



**US Army Corps
of Engineers®**
Honolulu District

Appendix

Waiāhole Reservoir System Reservoirs 155 and 225 Improvements Project

Draft Environmental Assessment

March 2023

Appendix

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DRAFT

1 INTRODUCTION

This Appendix is an addendum to the EA and provides a more detailed administrative record of coordination on environmental compliance conducted to date as part of Waiāhole Reservoir System Reservoirs 155 and 225 Improvements Project (Project).

2 LIST OF STATEMENT AGENCIES

A list of the agencies, organizations, and persons to whom USACE will provide copies of the draft report for review is as follows:

- U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office
- U.S. Environmental Protection Agency
- Hawai'i Agribusiness Development Corporation (ADC)
- Hawai'i Department of Agriculture (DOA)
- Hawai'i Department of Land and Natural Resources (DLNR)
- Hawai'i Department of Health, Clean Water Branch (CWB)
- Hawai'i Department of Health, Hazard Evaluation and Emergency Response (HEER) Office
- Hawai'i State Historic Preservation Division (SHPD)
- Hawai'i Coastal Zone Management Program (CZMP)
- City and County of Honolulu Department of Planning and Permitting

3 ENVIRONMENTAL COMPLIANCE

This text provides the details for Table 6 in Section 5 of the EA.

3.1 National Environmental Policy Act (NEPA)

NEPA (42 USC § 4321 *et seq.*) requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their Proposed Actions and reasonable alternatives to those actions. NEPA also established the Council on Environmental Quality (CEQ). As part of the Executive Office of the President, CEQ coordinates federal environmental efforts and is responsible for advising the president on environmental policy matters. CEQ has also promulgated regulations implementing NEPA, which are binding on all federal agencies. These regulations address the procedural provisions of NEPA and the administration of the NEPA process.

The NEPA is applicable to all “major” federal actions affecting the quality of the human environment. A major federal action is an action with effects that may be major, and which are potentially subject to federal control and responsibility. These actions may include new and continuing activities, including projects and programs entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies; new or revised agency rules, regulations, plans, policies, or procedures; and legislative proposals.

An EA was completed in 2017 (USACE 2017a). Due to a change in project scope and conditions, USACE determined a supplement to the original EA was warranted. Accordingly, an EA has been drafted to comply with 42 USC 4321 *et seq.*, 40 CFR 1500-1508, and 33 CFR 230 *et seq.* for this project. The draft supplemental EA will be provided to all resource agencies for review and comment during a concurrent 30-day public comment period. Comments received during this period will be considered for incorporation into the final EA by USACE.

The project is presently compliant with NEPA.

3.2 Endangered Species Act (ESA) of 1973

Section 7 of the ESA (16 USC §1531 et seq.) requires each federal agency to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any threatened or endangered species or result in destruction or adverse modification of critical habitat for such species. Federal agencies are further required to consult with the appropriate federal agency, either the USFWS or NOAA-NMFS, for federal actions that “may affect” a listed species or adversely modify critical habitat. Federal agencies must use the best available scientific and commercial data when making an effect determination relating to the impact of their actions.

Pursuant to Section 7 of the ESA, USACE requested technical assistance from USFWS on December 16, 2022. USFWS provided a list of species listed or proposed for listing under USFWS jurisdiction that may be present on or in the vicinity of the proposed project location (see Section 2.4 of the EA), as well as confirmation that there is no designated or proposed federally designated critical habitat occurring within the immediate vicinity of the action area. The listed species in Table 1 of the EA have not been reported present at the action area. Implementing the Proposed Action including all Environmental Commitments would not affect endangered species (see Appendix Attachment 2).

The USACE will continue to coordinate with the USFWS as part of the public review of this Draft Supplemental EA document and will continue coordination throughout the feasibility phase.

The project is presently compliant with ESA.

3.3 Fish and Wildlife Coordination Act (FWCA) of 1934

The FWCA (16 USC 661 et seq.) requires federal agencies to coordinate with the USFWS and local state/territorial agencies when any stream or body of water is proposed to be impounded, diverted, or otherwise modified. The intent is to give fish and wildlife conservation equal consideration with other purposes of water resources development projects.

The only body of water in the project area are Reservoirs 155 and 225 which are artificially stocked with irrigation water from the Waiahole Irrigation Ditch System and function as storage basins for agricultural purposes. The reservoirs would not exist but for the addition of water from the Waiahole Irrigation System. The proposed action will improve upon the existing artificial water bodies and will not impound, divert, or otherwise modify the reservoir. Accordingly, USACE has determined the FWCA does not apply to this project.

3.4 Magnuson-Stevens Fishery Conservation and Management Act (MSA)

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 USC § 1801 et seq.) is the primary law governing fisheries management in U.S. federal waters. The MSA is intended to foster long-term biological and economic sustainability of U.S. marine fisheries through the prevention of overfishing, the rebuilding of overfished stocks, and increasing long-term economic and social benefits to ensure a safe and sustainable supply of seafood. Section 305(b) of the MSA requires that Federal agencies must consult with the National Marine Fisheries Service on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect essential fish habitat (EFH).

There are no designated EFH in the Project Area, and the proposed action would not adversely affect EFH downstream of the project area, therefore MSA does not apply to this project.

3.5 Marine Mammal Protection Act (MMPA)

All marine mammals are protected under the MMPA (16 USC § 1361 et seq.), which prohibits takes of all marine mammals in the U.S. (including territorial seas) with few exceptions. Permits for scientific research on marine mammals and permits to enhance the survival or recovery of a species, issued under Section 104 of the MMPA are two such exceptions. For Threatened and Endangered marine mammals, any activities that could affect ESA-listed species must be consistent with the ESA as well.

There are no marine waters in the Project Area, therefore MMPA does not apply.

3.6 Migratory Bird Treaty Act (MBTA)

The Migratory Bird Treaty Act (16 USC § 703-712) was enacted to ensure protection of migratory bird resources that are shared among the U.S., Canada, Mexico, Japan, and Russia. The MBTA makes it unlawful to “pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or egg of any such bird, or any product”.

The responsibilities of federal agencies to protect migratory birds are set forth in EO 13186. USFWS is the lead agency for migratory birds. The USFWS issues permits for takes of migratory birds for activities such as scientific research, education, and depredation control, but does not issue permits for incidental take of migratory birds.

The MBTA does not apply to non-native species introduced to the U.S. or its territories by mean of intentional or unintentional human assistance.

No take or harassment of migratory birds is anticipated through the proposed action as the proposed project is in disturbed habitat with little to no vegetation or habitat for avian species. However, compliance with the MBTA would be adhered to during the construction phase to prevent incidental take of any native bird species (e.g., nests, etc.).

The project complies with the MBTA.

3.7 Clean Water Act (CWA) of 1972

The CWA (33 USC § 1251 et seq.) establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. and regulating quality standards for surface waters. The CWA defines waters of the U.S. to include all interstate waters, lakes, rivers, streams, territorial seas, tributaries to navigable waters, interstate wetlands, wetlands that could affect interstate or foreign commerce, and wetlands adjacent to other WOTUS. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, without a permit. Jurisdictional WOTUS are not within the proposed project footprint.

Section 402 of the CWA (33 USC § 1342(a)) requires that a discharge of any pollutant or combination of pollutants to surface waters that are deemed waters of the United States, such as storm water from point or nonpoint sources, be regulated through the NPDES permitting program. Section 402(a) provides that the permit-issuing authority may issue an NPDES permit that authorizes the discharge of any pollutant into navigable waters of the United States, upon the condition that such discharge meets all applicable requirements of the CWA and such other conditions as the permitting authority determines necessary to carry out the provisions of the CWA. As part of this program, general NPDES permits are required to regulate storm water discharges associated with deployment or construction activities that disturb one or more acres of land. USEPA has authorized the HDOH CWB to issue NPDES permits. While the Waiāhole Reservoir system does not constitute a WOTUS or State Water, Construction Storm Water permits are required for any project of more than an acre in ground disturbance.

At this time, the recommended plan does not anticipate discharges into WOTUS; therefore, a water quality certification (WQC) pursuant to section 401 of the CWA would not be required. However, should design changes trigger a need for a WQC as a condition of the project's land use permit when issued, all terms and conditions of the WQC, once issued, would be implemented.

The protection of water quality of surface waters in Hawai'i is implemented by the Hawai'i DOH CWB. All required NPDES permits will be acquired before construction begins.

The project is presently compliant with CWA.

3.8 Coastal Zone Management Act (CZMA) of 1972

Congress enacted the Coastal Zone Management Act (CZMA) (16 USC § 1451 et seq.) to protect the coastal environment from growing demands associated with residential, recreational, commercial and industrial uses (such as, state and federal offshore oil and gas development). Coastal states with an approved Coastal Zone Management Plan, which defines permissible land and water use within a state or territory's coastal zone, can review federal actions (such as deployment/construction and operation of a proposed project action) for federal consistency. Federal consistency is the requirement that a proposed action likely to affect any land/water use or natural resources of the coastal zone be consistent with the enforceable policies of a state or territory's program. The CZMA requires NOAA to conduct periodic evaluations of the performance of states and territories with federally approved coastal management programs. The passage of the CZMA led to the creation of the Federal CZM Program. The state CZM program for Hawai'i was established in 1977 to provide a common focus for state and county actions dealing with land and water uses and activities. Because there is no point of land more than 30 miles from the ocean, the Hawai'i CZM area encompasses the entire state (Hawai'i CZM Program 2023).

CZM consistency conditional concurrence was received on March 29, 2018 for the original project area. USACE coordinated the modified borrow site location with the Hawai'i CZMP on January 24, 2023 stating that the new borrow sites continue to be consistent with the enforceable policies of the State CZM Plan and citing the CZM consistency decisions for ADC (DBEDT) HEPA Environmental Assessments dated 2021 and 2022 (see Attachment 4): Waiāhole Water System Improvements project, https://files.hawaii.gov/dbedt/erp/Doc_Library/2021-09-08-OA-FEA-Waiāhole-Water-System-Improvements.pdf discussion of CZMA starts on page 79 of 521.

Wahiawā Recycled Water Irrigation Project: 2022-08-23-OA-FEA-Irrigation-System-Improvements-in-Central-Oahu.pdf (hawaii.gov), discussion of CZMA starts on page 78 of 425.

The Project will be in compliance upon completion of current coordination.

3.9 National Historic Preservation Act (NHPA) of 1966

The goal of the NHPA (54 USC 306101) is to empower federal agencies to act as responsible stewards of cultural resources when agency actions affect historic properties. The NHPA established the Advisory Council on Historic Preservation, an independent federal agency that promotes the preservation, enhancement, and productive use of our nation's historic resources, and advises the President and Congress on national historic preservation policy. The NHPA also authorizes the Secretary of the Interior to expand and maintain a National Register of Historic Places composed of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture.

Section 106 of the NHPA requires federal agencies to consider the effects of their undertakings on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register. In carrying out their responsibilities under Section 106, the NHPA requires that federal agencies consult with federally recognized Indian tribes and Native Hawaiian Organizations that attach traditional religious and cultural significance to eligible or listed historic properties that could potentially be affected by the agency's actions. The intent of the consultation is to identify historic properties potentially affected by the undertaking and to seek ways to avoid, minimize, or mitigate any adverse effects on those properties.

The NHPA details a four-step process for Section 106 consultation that requires each federal agency to: 1) initiate a review process to evaluate any proposed action, 2) identify historic properties that could be affected by the proposed federal, or federally licensed, permitted or funded, action, 3) assess whether the action has the potential to affect properties that are listed in or are eligible for listing in the National Register of Historic Places, and 4) resolve the adverse effects.

