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STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES | KA 'OIHANA KUMUWAIWAI 'ĀINA
COMMISSION ON WATER RESOURCE MANAGEMENT | KE KAHUWAI PONO
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

COMMISSION ON WATER RESOURCE MANAGEMENT

December 19, 2023
Honolulu, O'ahu

State of Hawai'i, Department of Land and Natural Resources, Division of Aquatic Resources
APPLICATION FOR A WELL CONSTRUCTION PERMIT
Kalauha'iha'i Restoration Well (Well No. 3-1643-002), TMK (1) 3-7-011:003
Fishpond Restoration Use
Wai'alae-East Ground Water Management Area, O'ahu

APPLICANT:

Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl Street,
Honolulu, HI 96813

LANDOWNER:

State of Hawai'i

SUMMARY OF REQUEST:

The applicant is requesting Commission approval of a well construction permit to construct a well to restore water to the Kalauha'iha'i[1] Fishpond. (Exhibit 1 – Application)

LOCATION MAP: See Exhibit 2

The Kalauha'iha'i Fishpond is located along the Niu shoreline, Niu Ahupua'a, Kona District, City and County of Honolulu, Island of O'ahu. See Figure 1. The approximately 10,827 square feet site is made up of two parcels identified as TMK (1) 3-7-002:018 and TMK (1) 3-7-002:077. The site is bounded to the south by Maunalua Bay, to the North by Kalaniana'ole Highway and to the east and west by residences. The site is a fenced vacant lot.

[1] Note on Spelling: Multiple name variants can found in the literature. Among them are Kalauha'iha'i Fishpond, Kalauhaehae Pond or Kalauhaehae Fishpond, Lucas Spring, Lucas Pond and Lucas Fishpond.

Figure 1: Kalauha‘iha‘i Fishpond in 2017 after DLNR removed two dilapidated residences previously on the site.

BACKGROUND:

Timeline

1800s In the early 1800’s Kamehameha I used the Kalauha‘iha‘i area with Queen Ka‘ahumanu as the site of their favorite summer resort home. Kalauha‘iha‘i means the shedding of the leaves and to “break”, referring to the break in the reef on the oceanside of this loko i‘a and the breaking of the kapu (the ancient system of laws and regulations) when Queen Ka‘ahumanu renounced the ‘ai kapu system when she became Christian. This is said to have taken place on the property.

In 1820 Kamehameha conveyed the entire land area of Niu to his sea captain Alexander Adams. The lands and fishponds of Niu were passed down to the descendants of Captain Adams, many of whom still retain homes in the area.

1900s By 1900 the region was experiencing rapid change with the extension of Kalaniana‘ole Highway. The konohiki land owner for Niu (including its fishponds) was the Lucas Family.

1960 By the early 1960s, new land use changes such as the continued extension of Kalaniana‘ole Highway, military use, and urbanization had erased nearly all traces of the former cultural landscape. Kalauha‘iha‘i Fishpond became a private fishpond or residential water feature.

1989 Lawrence K.W. Lee and Tadashi Hara registered spring-fed fishpond on their respective properties with Commission on Water Resource Management (CWRM). Depth of fishpond was averaging three feet with constant flow of water from artesian springs in the pond flows out to the ocean. Present in the pond were carps, aholehole, mullet, tilapia, awa and prawns with primary use for viewing enjoyment only.

1993 On December 27, 1993, Lawrence and Peter Lee and Tadashi Hara filed a complaint (C94-5) with CWRM alleging that DOT widening project of Kalaniana‘ole Highway caused the partial and sometimes total drainage of the fishpond. Remedy sought was the return of the natural water flows to the area.

The flow of water from the freshwater conduit(s) that fed Kalauha‘iha‘i Fishpond now infiltrated an estimated 1 million gallons per day into an adjacent City and County of Honolulu sewer line, which was also damaged during the construction.

1996 The complaint moved to mediation proceedings between the Hara’s, Lee’s, and DOT. Professional hydrologists were employed during the mediation proceedings, including CWRM staff. Test hole drilling provided data and the hydrologists agreed that water levels had been permanently altered by the highway trenching such that the pond would no longer achieve former water levels that would allow artesian free-flow to resume to the sea. As such, the pond would remain stagnant without more expensive means of flushing the pond periodically. The mediated result was for DOT and the parties to reach an agreement on condemnation.

2000s DOT readies Kalauha‘iha‘i Fishpond for auction. In 2008, DOT Director and the Lieutenant Governor listen to the community and Maunalua Fishpond Heritage Center (MFHC) concerns over potential auction of one of Honolulu’s last shoreline fishponds.[2]

[2] See p. 14 Action Plan for the Kalauha‘iha‘i (Lucas Spring) Fishpond Restoration Project by NOAA (2010) https://nmssanctuaries.blob.core.windows.net/sanctuaries-prod/media/archive/library/pdfs/fishpond.pdf

2010 Act 210 passed that prevents the sale of government owned fishponds.
A City and County of Honolulu rehabilitation project of the sewer line in 2010 improved water flow conditions to Kalauha‘iha‘i fishpond. See Figure 2.

2012 DOT transfers jurisdiction of the two TMK (1) 3-7-002:018 and TMK (1) 3-7-002:077, on which Kalauha‘iha‘i is located, to DLNR.

2017 Demolition of the two dilapidated residences under contract of DLNR.

Kalauha‘iha‘i Fishpond before (above) and after (below) sewer line repairs
(Residence removed by DLNR in 2017)

Figure 2: Photos provided in FEA page 40.

2021 In January, DLNR's Engineering Division received the final "Artesian Water Restoration Report for Kalauha‘iha‘i Fishpond (Lucas Spring) Phase 2 - Restoration of Flow" for DLNR Job No. J40CO30A by the hired consultant R.M. Towill Corporation.

In April, the Board of Land and Natural Resources (BLNR) issued a Finding of No Significant Impact and Final Environmental Assessment[3] for the Kalauha‘iha‘i Fishpond Management Plan submitted by MFHC as part of its application for a 30 year lease with DLNR's Land Division. The pond is an important example of a Hawaiian groundwater-dependent ecosystem and MFHC will managed the Kalauha‘iha‘i as a Hawaiian fishpond and cultural learning site, using science and ‘āina-based hands-on education to steward resources and restore traditional fishpond values.

