

DAVID Y. IGE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.
DEPUTY DIRECTOR - WATER

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BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAROO LAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

ref:OCCL:MC

File No: Loko I'a: HA-17-03

Chad Wiggins
Hawai'i Island Marine Program
The Nature Conservancy of Hawai'i
923 Nu'uuanu Avenue
Honolulu, HI 96817

MAR 29 2017

Dear Mr. Wiggins,

Subject: Loko I'a Permit HA-17-03:
Kiholo Fishpond Estuary Rehabilitation
Pu'uwa'awa'a, North Kona, Hawai'i
TMKs (3) 7-1-002:004, 007, and 008

The Office of Conservation and Coastal Lands (OCCL) has reviewed the information you sent regarding proposed rehabilitation work on the Kiholo Fishpond Estuary on the above subject parcels. The project area involves State Parks and private lands adjacent to the 3.2-acre Ka Loko o Kiholo fishpond. The project area is entirely within the Resource Subzone of the State Land Use Conservation District.

The pond itself is owned by The Nature Conservancy, and is managed in partnership with Hui Aloha Kiholo, a local community group with lineal and cultural ties to the pond. In April 2016 The Nature Conservancy secured a Tier 2 permit, HA-16-0, under the Ho'ala Loko I'a program for work on the pond. This work, which is currently underway, involves dredging sand and sediment to restore the benthic habitat within the fishpond, and repairing the rock walls adjacent to the pond.

The Nature Conservancy now proposes to expand the project to help restore the overall pond ecosystem. Per their application, the surrounding lands have been negatively impacted by non-native vegetation and feral ungulates, which have degraded the native flora and negatively impacted the region's biodiversity. This impacts the ecology of the pond itself by increasing the amount of organic detritus in the pond. In addition, the invasive vegetation and roaming ungulates have damaged the integrity of the pond walls.

The project will involve the following elements:

- 1) The construction of a 2121-foot hog wire fence and 600-foot hog wire fence around the fishponds that will keep out feral goats and prevent damage to native coastal vegetation and historic structures, and the clearing of invasive species along the fence corridor;
- 2) The removal of vegetation from the perimeter of the pond using hand tools and chainsaws;
- 3) The construction of a seven-foot high, 250-foot circular wood fence enclosure for native plant restoration;
- 4) Construction of a 0.6-mile access trail, following local topography, to assist in the removal of invasive vegetation and the hauling out of green waste.
- 5) Planting native coastal vegetation appropriate to the area, using native sedges and grasses within the first twenty feet of the pond perimeter, and larger species from twenty up to 200 feet from the perimeter;
- 6) installing four educational interpretive signs and
- 7) building two *hale halawai*, one 10x12 feet and one 20x30 feet, to provide space for cultural, educational and scientific activities at the fishpond.

OCCL distributed the application to the following agencies for comment: DLNR's Division of Aquatic Resources, Division of Forestry and Wildlife, Land Division, and Historic Preservation Division; the State Department of Health Environmental Planning Office; County of Hawai'i Planning Department; the Office of Hawaiian Affairs; the U.S. Army Corps of Engineers; NOAA Fisheries Pacific Islands Regional Office; and Kua'āina Ulu 'Aumo.

The following comments were received:

DLNR Division of Forestry and Wildlife (DOFAW)

DOFAW recommends that a vegetation survey be conducted to determine the presence of endangered plants prior to the construction of the fences or the removal of vegetation from the pond perimeter.

The division also notes that *ōpe'ape'a* (Hawaiian hoary bat, *Lasiurus semotus*) might occur in the area, and recommends that the project not use barbed wire on any fences, nor trim, disturb, or remove woody plants greater than 15 feet tall during pup rearing season (June 1 through September 15).

Finally, the division noted that restored ponds might attract State and Federally listed waterbirds such as *koloa* (Hawaiian duck, *Anas wyvilliana*), *a'eo* (Hawaiian stilt, *Himantopus mexicanus knudseni*), *'alae kea* (Hawaiian coot, *Fulica alai*), *'alae ula* (Hawaiian moorhen, *Gallinula chloropus sandvicensis*), and *nene* (*Branta Sandvicensis*). DOFAW recommends that work temporarily cease within 100 feet of any visiting endangered Hawaiian water bird.

DOFAW also requests that consultation be initiated if it appears that the project is impacting listed species.

Applicant's response

TNC has conducted annual vegetation surveys at the site since 2013, and included the results of the initial survey with its application. No endangered plants have been observed at the work site or adjacent areas during that time. The work site will continue to be monitored to ensure the proposed rehabilitation plan does not impact any endangered species. TNC has submitted the results of their 2013 initial survey with OCCL.

TNC will follow Best Management Practices in regards to protecting ōpe'ape'a, including not cutting trees over 15 feet tall during the pupping season (June 1– Sept 15) and not using barbed wire on any planned fencing.

TNC has not observed any federally-listed birds at the site, and will continue the area for their presence. TNC will cease work if a federally listed bird enters the work site within 100 feet until the bird has left the site on its own accord, and will notify DOFAW if nesting of federally listed birds is observed.

DLNR Division of State Parks

State Parks supports the project.

DLNR Land Division

No comments

DLNR Division of Aquatic Resources

The Division of Aquatic Resources supports the project.

State Department of Health Environmental Planning Office (EPO)

The EPO encourages regular review of State and Federal environmental health land use guidance, and request that the applicant continue to utilize such guidance to increase sustainable, innovative, inspirational, transparent, and healthy design.

OCCL has reviewed the project against the standard best management practices developed in the

Ho'āla Loko I'a program and discussed in the Ho'āla Loko I'a permit application guidebook:

Water Quality Monitoring

Buffers of native species vegetation will be maintained around the fishpond perimeter to retain moisture, reduce sediment, and improve natural biodiversity. In addition, no herbicides will be used within fifty feet of the pond perimeter. This phase of the project will not involve work within the pond itself, or in adjacent waterways, and no additional water quality monitoring is proposed.

Endangered Species Monitoring

Trained environmental professionals will be on site to assist volunteers and staff should any endangered species be present in the work area. No work will be conducted in the vicinity of any basking turtles. Woody plants higher than fifteen feet will not be removed during bat pupping season.

Cultural Monitoring

The cultural and historic sites in the area have been mapped by State Parks staff. Staff consulted with kama'āina families to refine the information. Cultural sites that were identified during the consultation include the fishpond itself, the rock-lined channel, a series of rock walls that were built on top of the 1859 lava flow, a dry stack rock trap designed to drive goats towards Kīholo Bay, and rock alignments and a filled lava crack that archaeologists have identified as potential sites of interest.

The work plan has been designed to avoid impacts to the sites what have been identified as known or potential cultural sites of interest.

Archaeological Monitoring

As part of the existing Loko I'a permit, students and workers attend orientations about the historical and cultural significance of the pond and area. If any cultural artifacts or human remains are un-covered then work will stop and the project leaders will contact the State Historical Preservation Division and await instructions on how to proceed.

OCCL staff notes that the Ho'āla Loko I'a program was designed to look at Hawaiian fishpond systems in their entirety. The Nature Conservancy's proposal to restore the estuary surrounding Ka Loko o Kīholo is consistent with the goals of the program, and the proposed best management practices are in line with the guidelines established by the program.

After reviewing the application, OCCL finds that

1. The proposal to remove invasive species, construct two *hale halawai*, build native plant enclosures, and conduct other related improvements is consistent with Conservation

District Use Permit (CDUP) ST-3703 for the Ho'āla Loko I'a program, as approved by the Board of Land and Natural Resources on June 27, 2014;

2. That the activities described were covered in the Final Environmental Assessment (FEA) and Finding of No Significant Impact (FONSI) for the Ho'āla Loko I'a program, which was published on October 23, 2013;
3. That the proposal requires the need for a Tier 2 Loko I'a permit signed by the Chair of the Board of Land and Natural Resources;
4. That the standard conditions found in Hawai'i Administrative Rules (HAR) §13-5-42 apply.