Initial NHPA Section 106 consultation was completed on March 2, 2020, with the execution of a MOA and supplemented by an additional finding of no affect for modification of the borrow site and staging areas (Attachment 5) awaiting SHPD response.

3.10 Clean Air Act (CAA) of 1972

The CAA (42 USC §7401 et seq.), as amended in 1990, is the federal law that governs air quality. The CAA sets standards for the concentration of pollutants that can be in the air. The USEPA sets National Ambient Air Quality Standards (NAAQS) to protect public health and welfare from harmful effects of certain commonly occurring pollutants known as "criteria" pollutants, as described in further detail below. The USEPA requires that states monitor the ambient air to determine attainment of the NAAQS and regulate industries that emit these and other pollutants. The air quality in a region is a result of not only the types and quantities of pollutants and pollutant sources in the area, but also surface topography and prevailing meteorological conditions.

The NAAQS represent the maximum allowable concentrations for: ozone (O₃) - measured as either volatile organic compounds (VOCs) or total oxides of nitrogen (NO_x); carbon monoxide (CO); nitrogen dioxide (NO₂); sulfur oxides (SO_x); respirable (breathable) particulate matter

(including particulate matter equal to or less than 10 microns in diameter [PM10] and equal to or less than 2.5 microns in diameter [PM2.5]); and lead (Pb; 40 CFR Part 50). The CAA also gives the authority to states to establish air quality rules and regulations.

USEPA classifies air quality in an Air Quality Control Region (AQCR), or in subareas of an AQCR, according to whether the concentrations of criteria pollutants in ambient air (general surrounding conditions) exceed the NAAQS. Areas within each AQCR are therefore designated as either “attainment,” “nonattainment,” “maintenance,” or “unclassified” for each of the six criteria pollutants: PM10 and PM2.5, O3, CO, SOX, NOX, and Pb. Hawai‘i has also established a state ambient air standard for hydrogen sulfide (H2S). Attainment means that the air quality within an AQCR meets or exceeds the NAAQS; nonattainment indicates that criteria pollutant levels exceed NAAQS thresholds and as such, air quality is below NAAQS; maintenance indicates that an area was previously designated nonattainment but is now attainment; and an unclassified air quality designation by USEPA means that there is not enough information to appropriately classify an AQCR, so the area is considered attainment.

USEPA has delegated the authority for ensuring compliance with the NAAQS to Hawai‘i DOH, Clean Air Branch. The Clean Air Branch measures and monitors ambient air concentrations of these pollutants via a statewide monitoring network. The island of O‘ahu has four monitoring stations: Honolulu, Sand Island, Pearl City, and Kapolei. The Pearl City station is nearest to the Project Area.

According to the Hawai‘i DOH, most commercial, industrial, and transportation activities and their associated air quality effects occur on O‘ahu. Excluding pollutant exceedances due to the volcanic activity on the island of Hawai‘i, in 2013 the State of Hawai‘i was in attainment of all NAAQS. There were no violations recorded for the island of O‘ahu.

No air quality permits are required for this project. Because the project is located within an attainment area, USEPA’s General Conformity Rule to implement Section 176(c) of the Clean Air Act does not apply and a conformity determination is not required.

3.11 Farmland Protection Policy Act (FPPA) of 1981

The FPPA (7 USC §4201 et seq.) is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. This project will benefit high quality prime and unique farmland of Central O‘ahu by ensuring the availability of irrigation into the future (CCH 2022). The proposed reservoir improvements will not irreversibly convert farmland (directly or indirectly) to nonagricultural use.

The project complies with the FPPA.

3.12 Wild and Scenic Rivers Act of 1968

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542, 16 U.S.C. §1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection.

There are no streams with special designations and no wild and scenic rivers in Hawai'i (National Wild and Scenic Rivers System 2023). This Act is not applicable.

3.13 Estuary Protection Act of 1968

The Estuary Protection Act (16 USC §§1221-26) is administered by the Department of the Interior and provides a means to protect, conserve, and restore estuaries in a manner that maintains balance between the need for natural resource protection and conservation and the need to develop estuarine areas to promote national growth. Presently, the Act requires all Federal agencies to consider estuaries, their natural resources and their importance for commercial and industrial developments in planning for the use or development of water and land resources.

The project area is absent of any estuary and will have no effect on any downstream estuary. This Act is not applicable.

3.14 Federal Water Project Recreation Act (16 USC §460(L)(12)-460(L)(21) et seq.)

There are no recreational resources at the 2 reservoirs. There is no fishing, diving, swimming, rafting, or any water related activity permitted. This Act is not applicable.

3.15 Rivers and Harbors Act of 1899, Section 10 (33 USC §403 et seq.)

The proposed work would not affect navigable waters of the U.S. This Act is not applicable.

3.16 Coastal Barrier Resources Act and Coastal Barrier Improvement Act of 1990 (16 USC §3501 et seq.)

There are no designated coastal barrier resource system units in Hawai'i. These Acts are not applicable.

3.17 Dam Safety Act of 2007

In accordance with the Hawai'i Dam Safety Act of 2007, the State of Hawai'i DLNR has jurisdiction over the enlargement, repair, and alteration of jurisdictional dams, in order to protect the health, safety, and welfare of the citizens of the State of Hawai'i by reducing the risk of failure of the dams and reservoirs. This project is coordinated with DLNR. This project complies with this Act.

3.18 Executive Order (EO) 13751 - Safeguarding the Nation from the Impacts of Invasive Species, Dec 8, 2016

Executive Order 13112 of February 3, 1999 (Invasive Species), called upon executive departments and agencies to take steps to prevent the introduction and spread of invasive species, and to support efforts to eradicate and control invasive species that are established. Executive Order 13112 also created a coordinating body -- the Invasive Species Council, also referred to as the National Invasive Species Council -- to oversee implementation of the order, encourage proactive planning and action, develop recommendations for international cooperation, and take other steps to improve the Federal response to invasive species. Past efforts at preventing, eradicating, and controlling invasive species demonstrated that

collaboration across Federal, State, local, tribal, and territorial government; stakeholders; and the private sector is critical to minimizing the spread of invasive species and that coordinated action is necessary to protect the assets and security of the United States.

EO 13751 amends EO 13112 and directs actions to continue coordinated Federal prevention and control efforts related to invasive species. This order maintains the National Invasive Species Council (Council) and the Invasive Species Advisory Committee; expands the membership of the Council; clarifies the operations of the Council; incorporates considerations of human and environmental health, climate change, technological innovation, and other emerging priorities into Federal efforts to address invasive species; and strengthens coordinated, cost-efficient Federal action.

The Project complies with this EO.

3.19 Executive Order 11988 (as amended by EOs 12148, 13690, and 14030) Floodplain Management

EO 11988 requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. Furthermore, federal agencies must either avoid funding or permitting critical facilities in the 500-year floodplain or must provide protection to mitigate the flood risk to those facilities. Critical facilities are those facilities for which even a small risk of flooding is too great and include public safety infrastructure (FEMA 2016). In accomplishing this objective, “each agency provides leadership and takes action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities” for the following actions:

- Acquiring, managing, and disposing of federal lands and facilities
- Providing federally undertaken, financed, or assisted construction and improvements
- Conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities

The National Flood Insurance Program (NFIP) is a federal program managed by the FEMA that allows property owners in participating communities to purchase flood insurance with rates established through the National Flood Insurance Rate Maps. The project does not occur in a floodplain.

The Project complies with this EO

3.20 Executive Order 11990-(as amended by EO 12608) Protection of Wetlands

The purpose of EO 11990 is to “minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.” To meet these objectives, federal agencies are required, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. The EO applies to the following:

- Acquisition, management, and disposition of federal lands and facilities construction and improvement projects that are undertaken, financed, or assisted by federal agencies

- Federal activities and programs affecting land use, including, but not limited to, water and related land resources planning, regulation, and licensing activities.

The procedures require the determination of whether or not the proposed project would be in, or would affect, wetlands. If so, a wetlands assessment must be prepared that describes the alternatives considered. The procedures include a requirement for public review of assessments. The evaluation process follows the same eight steps as for EO 11988, Floodplain Management. As with EO 11988, this eight-step process can be addressed as part of the NEPA compliance process if an EA or EIS is developed.

There are no wetlands within the proposed Project Area and no wetlands would be affected by and project activities.

The Project complies with this EO.

Attachment 1. USFWS PIFWO ESA Technical Assistance Letter

From: [Dang, Charmian I](#)
To: [Dean, Marian E CIV USARMY CEPOH \(USA\)](#)
Cc: [Paahana, Jessie A CIV USARMY CEPOH \(USA\)](#); [Truong, Khoa D CIV USARMY CEPOH \(USA\)](#)
Subject: [Non-DoD Source] Re: [EXTERNAL] RE: Subject: 2023-0036417-S7-001 Technical Assistance on the Supplemental Environmental Assessment for the Proposed Waiāhole Reservoir System Repairs Project, Kunia, O'ahu
Date: Monday, February 6, 2023 6:48:38 AM
Attachments: [image001.png](#)

Good Morning Ms. Dean,

There is no critical habitat in the vicinity of the project area.

Please feel free in contacting me if you have any additional questions.

Aloha,

Charmian

Charmian Dang
U. S. Fish and Wildlife Biologist
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850
808-792-9400

From: Dean, Marian E CIV USARMY CEPOH (USA) <Marian.Dean@usace.army.mil>
Sent: Friday, February 3, 2023 4:44 PM
To: Dang, Charmian I <charmian_dang@fws.gov>
Cc: Paahana, Jessie A CIV USARMY CEPOH (USA) <Jessie.K.Paahana@usace.army.mil>; Truong, Khoa D CIV USARMY CEPOH (USA) <Khoa.D.Truong@usace.army.mil>
Subject: [EXTERNAL] RE: Subject: 2023-0036417-S7-001 Technical Assistance on the Supplemental Environmental Assessment for the Proposed Waiāhole Reservoir System Repairs Project, Kunia, O'ahu

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Charmian,

In the 2016 response (attached), USFWS stated that there is no critical habitat in the project area. Critical Habitat is not addressed in the January 30, 2023 response you provided. Would you please confirm that there is still no critical habitat in the current project area.

Thank you,
Marian

Marian Dean
Environmental Planner
Civil & Public Works Branch



230 Otake St.
Ft. Shafter, HI 96858-5440
marian.dean@usace.army.mil
808-379-8223

From: Dang, Charmian I <charmian_dang@fws.gov>
Sent: Monday, January 30, 2023 2:13 PM
To: Dean, Marian E CIV USARMY CEPOH (USA) <Marian.Dean@usace.army.mil>
Cc: Paahana, Jessie A CIV USARMY CEPOH (USA) <Jessie.K.Paahana@usace.army.mil>; Truong, Khoa D CIV USARMY CEPOH (USA) <Khoa.D.Truong@usace.army.mil>
Subject: [Non-DoD Source] Subject: 2023-0036417-S7-001 Technical Assistance on the Supplemental Environmental Assessment for the Proposed Waiāhole Reservoir System Repairs Project, Kunia, O'ahu

Dear Ms. Kucharski,

Attached you will find the FWS Pacific Islands Fish and Wildlife Office's response to your species list and guidance request for the above-named project.