2023 On December 7, BLNR approved the authorization for the Chairperson to enter into a Use and Occupancy Agreement with DOT and procure, award, and enter into the construction contract, supplemental agreements and execute any other necessary documents or agreements for Job No. J40CO30A, Kalauhaihai (Lucas Spring) Fishpond Restoration, Phase 3, Niu Valley, Oahu, Hawaii

Kalauha‘iha‘i Fishpond

Historically, the Kalauha‘iha‘i fishpond had a water level head that allowed water to flow into the ocean via a stone lined outflow ‘auwai that created a unique estuary habitat. See Figure 3.

[3] https://files.hawaii.gov/dbedt/erp/Doc_Library/2021-06-08-OA-FEA-Kalauhaihai-Fishpond-Management-Plan.pdf

Flow to ocean before highway widening

Flow before highway widening

Figure 3: Photos provided in FEA page 41.

Groundwater discharge has long been known to fringe O‘ahu’s south shores as springs and beach seeps, with many examples mapped and sporadically described since the early works of Stearns and Vaksvik[4]. Groundwater discharge occurs within Kalauha‘iha‘i Fishpond, as well as at its adjacent shoreline and at Kānewai Spring, Paiko Lagoon and from multiple shallow-water (submarine) springs within Maunalua Bay. See Figure 4.

[4] Stearns, H.T., and K.N. Vaksvik, 1935, Geology and ground-water resources of the Island of O`ahu, Hawai`i. Territory of Hawai`i, Division of Hydrography Bulletin 1 (Prepared in cooperation with the U.S. Geological survey). Maui Publishing Co. Maui.

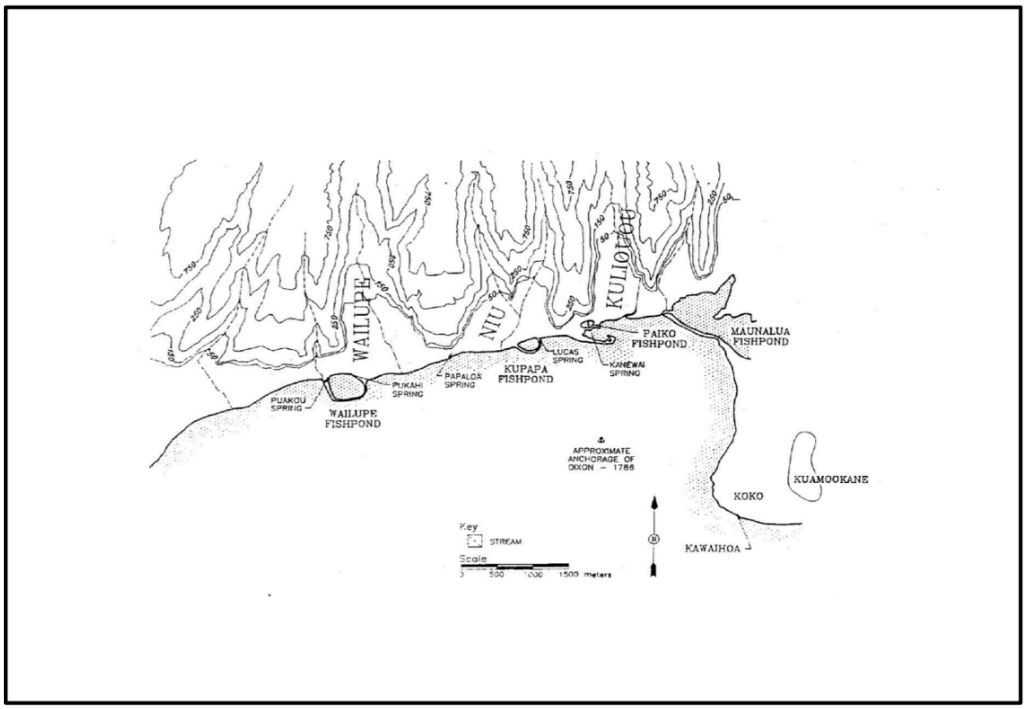


Figure 4: Major Ponds and Springs of the Region Prior to 1950. Corrected spring names from left to right are Punakou, Puhikani, Papa‘alaea. Source: Erkelens and Athens 1994

During a field inspection of the site was in spring of 2016 by Cultural Surveys Hawai‘i[5] (CSH) Mr. Cramer of MFHC noted that Mr. Hara had previously identified the lava tube conduit that fed directly into the pond. Mr. Hara had stated that the lava tube was large enough to fall into, and thus he was prompted to mark the circumference of the lava tube (or spring) with stones. During the field inspection, CSH identified the location of the lava tube conduit damaged during Kalaniana‘ole Highway widening construction. The lava tube conduit responsible for feeding the Kalauha‘iha‘i Pond spring was observed on the north (mauka) side of Kalaniana‘ole Highway, approximately 40 m from the property; a large bougainvillea tree and stand of koa haole (Leucaena leucocephala) currently marks the original location of the lava tube conduit.

Kalauha‘iha‘i Fishpond consists of two features. Feature 1 is a basalt stone and mortar kuapā (wall) running the perimeter of the pond, and partially enclosing a surface area of 368 sq m. Basalt boulders and cobbles were utilized in the construction of the wall. The kuapā is four courses high and varies in height from 105 cm in its southwest (makai, ‘Ewa) section, 100 cm in its southeast (makai, Koko Head) section, 130 cm in its northwest (mauka, ‘Ewa) section, and 120 cm in its northeast (mauka, Koko Head) section. See Figure 5.

A 104-centimeter wide gap was observed along the southern (makai) portion of the fishpond. This gap marks the northern limits of Feature 2, a basalt stone and mortar ‘auwai and concrete posts for a double mākāhā.

[5] See Appendix 9.2 of FEA.