After careful review of the proposed project, the Department authorizes a Tier 2 Loko I'a permit for the Kīholo Fishpond Estuary Rehabilitation project in the Pu'uwa'awa'a, North Kona, Hawai'i, TMKs (3) 7-1-002:004, 007, and 008, subject to the following standard conditions:

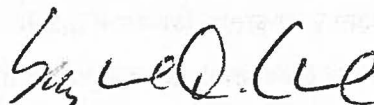
1. The permittee shall comply with all applicable statutes, ordinances, rules, and regulations of the federal, state, and county governments, and applicable parts of this chapter;
2. The permittee, its successors and assigns, shall indemnify and hold the State of Hawai'i harmless from and against any loss, liability, claim, or demand for property damage, personal injury, and death arising out of any act or omission of the applicant, its successors, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit;
3. The permittee shall obtain appropriate authorization from the department for the occupancy of state lands, if applicable;
4. The permittee shall comply with all applicable department of health administrative rules;
5. All representations relative to mitigation set forth in the application are incorporated as conditions of the permit;
6. The permittee understands and agrees that the permit does not convey any vested right(s) or exclusive privilege;
7. In issuing the permit, the department and board have relied on the information and data that the permittee has provided in connection with the permit application. If, subsequent to the issuance of the permit such information and data prove to be false, incomplete, or inaccurate, this permit may be modified, suspended, or revoked, in whole or in part, and the department may, in addition, institute appropriate legal proceedings;
8. Where any interference, nuisance, or harm may be caused, or hazard established by the use, the permittee shall be required to take measures to minimize or eliminate the interference, nuisance, harm, or hazard;
9. The permittee acknowledges that the approved work shall not hamper, impede, or otherwise limit the exercise of traditional, customary, or religious practices of native

Hawaiians in the immediate area, to the extent the practices are provided for by the Constitution of the State of Hawai'i, and by Hawai'i statutory and case law;

10. Should historic remains such as artifacts, burials or concentration of charcoal be encountered, work shall cease immediately in the vicinity of the find, and the find shall be protected from further damage. The contractor shall immediately contact HPD (692-8015), which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary;
11. The permittee will continue to follow the Best Management Practices contained in loko i'a permit HA-16-01, as well as the additional Best Management Practices as described in the current application;
12. Other terms and conditions as prescribed by the chairperson;
13. Failure to comply with any of these conditions shall render a permit void under the chapter, as determined by the chairperson or board.

Please acknowledge receipt of this approval, with the above noted conditions, in the space provided below. Please sign two copies. Retain one and return the other within thirty days. Should you have any questions feel free to contact Michael Cain at 587-0048.

Sincerely,



Suzanne D. Case, Chairperson
Board of Land and Natural Resources

Receipt acknowledged:

Permittee's Signature

Date

copy: Land Division, State Parks, SHPD; Hawaii County Planning;



CONSERVATION DISTRICT USE APPLICATION (CDUA)

All permit applications shall be prepared pursuant to HAR 13-5-31

File No.:

Acceptance Date:

180-Day Expiration Date:

Assigned Planner:

for DLNR Use

RECEIVED
OFFICE OF CONSERVATION
AND COASTAL LANDS
2017 JAN - 6 P 1:04
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

PROJECT NAME: Kiholo Fishpond Estuary Rehabilitation

Conservation District Subzone: Resource

Identified Land Use: Removal of Invasive Species P-4 (B-1), Signs P-7 (B-1), Land and Resource Management P-13 (B-1, B-2, C-1), Data Collection P-1 (A-1)

(Identified Land Uses are found in Hawai'i Administrative Rules (HAR) §13-5-22 through §13-5-25)

Project Address: None

Coordinates = N 19.855876 , W -155.919189

Tax Map Key(s): The Nature Conservancy (3) 7-1-002-004 and (3) 7-1-002-007; State Parks (3) 7-1-002-008

Ahupua'a: Pu'uwa'awa'a

District: North Kona

County: Hawai'i

Island: Hawai'i

Proposed Commencement Date: Nov 1, 2016

Proposed Completion Date: Dec 31, 2026

Estimated Project Cost: \$150,000.00

TYPE OF PERMIT SOUGHT: ☐ Board Permit ☒ Departmental Permit

☐ Temporary Variance (ref §13-5-36)

☐ Site Plan Approval (ref §13-5-38)

Note: The two items on the left do not require that a full CDUA be filled out. Please complete the first four pages of this application and refer to the relevant HAR sections for the required documentation.

ATTACHMENTS *(where applicable)*

\$ 250 Application Fee (ref §13-5-32 through 34)

\$ ☐☐☐☐☐ Public Hearing Fee (\$250 plus publication costs; ref §13-5-40)

☒ 20 copies of CDUA for Board and Departmental Permits (5 hard + 15 hard or digital copies)

☐ Management Plan or Comprehensive Management Plan (ref §13-5-39 and Chapter 13-5 Exhibit 3)

☐ Draft / Final Environmental Assessment or Draft / Final Environmental Impact Statement

☐ Special Management Area Determination (ref Hawai'i Revised Statutes (HRS) 205A)

☐ Shoreline Certification (ref §13-5-31(a)(8)) if land use is subject to coastal hazards.

☐ Kuleana documentation (ref §13-5-31(f)) if applying for a non-conforming kuleana use.

☐ Boundary Determination (ref §13-5-17) if land use lies within 50 feet of a subzone boundary.

REQUIRED SIGNATURES

Applicant

Name: The Nature Conservancy

Title; Agency: The Nature Conservancy of Hawai'i

Mailing Address: 923 Nuuanu Ave

Honolulu, HI 96817

Contact Person & Title: Charles Wiggins, Hawaii Island Marine Program Director

Phone: 808-443-5402

Email: cwiggins@tnc.org

Interest in Property: Manager

Signature:  Date: 5 JAN 2017

Signed by an authorized officer if for a Corporation, Partnership, Agency or Organization

Landowner (if different than the applicant)

Name: Curt Cottrell

Title; Agency: Division of State Parks, Department of Land and Natural Resources

Mailing Address: P.O. Box 621

Honolulu, HI 96813

Phone: 808-587-0300

Email: curt.cottrell@hawaii.gov

Signature:  Date: 1-4-17

For State and public lands, the State of Hawai'i or government entity with management control over the parcel shall sign as landowner.

Agent

Agency:

Contact Person & Title:

Mailing Address:

Phone:

Email:

Signature: _____ Date: _____

For DLNR Managed Lands

State of Hawai'i

Chairperson, Board of Land and Natural Resources

State of Hawai'i

Department of Land and Natural Resources

P.O. Box 621

PROPOSED USE

Total size/area of proposed use (indicate in acres or sq. ft.): 5.57 acres

Please provide a detailed description of the proposed land use(s) in its entirety. Information should describe what the proposed use is; the need and purpose for the proposed use; the size of the proposed use (provide dimensions and quantities of materials); and how the work for the proposed use will be done (methodology). If there are multiple components to a project, please answer the above for each component. Also include information regarding secondary improvements including, but not limited to, grading and grubbing, placement of accessory equipment, installation of utilities, roads, driveways, fences, landscaping, etc.

Attach any and all associated plans such as a location map, site plan, floor plan, elevations, and landscaping plans drawn to scale (*ref §13-5-31*).