We thank you for your efforts to conserve listed species and native habitats. Please contact me should you have any questions pertaining to this response or require further guidance. When referring to this project, please include this reference number: 2023-0036417-S7-001.

aloha,
Charmian

Charmian Dang
U. S. Fish and Wildlife Biologist



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850



In Reply Refer To:
2023-0036417-S7-001

January 30, 2023

Ms. Rhiannon Kucharski
Chief, Civil and Public Works Branch
Attn: Ms. Marian Dean
U.S. Army Corps of Engineers, Honolulu District
Fort Shafter, Hawai'i 96858

Subject: Technical Assistance on the Supplemental Environmental Assessment for the
Proposed Waiāhole Reservoir System Repairs Project, Kunia, O'ahu

Dear Ms. Kucharski:

Thank you for your December 16, 2022 letter, requesting a species list and guidance on the Supplemental Environmental Assessment for the proposed Waiāhole Reservoir System Repairs Project, located in Kunia, on the island of O'ahu. The Honolulu District, U.S. Army Corps of Engineers (USACE) is supplementing the Environmental Assessment (EA) for the proposed project. The original EA was completed in November of 2017, and much of the natural resource data and analysis is over five years old. In addition, the location of the Borrow Sites and Staging Areas have changed.

The USACE, and the State of Hawai'i Department of Agriculture, and the State of Hawai'i Agribusiness Development Corporation (non-federal sponsors) are planning to repair and rehabilitate two reservoirs along the existing Waiāhole Ditch Irrigation System to improve safety. Water storage capacities of the reservoirs would be reduced and embankment geometry modified to ensure that each reservoir meets current life safety and risk criteria. The reservoirs would also be lined to reduce water losses in the system.

The footprint for the proposed project encompasses Reservoirs 155 and 225 of the Waiāhole Ditch system, their appurtenances, two staging areas, access roads, and a borrow site to be used during construction. Prior to construction, irrigation water from the ditch system would temporarily bypass the reservoirs. The bypass will occur via pipeline from the existing Waiāhole Ditch to a nearby pump station for continued agricultural irrigation use and removed after the reservoirs are placed back into operation. Each reservoir would then be allowed to drain through

PACIFIC REGION 1

IDAHO, OREGON*, WASHINGTON,
AMERICAN SAMOA, GUAM, HAWAII, NORTHERN MARIANA ISLANDS

*PARTIAL

Ms. Rhiannon Kucharski

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irrigation use prior to construction. The embankments of the reservoirs would then be excavated, sediment removed from the interiors, and the embankments reconstructed to meet the USACE and State design criteria. The proposed work would also include: an internal drainage system, new inlets and outlets, spillways, and a high density polyethylene reservoir liner to reduce water losses. Reservoir 155 would be reduced in size to an operating capacity of 33.0 acre-foot. The operating capacity of Reservoir 225 would also be reduced to 33.7 acre-foot. The reductions in capacities would still meet agricultural irrigation needs while improving the structures and reducing the risk of failure of the existing reservoirs to downstream communities.

This letter has been prepared under the authority of and in accordance with provisions of the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*), as amended (ESA). We have reviewed the information you provided and pertinent information in our files, as it pertains to federally listed species in accordance with section 7 of the ESA. Our data indicate the following federally listed species may occur or transit through the vicinity of the proposed project area: the endangered ‘ōpe‘ape‘a (Hawaiian hoary bat, *Lasiurus cinereus semotus*); endangered ‘ua‘u (Hawaiian petrel, *Pterodroma sandwichensis*), endangered Hawai‘i distinct population segment (DPS) of ‘akē‘akē (band-rumped storm-petrel, *Oceanodroma castro*), and threatened ‘a‘o (Newell’s shearwater, *Puffinus auricularis newelli*) (hereafter collectively referred to as Hawaiian seabirds); the endangered koloa (Hawaiian duck, *Anas wyvilliana*), endangered ‘alae ke‘oke‘o (Hawaiian coot, *Fulica alai*), endangered ae‘o (Hawaiian stilt, *Himantopus mexicanus knudseni*), and the endangered ‘alae ‘ula (Hawaiian common gallinule, *Gallinula galeata sandvicensis*) (hereafter collectively referred to as Hawaiian waterbirds).

‘Ōpe‘ape‘a

‘Ōpe‘ape‘a roosts in both exotic and native woody vegetation across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away. ‘Ōpe‘ape‘a forage for insects from as low as 3 feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.

To avoid and minimize impacts to the endangered ‘ōpe‘ape‘a we recommend you incorporate the following applicable measures into your project description:

- Do not disturb, remove, or trim woody plants greater than 15 feet tall during the bat birthing and pup rearing season (June 1 through September 15).
- Do not use barbed wire for fencing.

Hawaiian Seabirds

Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable.

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To avoid and minimize potential project impacts to seabirds we recommend you incorporate the following applicable measures into your project description:

- Fully shield all outdoor lights so the bulb can only be seen from below bulb height and only use when necessary.
- Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period (September 15 through December 15).

Hawaiian Waterbirds

Hawaiian waterbirds are currently found in a variety of wetland habitats including freshwater marshes and ponds, coastal estuaries and ponds, artificial reservoirs, kalo or taro (*Colocasia esculenta*) lo'i or patches, irrigation ditches, sewage treatment ponds, and in the case of the koloa, montane streams and marshlands. Ae'o may also be found wherever ephemeral or persistent standing water may occur. Threats to these species include non-native predators, habitat loss, and habitat degradation. Koloa are also subject to threats from hybridization with introduced mallards.

To avoid and minimize potential project impacts to Hawaiian waterbirds we recommend you incorporate the following measures into your project description:

- In areas where waterbirds are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.
- If water resources are located within or adjacent to the project site, incorporate applicable best management practices (BMPs) regarding work in aquatic environments into the project design (see enclosure).
- Have a biological monitor that is familiar with the species' biology conduct Hawaiian waterbird nest surveys where appropriate habitat occurs within the vicinity of the proposed project site prior to project initiation. Repeat surveys again within 3 days of project initiation and after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest). If a nest or active brood is found:
 - Contact the Service within 48 hours for further guidance.
 - Establish and maintain a 100-foot buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.
 - Have a biological monitor that is familiar with the species' biology present on the project site during all construction or earth moving activities until the chicks/ducklings fledge to ensure that Hawaiian waterbirds and nests are not adversely impacted.

In addition, your project may result in the creation of standing water or open water that could attract Hawaiian waterbirds to the project site. Hawaiian waterbirds attracted to sub-optimal habitat may suffer adverse impacts, such as predation and reduced reproductive success, and thus the project may create an attractive nuisance. The ae'o is also known to nest in sub-optimal locations (e.g. any ponding water), if water is present. Therefore, we recommend you work with

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our office during project planning so that we may assist you in developing measures to avoid impacts to listed species (e.g., fencing, vegetation control, predator management).

We appreciate your efforts to conserve protected species. If you have questions regarding this response, please contact Charmian Dang, Fish and Wildlife Biologist (phone: 808-792-9400, email: Charmian_Dang@fws.gov). When referring to this project, please include this reference number: 2023-0036417-S7-001.

Sincerely,

JINY
KIM

Digitally signed
by JINY KIM
Date: 2023.01.30
13:39:33 -10'00'

Acting Island Team Manager
O'ahu, Kaua'i, Northwestern Hawaiian
Islands, and American Samoa

Enclosure: Service Recommended Standard BMP

Ms. Rhiannon Kucharski

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**U.S. Fish and Wildlife Service
Recommended Standard Best Management Practices**

The U.S. Fish and Wildlife Service (Service) recommends the following measures to be incorporated into project planning to avoid or minimize impacts to fish and wildlife resources. Best Management Practices (BMPs) include the incorporation of procedures or materials that may be used to reduce either direct or indirect negative impacts to aquatic habitats that result from project construction-related activities. These BMPs are recommended in addition to, and do not over-ride any terms, conditions, or other recommendations prepared by the Service, other federal, state or local agencies. If you have questions concerning these BMPs, please contact the Service's Aquatic Ecosystems Conservation Program at 808-792-9400.

1. Authorized dredging and filling-related activities that may result in the temporary or permanent loss of aquatic habitats should be designed to avoid indirect, negative impacts to aquatic habitats beyond the planned project area.
2. Dredging/filling in the marine environment should be scheduled to avoid coral spawning and recruitment periods, and sea turtle nesting and hatching periods. Because these periods are variable throughout the Pacific islands, we recommend contacting the relevant local, state, or federal fish and wildlife resource agency for site specific guidance.
3. Turbidity and siltation from project-related work should be minimized and contained within the project area by silt containment devices and curtailing work during flooding or adverse tidal and weather conditions. BMPs should be maintained for the life of the construction period until turbidity and siltation within the project area is stabilized. All project construction-related debris and sediment containment devices should be removed and disposed of at an approved site.
4. All project construction-related materials and equipment (dredges, vessels, backhoes, silt curtains, etc.) to be placed in an aquatic environment should be inspected for pollutants including, but not limited to; marine fouling organisms, grease, oil, etc., and cleaned to remove pollutants prior to use. Project related activities should not result in any debris disposal, non-native species introductions, or attraction of non-native pests to the affected or adjacent aquatic or terrestrial habitats. Implementing both a litter-control plan and a Hazard Analysis and Critical Control Point plan (HACCP – see <http://www.haccp-nrm.org/Wizard/default.asp>) can help to prevent attraction and introduction of non-native species.
5. Project construction-related materials (fill, revetment rock, pipe, etc.) should not be stockpiled in, or in close proximity to aquatic habitats and should be protected from erosion (e.g., with filter fabric, etc.), to prevent materials from being carried into waters by wind, rain, or high surf.
6. Fueling of project-related vehicles and equipment should take place away from the aquatic environment and a contingency plan to control petroleum products accidentally spilled during the project should be developed. The plan should be retained on site with the person responsible for compliance with the plan. Absorbent pads and containment booms should be stored on-site to facilitate the clean-up of accidental petroleum releases.
7. All deliberately exposed soil or under-layer materials used in the project near water should be protected from erosion and stabilized as soon as possible with geotextile, filter fabric or native or non-invasive vegetation matting, hydro-seeding, etc.

Attachment 2. Waiahole Reservoir System Reservoirs 155 and 225 Improvements Project, Kunia, O'ahu, Hawai'i, 17 January 2023 Field Observations

Participants:

Khoa Truong, Project Manager, USACE

Maria Dean, Environmental Planner, USACE

Ken Nakamoto, ADC

The majority of the survey areas are either mowed areas dominated by weedy plant species, bare soil, or are in active cultivation. The areas surrounding the reservoirs have been utilized for agriculture since the late 1800s, being planted in sugar cane in the past and now in diversified agriculture.

Similar to USACE 2014, surveys were conducted by walking over the proposed project area and noting each species observed. No signs of faunal presence, such as footprints, droppings, egg shells, or burrows, were observed. Birds were identified by sight and by calls. Invertebrates were observed by chance sightings and noted. There had been 2 recent periods of heavy rain and the California grass was chest high making it impossible to walk the embankments in most places.

New Staging Area @ 155, 9:42 am

The staging area is visible from Plantation Road. It is currently actively used as a cow pasture so access was not allowed. The staging area was observed from Plantation Road. The planned staging area is already cleared and leveled. No wildlife was observed in the area. The vegetation is the same as that along the rest of Plantation Road and surrounding Reservoir 155 (Table 1).



Figure 1: View of Reservoir 155 Staging Area from the Plantation Road entrance gate facing northwest. The entrance road is in the foreground center and leads back to the already cleared and levelled staging area. Photograph taken by Marian Dean on 17 January 2023.



Figure 2: View of Reservoir 155 cleared and levelled Staging Area from Plantation Road facing northeast. Photograph taken by Marian Dean on 17 January 2023.

