



## HO‘ALA LOKO I‘A APPLICATION

**FISHPOND NAME:** Kahapapa Fishpond

**APPLICANT NAME:** Waikoloa Beach Association

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**Pond location:** Anaehoomalu Bay, Waikoloa, South Kohala, Hawaii

**Nearest Tax Map Key(s):** (3) 6-9-007:011

**Ahupua`a:** Waikoloa

**District:** South Kohala

**Island:** Hawaii

**Commencement Date:** 2023

**Completion Date:** 2024

**Wall length:** 350 feet along the ocean (makai) side **Pond surface area:** 30,000 square feet +/-

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### WORK SUMMARY

- ☐ Operations only
- ☐ Construction of accessory structures
- ☐ Minor repair and restoration of pond walls, ‘auwai, mākāhā, etc.
- ☒ Moderate repair and restoration (10% to 50% damage)
- ☐ Major repair and restoration (greater than 50% damage)

Linear feet of wall to be repaired (rocks on site):

Linear feet of wall to be restored (new rock):

Source of new rock:

Amount of “fill” (expansion beyond original footprint):

- ☐ Dredging using mechanized equipment

Estimated volume of dredging:

- ☐ Vegetation removal using mechanized equipment

Estimated acreage:

- ☐ Emergency repair
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## REQUIRED SIGNATURES

### Applicant

Name / Hui: Waikoloa Beach Association

Street Address: 150 Waikoloa Beach Drive

Waikoloa, HI 96738

Contact Person & Title: Scott Head, President

Phone: 808-886-1000

Email: shead@waikoloaland.com

Interest in Property: Managing entity for the beach and fishpond resources.

Signature:



Date: 7/12/2023

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

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### Landowner (if different than the applicant)

Name: Waikoloa Development Co.

Title; Agency: DLNR

Mailing Address: 150 Waikoloa Beach Drive

Waikoloa, HI 96738

Phone: 808-886-1000

Email: shead@waikoloaland.com

Signature:



Date: 7/12/2023

*For State-owned ponds, the government entity with management control over the parcel shall sign as landowner.*

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### Agent

Agency: Sea Engineering, Inc.

Contact Person & Title: Scott Sullivan, Vice President

Mailing Address: 41-305 Kalanianaʻole Highway

Waimanalo, HI 96795

Phone: 808-460-3437

Email: ssullivan@seaengineering.com

Signature:



Date: 7/13/2023

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### For DLNR Managed Lands

#### State of Hawai'i

Chairperson, Board of Land and Natural Resources

Department of Land and Natural Resources

P.O. Box 621

Honolulu, Hawaii 96809-0621

Signature:

Date:

## DESCRIPTION OF THE LOKO I'A

**Please discuss the current physical and environmental conditions of the loko i'a. Please also note if any endangered or threatened species are found in the pond.**

Kahapapa Fishpond, and the adjacent larger Kuualii pond, are located at the head of Anaehoomalu Bay, on the west coast of the island of Hawaii (see attached Figure 1). The ponds lie behind a sand beach inner bay shoreline flanked by rocky lava basalt shorelines on both sides of the 1,100 foot long sand beach. Because of their relationship with the adjacent beach and dune, which form the makai protection for the ponds, Kahapapa and Kuualii fishponds are classified as loko i'a pu'uone or sand dune ponds. The two ponds are connected by a narrow, stone walled channel, and a channel through the beach at the north end of Kahapapa pond connects both ponds to the sea and allows for some circulation and flushing of the pond waters. There is also groundwater flow into the ponds which aids in water exchange and pond flushing. Kahapapa pond is irregularly shaped, approximately 0.75 acres in size, and about 200 feet long and 150 feet wide. Kuualii pond is much larger, approximately 4 acres in size. Water depths in both ponds is typically 2 to 4 feet, and the pond bottoms are composed of fine sediment over firm substrate.