The Nature Conservancy (TNC) is requesting to rehabilitate the lands adjacent to Ka Loko o Kīholo (Kīholo Fishpond). Kīholo Fishpond is located adjacent to Kīholo Bay, on TNC and Division of State Parks, Department of Land and Natural Resources property, in the district of North Kona on Hawai'i Island. The lands surrounding the fishpond have been negatively impacted by non-native vegetation and feral ungulates (primarily feral goats), which has degraded the native flora abundance and biodiversity. The non-native vegetation is also impacting the ecology of the estuarine fishpond, by depositing detritus (leaves and branches) which have decomposed to form organic sediment within the fishpond. In addition, non-native plants and feral ungulates are impacting historic rock walls on the lands around the fishpond. To improve natural and cultural resources of Kīholo Bay, the proposed project will rehabilitate the native flora within the project area.

To accomplish this goal of improving native habitat, we are proposing to: 1) construct a fence that will keep out feral goats and prevent damage to native coastal vegetation and historic structures, 2) restore native coastal vegetation, 3) install four educational interpretive signs and 4) build two traditional meeting structures (hale) for cultural, educational and scientific activities at the fishpond.

A 2,121 foot hogwire fence and a 600 foot hogwire fence would be constructed around the northern and southern fishpond sections, respectively (see attached Proposed Project Area map). The hogwire fences will be constructed with steel T-posts and brace posts with a height of 7 feet and diameter of 2 3/8 inches. Fence posts will be set in holes drilled in pahoehoe lava from the 1859 Mauna Loa flow and secured using epoxy and concrete. Diagonal bracing is proposed for each of the 9 corners. Fences would terminate on shore at the edge of the fishpond to utilize this natural barrier to feral goats. Fences will be situated within the kiawe dominated forest to minimize visibility to the general public hiking on the Ala Kahakai National Historic Trail in order to preserve the wilderness qualities of Kīholo.

Two gates would be installed to allow TNC staff and partners to enter the enclosures from land to conduct management activities (see attached Proposed Project Area map for gate placement locations). Two concrete-filled 2 3/8 inch diameter steel pipes at each gate will be set into concrete footings at a depth of 1-3 feet into the ground. Two additional footings at each gate will be set 3 feet out from each post to stabilize a pair of 2 3/8 inch steel pipe braces. Two 8-foot hinge gate will be constructed of 2 3/8 inch steel pipe and will close onto an 8 inch "lock bell."

The central driveway circle will be fenced with wood for native plant restoration. Wood was chosen in this area to maintain the visual aesthetics of the area. The wood fence will be 7 ft high and 250 linear feet, and enclose the central circle on the inner edge of the driveway. Fence posts would be set into holes drilled in pahoehoe lava (from the 1859 Mauna Loa lava flow) or dug into the gravel driveway perimeter, and secured using epoxy and concrete. Wood fencing materials will be collected from invasive vegetation material removed from our restoration areas.

As indicated in the attached vegetation survey, the vegetation surrounding the pond is dominated by kiawe (*Prosopis pallida*), ironwood (*Casuarina equisetifolia*), hau (*Hibiscus tilaceus*), and milo (*Thespesia populnea*) growing in lava and shallow sandy soil. The proposed fence would require the clearing of invasive non-native vegetation within a ten foot wide corridor along the 2,721 foot length of the proposed fence alignment.

Constructing the fence will facilitate restoration of vegetation through protection of native species currently impacted by feral goat grazing. The area surrounding the fishpond perimeter will be cleared of all encroaching vegetation and maintained to halt degradation of pond water quality from debris and destruction of pond walls from roots and fallen limbs. In all, 5.57 acres of non-native vegetation is proposed to be cleared by hand, using chainsaws, handsaws, and loppers by staff and volunteers. Non-native plant debris from cutting will be hauled off site to be composted at the West Hawaii Organics Facility at Pu`uanahulu. The removal of debris from invasive vegetation includes volunteers and staff carrying debris (using trash cans and tarps) on site to a 30 cubic yard green waste container that is placed on the existing TNC gravel driveway (see attached Proposed Project Area map for driveway location). When the container is full it is picked up by a local trucking company and unloaded at the West Hawaii Organics Facility. The removal of invasive vegetation will allow space for native plants and reduce detritus accumulating in the fishpond and creating organic sediment. The composting facility prevents invasive vegetation from entering the landfill and allows for the reuse of compost and mulch by the community. In addition, invasive vegetation may be chipped into mulch and compost on site, and used for trail delineation and mulching native replantings to reduce evaporation. Mulch will be stored adjacent to the driveway and within the native plant propagation area.

An access trail (0.6 miles) will be delineated within the project area (please see Proposed Project Area map for path of trail around the fishpond). The purpose of the trail is to allow access by foot to remove invasive vegetation and haul debris to the green waste container, and for educational, interpretive and cultural access to the fishpond with students, community and volunteers. The trail will follow existing topography and not require any modifications of the landscape (no grading or construction will occur). The trail will be not exceed 4 feet wide, and will use wood chips to delineate path over lava rocks to provide stable walking area.

Ecologically and culturally appropriate native and Polynesian species will be re-planted within the ungulate enclosure fence following invasive species removal and clearing. The native plant propagation will include planting coastal dryland native vegetation within the fenced restoration area adjacent to the fishpond edge. The priority restoration area that will be planted first includes from the fishpond edge to 50ft away from the water. Native sedges, shrubs and grasses will be planted within the first 20 feet of the pond edge, and larger native shrubs and trees will be planted from 20ft to the fence line (up to 200 ft) from the pond edge, to minimize organic material (leaves) from entering the pond water. Native coastal dryland plants

selected for restoration will include (but not limited to): ahuhu (*Tephrosia purpurea*), naupaka (*Scaevola taccada*), lolou (*Pritchardia* sp.), hala (*Pandanus tectorius*), ulu (*Artocarpus altilis*), niu (*Cocos nucifera*), uala (*Ipomoea batatas*), Pohuehue (*Ipomoea pes-caparae*), Kaunaoa (*Cuscuta sandwichiana*), and Ilima (*Sida* sp.), and makaloa (*Cyperus laevigatus*).

The native plant propagation area will be situated inside the north fence gate, adjacent to the fishpond and perimeter trail, with a footprint of 2,500 square feet (50 feet x 50 feet). The propagation area will include three plant tables (4ft high x 15 ft long x 4 ft wide) to grow native plants from cuttings and seeds. A small electric water pump (3ft x 3ft x 2ft) will be used for irrigation of native plants, and include irrigation lines (1 inch in diameter) and a solar panel charging system to run the irrigation on a daily timer. Water will be pumped (daily rate not to exceed 20 gallons) from the adjacent brackish fishpond, with an intake hose positioned at the surface of the water with a screen mesh to prevent debris from entering the system. The solar panels will be situated adjacent to the native plant propagation tables, within the fenced area, and include up to 5 panels (6ft x 3ft x 2in), for a total solar panel footprint of 100 square feet. The irrigation line (1 inch flexible black hose) will water the plant propagation tables (for up to 10 years during habitat restoration) and temporarily (less than 4 months after out-planting) water within the outplanting area to increase survivability and encourage root growth for recently out-planted individuals. The temporary out-planting irrigation line (1inch diameter, not to exceed 1000 feet in length) will follow the access trail, and will have small (1/4 inch) drip lines (black flexible plastic) to individually water with minimal evaporation the native out-plantings.

If significant regrowth occurs after manual clearing of invasive trees, limited use of herbicide could be applied with drip bottles to directly apply to cut stumps on an as needed basis. A 50-foot precautionary buffer from any surface water would be maintained as an herbicide-free area and only herbicide that has been approved by the Environmental Protection Agency (EPA) for use near freshwater (e.g. Garlon 4) would be used. Native and culturally appropriate Polynesian plants will be planted within the fenced area utilizing planting techniques traditional to leeward areas of Hawai'i Island.