Reservoir 155

Observed vegetation diversity was lower than that reported by LeGrande (2014), but faunal diversity was higher. A total of 20 plant species were observed within the survey area in 2023 only one was endemic (native to the Hawaiian Islands and elsewhere; Table 1). While the other 19 species are non-native with weedy growth habits, none are on the Hawaii State Noxious Weed List (HDOA 2003) or the Hawaii State Invasives Species List (HISC 2023). The earthen embankments (Figures 3 and 4) were dominated by weedy grass species. The flumes/ditches included in the survey area were dominated by non-native Elodea and water hyacinth. No endangered species were observed (Tables 1 and 2).

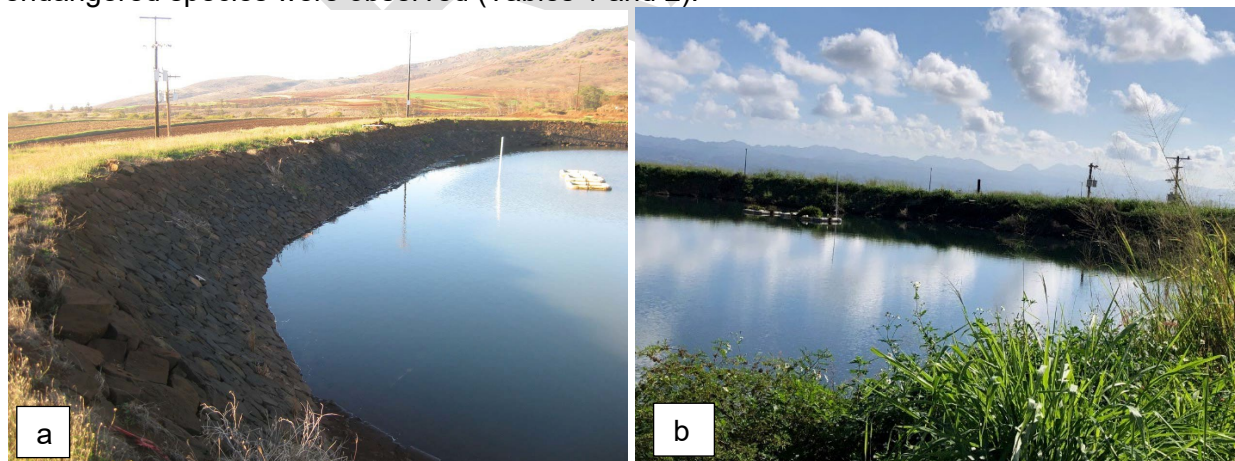


Figure 3: a. View facing west of the earthen embankment lined with blue stone at the southeastern portion of Reservoir 155 as observed in 2014. B. View facing east of the same section from across the reservoir in 2023. The earthen embankment is now covered with thick chest high vegetation due to 2 recent heavy rains.

Attachment 2: January 2023 Field Observations

Table 1: Vegetation observed at Reservoir 155 on 17 January 2023. X= non native, I=Invasive, E= Endemic

SCIENTIFIC NAME	COMMON NAME	STATUS
MONOCOTS		
POACEAE		
<i>Brachiaria mutica</i> (Forssk.) Stapf	California grass	X
<i>Chloris barbata</i> (L.) Sw.	swollen fingergrass	X
<i>Eragrostis tenella</i> (L.) P.Beauv. Ex Roem.&Schult.	Japanese lovegrass	X
<i>Melinis repens</i> (Willd.) Zizka	natal redtop	X
<i>Megathyrsus maximus</i> (<i>Panicum maximum</i> L. in USACE 2014)	Guinea grass	X
DICOTS		
ASTERACEAE		
<i>Bidens pilosa</i> L.	beggar tick/Spanish needle	X
<i>Emilia fosbergii</i> Nicolson	red pualele	X
<i>Tridax procumbens</i> (L.)	coat buttons	X
<i>Verbesina encelioides</i> (Cav.) Benth. & Hook	golden crown-beard	X
CHENOPODIACEAE		
<i>Atriplex semibaccata</i> R.Br.	Australian saltbush	X
CONVOLVULACEAE		
<i>Ipomoea obscura</i> (L.) Ker Gawl.		X
EUPHORBIACEAE		
<i>Euphorbia hirta</i> (<i>Chamaesyce hirta</i> (L.) Millsp. in USACE 2014)	hairy spurge, garden spurge	X
<i>Ricinus communis</i> L.	castor bean	X
FABACEAE		
<i>Leucaena leucocephala</i> (Lam.) de Wit	Koa haole	X
HYDROCHARITACEAE		
<i>Egeria densa</i> Planch.	Brazilian elodea	X
MALVACEAE		
<i>Malva parviflora</i> L.	cheese weed	X
<i>Sida ciliaris</i> L.		X
ONAGRACEAE		
<i>Ludwigia octovalvis</i> (Jacq.) Raven	primrose willow	X
PONTEDERIACEAE		
<i>Pontederia crassipes</i>	Water hyacinth	X
STERCULIACEAE		
<i>Waltheria indica</i> L.	`uhaloa	E

Attachment 2: January 2023 Field Observations

Table 2: Fauna observed around Reservoir 155 on 17 January 2023. Species did not overlap with the USACE 2014 observations. X= non native, I=Invasive, E= Endemic.

Status	Common Name	Scientific Name	Location	#
Birds				
X	zebra dove	<i>Streptopelia chinensis</i>	near the fields at the edge of the survey area	calling
X	cattle egret	<i>Bubulcus ibis</i>	In the adjacent fields	flock
X	House sparrow	<i>Passer domesticus</i>	Flying across the fields	Flock
Fish				
X	Peacock bass	<i>Cichla spp.</i>	Ditch adjacent to flume	2
I	tilapia	<i>Sarotherodon melanotheron</i> and other spp., generally hybridized in Hawaii	Ditch and reservoir	Group
I	Smallmouth bass	<i>Microperus dolomieu</i>	Ditch and reservoir	Group
Insects				
X	dragonfly	<i>Anax sp.</i>	Flying	5
X	Lantana Scrub-Hairstreak	<i>Strymon bazochii</i>	Flying over vegetation	2
X	Cabbage White moth	<i>Pieris rapae</i>	Flying over vegetation	1

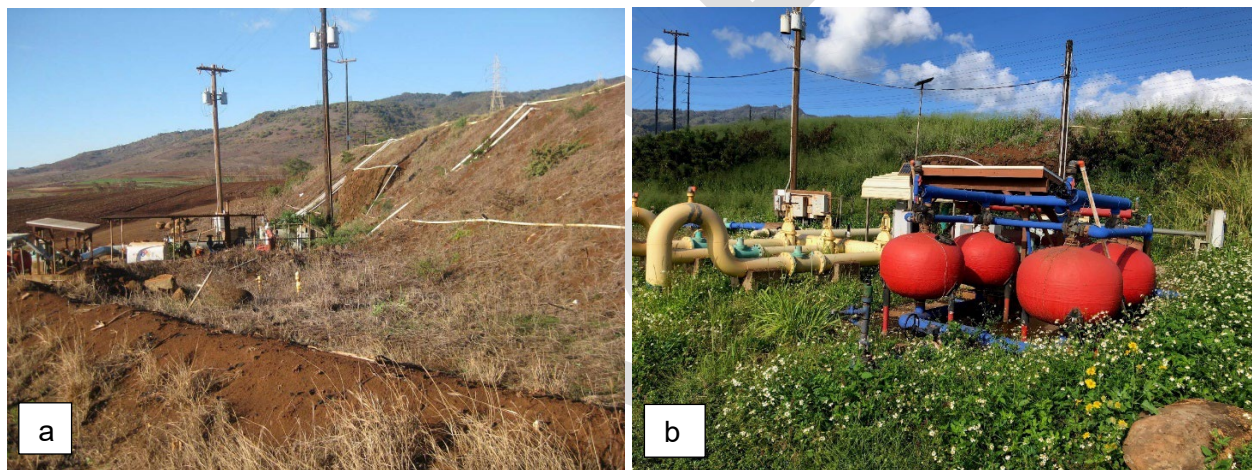


Figure 4: a. View from 2014 of pump equipment on the outer bank of Reservoir 155 with. B. View from 2023 of equipment upgrades in preparation for providing alternative water during the project.



Figure 5.a. View from 2014 of the former staging area for Reservoir 155 in a fallow plowed field. b. In 2023 the former staging area for Reservoir 155 is in cultivation. A tractor was actively working the sites during the survey on 17 January 2023, attracting a flock of cattle egrets.

Reservoir 155 and its staging area are visible from Plantation Road, which is gated and access-controlled. The Reservoir and staging area are not visible from Kunia Rd. They are visible from properties on the slopes of the Waianae mountains (background in Figures 3 and 4).



Figure 6: Wetlands in the vicinity of Reservoir 155. Source: USFWS Wetlands Mapper. Accessed 12 January 2023.

No wetlands were observed in the vicinity of Reservoir 155 or its new staging area or along Plantation Road south of Kunia Road on 17 January 2023.

Reservoir 225

Several doves were observed in the surrounding fields near the reservoir. Sparrows were singing in mango trees. The staging area is located to the east of Reservoir 225 in an agricultural field. One common myna was observed within the survey area.

A total of 22 plant species were observed within the survey area, of which only 1 is endemic (native to the Hawaiian Islands and throughout the tropics, Table 4)). Two large mango (*Mangifera indica*) growing at the edge of the southwest corner of the reservoir will be removed as part of the repairs (Figure 12). While no fish were observed in Reservoir 225, Mr. Nakamoto stated maintenance workers have reported a grass carp the size of a kayak and farmers laying nets across the reservoir for fishing.

No endangered species were observed. No wetlands were observed on 17 January 2023. View/Viewshed of the property consists of farmland and Kunia Road. The reservoir and staging area are not visible from Kunia road due to the embankment and gate and the height of vegetation on them.

Table 1: Insects observed at Reservoir 225 on 17 January 2023.

Status	Common Name	Scientific Name	Location	#
X	dragonfly	<i>Anax</i> sp.	Flying	1
X	Lantana Scrub-Hairstreak	<i>Strymon bazochii</i>	Flying over vegetation	1
X	Cabbage White moth	<i>Pieris rapae</i>	Flying over vegetation	1

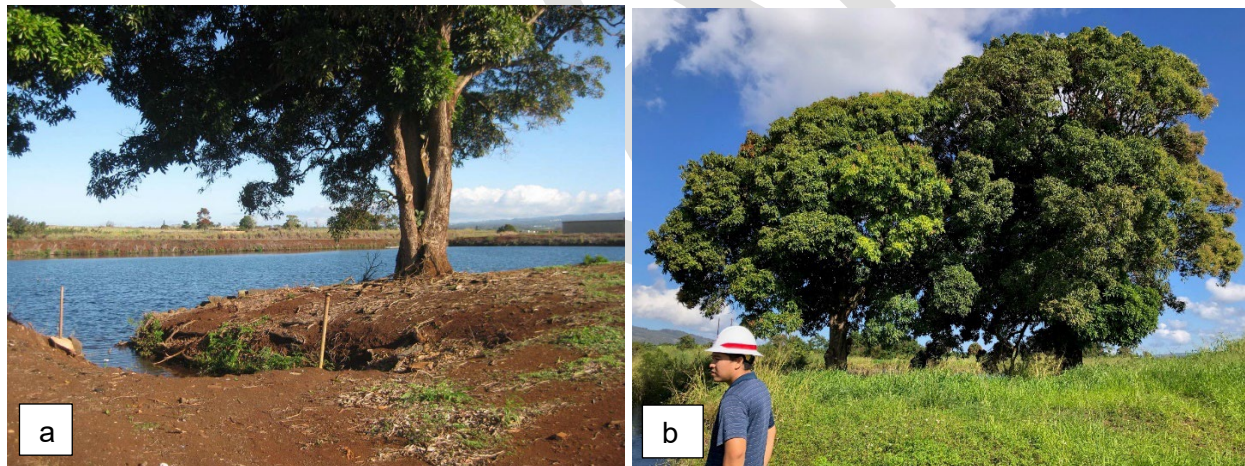


Figure 7: a. Mango trees at the southwest corner of Reservoir 225 (USACE 2014). b. Mangoes that will be removed during the project because their roots are impacting the reservoir. Photograph taken by Marian Dean on 17 January 2023.

