertent spreading of invasive species, and/or harm to protected species such as sea turtles and the Hawaiian monk seal or their habitat. Underwater noise from vessels and the piling removal process is considered to be a potential impact to turtles and monk seals. At the same time, these species are agile and, in general, capable of swimming away from disturbances. Guidance from NOAA is that the behavioral-change threshold for continuous underwater noise occurs at 120 decibels referenced to 1 microPascal rms (root mean square) for both the Hawaiian monk seal and the green turtle.

3.2.1.1 Proposed Action

Implementing the proposed action would entail the use of BMPs and CMs (Tables 2, 3 and 4, and Appendix C) which include, but are not be limited to: preparation of a BMP Plan by the contractor hired to accomplish the proposed action; dust and debris containment above the surface; use of bottom-anchored, full-depth floating silt curtains to contain underwater debris

from the demolition activity; drainage/erosion control on the shore-side staging area; containment of removed underwater debris, including seawater-suspended debris, while being transferred from water to barge and from barge to shore-side, in order to minimize the potential spread of invasive species which may be present on the piles; capture of excess seawater brought to the barge and trucks used to transport pier debris; avoiding active demolition during events of extreme high tide; observance for presence of threatened/endangered marine mammals and turtles and stoppage of work should such species appear within 150-feet of the working site.

Significant adverse impacts on the marine environment are not expected, due to the incorporation of BMPs and CMs into the project.

The Navy initiated consultation in May 2016, with the National Marine Fisheries Service (NMFS) of the National Oceanic and Atmospheric Administration, under the Endangered Species Act, as well as the Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Fishery Conservation and Management Act. Consultation was concluded in August 2016 (Appendix C). As part of the consultation, the Navy submitted a Biological Evaluation and Essential Fish Habitat Assessment (Appendix C), which included a number of proposed BMPs and CMs to minimize the potential for environmental and species impact. Table 2 provides a summarized list of Navy-proposed BMPs; Table 3 provides the list of NMFS-proposed CMs, the Navy's response to these; Table 4 provides additional Navy-proposed CMs. Note that there are a few instances of overlap/redundancy among the Navy BMPs and CMs, and agency CMs, as indicated in Table 2 footnotes and "Note" column in the table. These occurrences are not believed to be significant. Additionally, some BMPs or CMs may have been modified, clarified or added following agency and Navy/Marine Corps discussions occurring after formal consultation concluded.

3.2.1.2 No Action

The no-action alternative may, by leaving the T-Pier in place, continue to provide an environment favorable to the growth of invasive marine species in Kaneohe Bay.

3.2.2 *Mitigation*

In order to minimize potential impact upon Hawaiian monk seals and green turtles from underwater noise associated with the proposed action, the project proponent will initiate an adaptive-management technique/conservation measure to conduct underwater noise monitoring during the pier demolition, to determine the sound exposure level coinciding with the 150-ft clearance distance from the working site (Table 4). Should the noise exposure exceed 120 decibels at 150 feet, the clear-distance would be adjusted until the noise exposure level is 120 decibels or below.

3.3 WETLANDS

Of the 2,951 acres of Mokapu Peninsula, approximately 131 acres are protected, jurisdictional wetlands (USACE Honolulu, 2009). A ground-based wetland survey was conducted between 2001 and 2002 and updated in 2009. These surveys delineated boundaries for eight wetland complexes identified at MCBH: (1) Hale Koa Wetland; (2) Sag Harbor Wetland; (3) Salvage

Yard Wetland; (4) Percolation Ditch Wetland; (5) Motor Pool Wetland; (6) Kaneohe Klipper Golf Course Ponds; (7) Temporary Lodging Facility Wetland; and, (8) Nuupia Pond Complex—a wetland habitat, a designated and protected Wildlife Management Area (WMA) that harbors endangered flora and fauna, and an established historic property that consists of eight ponds/delineated wetlands, including: Nuupia Ekahi, Heleloa, Halekou, Nuupia Elua, Nuupia Ekolu, Nuupia Eha, Kaluapuhi, and Paakai (Figure 4).

Wetlands on Mokapu Peninsula provide essential habitat to many federally-protected native and migratory birds, native fish, and other aquatic fauna and flora. The wetlands also serve to filter sediments and pollution and help to reduce shoreline erosion.

There are two wetlands located near the proposed action project area: the Hale Koa and Sag Harbor wetlands, which are both located within approximately 0.25 miles of the shoreline opposite the T-Pier.

3.3.1 *Potential Impacts*

Significant impacts from project actions would result if destruction of wetlands at MCBH were to occur. Also, project actions should not degrade water quality at delineated wetlands or designated wildlife management areas, or be detrimental to wildlife inhabiting these areas.

3.3.1.1 Proposed Action

The proposed action is not expected to result in direct or indirect short- or long-term impacts to on-base wetlands. Application of BMPs during construction, and NPDES permit conditions, if required, would be expected to minimize runoff and prevent or minimize the pollutants and sediment conveyed by surface runoff, so that significant adverse impacts to wetlands are avoided.

3.3.1.2 No Action

The no-action alternative would not have impacts on the wetlands at MCBH.

Table 2. Navy-Proposed Best Management Practices.