The pond wall and the beach fronting the ponds is relatively low elevation, about +4 feet, and during winter season high tides and high north swell waves the beach frequently overtops, resulting in beach sand being pushed into the ponds. During the tsunami of 2011, generated by an earthquake off the coast of Japan, the beach and wall fronting Kuualii pond were breached, severely damaging the pond wall and a large amount of sand was pushed into the pond. Repairs were made to Kuualii pond in 2016, including removal of sand and repair of the pond wall. As part of the repairs, the Kuualii pond wall was increased to an elevation of +6 feet (see attached Figure 2). This increased wall elevation permits the beach to build to a higher elevation, which prevents wave overtopping and sand intrusion into the pond. The Kahapapa pond wall elevation, however, remains at +4 feet, and winter tides and waves continue to result in sand infill into the pond (see attached Figures 3 and 4). The Applicant wishes to increase the Kahapapa pond wall elevation to +6 feet, consistent with the adjacent Kuualii pond wall, in order to better protect the Kahapapa pond.

## HISTORY OF THE LOKO I'A

The pond and vicinity has been altered and modified over the years. This loko i'a pu'uone was left untouched for many decades until the 1980's when development at Waikoloa Resort began. Restoration and stabilization work on the pond has included maintenance of the pond shoreline, changes in backshore practices to improve pond water quality, and construction of a rock wall on the makai side of the pond to form a backstop for the beach and prevent its migration into the pond abutting the beach. Unfortunately, the wall elevation has proved too low to prevent high wave events from overtopping the beach wall and carrying sand into the pond.

Currently, the Applicant (Waikoloa Beach Association) is responsible for maintenance of the ponds, working in partnership with the state and the Army Corps of Engineers on execution of the approved pond management plan. The plan includes preservation of the pond borders, water quality, and environmental monitoring. Waikoloa has one of the most comprehensive environmental monitoring programs on the West Hawaii coast, beginning in 1977 and continuing today.

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## **PROPOSED WORK PLAN**

**Please provide a summary of the work that is being proposed under this permit. Please note any use of mechanized equipment.**

The Kahapapa pond wall improvement plan consists of raising approximately 350 linear feet of existing wall on the makai side of the pond from an elevation of +4 feet to +6 feet. The wall height increase would be constructed of cemented lava rock, and would replicate the existing wall construction (see attached Figure 5). Lava rock would be obtained from the nearby vicinity. All work would be done from the beach side of the wall, and no work would be done in the water. Wall construction would be primarily done by hand. Mortar would be mixed using a powered concrete mixer, and small mechanized equipment (e.g. a Bobcat loader) would be used to move stone from a stockpile to the placement site.

The wall and the beach act together to provide necessary wave protection for the pond, the wall provides a fixed barrier for the beach to abut and to stop its landward migration, and the beach provides for wave energy dissipation to protect the wall. Raising the wall is necessary to maintain a higher beach elevation and prevent wave overtopping, which will aid in maintenance and long term stewardship of the pond resource. This will be increasingly important with future climate change and sea level rise.

## **PROPOSED OPERATIONS PLAN**

**Please discuss what species you intend to raise in the pond, and your proposed methods of stocking, raising, and harvesting these species.**

Kahapapa and Kuualii fishponds are preserved and protected as examples of native fishponds that were prevalent in the region prior to contact. Kahapapa fishpond is an archaeological site eligible for the National Register of Historic Places, and is an excellent example of a pu'uone-type loko i'i, or sand dune pond. CDUP HA-315, issued in 1972 as part of the resort development, recognized the importance of the pond and permit condition #5 states that the permittee or any future successors to the project shall be responsible for the maintenance of the pond and beach area.

The ponds are located in the middle of a destination resort area, and thus it is not practical to have a commercial or even subsistence fishpond operation. Their importance is the historical/archaeological value of the ponds and their value as an educational tool for residents and visitors. Waikoloa Resort maintains signage around the ponds discussing/describing hawaiian fishponds, how they function and their importance as a sustainable food source. The resort hosts tours for primary and secondary schools, as well as providing for self-guided tours for tourists and residents alike. In addition, universities researching anchialine pond water quality and biota access and study the ponds. These educational programs highlight the importance of traditional Hawaiian fishponds. Waikoloa's ongoing preservation and protection of Kahapapa and Kuualii fishponds provides unique historical, cultural, archaeological, and educational services for the region.

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## CONSISTENCY WITH HO‘ALA LOKO I‘A PROGRAM

**Please discuss how this proposal is consistent with Conservation District Use Permit (CDUP) ST-3703 (available online at [dlnr.hawaii.gov/special-projects](http://dlnr.hawaii.gov/special-projects)) and which tier-level the project falls under.**

The proposed fishpond wall improvement plan is consistent with the intent of CDUP ST-3703, with the directive to maintain, restore, and protect fishponds while still allowing access to beach and submerged lands makai of the pond. No new structures will be constructed. The proposed work will improve the existing fishpond wall and its ability to function and protect the pond. No unauthorized construction activities are proposed.