We also propose installing four educational signs adjacent to the fishpond to inform the general public of the history and significance of the area, fishponds, and interpretive information developed in partnership with Hui Aloha Kīholo, a local non-profit with a curatorship agreement for Kīholo State Park Reserve. Each sign will be 24x36 inches. Signs will be mounted at a height of 36 inches on two steel posts set into a square concrete base with a footprint of 9x24 inches at a depth of 6 inches at the locations designated in the attached Proposed Project Areamap.

Finally, we propose the construction of two traditional hale halawai (teaching/meeting houses), one small (10x12 feet) and one large (20x30 feet), please see Proposed Project Area map for locations. These covered A-frame structures will provide spaces for researchers, volunteers, students and community groups to conduct scientific research projects, community meetings, natural resources management, volunteer projects and learning activities. Both structures would be built by hand by traditional practitioners using primarily natural materials found on site or obtained locally in Hawai'i. They would be built in compliance with Chapter 5 Article 1 Section 5-3 Appendix X Indigenous Hawaiian Architecture Structures (2012, Ord. No. 12-27, sec. 2). The foundation of the larger meeting hale will be two 30 foot long dry stack stone walls 3 feet high and 2 feet wide. Twenty-four 30 foot tall 6-8 inch diameter posts will be fixed with cement at their base inside the rock wall foundations and secured to a central 30 foot long 6-

8 inch diameter wood beam to form a triangular frame. The smaller teaching hale will be built with smaller dimensions, using the same methods. Horizontal posts and braces of ironwood, milo, hau, and/or kiawe will secure the frames. Hau and/or sennet cordage will be used to secure horizontal braces to the frames. The exterior of the structures will be thatched with ti leaf, palm fronds, hala, and/or pili grass. The two traditional hale's (small and large) will only be used for cultural and educational programs by The Nature Conservancy staff. The two traditional hale's will not be used for housing or living structures, and no grading of the land will occur prior to construction.

Equipment storage and staging areas are also designated in the attached Proposed Project Area map. The equipment storage area will be used to store restoration tools and prevent theft or damage from the elements. The equipment storage area will include a Matson container (20ft x 10ft), for up to 10 years during habitat restoration, that will be placed next to the lua adjacent to the driveway on the eastern (mauka) side of the fishpond. The container will be located over 25 ft from the fishpond edge, and placed on existing flat sandy ground. No grading of the landscape or foundations will be used to place the storage container.

The primary activity of the landowner is scientific research and studies related to water quality and quantity, fish populations, and turtle behavior are underway by TNC, University of Hawai'i at Hilo (UHH), and National Marine Fisheries Service scientists and research assistants working with Hawai'i Preparatory Academy educators and students. Cultural and scientific activities begun in partnership with local school groups since the transfer of ownership to TNC will continue. Specifically, these activities consist of data collection in and adjacent to the fishpond related to the following: coastal and estuarine fish abundance, biomass and diversity, sediment depth and composition, water quality and quantity, sea level measurement, planktonic fish abundance and diversity, and vegetation surveys. Cultural and educational programs with students and community include teaching chants, song, hula, weaving, cordage making, and oral history transmittal.

EXISTING CONDITIONS

Please describe the following, and attach maps, site plans, topo maps, colored photos, and biological or archaeological surveys as appropriate:

Existing access to site:

Access to the proposed rehabilitation site is through a private residents access road located within the Kīholo Bay State Park (North Kona, Hawai'i Island; see attached Site Access map and Tax Map Key Boundary map). The Kīholo Bay State Park entrance is a gravel road that intersects Highway 19, between mile marker 82 and 83. Near the coastal section of the Kīholo Bay State Park gravel access road, a private residents gravel road extends to the north end of Kīholo Bay. The project site occurs on The Nature Conservancy parcel (privately owned) and Division of State Parks (Department of Land and Natural Resources) land, located on the north end of Kīholo Bay. The access to the site is from a driveway extending towards the fishpond from the access road, and by foot along trails within Kīholo Bay State Park.

Existing buildings/structures:

No structures are present on TNC or State Parks lands in the proposed project area. A portable restroom facility, paid for by TNC, is located near the driveway area and is outfitted with a lock (see Proposed Project Area map for temporary restroom location near driveway). There is no legal access to the shoreline through the project area, although trespassing does occur as the property shortens the public access trail from the Queen Kaahumanu Highway by ~1/4 mile.

Existing utilities (electrical, communication, gas, drainage, water & wastewater):

There are no electrical, communication, gas, drainage, water or wastewater utilities existing on The Nature Conservancy or Division of State Parks properties within the project area.

Physiography (geology, topography, & soils):

The lands surrounding Kīholo fishpond were covered by lava in 1859. The land within the project site has very little soil (primarily from organic detritus of invasive plants), and is dominated by either pahoehoe lava, stony pebbles and boulders and a small sandy area adjacent to the fishpond. The shoreline in the area consists of a lava pahoehoe beach with a steep sloping berm transitioning to a scattered stone, pahoehoe lava and boulder escarpment. The highest elevation within the proposed project area is a 30 foot high 1859 lava inflation on the north end. Please see attached aerial photo map and attached topographic map.

Hydrology (surface water, groundwater, coastal waters, & wetlands):

There is no surface water flow within the project site or adjacent lands. The project area and adjacent coastline is characterized by submarine groundwater discharge along the basaltic lava shoreline, providing estuarine conditions of brackish water within the fishpond and shallow nearshore marine environment. The adjacent marine environment supports a rocky intertidal zone and nearshore coral reef environment.

Flora & fauna (indicate if rare or endangered plants and/or animals are present):

The Nature Conservancy and others have completed multiple biological inventories within the project

area. Vegetation is dominated by invasive trees such as kiawe and ironwood (please see attached Vegetation Survey Report, The Nature Conservancy, 2013). Debris from these invasive plants has accumulated into unsightly piles that are up to 4 feet thick in some areas, impeding access around the fishpond perimeter, displacing native flora due to no available space for growth and providing shelter for invasive fauna including rats, mongoose, scorpions, centipedes, and spiders. No threatened or endangered plants have been found within the project area.

Many feral goats utilize the area and evidence of intensive impact on native coastal vegetation such as naupaka (*Scaevola sericea*) is readily apparent and has contributed to large dieback in this native plant at Kiholo.

The endangered Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) has been observed at Kiholo Bay. The Nature Conservancy, in partnership with The National Parks Service, conducted a consultation with the U.S. Fish and Wildlife Service (USFWS), and the best management practices that were recommended by USFWS were to avoid cutting woody trees over 15 feet tall during the breeding and pupping season (June 1 to Sept 15) to avoid any impacts to this species. The Nature Conservancy will continue to follow this best management practice throughout our project rehabilitation activities to ensure no adverse affects to the Hawaiian Hoary Bat occur.

The threatened green sea turtle (*Chelonia mydas*) has been observed in the fishpond and nearshore marine environment, adjacent to the project area, using the fishpond water for foraging, resting and basking behaviours. There have been no observations or documentation of nesting occurring at Kiholo Bay or the fishpond. The work proposed in this project will occur on land, and is not expected to impact green sea turtle behavior. If a turtle is basking nearby during rehabilitation activities, the project will avoid that area until the turtle has left on its own accord.