This gap also marks the location of the northern (mauka) mākāhā.[6]

Figure 5: General view of Kalauha‘iha‘i Fishpond wall, view to northeast.

Widening of Kalaniana‘ole Highway

In the 1990s, a Department of Transportation project to widen Kalaniana‘ole highway reduced the ground water flow with detrimental effects to the Kalauha‘iha‘i Fishpond. Much speculation was made about where the water that previously fed the fishpond was going – whether it was restricted from flowing seaward by the damming effect of the highway widening, or if it was discharging elsewhere.

There is evidence that the water was leaking and discharging elsewhere. First, after the widening, the sewage treatment plant had a huge influx of water of about one million gallons per day. Upon repair of the sewer lines in the vicinity of this artesian source of water, the influx of water to the sewage treatment plant reduced, and water levels increased in the fishpond. Additionally, water levels taken after the highway widening showed decreased heads both mauka and makai of the highway, suggesting that the dam effect theory was less likely. However, there could be a combination of impacts that reduced water levels in the fishpond.

To understand the water levels in the vicinity of the fishpond, additional boreholes will be made and water level measurements will be taken during the design phase of this restoration project.

Loss of water to fishpond

[6] For more detail see Section 4.2.1 Archaeological, Historic and Cultural Resources of the FEA.

The loss of this water had two significant impacts – Kalauha‘iha‘i fishpond became stagnant and there was no outflow of water to the ocean. As mentioned above, the repair of the sewer lines in the area helped but didn't completely restore water to the fishpond to pre-widening conditions.

Restoration project

In 2021, the Engineering Division of the Department of Land and Natural Resources commenced a project to restore water to the fishpond. The project entails a horizontal slotted pipe that will collect water on the mauka side of Kalaniana‘ole Highway and deliver it across the street to the fishpond. It is unknown whether or not this will increase water levels to the point that water will enter the ocean again, but borings will be drilled to evaluate water levels in comparison to the fishpond.

LEGAL AUTHORITY:

The authority for approvals is established in the State Water Code, Hawai‘i Revised Statutes (HRS), Part VII Wells and Hawai‘i Administrative Rules (HAR), Title 13 Chapter 168, Water Use, Wells, and Stream Diversion Works:

> **HRS § 174C-84 Permits for well construction and pump installation.** (a) No well construction and no installation of pumps and pumping equipment shall commence without appropriate permit from the commission. An application for a permit for well construction shall be required for all areas of the State including water management areas and shall be made by the well driller who will construct the well. An application for a permit for installation of a pump and pumping equipment shall be made by the pump installation contractor who will install the pump and pumping equipment.
> […]
>
> **HRS § 174C-3 Definitions.**
> […]
> "Well" means an artificial excavation or opening into the ground, or an artificial enlargement of a natural opening by which ground water is drawn or is or may be used or can be made to be usable to supply reasonable and beneficial uses within the State.
> […]
>
> **HRS § 174C-81 Definitions.**
> […]
> "Well" shall be as defined in section 174C-3.
> "Well construction" means the producing of any well, including the construction, alteration, or repair thereof, but excluding the installation of pumps and pumping equipment.
> "Well driller" means any person, firm, or corporation which constructs, alters, or repairs wells.
> […]

> **HAR § 13-168-12 Well construction and pump installation permits.** (a) No well shall be constructed, altered, or repaired and no pump or pumping equipment shall be installed, replaced, or repaired without an appropriate permit from the commission. Each application for a well construction or pump installation permit shall be accompanied by a non-refundable filing fee of $300.00, excepting government agencies, and shall be required for all areas of the state, including water management areas. The owner of a well shall make application or cause an application to be made by the well driller who will construct the well or by the pump installation contractor who will install the pump and pumping equipment, as the case may be.
>
> […]
>
> **HAR § 13-168-2 Definitions.**
>
> […]
>
> “Well” means any excavation or opening into the ground, or an artificial enlargement of a natural opening drilled, tunneled, dug, or otherwise constructed for the location, exploration, development, injection, or recharge of ground water and by which ground water is drawn or is capable of being withdrawn or made to flow.
>
> “Well construction” means the drilling, tunneling, digging or otherwise constructing of a well for whatever purpose, including any alteration or repairs of an existing well, but excluding the installation of pumps and pumping equipment.
>
> “Well driller” means any person licensed in the State of Hawaii to construct, alter, or repair wells.
>
> […]

ANALYSIS:

Well Construction Permit

The applicant is requesting a well construction permit to build a horizontal well on the mauka side of Kalaniana‘ole Highway that will collect water from an artesian source. A pipeline will cross below Kalaniana‘ole Highway and deliver the water to the Kalauha‘iha‘i Fishpond. See Exhibit 3.

The project scope consists of restoring groundwater flows to the historic Hawaiian Kalauha‘iha‘i Fishpond by installing a trench collection system. The proposed trench collection system would operate by collecting water in a 120’ long perforated pipe installed in a gravel filled trench and drain line located on the mauka side of Kalaniana‘ole Highway. Collected water would flow from the trench to a manhole, then through a conduit under Kalaniana‘ole Highway, and finally to a drain line which outlet the water into the fishpond.

The proposed components of the trench collection system are summarized below:

- Install a new 120’ long trench with a 6-inch diameter PVC slotted drain line wrapped in filter fabric running parallel to the mauka side of Kalaniana‘ole Highway for the collection of artesian groundwater water.
- Install a new concrete manhole collection structure to collect trench flows mauka of Kalaniana‘ole Highway.

- Directional drill under Kalaniana‘ole Highway for installation of a new 6-inch pipe to convey flows from the collection structure to a new manhole near the fishpond.
- Install a new 8-inch pipe with a non-return check valve/flap makai of the highway via trenching to outlet the water flows into the fishpond. To facilitate the connection of the new 8-inch pipe to the fishpond, only the portion of the fishpond wall where the pipe would be installed would need to be removed and mortar installed around the pipe to accommodate the pipe installation through the wall.

The design of the system presumes that there is an obstruction between the mauka and makai sides of Kalaniana‘ole Highway that reduces the hydrostatic head from mauka to makai and thereby has reduced the head level in the pond.