CDUP ST-3703 categorizes fish ponds into six main types, with each type being specific to a particular geographic area. Type II fish ponds are: "Loko I'a Pu'uone - An isolated shore fishpond usually formed by the development of barrier beaches building a single, elongated sand ridge parallel to the coast and containing one or more ditches and sluice gates." The fronting sand dune stretching across the Kahapapa and Kuualii fish ponds creates a barrier parallel to the ponds with a single ditch connecting the Kahapapa pond to the ocean. This setting categorizes the ponds as a Type II.

CDUP ST-3703 defines three (3) tiered permit levels for fish pond work based on the extent of activity/work proposed. This proposed work is classified as Tier II, involving "fishpond repair, restoration, maintenance, and operation involving work that is in excess of 10 percent but less than 50 percent of the original fishpond structure.

The proposed activity was covered in the Final Programmatic Environmental Assessment and Finding of No Significant Impact (FPEA-FONSI) for a Statewide Programmatic General Permit and Programmatic Agreement that facilitates the restoration, repair, maintenance, and reconstruction of traditional Hawaiian fishpond systems across Hawaii.

## BEST MANAGEMENT PRACTICES

**Please discuss the BMPs that will be followed to protect both the environment and the integrity of the pond (users' guide forthcoming).**

See attached BMPP

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## CERTIFICATION

I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application and all attachments and exhibits is complete and correct. I understand that the failure to provide any requested information or misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, or for suspending or revoking a permit issued on the basis of such misrepresentations, or for seeking of such further relief as may seem proper to the Land Board.

I hereby authorize representatives of the Department of Land and Natural Resources to conduct site inspections on my property. Unless arranged otherwise, these site inspections shall take place between the hours of 8:00 a.m. and 4:30 p.m.



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*Signature of authorized agent(s) or if no agent, signature of applicant*

## AUTHORIZATION OF AGENT

I hereby authorize        Sea Engineering, Inc.        to act as my representative and to bind me  
in all matters concerning this application.



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*Signature of applicant(s)*

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**ATTACHMENT 1**  
**DRAWINGS AND FIGURES**