No threatened or endangered bird species have been observed at the project area or adjacent lands. Bird species observed within the project area include the native 'Auku'u (Hawaiian Night Heron, *Nycticorax nycticorax hoactli*), the 'Akekeke (Ruddy Turnstone, *Arenaria interpres*), the migratory Kolea (Pacific Golden Plover, *Pluvialis fulva*), the migratory Kioea (Bristle-thighed Curlew, *Numenius tahitiensis*), the non-native Myna (*Acridotheres tristis*), the non-native Chukar (*Alectoris chukar*), and the non-native Grey Francolin (*Francolinus pondicerianus*).

Natural hazards (erosion, flooding, tsunami, seismic, etc.):

The natural hazards in this area are typical of the North Kona region of Hawai'i Island, and include tsunamis, earthquakes and fire. Previous tsunamis have impacted Kiholo Bay and changed the shape and composition of the beach, impacted the fishpond by pushing invasive vegetation into the water, and causing damage to historic walls. Earthquakes are an island wide hazard, though rarely have been of a magnitude to cause damage in this North Kona region. There are no streams or surface flow in this region, and flooding or erosion due to heavy rainfall has not been observed.

Historic & cultural resources:

Historic sites occurring on TNC property are limited to rock walls and 'auwai (pond channels) and all sites within and adjacent to the proposed project area have been mapped by State Parks archaeologists currently conducting a State Historic Protection Division (SHPD) consultation process to share their finding of minimal effects to historic sites, with mitigation commitments, from the proposed activity with community members identified by Kiholo residents and local non-profit Hui Aloha Kiholo. The benefits to the historic sites outweigh potential impacts, as they will protect these sites from further damage by feral ungulates and invasive plant species.

EVALUATION CRITERIA

The Department or Board will evaluate the merits of a proposed land use based upon the following eight criteria (*ref §13-5-30(c)*)

1. The purpose of the Conservation District is to conserve, protect, and preserve the important natural and cultural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. (*ref §13-5-1*) How is the proposed land use consistent with the purpose of the conservation district?

This project is consistent with the objectives of the Conservation District and is designed to manage threats to natural and cultural resources in a strategic and conscientious manner. Currently these lands are dominated by invasive plant and animal species which characterize the dominant flora and fauna of the surrounding Kīholo State Park. In addition to obstructing views, causing injury to hikers, outcompeting slow growing native plant species, groundwater withdrawal and increasing fire vulnerability through deposition of dry leaves and branches, Kīholo's invasive plants exert damage on identified cultural resources, such as rock walls, through root growth, leaf deposition and decay. Invasive animals benefit from the current vegetation and the leafy debris it generates, including pests such as mice, rats, centipedes, and scorpions, all of which nest and dwell in leaf litter areas. Feral goats compound impacts by grazing on native groundcover, trampling young growth, and dropping fecal matter along the coastline.

Natural and cultural resources as well as coastal ecosystems will be improved by keeping important coastal fishpond habitat clear of invasive vegetation and protected from feral ungulate impacts. Vegetation removal will reduce direct impact to natural and cultural resources and further reduce risk of catastrophic impact through wildfire and tree fall. Fencing will further protect cultural and natural resources by excluding feral ungulates from much of the fishpond perimeter and its historic rock walls. In addition to maintaining and enhancing these resources, the proposed actions will halt fish habitat degradation due to land based threats, and begin a long-term process of returning native coastal vegetation to the area, which is inherently compatible with native coastal fauna. The protection of naupaka and other native coastal plant species within this fenced area will contribute to a healthier coastal ecosystem in this area and improve the quality of native natural and cultural resources. There will be minimal impact to natural or cultural resources as a result of this project, other than the visual impact of the new fence.

2. How is the proposed use consistent with the objectives of the subzone of the land on which the land use will occur? (*ref §13-5-11 through §13-5-15*)

These parcels are within the Resource subzone (HAR §13-5-13), which includes lands suitable for parkland, growing timber, hunting, fishing, hiking, camping, or picnicking, or seaward lands. The uses proposed are consistent with the following allowed uses of this subzone, and also include per §13-5-22 the following related uses permitted in the Protective subzone: P-1 (A-1) Data Collection, P-7 (B-1) Signs, P-4 (B-1) Removal of Invasive Species, P-13 (B-1, B-2, C-1) Land and Resource Management.

3. Describe how the proposed land use complies with the provisions and guidelines contained in chapter 205A, HRS, entitled "Coastal Zone Management" (*see 205A objectives on p. 9*).

No Impact to Recreational Resources, Scenic and Open Space Resources, Economic Uses, Coastal Hazards, Managing Development, Beach Protection, and Marine Resources. All recreational activities currently underway adjacent to the project area may continue without decreased access.

Historic resources: Beneficial impact. Invasive species impacts on historic resources will be reduced. Historic structures will be restored in conjunction with additional permits, if approved. Activities will be conducted to ensure no impact to historic resources identified through State Parks SHPD consultation.

Coastal hazards will be mitigated by the continued availability of private bridges spanning the fishpond for emergency coastal evacuation directly from the beach to the road leading to the Queen Kaahumanu Highway.

Coastal Ecosystems - Beneficial impact. Returning native vegetation and improving estuarine habitat will benefit the coastal ecosystem, currently impaired by introduced species.

Public Participation - Beneficial impact. Engaging members of the public through educational and volunteer work days at Kīholo fishpond will provide a legal and appropriate mechanism for them to experience this place and contribute to caring for historic and ecological resources.

4. Describe how the proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.

Coastal ecosystems will be improved by keeping important coastal fishpond habitat clear of invasive vegetation and protected from feral ungulate impacts. This will halt fish habitat degradation due to land based threats, and begin a long-term process of returning native coastal vegetation, which was inherently compatible with native coastal fauna, to the area. The protection of naupaka and other native coastal plant species within this fenced area will contribute to a healthier coastal ecosystem in this area. There will be no effect on coastal geomorphological processes as the fence area is proposed well above the high tideline atop a coastal ledge.

The collaborative fence project (State Parks and The Nature Conservancy) falls under the Environmental Assessment Exemption Class 3 (Number 1), in that the fence is designed to manage and exclude non-native mammals (specifically feral ungulates) to protect and restore native estuarine and coastal plant and animal ecosystems and protect archeological sites. The fence will include access gates to allow for pedestrian access by site managers and visitors for cultural, recreational, and habitat restoration purposes.

Pursuant to Hawai'i Revised Statutes (HRS) Ch. 343-6(a)(2), Hawai'i Administrative Rules (HAR) §11-200-8A.2, 3 and 4, and HAR §13-5-31(a)(1), we request to be exempt from preparing an environmental assessment because these projects will result in only minor alterations in the conditions of the land and water with limited ground disturbance at the project site; involve replacing or reconstructing existing fishpond walls at the same site and in the same dimensions; the animal exclusion fencing is designed to protect and restore native plant and estuarine ecosystems and archaeological sites and include access gates for the public, cultural practitioners and resource managers; and, the alterations that do occur will be beneficial to the resources there.

5. Describe how the proposed land use, including buildings, structures and facilities, is compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.

The proposed project will not change existing uses of hiking, beachgoing, swimming, fishing, kayaking, surfing, or camping along the shoreline and coastal waters of Kīholo State Park. The proposed

project will enhance the area involved by improving its visual appearance and safety through removal of invasive vegetation and debris accumulated through decades of unmanaged use, reducing the impact of invasive flora and fauna, and providing a safe and well-managed area for educational activities to occur. The native outplanting around the fishpond and two ungulate exclosure fences will be built to reduce existing impacts to water quality and estuarine habitat, by improving native biodiversity, reducing non-native detritus, reducing sediment accumulation, and reducing nutrient inputs to the fishpond and marine environment.