The mauka collection pipe is considered a well because it is an opening to the ground constructed in a way by which ground water is being made to flow. This well does not fall under the Well Construction and Pump Installation Standards from 2004, and thus a C-57 license is not required, however Commission staff recommends the selected contractor holds at least an A license if not a C-57 license.

Agency Review

Copies of the application were sent to the 1) Department of Health (DOH) Wastewater Branch (WWB), 2) DLNR Land Division, 3) State Historic Preservation Division (SHPD) and 4) Honolulu Board of Water Supply (BWS).

1. DOH WWB had no special concerns nor objections. (Exhibit 5)
2. DLNR Land Division did not provide a response.
3. On December 5, 2023, Engineering Division uploaded the well construction permit application along with 6E form and letter from CWRM to SHPD to the overall project record. On October 31, 2023, SHPD provided comments to DLNR Engineering and requested follow-up actions. (Exhibit 5)
4. BWS did not provide a response.

Water Use Permit

The Sustainable Yield equation limits withdraws to ensure there will be water left in the aquifer that can continue as coastal discharge or spring flow. The restoration of this water flow to the fishpond to pre-road widening conditions means that there should be no change in the amount of water counted against sustainable yield because the quantity of water is considered as part of the amount left in the aquifer. Because the amount of water flow will be determined after the well and pond inflow structures are completed, staff recommends that a water use permit be applied for upon completion of the project. Staff are also investigating how these types of ecosystem service type of wells go through proper compliance within the intent of the Constitution, State Water Code, and relevant case law.

ENVIRONMENTAL REVIEW:

HRS Chapter 343

The Board of Land and Natural Resources exempted this project from the preparation of an environmental assessment at its meeting held on December 7, 2023, so no further action is required. The submittal to the Board and exemption documentation is attached as Exhibit 6.

KA PA‘AKAI ANALYSIS:

In *Ka Pa‘akai O Ka‘aina v. Land Use Commission*[7], the Hawai‘i Supreme Court recognized that the State has an obligation to protect Native Hawaiian traditional and customary practices to the extent feasible, and that the proponent of an action must show sufficient evidence that these types of practices are protected, if they exist in the location in question. The Court created a framework “to help ensure the enforcement of traditional and customary native Hawaiian rights while reasonably accommodating competing private development interests.” The Commission is obligated to make an assessment, independent of from the applicant, of the impacts on traditional and customary practices of Native Hawaiians, which is the three step “Ka Pa‘akai Analysis”.

The Commission must, at a minimum, make specific findings and conclusions about the following:

(1) “the *identity and scope* of ‘valued cultural, historical, or natural resources’ in the petition area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the petition area";

In the Ka Pa‘akai Analysis submitted by the applicant states that traditional and customary native Hawaiian rights exercised in the petition area were centered around the presence of spring sources that fed coastal fishponds along this coastline. Significant events like the breaking of the ‘ai kapu is also stated to have occurred in the area. In more recent times, the area was utilized by Native Hawaiians for subsistence gathering.

Staff’s analysis concurs with the applicant’s analysis. The staff submittal above highlights the valued cultural, historical, and natural resources in the petition area that align with the applicant’s analysis.

(2) “the extent to which those resources -- including traditional and customary Native Hawaiian rights -- will be *affected or impaired* by the proposed action;” and

[7] 94 Hawai‘i 31 (2000).

In the Ka Pa‘akai Analysis submitted by the applicant states that the impact to traditional and customary native Hawaiian rights will be positive because restoration of the fishpond will restore those rights.

Staff independently recognize that springs along the coastline are important water sources that support groundwater dependent ecosystems that provide opportunities for traditional and customary practices. This project as designed is attempting to reestablish a connection of groundwater to the fishpond that was historically disconnected. Staff concur with that applicant that the proposed action will have positive impacts on the water resources and fishpond that will support traditional and customary Native Hawaiian rights.

(3) "the *feasible action*, if any, to be taken … to *reasonably protect* Native Hawaiian rights if they are found to exist."

In the Ka Pa‘akai Analysis submitted by the applicant states that the impact to traditional and customary Native Hawaiian rights will be positive, and thus no feasible action needs to be taken.

Staff analysis concurs with the applicant's analysis. Staff believe the proposed action is the most feasible action to reasonably protect Native Hawaiian rights that exist in the area.

RECOMMENDATION:

Staff recommends that the Commission:

1. Approve a well construction permit for the Kalauha‘iha‘i Fishpond Restoration Well, State Well No. 3-1643-002, subject to the standard well construction permit conditions in Exhibit 3 as well as the following special conditions:

   a. The contractor selected can but does not need to hold a C-57 license. If the selected contractor does not hold a C-57 license, the contractor shall have an A license.

   b. Applicant shall comply with SHPD letter dated October 31, 2023.

2. A water use permit application shall be submitted upon completion of construction and when knowledge of quantity of water flow is determined.

Ola i ka wai,

M. KALEO MANUEL
Deputy Director

Exhibits:
1 Application
2 Location Map
3 Schematic of Project Design
4 Well Construction Permit Standard Conditions
5 WWB and SHPD comments
6 BLNR submittal (12-07-23) and Exemption Documentation (12-14-23)
7 DAR Ka Pa‘akai Analysis

APPROVED FOR SUBMITTAL:

DAWN N. S. CHANG
Chairperson

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
APPLICATION FOR A WELL CONSTRUCTION / PUMP INSTALLATION PERMIT

For Official Use Only:

Instructions: Please print in ink or type and e-mail PDF of completed application with attachments. A non-refundable filing fee of **$300.00** must be mailed to the Commission, payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at **587-0225**. For further information and updates to this application form, visit http://www.hawaii.gov/dlnr/cwrm.