Attachment 2: January 2023 Field Observations

Table 2: Vegetation observed at Reservoir 225 on 17 January 2023. X= non native, I=Invasive, E= Endemic.

SCIENTIFIC NAME	COMMON NAME	STATUS
MONOCOTS		
HYDROCHARITACEAE		
<i>Egeria densa</i> Planch.	Brazilian elodea	X
POACEAE		
<i>Brachiaria mutica</i> (Forssk.) Stapf	California grass	X
<i>Cenchrus ciliaris</i> L.	buffelgrass	X
<i>Chloris barbata</i> (L.) Sw.	swollen fingergrass	X
<i>Cynodon dactylon</i> (L.) Pers	manienie	X
<i>Melinis repens</i> (Willd.) Zizka	natal redtop	X
<i>Panicum maximum</i> L.	Guinea grass	X
DICOTS		
ACANTHACEAE		
<i>Asystasia gangetica</i> (L.) T. Anderson	Chinese violet	X
AIZOACEAE		
<i>Trianthema portulacastrum</i> L.		X
ANACARDIACEAE		
<i>Mangifera indica</i> L.	mango	X
APOCYNACEAE		
<i>Nerium oleander</i>	oleander	X
ASTERACEAE		
<i>Bidens pilosa</i> L.	Spanish needle	X
<i>Tridax procumbens</i> (L.)	coat buttons	X
<i>Verbesina encelioides</i> (Cav.) Benth. & Hook	golden crown-beard	X
CLUSIACEAE		
<i>Clusia rosea</i> Jacq.	autograph tree	X
CONVOLVULACEAE		
<i>Ipomoea obscura</i> (L.) Ker Gawl.		X
EUPHORBIACEAE		
<i>Euphorbia hirta</i> L.	hairy spurge, garden spurge	X
MALVACEAE		
<i>Malvastrum coromandelianum</i> (L.) Garcke	false mallow	X
<i>Sida ciliaris</i> L.		X
STERCULIACEAE		
<i>Waltheria indica</i> L.	`uhaloa	I

New Borrow Site

The new borrow sites were described in the Aecos 2021 natural resources assessment that is Appendix E of the Final Environmental Assessment for Irrigation System Improvements in

Attachment 2: January 2023 Field Observations

Central O'ahu, Waialua, and Wahiawā Districts (August 2022). Most of the plants are non-native, but none are on the Hawaii State noxious weed or invasive species lists. There was one individual endemic plant present. No mammals were observed. Doves were seen flying. No endangered species were observed (Tables 5 and 6).

The viewshed of the property consists of farmland and the mountains. The borrow sites are not visible from Kamananui Road due or Kaukonahua Road.

Table 3: Insects observed at the new borrow sites north of Wahiawa on 17 January 2023.

Status	Common Name	Scientific Name	Location	#
X	dragonfly	<i>Anax</i> sp.	Flying	5
X	Lantana Scrub-Hairstreak	<i>Strymon bazochii</i>	Flying over vegetation	2
X	Cabbage White moth	<i>Pieris rapae</i>	Flying over vegetation	1

Table 4: Vegetation observed at the new borrow sites north of Wahiawa on 17 January 2023. X= non native, I=Invasive, E= Endemic

SCIENTIFIC NAME	COMMON NAME	STATUS
MONOCOTS		
POACEAE		
<i>Brachiaria mutica</i> (Forssk.) Stapf	California grass	X
<i>Chloris barbata</i> (L.) Sw.	swollen fingergrass	X
<i>Eragrostis tenella</i> (L.) P.Beauv. Ex Roem.&Schult.	Japanese lovegrass	X
<i>Melinis repens</i> (Willd.) Zizka	natal redtop	X
<i>Megathyrsus maximus</i> (<i>Panicum maximum</i> L. in USACE 2014)	Guinea grass	X
DICOTS		
ASTERACEAE		
<i>Pluchea carolinensis</i> (Jacq.) G. Don	sourbush	X
BIGNONIACEAE		
<i>Spathodea campanulata</i>	African Flame tree	X
CANNABACEAE		
<i>Trema micrantha</i>	Jamaican Nettle Tree	X
CONVOLVULACEAE		
<i>Ipomoea obscura</i> (L.) Ker Gawl.		X
<i>Ipomoea ochracea</i>		X
EUPHORBIACEAE		
<i>Euphorbia hirta</i> L.	hairy spurge, garden spurge	X
FABACEAE		
<i>Crotalaria incana</i> L.	fuzzy rattlepod	X
SOLANACEAE		
<i>Solanum mauritianum</i>	Wild tobacco tree	X
STERCULIACEAE		
<i>Waltheria indica</i> L.	`uhaloa	E



Figure 8: Example Borrow pile on the HADC land north of Wahiawa. Photograph taken by Marian Dean on 17 January 2023.

Attachment 3. Endangered Species Act Section 7 Effect Determination for Waiāhole Reservoirs

The USACE, the State of Hawai'i Department of Agriculture, and the State of Hawai'i Agribusiness Development Corporation (non-federal sponsors) are planning to repair and rehabilitate two reservoirs along the existing Waiāhole Ditch Irrigation System to improve safety. Water storage capacities of the reservoirs would be reduced, and embankment geometry modified to ensure that each reservoir meets current life safety and risk criteria. The reservoirs would also be lined to reduce water losses in the system.

ESA Action Area

The ESA Action Area for the proposed project encompasses Reservoirs 155 and 225 of the Waiāhole Ditch system, their appurtenances, two staging areas, access roads, and a borrow site to be used during construction. Prior to construction, irrigation water from the ditch system would temporarily bypass the reservoirs. The bypass will occur via pipeline from the existing Waiāhole Ditch to a nearby pump station for continued agricultural irrigation use and removed after the reservoirs are placed back into operation. Each reservoir would then be allowed to drain through irrigation use prior to construction. The embankments of the reservoirs would then be excavated, sediment removed from the interiors, and the embankments reconstructed to meet the USACE and State design criteria. The proposed work would also include: an internal drainage system, new inlets and outlets, spillways, and a high-density polyethylene reservoir liner to reduce water losses. Reservoir 155 would be reduced in size to an operating capacity of 33.0 acre-foot. The operating capacity of Reservoir 225 would also be reduced to 33.7 acre-foot. The reductions in capacities would still meet agricultural irrigation needs while improving the structures and reducing the risk of failure of the existing reservoirs to downstream communities.

Alternative 1: No Action Alternative and FWOP

Under the No Action Alternative, no construction or ground disturbing activities that could directly or indirectly affect vegetation or wildlife would occur. However, if improvements to the reservoirs were not made, it is reasonable to assume that eventually the reservoirs would fail, causing downslope habitat damage or loss and loss of habitat onsite. However, while there exists the potential for listed species to utilize the open water features, no threatened or endangered species are known to depend upon such habitat at Reservoirs 155 and 225 and there is no designated critical habitat within the project area. Accordingly, in the event of failure, Alternative 1 may affect, but is not likely to adversely affect threatened and endangered species and their critical habitat.

Alternative 2: Proposed Action

With implementation of the Proposed Action, there is the potential for temporary construction-related insignificant impacts to habitat for vegetation and wildlife within the project area, ranging from physical impact to avoidance to the area due to noise and human presence. The project area does not contain any designated critical habitat for Federally Endangered or Threatened or any other Species of Concern but may contain habitat for state listed endangered species. The Proposed Action would include implementation of the USFWS recommended standard BMPs to minimize the degradation of water quality and minimize the impacts to fish and wildlife resources, as well as avoidance and minimization measures for Hawaiian hoary bat and Hawaiian waterbirds, as outlined in detail below. These measures are also anticipated to minimize potential impacts to the pueo. Further, after completion of construction activities, the staging areas and borrow site would be cleared of all equipment, materials, and project refuse,

then re-graded and restored as appropriate. No additional open water would be created during this project.

USFWS reviewed the information we provided as it pertains to federally listed species in accordance with section 7 of the ESA. USFWS provided a list of species on January 30, 2023 (Table 1), none of which were observed during either the LeGrande 2013-2014 or USACE 2023 surveys. There is no federally designated critical habitat within the immediate vicinity of the proposed project (USFWS 2023). The likelihood of these species occurring in the project area is low and there are no reports of their presence in any part of the action area. None of the plant or wildlife species observed during the field surveys are listed as Federal Threatened or Endangered species or as a Species of Concern (Appendix A Attachment 2).

Table 5: Federal and State Threatened and Endangered Species that may occur in the Project Area. All of these species have cultural significance for Native Hawaiians.

Listing Status	Hawaiian Name	Common Name	Scientific Name
State Endangered	Pueo	Hawaiian short-eared owl	<i>Asio flammeus sandwichensis</i>
Federally Endangered	‘ōpe‘ape‘a	Hawaiian hoary bat	<i>Lasiurus cinereus semotus</i>
<i>Hawaiian Seabirds</i>			
Federally Endangered	‘ua‘u	Hawaiian petrel	<i>Pterodroma sandwichensis</i>
Federally Endangered	‘akē‘akē	Hawai‘i distinct population segment band-rumped storm-petrel	<i>Oceanodroma castro</i>
Federally Threatened	‘a‘o	Newell’s shearwater	<i>Puffinus auricularis newelli</i>
<i>Hawaiian Waterbirds</i>			
Federally Endangered	ae‘o	Hawaiian stilt	<i>Himantopus mexicanus knudseni</i>
Federally Endangered	‘alae ke‘o ke‘o	Hawaiian coot	<i>Fulica alai</i>
Federally Endangered	‘alae ‘ula	Hawaiian gallinule	<i>Gallinula galeata sandvicensis</i>
Federally Endangered	olkoa maoli	Hawaiian duck	<i>Anas wyvilliana</i>

‘Ōpe‘ape‘a

‘Ōpe‘ape‘a roosts in both exotic and native woody vegetation across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away. ‘Ōpe‘ape‘a forage for insects from as low as 3 feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing. There are two tall (greater than 15 feet) mangos on the banks of Reservoir 225 which must be removed to repair the banks. This removal will occur after September 15 and before June 1. Barbed wire will not be used for fencing. The project will not affect ‘ōpe‘ape‘a.

Hawaiian Seabirds

Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable.

The project work schedule is 7:30 am to 4:00 pm Monday through Friday, work will not occur, and lights will not be used outside of these hours. No work will occur after dark. The project will not affect Hawaiian seabirds.

Hawaiian Waterbirds

Hawaiian waterbirds are currently found in a variety of wetland habitats including freshwater marshes and ponds, coastal estuaries and ponds, artificial reservoirs, kalo or taro (*Colocasia esculenta*) lo'i or patches, irrigation ditches, sewage treatment ponds, and in the case of the koloa, montane streams and marshlands. Ae'o may also be found wherever ephemeral or persistent standing water may occur. Threats to these species include non-native predators, habitat loss, and habitat degradation. Koloa are also subject to threats from hybridization with introduced mallards.

The project is located along an unimproved dirt road where speeds above 15 miles per hour are not possible, speeding would not be an issue. Road access is controlled by gates which are only unlocked during entry and exit by State authorized users. The project will not affect Hawaiian waterbirds.