KAHAPAPA FISHPOND  
TMK (3) 6-9-007:011  
ANAEHOOMALU BAY, WAIKOLOA, SOUTH KOHALA, HAWAII







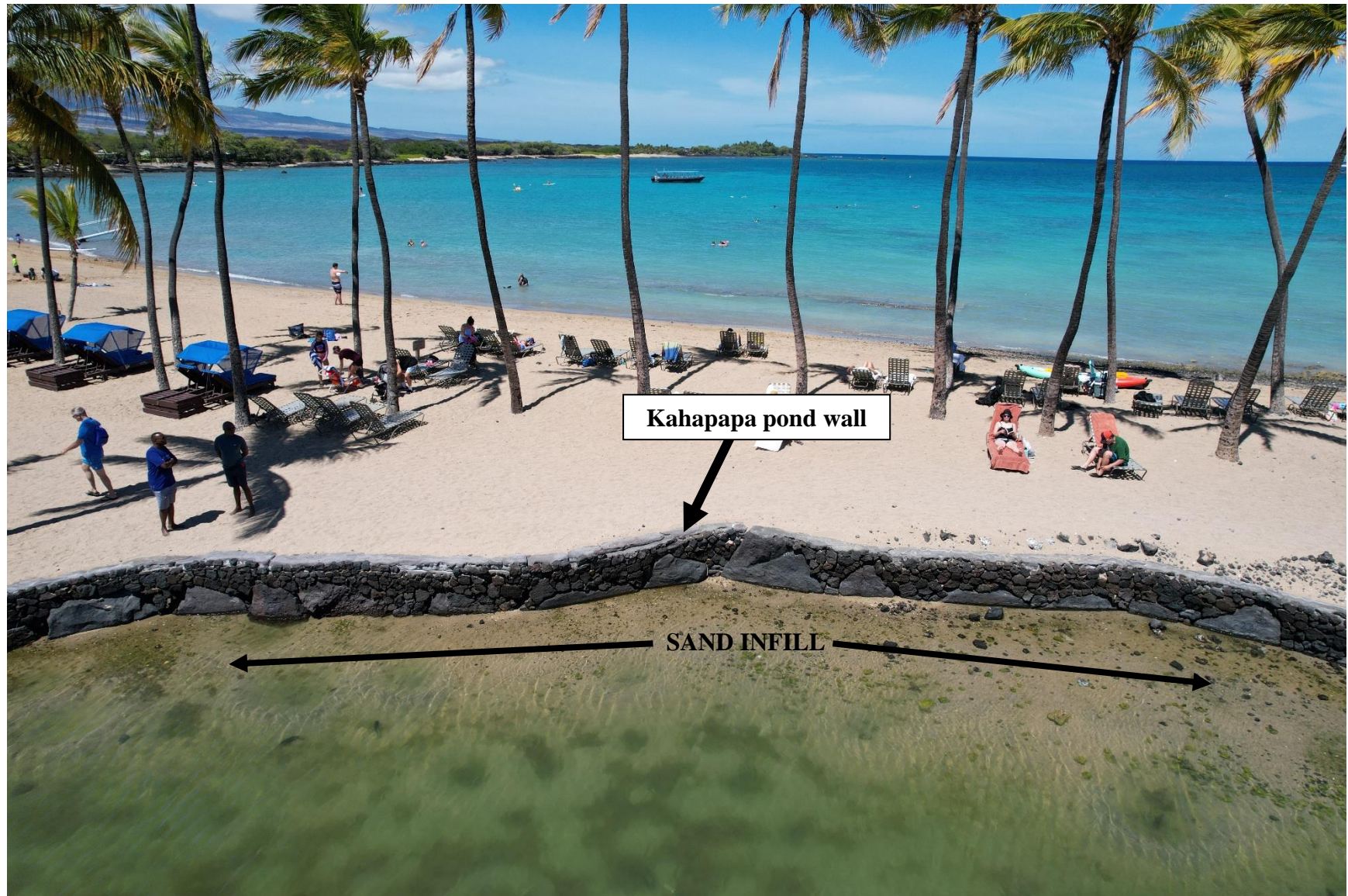


**Figure 2. Kuualii pond wall (rebuilt in 2016 to +6 feet)**

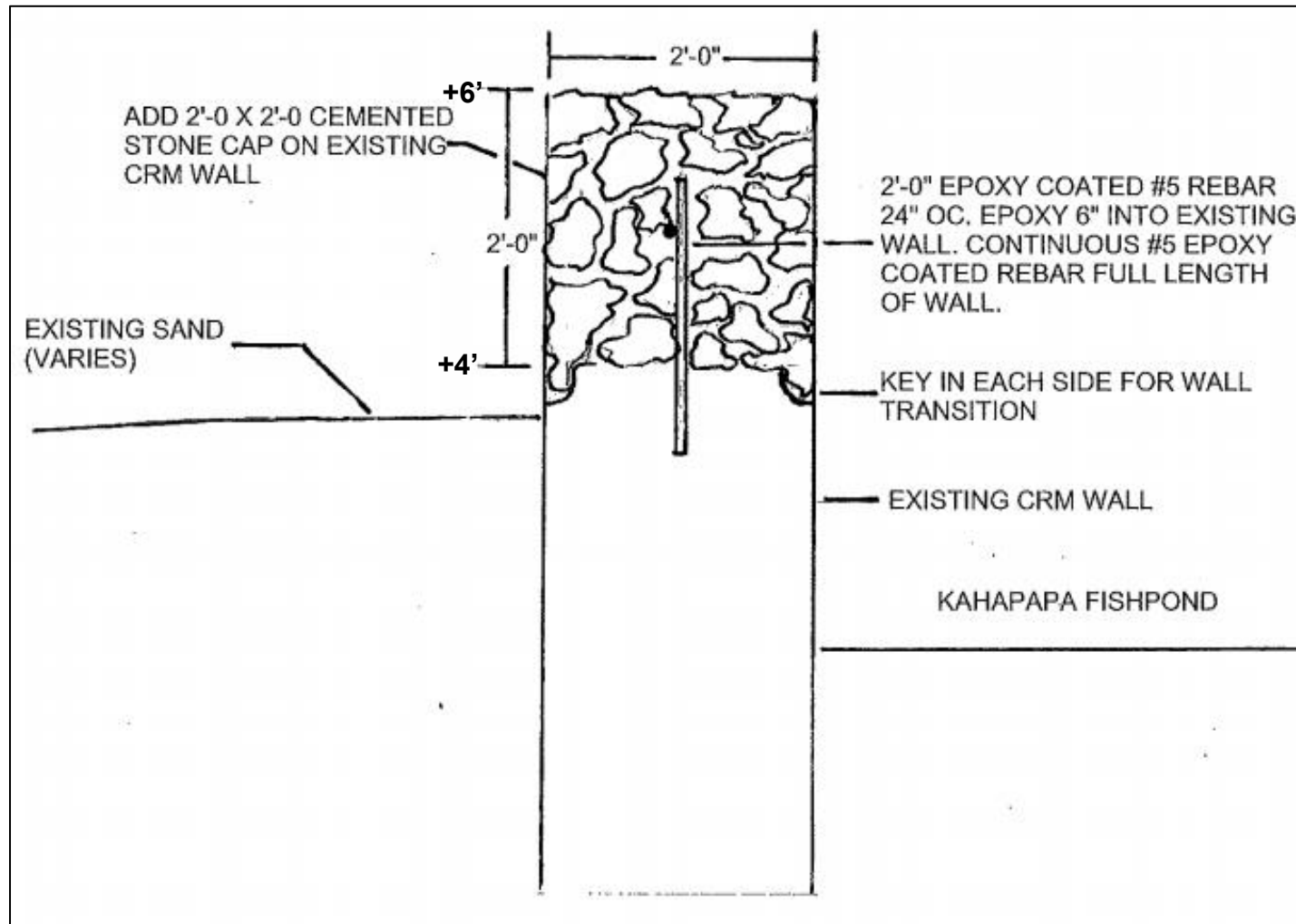


**Figure 3. Kuuallii and Kahapapa pond walls**





**Figure 4. Kahapapa pond wall and sand infill due to beach and wall overtopping**



**Figure 5. Kahapapa fishpond wall improvement typical section**

# **Best Management Practices Plan**

**Kahapapa Fishpond Wall Improvement  
Anaehoomalu Bay, Waikoloa, South Kohala, Hawaii**

Prepared by

Sea Engineering, Inc.  
Makai Research Pier  
41-305 Kalanianaʻole Hwy  
Waimanalo, Hawaii 96795-1820

July 2023



## **PART I – BEST MANAGEMENT PRACTICES**

### **I. Purpose**

The purpose of this Best Management Practices Plan (BMPP) is to ensure that adequate protective measures are in place during the Kahapapa Fishpond Wall Improvement project at Anaehoomalu Bay, Waikoloa Resort, Island of Hawaii. The purpose of the project is to improve the makai fishpond wall in order to reduce wave overtopping of the beach and wall and resultant sand infill in the pond. This plan is designed to prevent where possible, or minimize, adverse impacts to the environment. The project specifications will require the Construction Contractor to adhere to environmental protection measures, including, but not limited to, those included in this plan.