By design, the proposed fences will not affect access to the shoreline, nor will they completely displace ungulate populations. Rather, the central portion of the fishpond, which is spanned by two bridge structures, will remain unfenced, while priority areas of pond perimeter are managed as previously described to restore native flora and fauna. Clearing the fishpond perimeter, as was done historically, will improve fishpond water quality and reduce plant debris on land, in the fishpond estuary, and in the ocean. Native plant replanting will perpetuate planting practices, enhance native species currently absent or rare along this coastal strand, and return valuable resources that can be utilized by the community for education, cultural activities, and subsistence.

Community engagement and involvement in fishpond restoration activities will be increased through solicitation of volunteers and community groups to support invasive vegetation removal activities, as well as through sharing of resources such as kiawe removed during vegetation clearing. Although these activities will increase foot traffic in the area, they will be supervised by TNC staff and community partners to ensure they too are managed and that the private property rights of adjacent landowners are respected at all times.

6. Describe how the existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon.

These aspects may be improved through invasive vegetation removal. Historic photographs taken from the general vicinity of the scenic point on Queen Kaahumanu Highway above Kīholo Bay show that the fishpond was visible when its perimeter was kept clear. Clearing invasive vegetation will likely improve both Mauka and Makai view planes. Both proposed fences fall within vegetated areas, and unaffected vegetation outside of the fenced exclosures will effectively reduce fence visibility to the general public hiking along existing trail systems.

7. If applicable, describe how subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.

n/a

8. Describe how the proposed land use will not be materially detrimental to the public health, safety and welfare.

The current condition of this land is similar to 500 adjacent acres in Kīholo State Park dominated by invasive flora and fauna. These invasive plants and animals represent a real risk to hikers and practitioners through both physical trauma such as abrasion and puncture as well as spread of viruses and bacteria through contact with excrement and water contamination, and their persistence on the landscape represents a likely liability to the state. The removal, in this instance, of these invasive

plants and animals and efforts made to prevent their return to priority areas will benefit public health, safety, and welfare in the project area and present no measurable impact to these attributes in adjacent areas. The tools used to facilitate invasive species prevention (e.g. fences) have been carefully designed to avoid existing trails and roads to ensure unrestricted coastal and mauka-makai access, and therefore, no public detriment can be expected from the actions as proposed.

CULTURAL IMPACTS

Articles IX and XII of the State Constitution, other state laws, and the courts of the State, require government agencies to promote and preserve cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups.

Please provide the identity and scope of cultural, historical, and natural resources in which traditional and customary native Hawaiian rights are exercised in the area.

Cultural and historical properties in the proposed project area have been thoroughly mapped and researched by State Parks staff in compliance with State Historic Preservation Division statutes, and consultation to share and refine information relevant to identified sites completed with kama'āina families of Kīholo. Cultural sites were identified relevant to proposed fence, work areas, and traditional structures and the results of this assessment shared during consultation by representatives of State Parks in compliance with the State Historic Preservation Division statutes. These features are the fishpond itself, inclusive of walls and rock-lined channels; a series of rock walls built atop the 1859 lava flow around the fishpond perimeter; a steel fence and drystack rock trap constructed to drive goats into Kīholo Bay; three rock alignments and a filled lava crack identified by trained archaeologists as possible sites; and a partially completed auwai, or channel connecting the fishpond to the ocean, that was blasted by prior landowners but never completed. More information about these resources, and particularly the fishpond, will be included in a preservation plan to be completed by National Park Service and State Parks staff.

The natural resources of the proposed project area consist primarily of invasive plants. As indicated in the attached vegetation survey the vegetation surrounding the pond is dominated by kiawe (*Prosopis pallida*), ironwood (*Casuarina equisetifolia*), hau (*Hibiscus tilaceus*), and milo (*Thespesia populnea*) growing in lava and shallow sandy soil. These species may be utilized for firewood or to weave natural fiber coradage.

Within the fishpond itself, estuarine fish such as `ama`ama (mullet), āholehole (flagtail), o'opu (goby), and honu (Pacific Green Sea Turtle) are present. The historical practice with regard to these fish species is periodic harvest by the kama'āina families of Kīholo, and, although this practice has not occurred, it falls under the auspices of separate activities requiring a different suite of programmatic permits not covered herein.

Identify the extent to which those resources, including traditional and customary Native Hawaiian rights, will be affected or impaired by the proposed action.

The identified cultural and historical resources will be preserved in state in full adherence to any stipulations outlined by SHPD and State Parks Division and/or restored with explicit permission and requisite permits not covered herein. Invasive vegetation will be made available to community members for non-commercial use and may represent a beneficial resource for campers in public camping areas designated by State Parks. No hunting is currently permitted on either private or public lands within Kīholo State Park Reserve, and therefore, no impact to gathering of food resources can be demonstrated.

What feasible action, if any, could be taken by the Board of Land and Natural Resources in regards to your application to reasonably protect Native Hawai'i rights?

None required as no impact will occur.

OTHER IMPACTS

Does the proposed land use have an effect (positive/negative) on public access to and along the shoreline or along any public trail?

No

Does the proposed use have an effect (positive/negative) on beach processes?

No

Will the proposed use cause increased sedimentation?

No

Will the proposed use cause any visual impact on any individual or community?

No

Please describe any sustainable design elements that will be incorporated into the proposed land use (*e.g. the use of efficient ventilation and cooling systems; renewable energy generation; sustainable building materials; permeable paving materials; efficient energy and water systems; efficient waste management systems; etc.*).

Buffers of native vegetation adjacent to open fishpond perimeters to retain moisture, reduce sediment and improve native biodiversity. The use of alternative energy sources (solar powered) water pumps for native plant irrigation.

If the project involves landscaping, please describe how the landscaping is appropriate to the Conservation District (*e.g. use of indigenous and endemic species; xeriscaping in dry areas; minimizing ground disturbance; maintenance or restoration of the canopy; removal of invasive species; habitat preservation and restoration; etc.*)

Removal of invasive species, retaining and replanting of native and Polynesian species will reduce the source of sediment to Kīholo's coastal system and specifically Kīholo fishpond.

Please describe Best Management Practices that will be used during construction and implementation of the proposed land use.

No disturbance of rock walls or known cultural sites. No resting of tools, supplies, or equipment on rock walls or cultural site. Removal of leafy debris from fishpond perimeter. Minimal felling of trees into fishpond (only as a last resort when no alternative is viable). No use of herbicide within 50 feet of water bodies. No working within vicinity of a basking green sea turtle. No removal of woody plants higher than 15 feet during the Hawaiian Hoary Bat birthing and pupping season (June 1-Sept 15).

Please describe the measures that will be taken to mitigate the proposed land use's environmental and cultural impacts.

The environmental and cultural impact of no action leads to the degradation of traditional practice and coastal ecosystems vital to the perpetuation of estuarine species of fish and invertebrates. The fencing, landscaping, and native revegetation measures proposed will confer environmental and cultural benefit by addressing the invasive species that continue to impact Kīholo's culture and

environment.

(THIS SPACE)

Does the proposed use have an effect (positive/negative) on the environment?

No

Will the proposed use be addressed in the application?

No

Will the proposed use have an effect (positive/negative) on the environment?

No

Will the proposed use have an effect (positive/negative) on the environment?

No

Does the proposed use have an effect (positive/negative) on the environment?