Navy Basic Management Practices	Note
1. Competent observers will be designated to visually survey the marine areas within and adjacent to the project footprint for protected species.	
2. Observers will remain continuously alert for protected species starting 60 minutes prior to commencement of demolition through 30 minutes after shut-down. Resumption of work following a break of 30 minutes or more requires a 60 minute pre-work area visual search.	
3. No demolition will be conducted after dark unless that work has proceeded uninterrupted since at least 1 hour prior to sunset, and no protected species have been observed near the 50-yard safety range for that work. Night work is not anticipated, although unforeseen circumstances could make it necessary.	
4. No marine mammals or protected species may be within 150 feet of demolition work. All demolition operations will be postponed or halted until the animals have voluntarily moved beyond 150ft.	
5. Demolition will commence using a ramp-up technique at the start of each work day or following a break of more than 30 minutes, and will commence with slow, deliberate engagement of heavy equipment/underwater tools to alert protected species/allow them to vacate the area.	
6. Project-related vessel operators will maintain constant vigilance for, and avoid all protected species. This includes the tug and barge operators transiting within the harbor.	
7. When piloting vessels, operators shall alter course to remain at least 300 feet from whales, and at least 150 feet from other protected species. If a vessel is approached by a protected species, the engine will be put in neutral until the animal passes.	
8. Demolition-related vessels will operate at 10 knots or less in areas of known or suspected protected species activity. If practicable, speed of construction related vessel will be reduced to 5 knots or less.	
9. Protected species should not be encircled/trapped between vessels or between vessels and shore.	
10. No one on site or associated with this project will attempt to feed, touch, ride, or otherwise intentionally interact with any protected species.	
11. Demolition activities that result in sediment/pollutant discharges will cease during the primary coral spawning events each year for stony corals. NMFS PIRO HCD Honolulu Office will be consulted for information on spawning dates.	NOAA CM #3
12. A contingency plan to control and contain toxic spills, including petroleum products, will be developed. Appropriate materials to contain and clean potential spills will be stored and available.	
13. All project-related materials and equipment placed in the water will be free of pollutants. The project manager and the heavy equipment operator will perform daily pre-work equipment inspections for cleanliness and leaks. All heavy equipment operations will be postponed or halted should a leak be detected, and will not proceed until the leak is repaired and equipment cleaned.	
14. Fueling of project-related vehicles and equipment will take place at least 50 feet away from the water and storm drains, preferably over an impervious surface. For equipment that cannot be fueled out of the water (e.g. barges), spill prevention booms will be employed to contain any potential spills, which would be cleaned immediately.	
15. Turbidity and siltation from project related work will be minimized and contained through appropriate use of effective turbidity-containment devices and the curtailment of work during adverse tidal and weather conditions. Turbidity curtains will enclose demolition operations to the maximum extent practicable. On-site work crews will be vigilant for any silt plumes occurring more than 15-feet beyond any containment area, which would stop work until the plume dissipates, as determined by the Government representative on site.	
16. A plan will be developed and implemented to prevent debris from entering or remaining in the marine environment during the project.	Navy CM #3
17. A contingency plan will be in place for the removal and adequate securing of equipment in the event of approaching storms, or when the National Weather Service has issued a gale warning.	NOAA CM #4
18. A bubble curtain will be used to reduce sound attenuation from cutting operations during work.	Note 1
19. The contractor will ensure that barge and support vessels (e.g. tug) used during this project will be free of invasive species.	Navy CM #1
20. When anchors or spuds are used to position the barge during demolition operations, the anchors and spuds will be placed in soft sediment which is free of vegetation and corals, and care will be taken by the operator to minimize bottom disturbance to the maximum extent possible.	NOAA CM #2

Notes: Some Navy BMPs/CMs and agency CMs contain overlap/redundancy, as noted for comparison.

1. Use of a bubble curtain was subsequently determined by mutual agreement between the Navy and NOAA to be unnecessary.

Table 3. Agency and Navy-Proposed Conservation Measures.