### **II. Site Characterization and Project Plan**

Kahapapa Fishpond and Waikoloa Beach are located on the landward side of Anaehoomalu Bay on the west coast of the island of Hawaii, approximately 20 miles north of the Kona International Airport and the town of Kailua-Kona. Kahapapa fishpond, and the adjacent Kuualii fishpond, are in TMK (3) 6-9-007:011, Anaehoomalu, Waikoloa, South Kohala, Hawaii.

The sand beach inner bay shoreline is flanked by rocky lava basalt shorelines on both sides with an arc length of just under 1,100 feet between the old masonry channel at the north end and the first, low, basalt outcrop to the south. The sand on the beach is a mixture of calcium carbonate (e.g. marine origin shell and reefal fragments) and basalt lava. The beach fronts two fishponds, Kahapapa, the smaller of the two ponds, and Kuualii pond next to it to the south. Because of their relationship with the adjacent beach and dune, these fishponds are classified as a loko puuone, or sand dune ponds

The Kahapapa fishpond project consists of raising the top elevation of approximately 350 linear feet of rock wall along the makai side of the pond by 2 feet, from +4 feet to +6 feet. During periods of high tide and high surf the existing beach crest and pond wall is overtopped by wave runup, resulting in sand infill in the pond. Raising the wall elevation by 2 feet will permit the beach crest to build higher and prevent wave overtopping. Repairs to the adjacent Kuualii pond in 2016 included raising the wall elevation to +6 feet and this has proven to prevent overtopping waves pushing sand into the pond.