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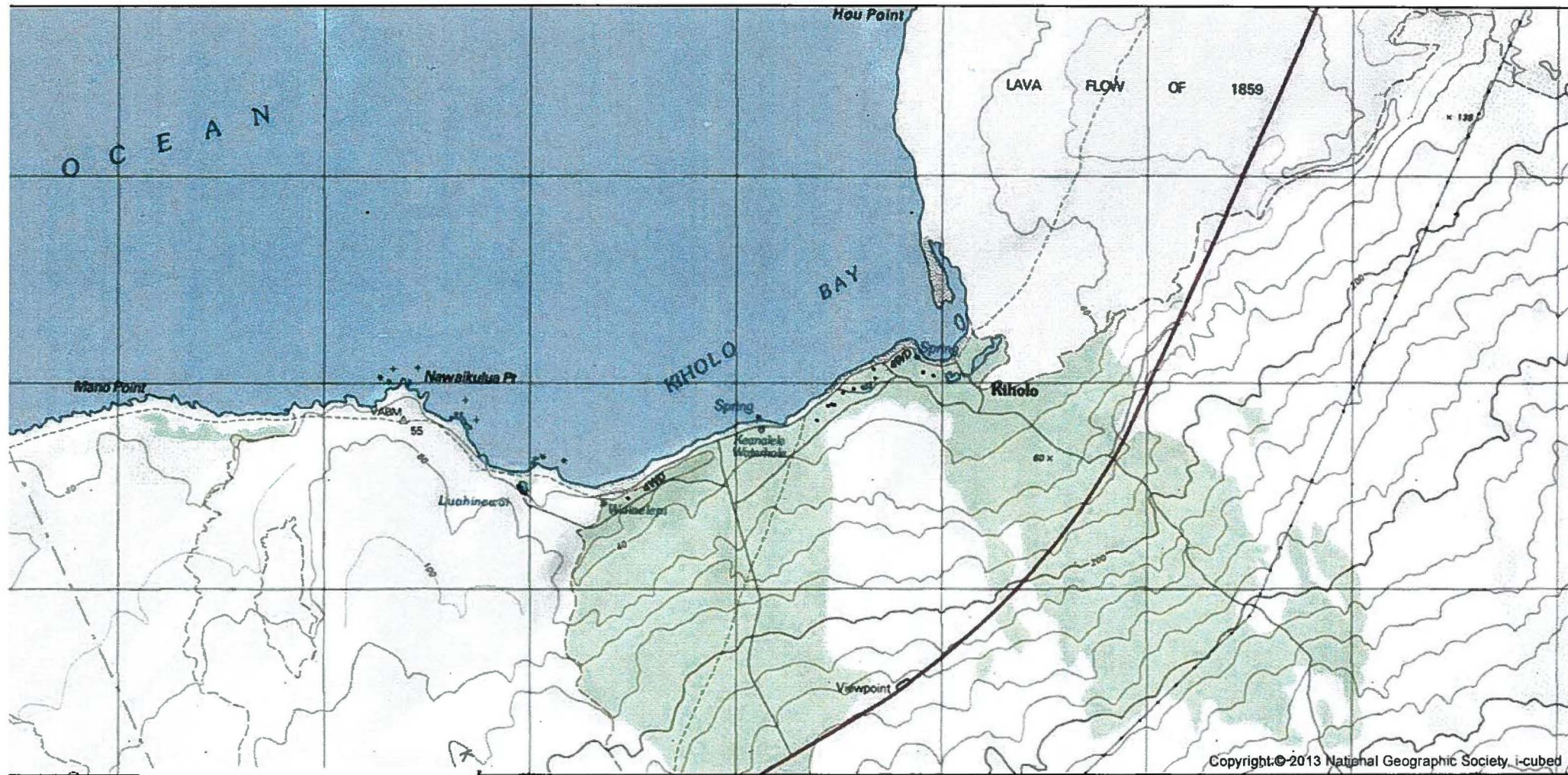
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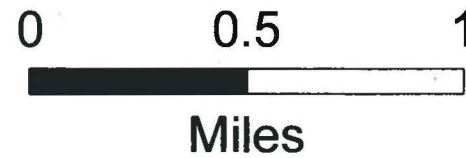
Kiholo Fishpond Rehabilitation Project Topographic Map



Area
of
Detail

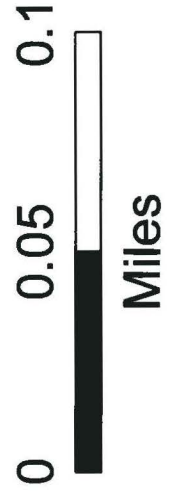
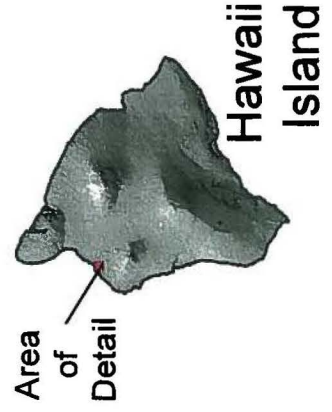