Agency Conservation Recommendations (1)	Navy Conservation Measures (2)
<p>1. Ensure effective implementation of all mitigation measures as described in the EFH assessment. These mitigation measures are essential for ensuring minimal short- and long-term adverse effects to EFH and the abundant coral reef resources present in the project area. Adaptive management should be utilized throughout the project construction period to control the in-water activity of machinery and equipment to contain turbidity and sedimentation and to avoid loss of coral colonies.</p>	<p>1. The Navy agrees to implement mitigation measures, referred to as Conservation Measures, as described in Section Five of the Biological Evaluation and Essential Fish Habitat Assessment (BE/EFHA) for this project dated May 6, 2016. Additionally, The Navy agrees to implement all Best Management Practices listed in Section 2.1.3 of the BE/EFH which include a variety of adaptive management practices that control the activity of machinery and equipment to limit sedimentation and the loss of coral colonies. Together, the Best Management Practices and the Conservation Measures will ensure minimal short- and long-term adverse effects to EFH.</p>
<p>2. Ensure the barge is anchored only in unconsolidated bottom devoid of corals. Minimize movement of the barge during construction to reduce associated turbidity and sedimentation effects. Ideally, avoid barge relocation entirely.</p>	<p>2. The Navy agrees to secure the barge using spuds or anchors by contacting unconsolidated sediment only, as described in Best Management Practices section, number 20 of the BE/EFHA for this project dated May 6, 2016</p>
<p>3. Perform work outside of the main coral spawning season during the summer months of June to August to reduce sedimentation and turbidity effects to coral eggs and larvae in the area.</p>	<p>3. The Navy sought guidance from NMFS on coral spawning in the Best Management Practices section, number 11 of the BE/EFHA for this project dated May 6, 2016. The Navy acknowledges the recommended coral spawning dates, June 1 through 31 August, during which in-water demolition activities should not occur. To the maximum practical extent, these dates will be avoided. If the need should arise to conduct aspects of this project during those dates, NMFS will be consulted for further guidance.</p>
<p>4. Conduct work only during calm ocean conditions to prevent uncontrolled movement of construction equipment to avoid abrasion to sessile benthic organisms during construction. A contingency plan should also be in place once construction has started to ensure that the barge is either secured with additional anchors, or relocated out of Kaneohe Bay in the event of a storm event generating high swells.</p>	<p>4. The Navy agrees to conduct operations only during acceptable sea states, as described in Best Management Practices section, numbers 15 and 17 of the BE/EFHA for this project dated May 6, 2016.</p>
<p>5. Relocate, to the greatest extent practicable, the few coral colonies growing on the pilings (and on any debris to be removed) to avoid complete loss of these organisms. A receiving site outside of the project footprint and away from the nearby patch reefs may be the area along the shoreline located inshore of the Pier. Since there are only a few coral colonies, relocation efforts can involve simply placing the corals on top of un-colonized hard bottom. Post relocation monitoring would not be expected by NMFS.</p>	<p>5. The Navy will allocate one day of effort to move corals suitable for relocation from the pier to a suitable nearby receiving site. Relocated corals may be placed on uncolonized hard bottom rather than being secured, and no post-relocation monitoring will be conducted.</p>

Table 4. Additional Navy-Proposed Conservation Measures.

Additional Navy Conservation Measures (3)
1. The Request for Proposals for the demolition of the T-pier that will be used to select the Contractor for the proposed demolition will stipulate that the vessels selected to execute this work by the Contractor will be made available for an inspection by a qualified expert selected by the Navy prior to mobilization to Kaneohe Bay.
2. MCBH will coordinate with the State of Hawaii Department of Land and Natural Resources, Division of Aquatic Resources to use their "Super-Sucker," as their equipment and personnel availability permits, to remove invasive algae from coral in coral habitats adjacent to the T-pier footprint, in order to offset any potential adverse effects to EFH that could occur through spread of invasive species and increased turbidity and/or sedimentation of corals reefs as a result of activities associated with the proposed demolition.
3. The action area will be surveyed by a Navy Marine Ecologist and marine debris will be removed to the maximum extent practicable (excluding unexploded [ordnance] and/or hazardous wastes).
4. The project proponent will initiate a conservation measure to conduct underwater noise monitoring during the pier demolition, to determine the sound exposure level coinciding with the 150-ft clearance distance from the working site. Should the noise exposure exceed 120 decibels at 150 feet, the clear-distance would be extended until the noise exposure reached 120 decibels or below.
5. The Navy will provide for an underwater site inspection prior to the start of pier demolition in order to determine if any of the pier piles contain snowflake coral (<i>Carijoa riisei</i>), in which case, those piles, or the portions of which have the coral-growth attached, would be wrapped in appropriate material prior to pile removal, in order to minimize the inadvertent spread of the invasive coral into Kaneohe Bay.

- (1). Source – U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Pacific Islands Regional Office letter of June 10, 2016.
- (2). Source – Department of the Navy, Naval Facilities Engineering Command, Pacific letter of 22 June, 2016.
- (3). Source – Biological Evaluation and Essential Fish Habitat Assessment for T-Pier, MCBH; Naval Facilities Engineering Command, Pacific, May 2016.

3.4 FLOODPLAINS AND FLOODING

As directed by Executive Order (EO) 11988, federal agencies must evaluate the potential effects of actions occurring in a floodplain to reduce the risk of flood loss, impacts to human health, safety and welfare, and to preserve the natural and beneficial functions served by floodplains. Actions must consider direct and indirect impacts on floodplains. The term “floodplain” generally refers to a defined area that is subject to inundation by a flood. A 100-year flood is an event that, based on historical records and calculated statistical probabilities, has a one in 100 chance (a one percent chance) of occurring in any given year.

There are two types of flood-designated areas at MCBH (Figure 5). The first are the flood zones as shown on the Flood Insurance Rate Maps (FIRM), prepared and distributed by the Federal Emergency Management Agency (FEMA). FEMA-designated flood zones are defined by varying levels of risk and reflect the type and severity of flooding to which an area may be subject. FEMA-designated zones in the “A” category are defined as Special Flood Hazard Areas - High Risk, and represent areas subject to the one-percent flood. FEMA-designated zones in the