### **III. General Requirements**

- All necessary permits and clearances shall be obtained prior to the start of any construction activities. The Contractor and his sub-contractors shall ensure that all construction work complies with all permit conditions and commitments made with environmental agencies.
- The Contractor shall perform the work in a manner that minimizes environmental pollution and damage as a result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of the construction period.

- The construction Contractor shall be required to comply with all the BMPP requirements including daily inspection of equipment for conditions that could cause spills or leaks, and cleaning of equipment prior to operation near the water.
- The Contractor shall confine all construction activities to the immediate work area. No construction materials shall be stockpiled in the marine environment outside of the immediate area of construction.
- Construction work shall be conducted between the hours of 7:00 am to 6:00 pm.
- No construction equipment shall be parked within any road right-of-way in such a manner that the equipment will obstruct the normal movement and sight distance of driving motorist, except during actual working hours.
- The Contractor, for the duration of the contract, shall maintain all excavations, embankments, haul roads, permanent access roads, plant sites, waste disposal areas, borrow areas, and all other work areas within or without the project limits free from dust which would cause a hazard to the work or the operations of the other contractors, or to person or property, or cause airborne pollution.
- No contamination of the marine environment shall result from the permitted activities.
- Waste materials and waste water from construction activities shall not be allowed to leak, leach or otherwise enter fishpond waters.
- The project shall be completed in accordance with all applicable State and County health and safety regulations.
- Public safety best practices shall be implemented, possibly including posted signs, areas cordoned off, and on-site safety personnel.
- Public access along the shoreline during construction shall be maintained so far as practicable and within the limitations necessary to ensure safety.
- Operational bounds on land will be marked with traffic cones and patrolled by project staff as needed to ensure that members of the public do not enter the project area.
- When construction operations are completed, the Contractor shall restore the area to its original state. The Contractor shall document pre-construction and post-construction conditions with time and date stamped photographs, and narrative descriptions.

#### **IV. Historic or Cultural Features**

- No adverse impacts to any historical or cultural feature are expected, since the project is located in the immediate vicinity of the existing pond wall. No excavation will be conducted in the beach berm.

- Wall improvements shall utilize stone from the nearby vicinity, and all imported materials should resemble these original stones. No stones should be collected from adjacent fishponds or other historic sites.
- Should any unanticipated archaeological site(s), such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentrations of charcoal or shells be uncovered by the work activity, all work shall cease in the immediate area and the contractor shall notify the Hawaii Island State Historic Preservation Office at 808.692.8015. No work shall resume until the owner/contractor obtains clearance from the Historic Preservation Office.
- All on-site personnel shall be apprised that they are working in a culturally sensitive area and that cultural artifacts and landscapes may be in the vicinity of the project.

## **V. Environmental Protection**

- All necessary permits and clearances shall be obtained prior to the start of any improvement activities. The Contractor shall ensure that all construction work complies with all permit conditions and commitments made with environmental agencies.
- The Contractor shall perform the work in a manner that minimizes environmental pollution and damage as a result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of the maintenance activities.
- The contractor shall complete daily inspection of equipment for conditions that could cause spills or leaks; clean equipment prior to operation near the water; properly site storage, refueling, and servicing sites; and implement stormy weather preparation plans (Part II) and spill response procedures (Part III).
- The project shall be completed in accordance with all applicable State and County health and safety regulations.
- The Contractor shall construct temporary berms, sediment basins, and silt fences as necessary to control erosion.
- The Contractor will be the on-site party who is responsible for the proper handling, storage and/or disposal of all waste generated by work activities.
- The Contractor shall confine all work activities to areas defined by the drawings. No materials shall be stockpiled in the marine environment.
- The Contractor shall keep maintenance activities under surveillance, management and control to avoid pollution of surface or marine waters. Daily visual inspection of the project

site and its environs will be conducted by a designated individual, or his representative, to verify that the permitted activities do not result in uncontrolled adverse environmental impacts.