Environmental Commitments

Best Management Practices required by USFWS, and other regulatory agencies reduce the temporary effects of construction activities. These Environmental Commitments (ECs) describe those best management practices a Contractor would implement in constructing features of the Proposed Action. USACE considers these Environmental Commitments to be an integral part of the Proposed Action.

EC-1 Stabilized Construction Entrance: All points of egress and ingress to a site shall be protected with a stabilized construction entrance.

- Temporary stabilized gravel entrances and exits are required for construction sites greater than 1 ac in size. The locations of these entrances are shown on the Plans. The Contractor shall phase his site construction as much as possible to reduce the total amount of exposed areas subject to erosion.
- Temporary access may not be constructed in waters of the U.S. or otherwise result in the discharge of fill material into waters of the U.S.
- Temporary fills must be removed of in their entirety and restored, at a minimum, to pre-construction conditions.

EC-2 Stockpiles: Stockpiles shall not be located in waters of the U.S., in drainage ways or other areas of concentrated flows. Sediment-erosion control measures such as fences, traps, basins, or barriers shall be used around the base of all stockpiles. Appropriate measures shall be employed to ensure stockpiled material is not dispersed by wind, rain or weather.

EC-3 Dust Control: Dust control should be applied to reduce dust emissions. The Contractor, at his own expense, shall keep the Project Area and surrounding area free from dust nuisance. The work shall be in conformance with the air pollution control standards contained in Hawaii Administrative Rules: Chapter 11-60, "Air Pollution Control."

- Use of water or suitable chemicals for control of fugitive dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land.
- Application of asphalt, water, or suitable chemicals on roads, material stockpiles, and other surfaces which may result in fugitive dust.
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Reasonable containment methods shall be employed during sandblasting or other similar operations.
- Covering all moving, open-bodied trucks transporting materials which may result in fugitive dust.
- Conducting agricultural operations, such as tilling of land and the application of fertilizers, in such manner as to reasonably minimize fugitive dust.
- Maintenance of roadways in a clean manner.
- Prompt removal of earth or other materials from paved streets which have been transported there by trucking, earth-moving equipment, erosion, or other means.

EC-4 Sediment Fence/Barrier at Toe of Disturbed Area or Stockpile: Sediment Fences or barriers shall be used downslope of all disturbed areas or stockpile areas.

- The Contractor shall provide silt fences as a temporary structural practice to minimize erosion and sediment runoff. Silt fences shall be properly installed to effectively retain sediment immediately after completing each phase of work where erosion would occur in the form of sheet and rill erosion (e.g., clearing and grubbing, excavation, embankment, and grading).
- The Contractor shall provide fiber rolls as a temporary structural practice to reduce water velocity, minimize erosion, and reduce sediment runoff. Rolls shall be properly placed to effectively retain sediment immediately after completing each phase of work (e.g., clearing and grubbing, excavation, embankment, and grading) in each independent runoff area (rolls shall be placed as work progresses, rolls shall be removed, replaced, or relocated as needed for work to progress in the drainage area).
- Rows of fiber rolls shall be provided along the downhill perimeter edge of all areas disturbed; along the top of the slope or top bank of drainage ditches, channels, swales, etc. that traverse disturbed areas; along the toe of all cut slopes and fill slopes of the construction areas; perpendicular to the flow in the bottom of existing drainage ditches, channels, swales, etc. that traverse disturbed areas or carry runoff from disturbed areas with rows spaced at distances not to exceed 35 feet; at the entrance to culverts that receive runoff from disturbed areas.
- On steep slopes fiber rolls shall be trenched in slightly and spaced at distances not to exceed 35 feet. Rolls shall be placed at the same elevation contour by survey methods. Placement by survey methods will reduce the possibility of a rill developing along a sloping roll. On steep slopes fiber rolls shall be used with erosion control blankets.
- Slope Protection: Surface flow from above an exposed slope shall not be allowed to flow over the slope without protection. Slope protection shall be used on areas with slopes greater than 50% and on areas of moderate slopes that are prone to erosion.

Attachment 3: Request for USFWS Technical Assistance

- Slopes steeper than 1:3 (vertical: horizontal) shall be sodded or mulched and seeded. Until the slopes are stabilized a sediment fence or barrier shall be installed at the toe of the slope on contours at spacings not to exceed 25 feet.
- Cut and fill slopes shall be protected in 5' vertical sequential increments as construction progresses.

EC-5 Temporary Interceptor Dikes/Swales around Active Work Area: Temporary interceptor dikes and swales shall be installed around the active work areas to intercept storm water runoff from drainage areas above unprotected slopes and direct to a stabilized outlet and to prevent runoff from leaving the disturbed site. Dikes and swales shall not be constructed in a manner so as to either divert flows from a water of the U.S. or discharge flows into a water of the U.S. or a stormwater system regulated under Hawaii Administrative Rules (HAR) 11-55.

EC-6 Inlet Protection: All storm drain inlets on site, and those offsite which may receive runoff from the site shall use an inlet protection device.

EC-7 Sediment Basin: A sediment basin shall be created by excavation or by constructing an embankment. The basin shall be designed to retain or detain runoff to allow excessive sediment to settle.

- All earth basins, traps, berms, diversions, waterways, swales, ditches and related structures should be stabilized immediately after they are built. Before a stormwater conveyance structure is made operational, adequate outlet protection and any required lining shall be installed or established.
- The stabilization practices to be implemented shall include temporary seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, erosion control mats, protection of trees, and preservation of mature vegetation.
- Any construction or excavation spoils must be properly stockpiled or disposed and must not be discharged into a water of the U.S.

EC-8 Grass shall be established on disturbed areas which are at final grade or will not be worked for longer than 14 days. Alternatives to grass will include 2" minimum straw mulch cover, erosion blankets with anchors, 6-mil plastic sheets, sediment traps or ponds, or interceptor dikes/swales.

- The maximum period of exposure shall not exceed 14 days. Areas which will be exposed shall be temporarily seeded or stabilized before this period. If after 14 days, the temporarily seeded areas have not attained 98% cover, these areas shall be re-seeded.

EC-9 Establish Ground Cover: Established ground cover or landscape prior to removing erosion control measures post construction.

EC-10 The Contractor shall prepare a SWPPP and implement Standard BMPs, and Comply with NPDES and other Permit Conditions, as required.

EC-11 Turbidity and siltation from project-related work shall be minimized and contained within the vicinity of the site through the appropriate use of effective silt containment devices and the curtailment of work during adverse weather conditions (USFWS 2016). BMPs should be monitored and properly maintained for the life of the construction period until turbidity and siltation within the project area is stabilized. All project construction-related debris and sediment containment devices should be removed and disposed of at an approved site.

EC-12 All project construction-related materials and equipment (dredges, barges, backhoes, etc.) to be placed in the water should be inspected for pollutants including, but not limited to; invasive species, organisms, grease, oil, etc., and cleaned to remove pollutants prior to use. Project related activities should not result in any debris disposal, non-native species introductions, or attraction of non-native pests to the affected or adjacent aquatic or terrestrial habitats. Implementing both a litter-control plan and a Hazard Analysis and Critical Control Point plan (HACCP – see <http://www.haccp-nrm.org/Wizard/default.asp>) can help to prevent attraction and introduction of non-native species.

EC-13 All debris removed from the marine/aquatic environment shall be disposed of at an approved upland or ocean dumping site.

EC-14 No contamination (trash or debris disposal, non-native species introductions, attraction of non-native pests, etc.) of adjacent habitats (reef flats, channels, open ocean, stream channels, wetlands, beaches, forests, etc.) shall result from project-related activities. This shall be accomplished by implementing a litter-control plan and developing a Hazard Analysis and Critical Control Point Plan to prevent attraction and introduction of non-native species.

EC-15 Fueling of project-related vehicles and equipment should take place away from the water and a contingency plan to control petroleum products accidentally spilled during the project shall be developed. The plan should be retained on site with the person responsible for compliance with the plan. Absorbent pads and containment booms shall be stored onsite, if appropriate, to facilitate the clean-up of accidental petroleum releases.

EC-16 Any under-layer fills used in the project shall be protected from erosion with stones (or core-loc units) as soon after placement as practicable.

EC-17 Any soil exposed near water as part of the project shall be protected from erosion (with plastic sheeting, filter fabric etc.) after exposure and stabilized as soon as practicable (with native or non-invasive vegetation matting, hydroseeding, etc.).

EC-18 Woody plants greater than 15 feet (4.6 meters) tall shall not be disturbed, removed, or trimmed during the Hawaiian hoary bat birthing and pup rearing season (June 1 through September 15).

EC-19 Site clearing shall only occur October through May to avoid disturbance to Hawaiian hoary bats in the Project Area.

EC-20 Have a biological monitor that is familiar with the species' biology conduct Hawaiian waterbird nest surveys where appropriate habitat occurs within the vicinity of the proposed project site prior to project initiation. Repeat surveys again within 3 days of project initiation and after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest). If a nest or active brood is found:

- Contact the Service within 48 hours for further guidance.
- Establish and maintain a 100-foot buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.
- Have a biological monitor that is familiar with the species' biology present on the project site during all construction or earth moving activities until the chicks/ducklings fledge to ensure that Hawaiian waterbirds and nests are not adversely impacted.

EC-21 When selecting Best Management Practices to minimize erosion in aquatic environments, the Contractor shall select only those BMPs that do not introduce entanglement hazards to Hawaiian geese or other waterbirds from matting material.

EC-22 A post-construction report should be submitted to USACE for transmittal to USFWS within 30 days of the completion of the project. The report should include the results of Hawaiian waterbird surveys, the location and outcome of documented nests, and any other relevant information.

EC-23 Do not use barbed wire for fencing.

EC-24 Fully shield all outdoor lights so the bulb can only be seen from below bulb height and only use when necessary.

EC-25 Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.

EC-26 Avoid nighttime construction during the seabird fledging period (September 15 through December 15).

EC-27 In areas where waterbirds are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.

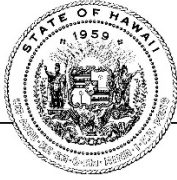
EC-28 Avoid the creation of standing water or open water that could attract Hawaiian waterbirds to the project site. Cover any constructed open water or ponded areas overnight or during any break in construction lasting longer than one work shift to prevent creation of an attractive nuisance.

Determination that the Project Will Not Affect

Implementing the Proposed Action including all Environmental Commitments would result in no effect to endangered species.

The USACE will continue to coordinate with the USFWS as part of the public review of this Draft Supplemental EA document and will continue coordination throughout the feasibility phase.

Attachment 4. Coastal Zone Management Act Federal Consistency Determination



STATE OF HAWAII OFFICE OF PLANNING & SUSTAINABLE DEVELOPMENT

235 South Beretania Street, 6th Floor, Honolulu, Hawai'i 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawai'i 96804

JOSH GREEN, M.D.
GOVERNOR

SCOTT J. GLENN
INTERIM DIRECTOR

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: <https://planning.hawaii.gov/>

DTS 202303231539ME

Coastal Zone
Management
Program

March 28, 2023

Environmental Review
Program

Land Use Commission

Land Use Division

Special Plans Branch

State Transit-Oriented
Development

Statewide Geographic
Information System

Statewide
Sustainability Branch

Mr. Stephen N. Cayetano, P.E.
Deputy District Engineer for
Programs and Project Management
U.S. Army Corps of Engineers, Honolulu District
Building 230
Fort Shafter, Hawaii 96858-5440

Attention: Mr. Khoa Truong, Civil and Public Works Branch
Khoa.D.Truong@usace.army.mil

Dear Mr. Cayetano:

Subject: Hawaii Coastal Zone Management Program Federal Consistency Review
of Waiahole Reservoir System Reservoirs 155 & 225 Improvements
Project, Waiahole Ditch Irrigation System, Kunia, Oahu; TMK: (1) 9-2-
1:1; 9-4-3:1

The Hawaii Coastal Zone Management (CZM) Program is issuing this supplemental federal consistency decision letter for the Waiahole Reservoir System Reservoirs 155 & 225 Improvements Project, which supersedes the federal consistency decision that was previously issued on March 29, 2018. On January 24, 2023 and February 22, 2023, the CZM Program received additional information modifying the borrow sites to include use of spoils located at Reservoir 155 (TMKs: (1) 9-2-001:020) and Wahiawa Recycled Water Irrigation Project borrow sites (TMKs (1) 7-1-012:001 and (1) 7-1-001:005). The Hawaii CZM Program has reviewed the proposed modification and concurs with the determination that the proposed activity remains consistent to the maximum extent practicable with the enforceable policies of the Hawaii CZM Program based on the following conditions.