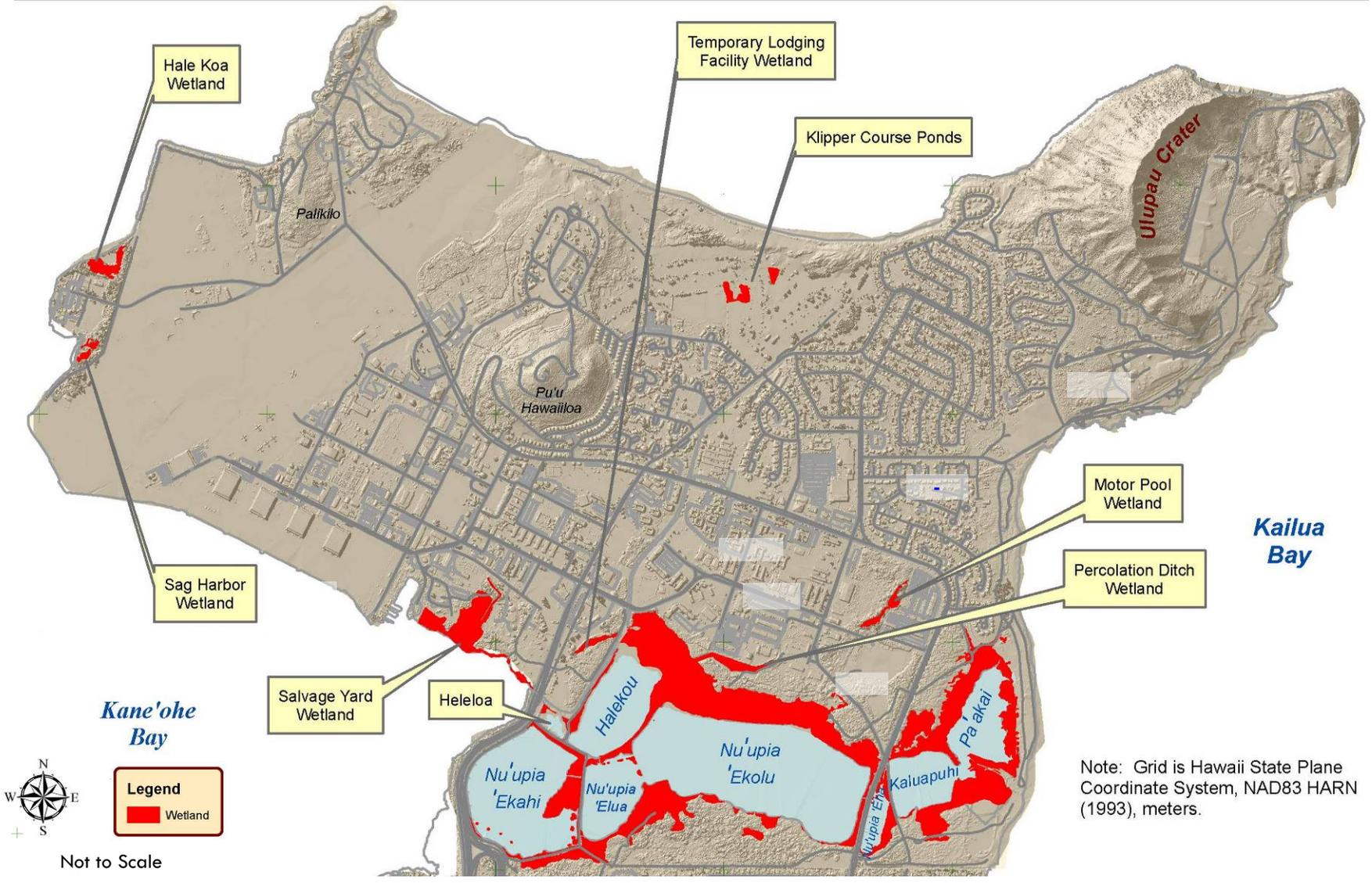


FIGURE 4. MCBH – KANEOHE BAY WETLANDS.

Source: Wetlands of Marine Corps Base Hawaii (July, 2009)

“V” category are defined as Coastal High Hazard Areas – High Risk, and represent those areas covered under the “A” flood category with additional risk due to wave action from storms or seismic events. The FEMA-designated flood zones are located along the coastal areas of Mokapu Peninsula. In addition to the FEMA-designated flood zones, MCBH has conducted independent flood studies related to the MCDC, the latest of which was completed in 2003. The MCDC floodplains are not reflected on FEMA’s Flood Insurance Rate maps.

The primary area for the proposed action is off-shore and therefore not within the FEMA-delineated VE or AE flood zones. The area that would be used for equipment staging and temporary demolition-waste storage, immediately shore-side of the T-Pier, would be located within the flood zones.

3.4.1 Potential Impacts

Project actions are determined to have a significant adverse environmental impact if they increase the potential for exposure, harm, or damage to people or property from hazards such as earthquakes, floods, or tsunamis. It is important to note that the threat from these hazards always exists because humans have no control over the frequency or intensity of these relatively unpredictable events.

3.4.1.1 Proposed Action

The proposed action would have no effect on the frequency or severity of occurrence of the natural hazards to which Mokapu Peninsula may be exposed. Further, since no permanent construction is proposed within these zones, no long-term, direct or indirect impacts upon the floodplain are anticipated. The proposed action could be beneficial, by removing a source of potentially destructive debris from exposure to these events.

As a standard operating procedure (SOP) to increase the safety of construction personnel, evacuation procedures are outlined, emergency shelters are identified, and the necessary planning mechanisms are in place, in the interest of the safety of personnel and residents.

3.4.1.2 No Action

The no-action alternative would not have any impact on the severity of natural hazards to which the base is exposed, but may, as indicated above, potentially add to the destructive capability of such events.