Hawaii
Island

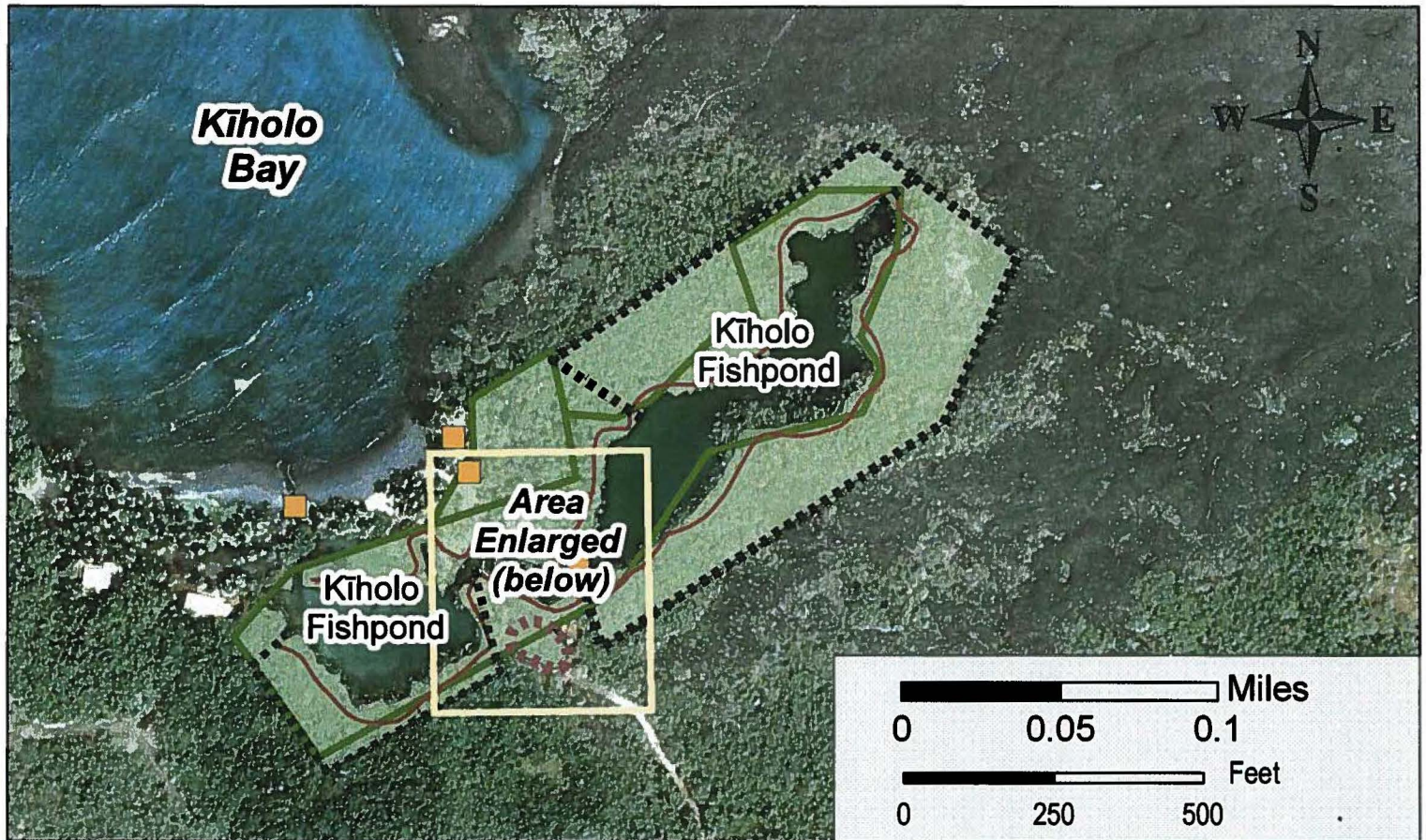


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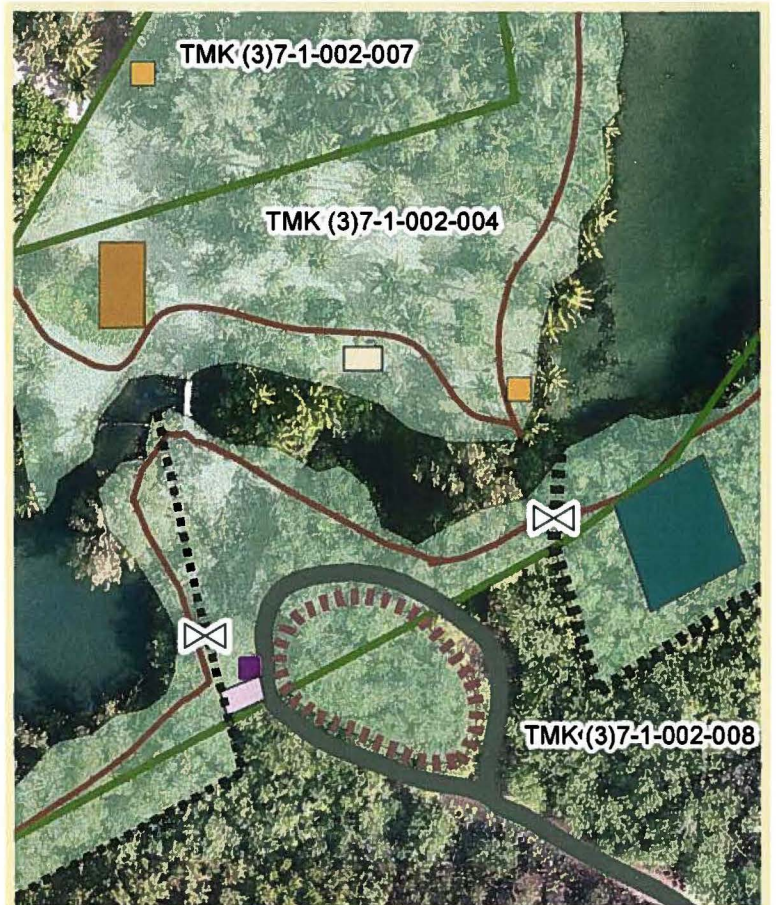
Kiholo Fishpond Rehabilitation Project Aerial Photo Map



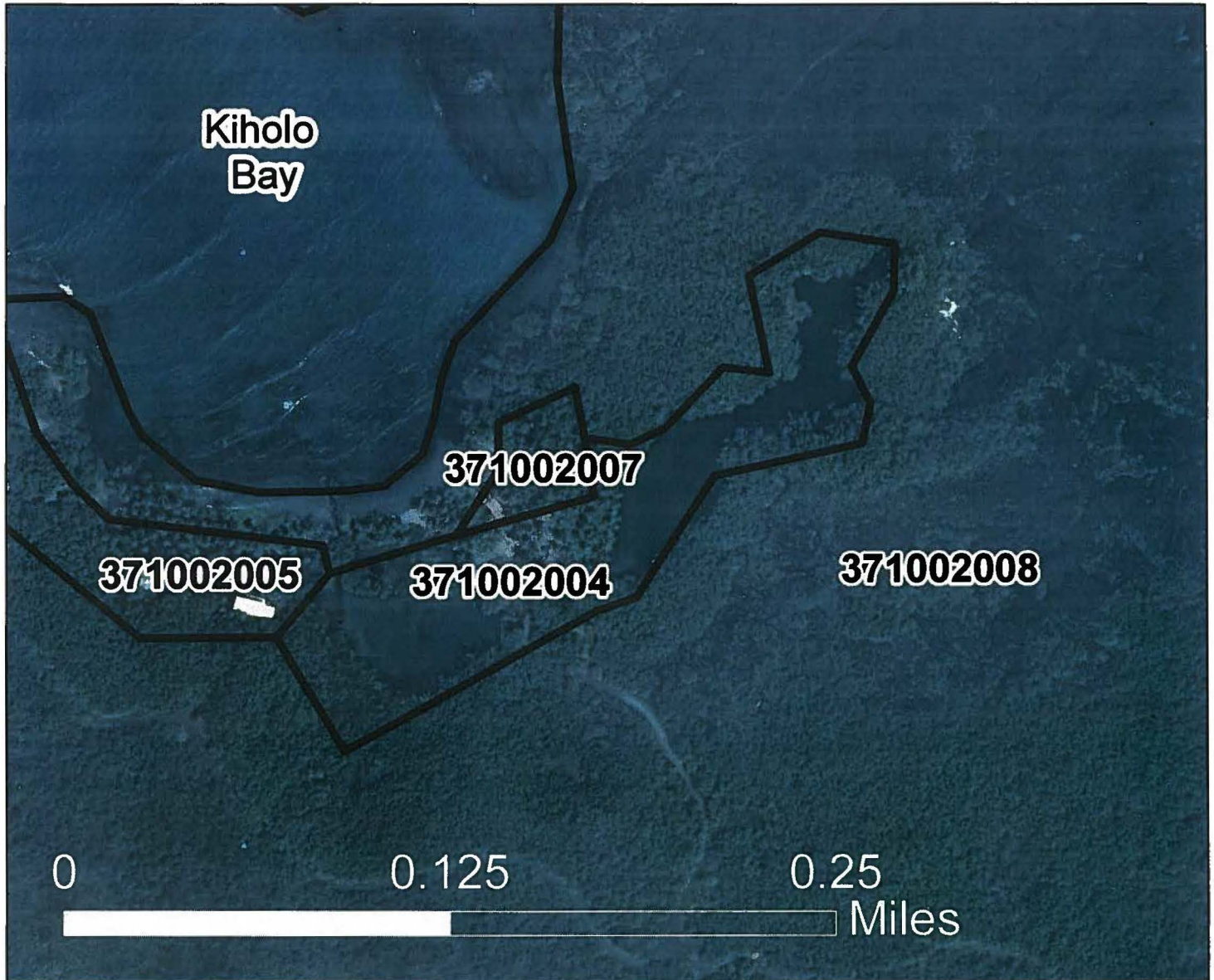
Kīholo Fishpond Rehabilitation Project Proposed Project Area



- Hogwire Fence
- ⊗ Fence Gate
- Wood Fence
- Interpretive Signs
- Equipment Storage Area
- Lua (existing)
- Native Plant Propagation Area
- Driveway (existing)
- Large Hale Halawai (640 sq ft)
- Small Hale Halawai (200 sq ft)
- Invasive Vegetation Removal Trail
- Invasive Vegetation Removal Area
- The Nature Conservancy Property



Kiholo Rehabilitation Project Tax Map Key (TMK's) Boundaries



—— TMK boundary

Kiholo Fishpond Tax Map Key #'s
The Nature Conservancy

(3) 7-1-002-004

and

(3) 7-1-002-007

Division of State Parks

(3) 7-1-002-008