- Surface runoff shall be controlled in order to minimize silt entering the water. Should excessive siltation or turbidity result from the Contractor's method of operation, the Contractor shall install silt curtains or other silt contaminant devices as required to correct the problem.
- Wherever trucks and/or vehicles leave the site and enter surrounding paved streets, the Contractor shall prevent any material from being carried onto the pavement.
- There shall be no waste water discharge into State waters..

#### **VI. Noise**

- Best management practices shall be utilized to minimize adverse effects to air quality and noise levels, including the use of emission control devices and noise attenuating devices.
- Noise shall be kept within acceptable levels at all times in conformance with HAR Title 11 § 46 Community Noise Control, State Department of Health, Public Health Regulations.
- The Contractor shall obtain and pay for a Community Noise Permit from the State Department of Health when the construction equipment or other devices emit noise at levels exceeding the allowable limits.
- All internal combustion engine-powered equipment shall be equipped with mufflers to minimize noise and shall be kept properly maintained to reduce noise to acceptable levels.
- Starting up construction equipment meeting allowable noise limits shall not be done prior to 7:00 am without prior approval of the Waikoloa Resort. Equipment exceeding allowable noise levels shall not be started up prior to 7:30 am.

#### **VII. Dust**

- The Contractor shall keep the project and surrounding areas free from dust nuisances. The work shall be in conformance with the Air Pollution Control Rules of the State Department of Health, HAR Title 11 § 60.1 Fugitive Dust.

#### **VIII. Air Pollution Control**

- Emission: The Contractor shall not be allowed to operate equipment and vehicles that show excessive emissions of exhaust gases until corrective repairs or adjustments are made to the satisfaction of the Owner.

## **IX. Oil and Spill Containment**

- The Contractor shall ensure that the Oil Spill Response Plan, detailed in Part III, is in place which shall detail procedures for managing the accidental release of petroleum products to the aquatic environment during construction. Fueling of project related vehicles and equipment should take place away from the water. Absorbent pads, containment booms and skimmers will be stored on site to facilitate the cleanup of petroleum spills.
- Any spills or other contaminations shall be immediately reported to the DOH Clean Water Branch (808-586-4309) and through email: [cleanwaterbranch@doh.hawaii.gov](mailto:cleanwaterbranch@doh.hawaii.gov).
- In the event that floating hydrocarbon (oil, gas) products are observed, the Contractor or his designated individual will be responsible for directing that in-water work be halted so that appropriate corrective measures are taken in accordance with the Oil Spill Response Plan. The responsible individual will document the event and the measures taken to correct the issue, and will report the incident (with photographs) as soon as is practicable. Work may continue only after the issue is no longer visible.

## **X. Monitoring/Measures**

- The Contractor shall keep construction activities under surveillance, management and control to avoid pollution of surface or marine waters. Daily visual inspection of the construction site and its environs will be conducted by a designated individual, or his representative, to verify that the permitted activities do not result in uncontrolled adverse environmental impacts. Visual inspections will be documented with photographs and written descriptions, if necessary.
  - a. Daily Inspection: The project site will be inspected daily to ensure BMPP's are maintained to confine and isolate potential pollutants from being discharged into surrounding areas. The site will be inspected to ensure:
    - i. All silt fences are functioning properly; and
    - ii. Materials are properly stored, rubbish is being collected and disposed of properly, etc.
  - b. Deficiencies identified by daily inspections shall be corrected immediately. Work activities will stop and remain stopped until the deficiencies have been corrected.
- Erosion control measures shall be in place before any work is started. Erosion control measure shall include silt fencing, as needed, around active work areas.
- The Contractor shall maintain and clear blockage and debris from the erosion control measures as necessary every day and after heavy rain events.
- Prior to delivery to the site, all construction material shall be inspected to ensure they are free of contaminants of any kind including: excessive silt, sludge, anoxic or decaying organic matter, turbidity, temperature or abnormal water chemistry, clay, dirt, organic material, oil, floating debris, grease or foam or any other pollutant that would produce an undesirable condition to the beach or water quality.



- No contamination of the marine environment shall result from the permitted activities. Particular care must be taken to ensure that no petroleum products, trash or other debris enter near-shore and open ocean waters. When such material is found within the project area, the Contractor, or his designated construction agent, shall collect and dispose of this material at an approved upland disposal site.
- Waste materials and waste waters directly derived from construction activities shall not be allowed to leak, leach or otherwise enter marine waters.