WELL LOCATION INFORMATION

1. STATE WELL NO. (if assigned)	2. WELL NAME	3. ISLAND	4. TMK
	Kalauha'iha'i Restoration	Oahu	(1) island 3 zone 7 sec 011 plat 003 parcel lot

5. WELL COORDINATES (latitude and longitude, referenced to NAD 83, degrees, minutes, seconds to 1 decimal place) and ADDRESS (street, city, zip code)
21.282702, -157.7321862 (5850 Kalanianaole Hwy, Honolulu, Hawaii 96821)

The following must be attached before this application is accepted as complete:
- Property tax map, showing well location referenced to established property boundaries
- Photograph of the proposed well site
- A photo or schematic diagram showing the well site, access road and proposed well infrastructure
- Attach written permission from the landowner listed below, that acknowledges the work proposed by this application. If the landowner changes during construction, a new permission statement is required.

6. WELL OPERATOR'S NAME/COMPANY	Well Operator's Contact	7. LANDOWNER'S NAME/COMPANY	Landowner's Contact
DLNR Division of Aquatic Resources		DLNR Division of Aquatic Resources	Brian J. Neilson
Well Operator's Mailing Address		Landowner's Mailing Address	
		1151 Punchbowl Street, Room 330, Honolulu HI 96813	
Well Operator's Phone	Well Operator's Fax	Well Operator's E-mail	Landowner's Phone / Landowner's Fax / Landowner's E-mail
			(808)587-0100 / brian.j.neilson@hawaii.gov

PROPOSED WELL CONSTRUCTION

8. Proposed Work
- ☑ Construct New Well
- ☐ Modify Existing Well
- ☐ Abandon/Seal Well

9. Construction Type
- ☐ Drilled
- ☐ Dug
- ☑ Shaft
- ☐ Tunnel

10. Is this well part of a battery of wells? ☐ Yes ☑ No

PROPOSED PUMP INSTALLATION

11. Proposed Work
- ☐ Install New Pump
- ☐ Replace Pump

13. Proposed Pump Capacity, gpm (gallons per minute)

12. Method of flow measurement
- ☐ Totalizer flowmeter
- ☐ Other (explain)

14. Proposed Amount of Withdrawal, gpd (gallons per day)

15. Proposed Surveyor name and license number (a surveyor is required for all Well Construction Permits and may be required for some Pump Installation Permits)

PROPOSED USE
If the well water will be treated, please describe how (reverse osmosis, ultra violet, etc.) and disposal method of resulting effluent, reject water, etc.

- ☐ 16. Municipal (water systems serving greater than 25 individuals or 15 service connections)
- ☐ 17. Domestic Number of units to be served: _____
- ☐ 18. Industrial (describe)
- ☐ 19. Irrigation (describe crop and no. of acres)
- ☐ 20. Military (describe)
- ☑ 21. Other (describe) Fishpond restoration

OTHER LEGAL REQUIREMENTS
If required, items 22. and 23. must be obtained before the Commission can legally issue a permit:

22. **Conservation District Use Permit (CDUP)**
- ☐ Well is in Conservation District
  - ☐ Required, CDUP # _____ date approved _____
  - ☐ Not Required (attach documentation from OCCL)
- ☑ Well is not in Conservation District

23. **Special Management Area Permit (SMAP)**
- ☑ Well is in the Special Management Area
  - ☐ Required, SMA # _____ date approved _____
  - ☑ Not Required (attach documentation from applicable County agency)
- ☐ Well is not in the Special Management Area

24. **State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources (Hawaii Revised Statute, Chapter 6E, Section 106)**
- ☑ I understand that after CWRM sends me a copy of the "SHPD concurrence request", that I must create a HICRIS record and upload the required documents described in the attached instructions.

25. **Chapter 343**
- ☑ An Environmental Assessment was completed, and
  - ☐ An Environmental Impact Statement was required and has been accepted (attach letter of acceptance). Publication date in The Environmental Notice: _____
  - ☐ A Finding of No Significant Impact has been determined (attach letter). Publication date in The Environmental Notice: _____

This project proposes:
- ✓ Use of state or county lands, or use of state or county funds
- ☐ Use within a state conservation district
- ☐ Use within a shoreline setback area
- ☐ Use within a national or Hawaii registered historic site
- ☐ Use within the Waikiki Special District
- ☐ The construction, expansion or modification of helicopter facility
- ☐
- ☐ A wastewater treatment unit
- ☐ Waste-to-energy facility
- ☐ Landfill
- ☐ Oil refinery
- ☐ Power-generating facility
- ☐ None of the above 11 items
- ☐

26. Water Use Permit No. (if applicable): _____

Additional remarks, explanations, etc. (attach additional sheet if more space is needed)

NOTE: Signing below indicates that the signatories understand and swear that the information provided is accurate and true to the best of their knowledge. Further, the signatories understand that upon permit approval: 1) the proposed work is to be completed within two (2) years of the approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within **30** days after the completion date of the permitted work; 3) if the landowner changes during construction, a new permission statement is required; 4) in the event that the application is not completed correctly, any permit may be suspended until the item is brought in to compliance, and any work done while the permit is in suspension may result in fines of up to $5000/day.