1. The proposed activity shall be constructed and completed as represented in the CZM federal consistency determination. Any changes to the proposal shall be submitted to the Hawaii CZM. Changes to the proposed activity may require a full CZM federal consistency review, including publication of a public notice and provision for public review and comment. This condition is necessary to ensure that the proposed action is implemented as reviewed for consistency with the enforceable policies of the Hawaii CZM Program. Hawaii Revised Statutes (HRS) Chapter 205A Coastal Zone Management, is the federally approved enforceable policy of the Hawaii CZM Program that applies to this condition.
2. The proposed activity shall be in compliance with State of Hawaii water quality standards and requirements, including the Section 401 Water Quality Certification, as specified in Hawaii Administrative Rules (HAR) Chapter 11-54

Mr. Stephen N. Cayetano, P.E.

March 28, 2023

Page 2

Water Quality Standards and HRS Chapter 342D Water Pollution. This condition is necessary to ensure consistency with Hawaii CZM Program federally approved enforceable policies HRS Chapter 342D Water Pollution, and HAR Chapter 11-54 Water Quality Standards.

3. The project shall comply with State of Hawaii water pollution control requirements, including the National Pollutant Discharge Elimination System (NPDES) Permit, as represented in the consistency determination and email correspondence dated March 23, 2023. HAR Chapter 11-55 Water Pollution Control and HRS Chapter 342D Water Pollution, are the federally approved enforceable policies of the Hawaii CZM Program that apply to this condition.
4. The best management practices proposed in the Environmental Assessment (November 2017), shall be fully implemented. This condition is necessary to ensure that the proposed action is implemented as reviewed for consistency with the enforceable policies of the Hawaii CZM Program. HRS Chapter 205A Coastal Zone Management, is the federally approved enforceable policy of the Hawaii CZM Program that applies to this condition.
5. The project shall comply with the State Historic Preservation Division requirements, which include archaeological monitoring, that are specified in the National Historic Preservation Act Section 106 review letter dated October 20, 2016. HRS Chapter 6E applies to this condition.

If the requirements for conditional concurrences specified in 15 CFR § 930.4(a), (1) through (3), are not met, then all parties shall treat this conditional concurrence letter as an objection pursuant to 15 CFR Part 930, subpart C. The Army Corps of Engineers shall immediately notify the Hawaii CZM Program if the conditions are not acceptable in accordance with 15 CFR § 930.4(a)(2). Otherwise, acceptance of the conditions shall be presumed at the end of the 90-day federal consistency notification period on May 22, 2023.

This supplemental CZM consistency conditional concurrence does not represent an endorsement of the proposed activity nor does it convey approval with any other regulations administered by any state or county agency. Thank you for your cooperation in complying with the Hawaii CZM Program. If you have any questions, please contact Debra Mendes of our CZM Program at (808) 587-2840 or Debra.L.Mendes@hawaii.gov.

Mahalo,



for Scott J. Glenn
Interim Director

cc: Department of Health, Clean Water Branch
DLNR, State Historic Preservation Division
City and County of Honolulu, Department of Planning and Permitting

Attachment 5. NHPA Section 106 Consultation with the Hawaii Historic Preservation District (SHPD)



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HONOLULU DISTRICT
230 OTAKE STREET, BUILDING 230
FORT SHAFTER, HAWAII 96858-5440

26 January 2023

Alan S. Downer, Ph D.
Administrator
State Historic Preservation Division
State of Hawaii, Department of Land and Natural Resources
601 Kamokila Boulevard, Suite 555
Kapolei, HI 96707

Dear Dr. Downer:

This letter is intended as a continuation of National Historic Preservation Act (NHPA) Section 106 and Hawaii Revised Statutes §6E-8 consultation for the U.S. Army Corps of Engineers' (USACE) Waiahole Reservoir System – Reservoirs No. 155 and 225 Improvements Project (Project), Oahu, Hawaii. Historic preservation consultation for this undertaking was successfully concluded on March 2, 2020 with the execution of a Memorandum of Agreement (MOA) (see Enclosure 1) specifying two mitigation measures: 1) Historic American Engineering Record, Level III, documentation of the reservoirs, and 2) archaeological monitoring of the reservoir improvement activities. Reference is made to State Historic Preservation Division's (SHPD) original consultation response letter of October 20, 2016 (Log No. 2016.01552, Doc. No. 1610JLP08).

Modifications expanding the Area of Potential Effect (APE), to include relocation of staging areas and borrow pit locations, was previously submitted through HICRIS on March 1, 2022. Our assessment yielded a finding of "No Historic Properties Affected" for project activities in the expanded APE. This finding was supplemental to, and did not alter the terms of, the executed MOA for the project. SHPD concurred with USACE's finding and the consultation was closed on October 18, 2022.

The present, renewed consultation concerns an effort by the project team to exploit locally available soil for the project. The Hawaii Department of Business, Economic Development & Tourism (DBEDT) has offered a soil stockpile from their Waiāhole Water System Improvements project, which is adjacent to USACE's Reservoir 155 project area (Enclosure 1).

The present Waiahole Reservoir System – Reservoirs No. 155 and 225 Improvements Project intends to utilize the DBEDT stockpile as a borrow pit. USACE will only utilize the stockpiled material and there will be no excavation of native soils. Based on this, USACE believes that there is an extremely low, and likely zero, probability for intact subsurface Hawaiian cultural archaeological deposits within this new APE area.

Finding of Effect

Activities expected to occur in the expanded APE locale (the DBEDT soil stockpile) for the Waiahole Reservoir System – Reservoirs No. 155 and 225 Improvements Project will involve no excavation of native soils. The expansion of the APE proposed here will have no impact on Historic Properties because the DBEDT soil stockpiles are previously disturbed. They cannot contain intact archaeological deposits and thus there are no historic properties present in the expanded APE.

Our assessment has yielded a finding of “No Historic Properties Affected”, as defined at 36 CFR 800.4(d)(1), for project activities in the expanded APE. This finding is supplemental to, and does not alter the terms of, the executed MOA for the project. USACE is seeking SHPD’s concurrence with this supplemental finding of effect.

Should you have any questions or comments, please contact our Environmental Planner, Ms. Marian Dean, at 808-379-8223 or marian.dean@usace.army.mil and Project Manager, Mr. Khoa Truong at 808-835-4264 or khoa.d.truong@usace.army.mil. Thank you for your cooperation.

Sincerely,

DESILETS.MICHAEL  Digitally signed by
ERNEST.

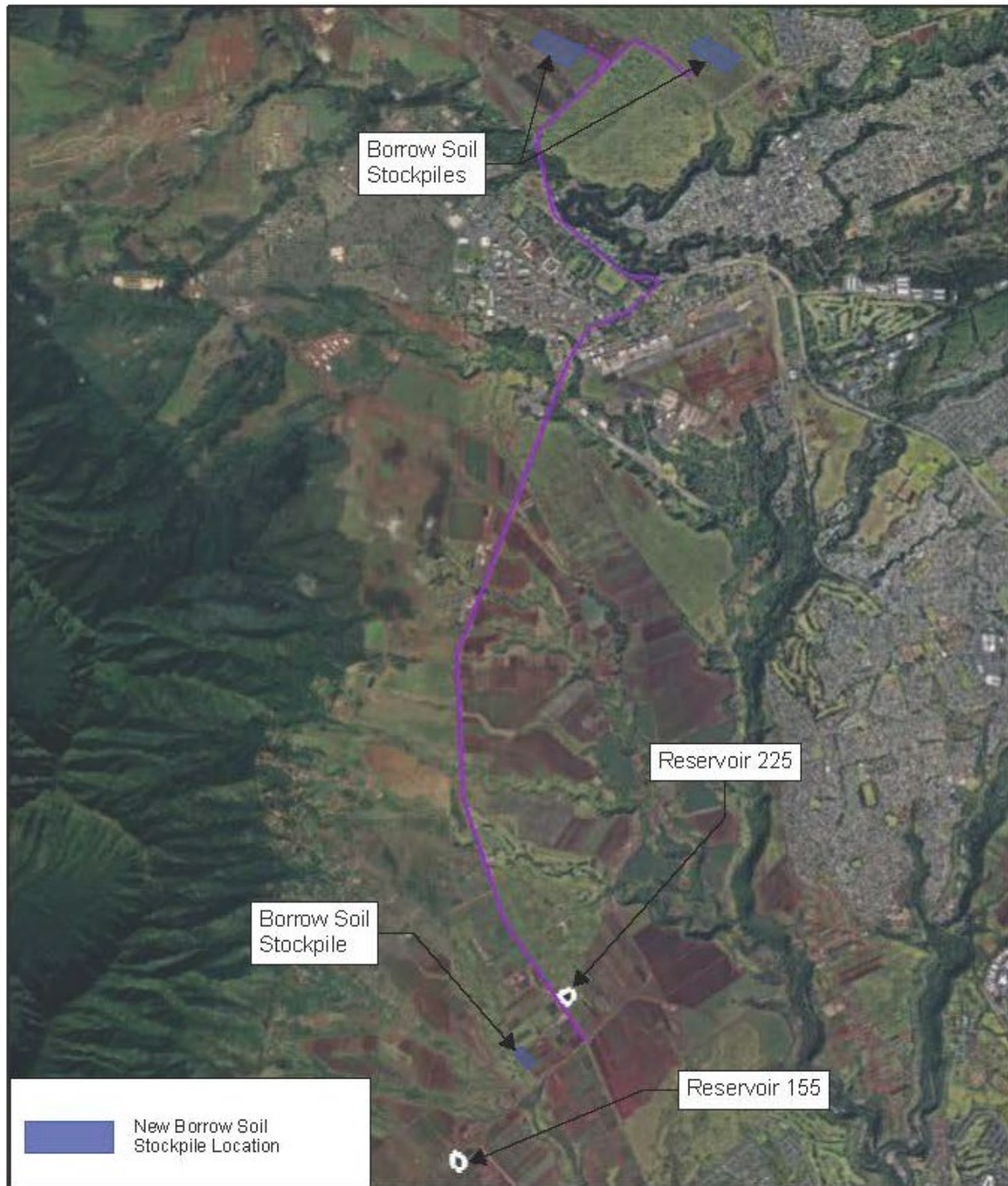
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Michael Desilets, MA, RPA
Archaeologist

Technical Integration Section
Environmental Branch
Programs and Project Management Division

Enclosure

Enclosure



Attachment 6. Public Notice of Availability of the Draft Report



US Army Corps of Engineers
Honolulu District
BUILDING STRONG®

Public Notice of Availability of Draft Environmental Assessment for Waiahole Reservoirs (Reservoirs 155 and 225) Rehabilitation

Civil and Public Works Branch
Building 230
Fort Shafter, Hawaii 96858-5440

Public Notice Date: April 14, 2023
Expiration Date: May 14, 2023 (30 days)
Corps Project: **Hawaii Water Management
Waiāhole Reservoir System Reservoirs 155
and 225 Improvements Project**

LOCATION: Reservoir 155 is a regulated dam located within agricultural fields approximately 1.0 mile west of Kunia Road (State Route 750), on Plantation Road in Kunia, Island of Oahu, Hawaii, on Tax Map Key (TMK) (1) 9-2-001:020. Reservoir 225 is located on Robinson Kunia Land, LLC agricultural fields, on the eastern side of Kunia Road; Kunia, Island of Oahu, Hawaii on TMK (1) 9-4-003:001. Borrow sites are located on ADC land on TMKs (1) 7-1-012:001 and (1) 7-1-001:005 in Wahiawa, Island of Oahu, Hawaii.