## **XI. Water Quality Monitoring**

- Turbidity and sediment from project-related work, including work relating to system structures, must be minimized and contained to the immediate vicinity of the authorized activity through the appropriate use of effective sediment containment devices.
- Visual monitoring will be conducted ongoing throughout the construction and be documented with photographs and written descriptions, if necessary.
- Erosion controls must be properly installed before any alteration of the area may take place.
- All disturbed areas must be immediately stabilized following cessation of activities for any break in work longer than 4 days.

## **XII. Endangered Species Act Compliance**

- The project manager shall designate a competent observer to survey the marine areas adjacent to the proposed action for ESA-listed marine species. A safety zone shall be established extending 150 feet beyond the limits of the active work area that will be visually monitored for protected marine species.
- Visual surveys for ESA-listed marine species shall be made prior to the start of work each day, and prior to resumption of work following any break of more than one half hour, to ensure that no protected species are in the area (typically within 150 feet of the proposed work).
- All in-water work shall be postponed or halted When ESA-listed marine species are within 150 feet of the active work area, and shall only begin/resume after the animals have voluntarily departed the area (which may be considered to have occurred 30 minutes following the last sighting). If ESA-listed marine species are noticed after work has already begun, that work may continue only if there is no way for the activity to adversely affect the animal(s). The use of heavy machinery is not safe until the creature has departed the area.

- Any federally protected waterbird species appears within 100 feet (30.5 meters) of ongoing, in-water work, work activity shall be temporarily suspended until bird leaves the area of its own accord.
- Any construction related debris that may pose an entanglement hazard to marine protected species must be removed from the project site if not actively being used and/or at the conclusion of the construction work.
- Do not attempt to feed, touch, ride, or otherwise intentionally interact with any ESA-listed marine species.
- All on-site project personnel must be apprised of the status of any ESA-listed species potentially present in the project area and the protections afforded to those species under federal laws. A brochure explaining the laws and guidelines for ESA-listed species in Hawaii, American Samoa, and Guam may be downloaded from: [http://www.nmfs.noaa.gov/prot\\_res/MMWatch/Hawaii.htm](http://www.nmfs.noaa.gov/prot_res/MMWatch/Hawaii.htm)
- The Contractor shall keep a record of all turtle sightings, incidents of disturbance, or injury, and shall provide a report to the State and the National Marine Fisheries Service (NMFS), and will be the contact person for any issues involving green sea turtles during maintenance activities.
- The Contractor shall immediately report any incidental take of marine mammals. Incidents must be reported immediately to NOAA Fisheries' 24-hour hotline at 1-888-256-9840. In Hawaii, any injuries incidents of disturbance or injury to sea turtles must be immediately reported, and must include the name and phone number of a point of contact, location of the incident, and nature of the take and/or injury. If the incident involves an ESA-listed marine species, it should be immediately reported to NMFS, the Corps of Engineers, and the Pacific Island Protected Species Program Manager, Southwest Region (Tel: 808-973-2987, fax: 808-973-2941).

### **XIII. Materials and Waste**

- All wall improvement material, and equipment shall be free from any unpleasant or offensive sludge, oil, grease, scum, excessive silt, organic material or other floating material.
- The Contractor shall not dispose of any concrete, steel, wood, and any other debris into marine or fishpond waters. Any debris that falls into the water shall be removed at the Contractor's own expense.
- No contamination (trash or debris disposal, alien species introductions, etc.) of the marine environment adjacent to the project site shall result from project related activities.

- The Contractor is responsible for the proper handling, storage and/or disposal of the all waste generated by this construction.
- The Contractor shall not dispose of any concrete, steel, wood, and any other debris into marine waters. Any debris that falls into the water shall be removed at the Contractor's own expense.
- Construction operations shall be conducted so as to prevent discharge or accidental spillage of pollutants, solid waste, debris, and other objectionable wastes in surface waters and underground water sources.
- Any spills or other contaminations shall be immediately reported to the DOH Clean Water Branch (808-586-4309) and through email: [cleanwaterbranch@doh.hawaii.gov](mailto:cleanwaterbranch@doh.hawaii.gov).