FIGURE 5. MCBH – KANEOHE BAY FLOOD ZONES.
Source: Marine Corps Base Hawaii Master Plan Volume 1 – Land Use Plan (2006)

3.5 VISUAL AND AESTHETIC RESOURCES

The natural features of Mokapu Peninsula create a scenic landscape in windward Oahu. Overall, the base exhibits an excellent sense of place, openness, and scale, since the characteristics of its natural environment have been complemented by appropriate planning and development practices. Among the many visual and aesthetic resources of Mokapu Peninsula are the wetland/wildlife areas of Nuupia Ponds; the marine coastline surrounding the peninsula to the east, north, and west; undeveloped conservation lands; the slopes of Ulupau Crater; and the crest of Puu Hawaiiiloa.

3.5.1 *Potential Impacts*

Aesthetic/visual impacts would be considered significant if project actions would substantially degrade the character of the area, degrade existing viewsheds or scenic vistas, or alter the character of the viewshed by the introduction of anomalous structures or elements. Significant aesthetic/visual impacts would also be considered to occur if project actions would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings or if they would create new sources of substantial light or glare that would adversely affect night views from or to the shoreline and other areas.

3.5.1.1 Proposed Action

The proposed action would not result in significant impacts on visual or aesthetic resources. The proposed action would remove a currently negative visual and aesthetic feature, thus enhancing the visual/aesthetic environment.

3.5.1.2 No Action

The no-action alternative would result in an impact on visual/aesthetic resources remaining in place for a potentially lengthy period of time.

3.6 HAZARDOUS MATERIALS AND WASTE

MCBH conducts an Installation Restoration (IR) program that manages sites where remediation or other efforts are being undertaken due to the release of hazardous materials or petroleum products. Handling and disposal of hazardous materials at MCBH are regulated by policies set forth by the Environmental Protection Agency (EPA) and the State of Hawaii Department of Health (DOH). The project area for the proposed action does not constitute, nor is it located near to, any base installation restoration (IR) site.

3.6.1 *Potential Impacts*

A project action is determined to have a significant adverse environmental impact if it results in the release of hazardous or toxic materials, particularly if it increases the potential for human exposure.

3.6.1.1 Proposed Action

While potential fuel and/or lubricants spills from watercraft and vehicles that may be used to accomplish the proposed action, Best Management Practices and spill prevention/response Standard Operating Procedures, such as discussed under section 3.1 above, would be expected to minimize the chances of any release of hazardous materials or waste during the course of the operational phase of the proposed action.

No significant short-term or long-term adverse impacts related to hazardous materials are expected to result from the proposed action.

3.6.1.2 No Action

The no-action alternative would not increase the risk of release of hazardous materials or waste, increase the risk to base personnel of exposure to hazardous waste, or affect IR sites near the project area.

3.7 CUMULATIVE IMPACTS

Cumulative impacts are the result of two or more individual impacts that, when considered together, compound or increase the overall impact. Cumulative impacts can arise from the individual effects of a single action or from the combined effects of past, present and/or future actions. Therefore, cumulative impacts can result from individually minor actions that collectively amount to significant actions over time.

The projects listed in Table 5 were considered in conducting the cumulative impacts analysis. Capital Improvement Projects (CIP) at MCBH comprise the majority of projects in the list. Since the proposed action is the removal of an abandoned pier that is located just offshore of MCBH, proposed projects located on base and near the location of the T-Pier were considered. Existing or proposed City/County of Honolulu and State of Hawaii development projects that may be located across Kaneohe Bay from the T-Pier site were not considered as having the potential to generate cumulative impacts in conjunction with the proposed project. Projects listed in Table 5 are planned to be constructed concurrent with or after the proposed T-Pier demolition. None of the listed projects are considered to have the potential for negative cumulative impacts in combination with the proposed T-Pier demolition or vice-versa.

Table 5. MCBH Related Capital Improvement Projects.

Project Number	Title	Description	Fund Year (Fiscal Year)
P-902	Improve Airfield Lighting	Replace and modernize various lighting system components around the airfield, construct a lighting vault and install a new standby generator; and demolish small structures (B138 and B1674) adjacent to the airfield.	2017
P-887	LHD Pad Conversion and MV-22 LZs	Convert the LHA pad at West Field to an LHD pad; construct MV-22 LZs at Marine Corps Air Station (MCAS) and Marine Corps Training Area Bellows (MCTAB)	2018
P-915	MCCS Self-Storage Facility	Construct a 438 unit self-storage facility within the former NOSC compound.	2021
P-876	Airfield Security Fence	Construct a new security fence around the airfield	2021
P-816	Waterfront Ops Facility	Replace the existing deteriorated boat ramp and related facilities.	2021

* Estimated project start date as discussed in the MCBH Installation Master Plan.

Air Quality

Greenhouse gas (GHG) emissions result from both natural processes and human activities. GHGs trap heat in the atmosphere and re-radiate some of that heat downward. Common GHG emissions include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). The natural greenhouse effect regulates Earth’s temperature; however, this natural process may be intensified by human activity, primarily the combustion of fossil fuels and deforestation, potentially contributing to climate change. Due to the global nature of GHG emissions, individual projects are not likely to have an appreciable effect on climate change, although each could contribute to cumulative impacts. The proposed action would utilize, as appropriate, sustainable design, including reducing energy consumption and reducing GHG emissions by incorporating Leadership in Energy and Environmental Design (LEED)-rated design principles into the projects listed in Table 5. As a result, the proposed action and recently completed, current, or proposed future actions within the vicinity of the proposed action could contribute to cumulative effects on GHG emissions, but this would be minimized through sustainable design and practices.