27. WELL DRILLER (**Must** be filled out if application is for Well Construction)

TBD

Licensee business name _____ C-57 License No. _____

Signature _____ Print _____ Date _____

Address _____

Phone _____ Fax _____ E-mail _____

28. PUMP INSTALLER (**Must** be filled out if application is for Pump Installation)

Licensee business name _____ C-57/C-57a/A License No. _____

Signature _____ Print _____ Date _____

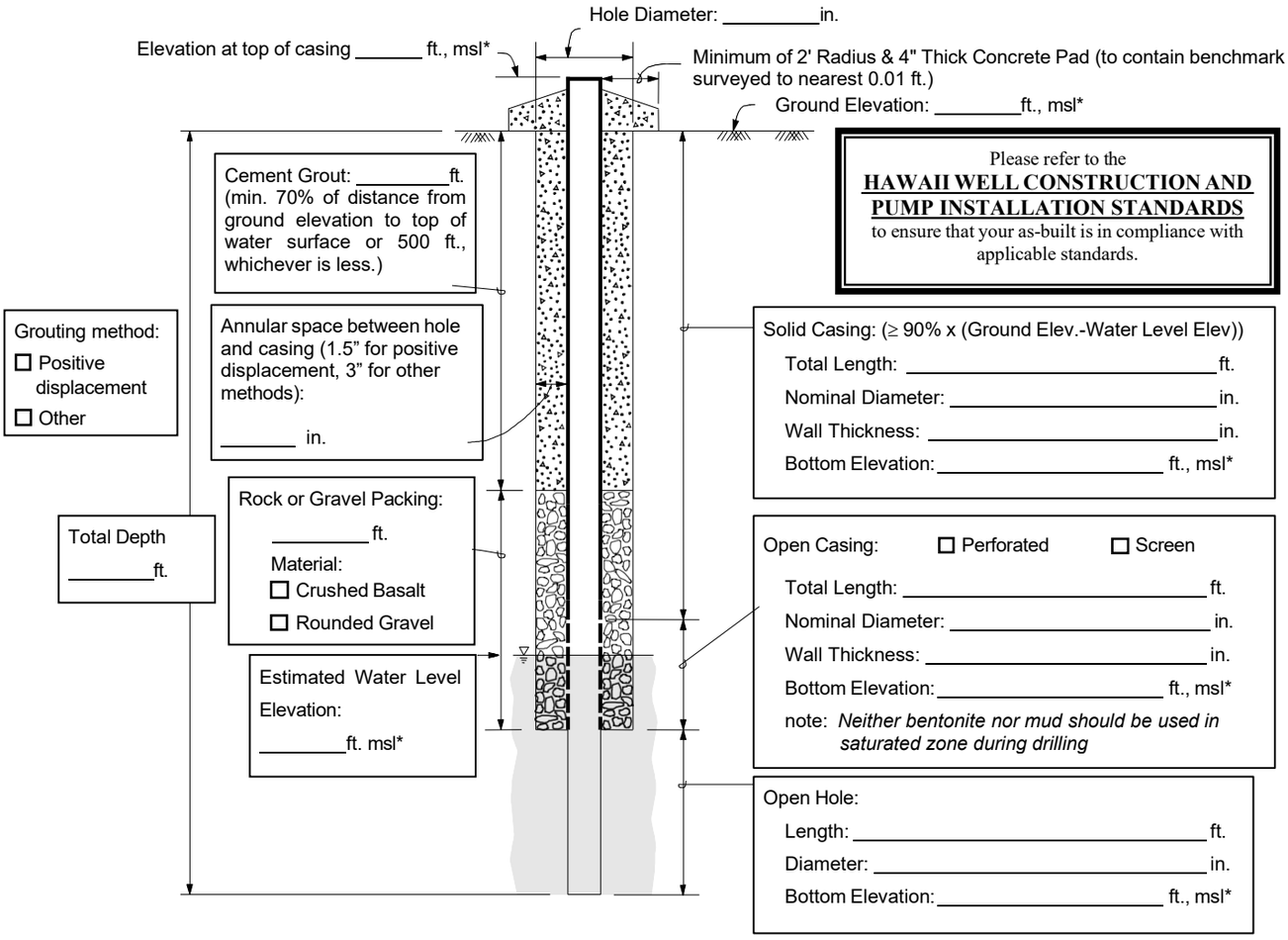
Address _____

Phone _____ Fax _____ E-mail _____

EXHIBIT 1: Application

See attached plans

PROPOSED WELL SECTION *(Please attach schematic if different from diagram provided below. Also, if this proposed well is a dug well, attach a grading plan with cross section profiles showing existing and finished grades)*



* The approximate elevation must be referenced to mean sea level (msl) at the time of application filing. Final elevations of well components shall be submitted in the Well Completion/Well Abandonment reports and referenced to a benchmark which has been established by a surveyor licensed by the State.

For non-salt water Basal Wells - bottom elevation of well should not be deeper than 1/4 of aquifer thickness or,

$$\text{Bottom Elevation of Well Limit} = \left(\text{Water Elevation} - \frac{41 \times \text{Water Level Elevation}}{4}\right)$$

Example: Estimated + 2 ft. Water Level Elev. → Bottom Elevation of Well Limit = $\left(2 - \frac{41 \times (2)}{4}\right)$ = -18.5 ft.

Note: Unless a variance is requested and approved, if the well is greater than ¼ of the theoretical aquifer thickness, the well may have to be backfilled to bring the depth into compliance.

Solid Casing Material:

Carbon Steel: compliant with (check one or more): ☐ ANSI/AWWA C200 ☐ API Spec. 5L ☐ ASTM A53 ☐ ASTM A139
And compliant with (check one or more): ☐ ASTM A242 (or A606) ☐ Type E ☐ Type S ☐ Grade B ☐ Other
Stainless Steel: (check one): ☐ ASTM A409 (production wells) ☐ ASTM A312 (monitor wells)
ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one) ☐ Schedule 40 ☐ Schedule 80
PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one): ☐ Schedule 40 ☐ Schedule 80 ☐ Schedule 120
Thermoset Plastic: (check one)
☐ Filament Wound Resin Pipe conforming to ASTM D2996
☐ Centrifugally Cast Resin Pipe conforming to ASTM D2997
☐ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
☐ Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
☐ PTFE Fluorocarbon Tubing conforming to ASTM D3296
☐ FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:

Carbon Steel: compliant with (check one or more): ☐ ANSI/AWWA C200 ☐ API Spec. 5L ☐ ASTM A53 ☐ ASTM A139
And compliant with (check one or more): ☐ ASTM A242 (or A606) ☐ Type E ☐ Type S ☐ Grade B ☐ Other
Stainless Steel: (check one): ☐ ASTM A409 (production wells) ☐ ASTM A312 (monitor wells)
ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one) ☐ Schedule 40 ☐ Schedule 80
PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one): ☐ Schedule 40 ☐ Schedule 80 ☐ Schedule 120
Thermoset Plastic: (check one)
☐ Filament Wound Resin Pipe conforming to ASTM D2996
☐ Centrifugally Cast Resin Pipe conforming to ASTM D2997
☐ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
☐ Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
☐ PTFE Fluorocarbon Tubing conforming to ASTM D3296
☐ FEP Fluorocarbon Tubing conforming to ASTM D3296