BACKGROUND AND AUTHORITY: The Waiahole Ditch Irrigation System was constructed between 1912 and 1916 to irrigate sugarcane fields on the western side of Oahu and consists of a 26-mile-long transmission system of ditches, tunnels, siphons, and reservoirs that provides a source of irrigation water to local farmers from the windward side of the island of Oahu. The State of Hawaii Agribusiness Development Corporation (ADC), an attached agency to the Hawaii Department of Business, Economic Development, and Tourism (DBEDT), operates and maintains the Waiahole Ditch Irrigation System, including two reservoirs within the system: Reservoirs 155 and 225, both of which are unlined, earthen storage basins used to store irrigation water for adjacent farmers and are fed directly by the Waiahole Ditch. These reservoirs have lost holding capacity due to years of sediment accumulation.

The purpose of the Proposed Action is to ensure that each reservoir meets dam safety criteria. Reservoir 155 is classified as a high hazard, small dam due to the following factors: a total height of 25 ft (ft), a holding capacity greater than 50 acre-feet (ac-ft), and potential downstream impacts in the event of a failure. Per the Hawaii Administrative Rules (HAR) Chapter 13-190.1, a "high hazard" dam classification is defined as that in which the failure of the dam or reservoir will result in probable loss of human life. Reservoir 225 is not currently listed as a regulated dam. However, recent

calculations show that Reservoir 225 exceeds a capacity of 50 ac-ft, which would result in the reservoir being listed as a regulatory dam and require Hawaii Department of Lands and Natural Resources to take jurisdiction over the reservoir. To meet this purpose the water storage capacities of Reservoir 155 and Reservoir 225 would both be reduced. In addition, the reservoirs would be lined to reduce water losses and leakage in the system.

The Proposed Action is authorized under Section 1(a)(4) of the Consolidated Appropriations Act of 2001 (Public Law 106-554, Appendix D, Chapter 5 (114 STAT 2763A-190)), which authorized and directed use of \$2 million of appropriated Construction General Funds to initiate design and construction of the Hawaii Water Management Project, which includes the Waiahole Ditch Irrigation System. The 905(b) Report (USACE 2002) was approved by Headquarters USACE on February 12, 2003, allowing implementation of design and construction of repairs and rehabilitation of publicly owned irrigation systems to the extent of the funds appropriated.

NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE: An Environmental Assessment (EA) was published in November 2017 for this project. Since that publication, the location of the borrow sites and staging areas have changed. This document updates the 2017 EA by addressing current USACE environmental assessment requirements and documenting the environmental effects of the currently proposed action and Area of Potential Effect (APE). The original contents of the 2017 EA are incorporated by reference. In accordance with NEPA (40 CFR 1506.6- Public Involvement), the Corps is soliciting comments from the public; Federal, state, and local agencies and officials; and other interested parties on the draft Integrated Feasibility Report. Comments will be accepted from April 14, 2023 to May 14, 2023.

ACTION AGENCY: Ms. Rhiannon Kucharski, Chief, Civil and Public Works Branch, Honolulu District, U.S. Army Corps of Engineers, Building 230, Fort Shafter, Hawaii 96858-5440

COMMENT AND REVIEW PERIOD: The Corps is soliciting comments on the draft supplemental EA from the general public, Federal, State and local agencies and officials, and other interested parties in order to consider and evaluate the impacts of the proposed action on the human environment. Any comments received will be acknowledged. Only those comments received during the designated comment and review period will be considered by the Corps in preparation of any final NEPA document. All comments received will become a part of the administrative record.

The draft EA is available for public review, and the 2017 final EA is available for reference on the Honolulu District website at <https://www.poh.usace.army.mil/Missions/Civil-Works/Civil-Works-Projects/Hawaii-Water-Management-Waiahole/>

Comments on this public notice must be made in writing and submitted via conventional mail or electronic mail (e-mail).

Comments sent by conventional mail should include your name, return mailing address, phone number, and reference to "Waiahole Reservoir System Reservoirs 155 and 225 Improvements Project" and be sent to:

U.S. Army Corps of Engineers, Honolulu District
Civil and Public Works Branch (CEPOH-PPC)
Attn: Marian Dean
Building 230
Fort Shafter, Hawaii 96858-5440

Comments sent by e-mail may be sent to CEPOH-Planning@usace.army.mil. If using email, you must include reference to "Waiahole Reservoir System Reservoirs 155 and 225 Improvements Project" in the subject heading of the email along with your name, mailing address and phone number. In order to be accepted, e-mail comments must originate from the author's e-mail account.

All comments, whether transmitted by conventional mail or e-mail, must be received by our office by 5:00 p.m. Hawaii Standard Time on **May 14, 2021**.

ADDITIONAL INFORMATION: Current study information is available to the public online at the Hawaii Water Management Website at <https://www.poh.usace.army.mil/Missions/Civil-Works/Civil-Works-Projects/Hawaii-Water-Management-Waiahole/>

On the study website, you may also register to be added to the stakeholder mailing list to receive electronic notification of opportunities for continued engagement

This public notice is issued by the Chief, Civil and Public Works Branch.

Attachment

Attachment 7. DRAFT Finding of No Significant Impact



DRAFT FINDING OF NO SIGNIFICANT IMPACT WAIĀHOLE RESERVOIR SYSTEM

DRAFT FINDING OF NO SIGNIFICANT IMPACT

WAIĀHOLE RESERVOIR SYSTEM – RESERVOIRS 155 AND 225 IMPROVEMENTS PROJECT O'AHU, HAWAII

The U.S. Army Corps of Engineers, Honolulu District (Corps) has conducted an environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended. The Draft Environmental Assessment (EA) dated 4 April 2023, for the Waiāhole Reservoirs System Reservoirs 155 and 125 Improvements Project addresses Environmental Compliance for Central O'ahu, City and County of Honolulu, Island of O'ahu, Hawaii.

The Draft EA, incorporated herein by reference, evaluated various alternatives that would improve the safety and operation of two reservoirs (Reservoir 155 and Reservoir 225) along the existing Waiāhole Ditch Irrigation System in O'ahu in the study area. The recommended plan is the Locally Preferred Plan (LPP) and includes:

- Excavation of the existing embankments.
- Removal of sediment from the interior of the reservoirs
- Reconstruction of the embankments
- Reduction in water storage capacities of both reservoirs, and
- Lining the reservoirs to reduce water losses and leakage in the system.

In addition to a "no action" plan, one alternative was evaluated in detail. The alternative included the Proposed Action and the No Action Alternative described in Section 3.0 of the Draft EA.

SUMMARY OF POTENTIAL EFFECTS:

For all alternatives, the potential effects were evaluated, as appropriate. A summary assessment of the potential effects of the recommended plan are listed in Table 1:



DRAFT FINDING OF NO SIGNIFICANT IMPACT WAIĀHOLE RESERVOIR SYSTEM

Table 1: Summary of Potential Effects of the Recommended Plan.

* Mitigation in the context of this Table refers to the BMPs outlines in Section 4.3 Environmental Commitments of the IFR/EA.

	Insignificant effects	Insignificant effects as a result of mitigation*	Resource unaffected by action
Fish and wildlife and their habitat	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Threatened / Endangered species and Designated Critical Habitat	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Special Aquatic Sites / Aquatic Resources / Wetlands	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Invasive species	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Climate change	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Air quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Noise levels	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Geology & Soils	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hydrology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Floodplains	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Surface and Groundwater Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Navigation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hazardous, toxic & radioactive waste	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Aesthetics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Land use	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public infrastructure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Socio-economics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental justice	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Historic properties	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other cultural resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Tribal trust resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices (BMPs) as detailed in section 4.3 of the Draft EA will be implemented to minimize impacts including those required by NPDES and grading and grubbing permits, and the USFWS to reduce the temporary effects of construction activities, stabilize the construction entrance, stockpile controls, dust controls, sediment fences, and other storm water controls, and revegetate disturbed areas. To protect threatened and endangered species and other fish and wildlife and their habitat, woody plants greater than 15 feet (4.6 meters) tall shall not be disturbed, removed, or trimmed and site clearing shall not occur during the Hawaiian hoary bat birthing and pup rearing season (June 1 through September 15). A biological monitor will conduct Hawaiian waterbird nest surveys report to USFWS as appropriate. Barbed wire will not be used for fencing. All outdoor lights shall be fully shield so the bulb can only be seen from below bulb height and only used when necessary. Nighttime construction will be avoided during the seabird fledging period (September 15 through December 15). The project will avoid the



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creation of standing water or open water that could attract Hawaiian waterbirds to the project site.

Prior to construction, on-site personnel shall be briefed regarding what to do in the event buried cultural materials are encountered and archaeological monitoring shall occur during all ground-disturbing activities. Reservoirs #155 and #225 and their associated historic sub-features shall be documented to the Historic American Engineering Record (HAER) in accordance with SHPD/DLNR standards to adequately explicate and illustrate the significant contribution of the sub-features to the Waiāhole Ditch system before construction commences.

COMPENSATORY MITIGATION:

No compensatory mitigation is required as part of the recommended plan.

PUBLIC REVIEW:

Public review of the draft EA and FONSI is scheduled to be initiated on 7 April 2023. All comments submitted during the public review period will be responded to in the Final EA and FONSI.

OTHER ENVIRONMENTAL AND CULTURAL COMPLIANCE REQUIREMENTS:

ENDANGERED SPECIES ACT

Pursuant to section 7 of the Endangered Species Act of 1973, as amended, the U.S. Army Corps of Engineers determined that the recommended plan would have no effect on federally listed species or their designated critical habitat with the implementation of required BMPs.

NATIONAL HISTORIC PRESERVATION ACT

Pursuant to section 106 of the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers determined that historic properties may be adversely affected by the recommended plan. The Corps and the Hawai'i State Historic Preservation District entered into a Memorandum of Agreement (MOA), dated 2 March 2020. All terms and conditions resulting from the agreement shall be implemented in order to minimize adverse impacts to historic properties.

COASTAL ZONE MANAGEMENT ACT

A determination of consistency with the Hawai'i Coastal Zone Management program pursuant to the Coastal Zone Management Act of 1972 was originally obtained from the Hawai'i Coastal Zone Management (CZM) Program on 29 March 2018. Revision to the original application to include the added borrow sites at Reservoir 155 and north of Wahiawā was submitted to Hawai'i CZMP on 22 February 2023 and a determination of consistency was received on 28 March 2023. All conditions of the consistency determination shall be implemented in order to minimize adverse impacts to the coastal zone.



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FINDING

All applicable environmental laws have been considered and coordination with appropriate agencies and officials has been completed. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on this report, the reviews by other Federal, State and local agencies, Tribes, input of the public, and the review by my staff, it is my determination that the recommended plan would not cause significant adverse effects on the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

Date

NAME
RANK, Corps of Engineers
District Commander