Implementing the proposed action is not expected to result in any cumulative impacts on air quality. Under the General Conformity Rule of the Clean Air Act, the entire state of Hawaii is classified as in attainment of the National Ambient Air Quality Standards. Potential temporary and short-term impacts during construction under the proposed action, or under any project listed in Table 5, would be addressed by applying standard construction BMPs to reduce construction vehicle and dust emissions. While implementation of the proposed action might result in a small, temporary increase in on-base personnel and associated vehicular and surface-vessel activity, it would be a marginal increase above existing conditions. Further, long-term air quality impacts from mobile sources (i.e., vehicle movements) associated with the proposed action would be expected to be insignificant due to the relatively low traffic volumes within MCBH.

Acoustic Environment

The proposed action would not result in significant cumulative adverse impacts due to noise. Construction-related noise impacts would be temporary and short-term. Noise impacts to the marine environment, particularly upon Hawaiian monk seals and green turtles, will be monitored and appropriate actions taken if underwater noise exceeds values as determined during the Endangered Species Act Section 7 consultation conducted as part of this EA (Appendix C).

Topography and Soils

No cumulative impacts on topography or soils are expected to result from the proposed action. During the proposed project, the land area directly opposite the pier would be used as a staging area for equipment and temporary storage of demolition debris. As such, land-disturbing activities could result in soil loss from erosion and sedimentation, particularly during heavy rain. However, application of construction site BMPs would minimize the potential for soil loss. It is expected that all DoD construction projects implement standard construction site BMPs and adhere to NPDES permit conditions, so that there would be no cumulative impacts on topography or soils.

Water Resources (Surface Water, Groundwater, Wetlands)

The proposed action should not result in any cumulative adverse impacts on groundwater, surface water or water quality. The groundwater underlying the base is not a source of potable water. The proposed action would incorporate site design strategies and features that minimize and filter runoff; therefore, implementation is not expected to result in any cumulative adverse impacts on jurisdictional wetlands.

No significant adverse cumulative impacts on surface water, groundwater or wetlands are expected from the proposed action or any of the potential projects listed in Table 5. Implementation of BMPs and provisions of the CWA would ensure that any planned construction project, whether the proposed action or any project listed in Table 5, would not adversely affect jurisdictional wetlands.

Drainage

The proposed action is not expected to result in cumulative adverse impacts relating to drainage. In compliance with the Navy's low impact development (LID) policy, each individual project incorporates design features to maintain drainage patterns and control surface drainage within project limits, so that there would be no significant increase in the amount of surface runoff entering receiving waters or degradation of the quality of receiving waters. Further, the proposed action is not expected to increase the rate or volume of surface runoff such that it would exceed the capacity of existing or planned stormwater infrastructure. It is expected that each project listed in Table 5 would similarly incorporate design features to address drainage.

Biological Resources

The proposed action is not expected to result in any cumulative adverse impacts on flora or fauna. The proposed use of BMPs and CMs is expected to result in a minimization of the potential for any significant impact to biological resources. Similar to the proposed action, it is expected that each individual project listed in Table 5 would also incorporate BMPs and other measures, as necessary, so that no cumulative impacts on biological resources are anticipated.

Natural Hazards

The proposed action would not result in cumulative adverse impacts related to natural hazards. The facility proposed for removal lies offshore - flood zones and tsunami inundation areas are located onshore. The proposed action may yield a benefit by removing potential storm or tsunami wave debris from being carried ashore; therefore, the proposed action would not cumulatively contribute to any risk related to these natural hazards.

Existing and Surrounding Land Use

The proposed action, when viewed collectively with the projects listed in Table 5, is not expected to result in cumulative impacts on existing or surrounding land use.

Visual and Aesthetic Resources

Cumulatively, the proposed action would contribute to an improvement of the visual and aesthetic resources in the vicinity of the project, since it would be removing a currently deteriorating and inoperative feature lying offshore.

Archaeological, Cultural, and Historic Resources

The proposed action would have no adverse impacts on archaeological, cultural, or historic resources and therefore would not contribute to cumulative adverse impacts. Consultation letters with the Hawaii State Historic Preservation Officer (SHPO) attached as Appendix D.

Traffic and Circulation

The proposed action itself is not expected to result in significant adverse impacts on the on-base traffic and circulation pattern or level of service.

Recreational Facilities

The proposed action would not result in significant cumulative impacts on recreational facilities. The proposed action would not displace or interfere with the use of any existing recreational facility or activities.

Utilities, Infrastructure, and Solid Waste

The proposed action is not expected to result in cumulative adverse impacts upon base utilities, infrastructure, or solid waste. Additionally, goals related to reducing energy, recycling, and other saving mechanisms would be followed in waste reduction. At least 50% of all non-hazardous construction and demolition materials and debris will be diverted from landfills in accordance with EO 13693. It is noted that the MCBH landfill cannot accept construction or demolition waste. This waste must be transported to a permitted site for disposal and/or recycling in accordance with federal, state, and local requirements.

Hazardous Materials and Waste

The proposed action is not expected to result in any impacts as a result of hazardous materials or waste and, therefore, would not contribute to any cumulative impacts.