Well Location

EXHIBIT 2: LOCATION MAP

EXHIBIT 3: Schematic of Project Design

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

ENGINEERING DIVISION
FOR LAND DIVISION

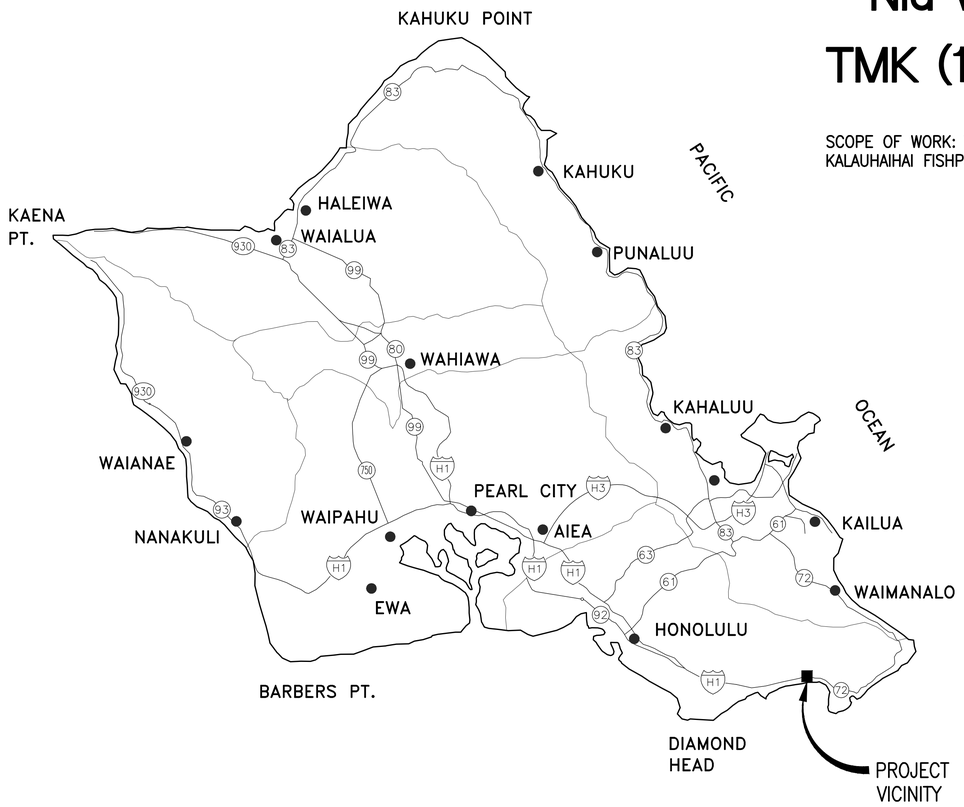
JOB NO. J40CO30A

KALAUHA'IHA'I FISHPOND (LUCAS SPRING) RESTORATION, PHASE 3

Niu Valley, Oahu, Hawaii

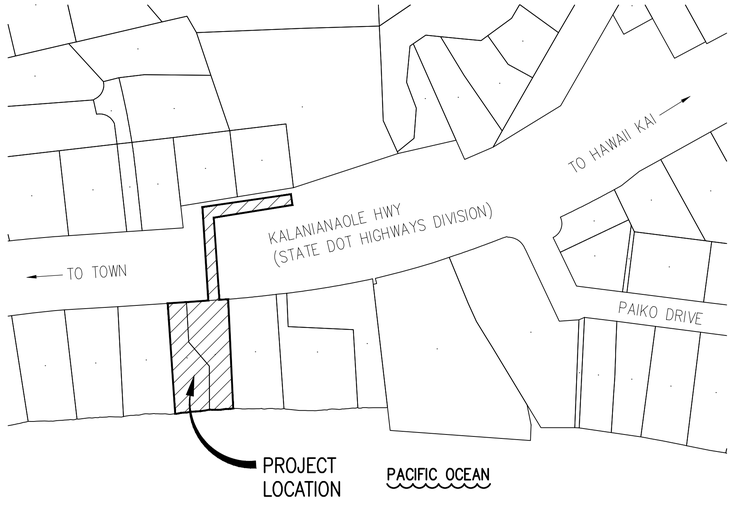
TMK (1) 3-7-002 : 018, 077

SCOPE OF WORK: TO RESTORE GROUNDWATER FLOWS TO THE HISTORIC HAWAIIAN KALAUHAIHAI FISHPOND BY INSTALLING A TRENCH COLLECTION SYSTEM.



OAHU – VICINITY MAP

NOT TO SCALE



LOCATION MAP

NOT TO SCALE

HAWAIIAN ISLANDS

APPROVED

RUSSELL Y. TSUJI, ADMINISTRATOR — DATE
LAND DIVISION
DEPARTMENT OF LAND AND NATURAL RESOURCES

CARTY S. CHANG P.E., CHIEF ENGINEER — DATE
ENGINEERING DIVISION
DEPARTMENT OF LAND AND NATURAL RESOURCES

NO.	SHT.	DRAWING INDEX
1	T–1	TITLE SHEET
2	C–1	CONSTRUCTION NOTES – 1
3	C–2	CONSTRUCTION NOTES – 2
4	C–3	CONSTRUCTION NOTES – 3
5	C–4	GENERAL SITE PLAN
6	C–5	EROSION AND SEDIMENT CONTROL PLAN
7	C–6	EROSION AND SEDIMENT CONTROL NOTES
8	C–7	DRAIN LINE PLAN & PROFILE
9	C–8	DRAINAGE DETAILS
10	C–9	MISCELLANEOUS DETAILS

KALAUHA'IHA'I FISHPOND (LUCAS SPRING) RESTORATION, PHASE 3, JOB NO. J40CO30A

NOTES FOR CONSTRUCTION WITHIN STATE (DOT) RIGHT-OF-WAY

1. THE CONTRACTOR SHALL OBTAIN A PERMIT TO PERFORM WORK UPON STATE HIGHWAYS FROM THE OAHU DISTRICT ENGINEER, STATE HIGHWAYS, AT 727 KAKOI STREET, PRIOR TO COMMENCEMENT OF WORK WITHIN THE STATE'S HIGHWAY RIGHT-OF-WAY.