3.8 SUMMARY OF ENVIRONMENTAL IMPACTS

Based on the analysis of environmental impacts of the proposed action and the no-action alternative, this EA concludes that no significant adverse environmental impacts are expected as a result of implementing the proposed action. Table 6 summarizes the potential impacts that could result from the alternatives evaluated.

In general, most expected impacts resulting from the proposed action would be construction-related and temporary. Adherence to standard construction BMPs would minimize potential construction-related impacts.

Table 7 summarizes, for each potentially-affected environmental factor, the protective measures incorporated as part of the proposed action that would minimize any potential impacts.

Table 6. Comparison of Alternatives.

Environmental Resource	Proposed Action	No Action
Air Quality	Short-term, temporary impacts during construction.	No Impact
Acoustic Environment	Short-term, temporary impacts during construction.	No Impact
Topography and Soils	Short-term, temporary impacts during construction	No Impact
Groundwater	No Impact	No Impact
Surface Waters	No Impact	No Impact
Drainage	No impact	No Impact
Wetlands	No Impact	No Impact
Biological Resources	No Adverse Impact	No Impact
Natural Hazards	Removal of a potential source of storm/tsunami wave debris	Potential source of storm/tsunami wave debris and invasive species habitat would remain.
Surrounding Land Use	No impact	No Impact
Visual and Aesthetic Resources	Positive impact due to removal of deteriorating offshore structure	Negative visual/aesthetic impact would remain indefinitely
Cultural Resources	No impact	No impact
Traffic and Circulation	No impact	No Impact
Recreational Facilities	No impact	No Impact
Utilities, Infrastructure, Solid Waste	No impact	Potential for continued existence of non-hazardous waste material (pier remnants) to remain in the marine environment
Hazardous Materials and Waste	No Impact	No Impact

Table 7. Summary of Project Features that Minimize Potential Impacts.

Environmental Factor	Project Feature
Air Quality	BMP dust control measures, as required; dust screens, landscaping of bare earth.
Acoustic Environment	Use of properly muffled construction equipment, adherence to all applicable noise regulations. Monitoring of underwater sound generation during project execution.
Topography and Soils	BMP erosion and sedimentation control measures during demolition, as required (e.g., berms, cut-off ditches, silt fences, vegetative ground cover, soil stabilization); NPDES permit, if required.
Ocean and Surface Water Quality	BMP sediment control measures (e.g., silt fences, storm drain inlet protection, sediment traps, monitoring for sediment plumes outside the immediate operational area) and site grading; NPDES permit, if required.
Drainage	Same as Topography and Soils
Wetlands	Same as Topography and Soils
Biological Resources	Various BMPs and CMs (see Tables 2, 3 and 4)
Hazardous Materials and Waste	Adherence to all applicable regulations during removal and transport of any hazardous materials or waste.

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4.0 CONSISTENCY WITH FEDERAL POLICIES AND EXECUTIVE ORDERS

The proposed action is consistent with various federal policies and Executive Orders, including but not limited to: the National Environmental Policy Act; National Historic Preservation Act; Clean Water Act; Clean Air Act; Endangered Species Act; Migratory Bird Treaty Act; Sikes Act; EO 11990 – Protection of Wetlands; EO 12898 – Environmental Justice in Minority Populations and Low-Income Populations; EO 13045 – Environmental Health Risks and Safety Risks to Children; EO 13693 – Planning for Federal Sustainability in the Next Decade; and EO 13186 – Protection of Migratory Birds. Among those that may be particularly relevant to this EA include the following:

4.1 FEDERAL POLICIES

4.1.1 *The Clean Water Act*

The Clean Water Act, 33 USC 1251 et seq., is the major piece of federal legislation that makes it illegal for any person, including federal agencies, to discharge pollutants from a point source into waters of the U.S. without a permit. The CWA also provides for establishment of the NPDES program for issuance of such permits. The CWA Amendments of 1987 also require that the NPDES permitting program include permits for the discharge of storm water (non-point sources of water pollution). Any construction activity that results in the disturbance of at least 1 acre, which includes clearing, grading, and excavating, must apply for an NPDES general permit for the discharge of stormwater associated with construction activities.

If warranted, an NPDES permit would be obtained from the DOH Clean Water Branch prior to initiating construction. Also, the implementation of BMPs would confine sediment and silt runoff to the project areas, resulting in no degradation of water quality in any nearby body of water. Further, removed materials, debris, and soil resulting from the proposed action would be contained during demolition or construction and properly disposed of in accordance with all applicable regulations. Therefore, the proposed action would be in compliance with the CWA.

4.1.2 *Sikes Act*

The Sikes Act seeks to promote effectual planning and coordination of conservation and rehabilitation efforts for wildlife, fish, and game on military land. It provides for cooperation by the Departments of the Interior and Defense with state agencies in planning, developing, and maintaining fish and wildlife resources on military reservations throughout the U.S.

In compliance with the Sikes Act Improvement Act (SAIA) of 1997, an *Integrated Natural Resources Management Plan* (INRMP) was developed for MCBH in 2001 and has undergone required five-year review and update (current update under preparation for five-year period 2017-2021) by the Environmental Compliance and Protection Department. The proposed action complies with the guidelines contained in the INRMP and supports “no net loss” in capability of

the base's land and waters to support the installation's mission, while not adversely impacting fish and wildlife or other natural resources covered by the INRMP's implementation program.

4.1.3 *Coastal Zone Management Act*

The Coastal Zone Management (CZM) Act of 1972, as amended (16 USC 1451 et seq.), is administered in Hawai'i by the State Department of Business Economic Development and Tourism's (DBEDT) Office of Planning. The CZM program objectives and policies are to provide coastal recreational opportunities; preserve and protect historic, scenic and coastal ecosystem resources; provide economic uses; reduce coastal hazards; improve public awareness in coastal zone management; and manage development within the coastal zone.

The proposed action is located on federal land and is excluded from the state (Hawai'i) coastal zone under the CZM Act. However, the CZM Act requires federal agencies to conduct their planning, management, development, and regulatory activities in a manner consistent with the State's CZM program.

By letter date 9 June 2009, DBEDT concurred with the Department of Navy's (DoN's) proposed modifications to the Navy/Marine Corps list of de minimis activities under the CZM Act. Modifications included expansion of coverage to MCBH. Provided that the proposed action complies with the items listed under "Mitigation/Conditions," no significant direct or indirect impacts on the coastal zone are expected. Thus the proposed action would be in compliance with the CZM Act. Correspondence and the Navy/Marine Corps de minimis list under the CZM Act is attached to this EA (Appendix E).

4.2 EXECUTIVE ORDERS

4.2.1 *Executive Order 11990 – Protection of Wetlands*

Executive Order (EO) 11990 necessitates that federal agencies implement measures that prevent the degradation of wetlands, and that construction in a wetland be the last option if no other practical alternatives can be taken. Although the proposed action site is not located in a wetland, wetland areas exist within approximately a quarter-mile of the project area.

The proposed action is not anticipated to increase or pose any risk to the wetlands in the vicinity of the project area. Construction is not occurring within a wetland area, and no impacts are anticipated to the nearby wetlands. Protective measures, such as containing runoff, controlling drainage, and phasing the development of projects to minimize adverse impacts, would be implemented to reduce or eliminate risk to the wetland habitats that surround MCBH. The proposed action would be in compliance with EO 11990.

4.2.2 *Executive Order 13186 – Protection of Migratory Birds*

EO 13186 was issued to assist federal agencies with their efforts to comply with the Migratory Bird Treaty Act (MBTA) (16 USC 703-711). It should be noted that the EO does not constitute any legal authorization that in any way supersedes the requirements outlined in the MBTA. The EO directs federal agencies undertaking actions that have, or are likely to have, a measurable adverse impact on migratory bird populations to develop and implement a Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service addressing the conservation of these populations.

Migratory birds at MCBH are found mostly along the peninsula's shoreline and in the Nuupia Wetland Management Area. The implementation of the proposed action is not anticipated to negatively impact migratory bird species.

4.2.3 *Executive Order 13693 - Planning for Federal Sustainability in the Next Decade*

EO 13693 was signed in March, 2015, and introduced new requirements and expanded upon requirements established by EO 13514, EO 13423, the Energy Policy Act of 2005 (EPAct 2005), and the Energy Independence and Security Act (EISA) of 2007, including topics such as energy conservation/renewable energy, green buildings, water and stormwater management, climate change resiliency, and solid waste diversion/pollution prevention, among others. As a Federal agency, the DoD is responsible for addressing these topics, as are its subordinate departments (e.g., Army, Navy/Marine Corps, Air Force).

The proposed project would be in compliance with EO 13693, as applicable, including the EO provision for the annual diversion of at least 50% of non-hazardous construction/demolition debris from landfills.

4.2.4 *Executive Order 13089 – Coral Reef Protection*

EO 13693 was signed in June, 1998, in order to preserve and protect the biodiversity, health, heritage, and social and economic value of U.S. coral reef ecosystems and the marine environment. Under EO 13089, all Federal agencies whose actions may affect U.S. coral reef ecosystems shall identify such actions, utilize their programs and authority to protect and enhance the conditions of such ecosystems, and, to the extent permitted by law, ensure that any actions they authorize, fund, or carry out will not degrade the condition of such ecosystems.

The proposed project would be in compliance with EO 13089, as applicable, including the EO measures to reducing impacts from pollution and sedimentation.

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5.0 CONSULTATION AND COORDINATION

5.1 LIST OF AGENCIES CONSULTED

Federal

National Marine Fisheries Service
U.S. Fish and Wildlife Service (coordination)

State

Hawaii Department of Land and Natural Resources, Historic Preservation Division
Hawaii Office of Planning, Coastal Zone Management Program

6.0 LIST OF PREPARERS AND REVIEWERS

Preparers

Naval Facilities Engineering Command, Pacific

John Bigay	Planner-in-Charge
Ian Lundgren	Marine Resources
Coral Rasmussen	Cultural Resources

Reviewers

MCBH - Kaneohe Bay

Ron Yamada	Environmental Protection Specialist (NEPA), MCBH Environmental Compliance and Protection Department
Lance Bookless	Senior Natural Resources Manager, MCBH Environmental Compliance and Protection Department
Jeff Larson	Clean Water Program Manager, MCBH Environmental Compliance and Protection Department
Todd Russell	Natural Resources Manager, MCBH Environmental Compliance and Protection Department

Naval Facilities Engineering Command, Pacific

Sean Hanser	Supervisory Natural Resources Management Specialist
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