2. CONSTRUCTION AND RESTORATION OF ALL EXISTING HIGHWAY FACILITIES WITHIN THE STATE'S RIGHT-OF-WAY, INCLUDING THE LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC, SHALL BE IN ACCORDANCE WITH THE CURRENT HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE SPECIFICATIONS FOR INSTALLATION OF MISCELLANEOUS IMPROVEMENTS WITHIN STATE HIGHWAYS, OF THE STATE HIGHWAYS DIVISION.

3. WORK MAY BE PERFORMED ONLY BETWEEN THE HOURS OF 8:30 A.M. AND 3:00 P.M., MONDAY THROUGH FRIDAY, EXCEPT STATE HOLIDAYS, UNLESS WHEN OTHERWISE APPROVED IN WRITING BY THE DISTRICT ENGINEER.DURING WORK HOURS, ONLY ONE LANE OF TRAFFIC SHALL BE CLOSED, UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT ENGINEER.AT CERTAIN LOCATIONS, "NO LANE CLOSURE" WILL BE ALLOWED DURING THE "BACK TO SCHOOL JAM", THANKSGIVING WEEKEND, CHRISTMAS / NEW YEAR PERIOD AND AT OTHER TIMES AS DIRECTED BY THE HIGHWAYS DIVISION.

4. THE CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES,BARRICADES, MARKERS, CONES, AND OTHER PROTECTIVE FACILITIES, AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION, CONVENIENCE, AND SAFETY OF PUBLIC TRAFFIC. ALL SUCH PROTECTIVE FACILITIES AND PRECAUTIONS TO BE TAKEN SHALL CONFORM WITH THE "ADMINISTRATIVE RULES OF HAWAII GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORK SITES ON OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS", ADOPTED BY THE DIRECTOR OF TRANSPORTATION,AND THE "U.S. FEDERAL HIGHWAY ADMINISTRATION MUTCD – MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, PART VI – TEMPORARY TRAFFIC CONTROL".

   LANE CLOSURES SHALL CONFORM TO THE TRAFFIC CONTROL PLAN INCORPORATED INTO THESE CONSTRUCTION PLANS AND MUST BE APPROVED BY THE DIVISION PRIOR TO THE ISSUANCE OF THE PERMIT.

5. THE MINIMUM PAVEMENT STRUCTURE SHALL CONSIST OF:

   a. RESIDENTIAL DRIVEWAYS, ON MINOR HIGHWAYS:

      (1) 2-1/2" ASPHALT CONCRETE (MIX IV), 6" AGGREGATE BASE COURSE AND 12" SUBBASE, OR 2-1/2" ASPHALT CONCRETE AND 6" ASPHALT CONCRETE BASE COURSE.

      (2) 6" OF CLASS "A" CONCRETE REINFORCED WITH 6"X6" - W2.9 X W2.9 WIRE MESH ON 12" AGGREGATE SUBBASE, IF DEEMED NECESSARY BY THE ENGINEER.

   b. COMMERCIAL DRIVEWAYS AND SIDEROADS ON MINOR HIGHWAYS

      (1) 2-1/2" ASPHALT CONCRETE (MIX IV), 6" ASPHALT CONCRETE BASE COURSE AND 12" SUBBASE, OR 4" ASPHALT CONCRETE (MIX IV) AND 8" ASPHALT CONCRETE BASE COURSE.

      (2) 8" OF CLASS "A" CONCRETE REINFORCED WITH 6"X6" - W2.9 X W2.9 WIRE MESH ON 12" AGGREGATE SUBBASE, IF DEEMED NECESSARY BY THE ENGINEER.

   c. CHANNELIZED INTERSECTIONS ON MAJOR HIGHWAYS:

      4" ASPHALT CONCRETE (MIX IV), 8" ASPHALT CONCRETE BASE COURSE AND 12" AGGREGATE SUBBASE, OR 4" ASPHALT CONCRETE (MIX IV) AND 12" ASPHALT CONCRETE BASE COURSE.

6. NO MATERIAL AND/OR EQUIPMENT SHALL BE STOCKPILED OR OTHERWISE STORED WITHIN THE HIGHWAY RIGHT-OF-WAY, EXCEPT AT LOCATIONS DESIGNATED IN WRITING AND APPROVED BY THE ENGINEER.

7. COMPACTION TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE SPECIFICATIONS FOR INSTALLATION OF MISCELLANEOUS IMPROVEMENTS WITHIN STATE HIGHWAYS, AS FOLLOWS:

   A. SUBBASE: ONE (1) COMPACTION TEST PER LIFT PER 200 LINEAR FEET OF ROADWAY.
   B. BASE COURSE: ONE (1) COMPACTION TEST PER LIFT PER 200 LINEAR FEET OF ROADWAY.
   C. ONE (1) COMPACTION TEST PER LIFT PER 300 LINEAL FEET OF TRENCH.
   D. A COPY OF THE TEST RESULTS SHALL BE SUBMITTED TO THE DISTRICT ENGINEER.

8. THE CONTRACTOR SHALL TAKE A PROFILE ALONG THE CENTERLINE OF THE PROPOSED UTILITY TRENCH BOTH BEFORE COMMENCING TRENCH EXCAVATION WORK AND AFTER TRENCH HAS BEEN REPAVED. PROFILES SHALL BE SUBMITTED TO THE ENGINEER AND SHALL BE USED TO VERIFY THE ROADWAY SURFACE HAS BEEN RESTORED TO ITS ORIGINAL CONDITION OR SMOOTHER.

9. THE DISTANCE FROM THE PAVED SURFACE TO THE TESTING EDGE OF A TEN-FOOT LONG STRAIGHT EDGE BETWEEN TWO POINTS SHALL NOT EXCEED 3/16 INCH.

10. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE AND SAFE NON-SKID BRIDGING MATERIAL, INCLUDING SHORING, OVER TRENCHES IN PAVEMENT AREAS. THE BRIDGING SHALL BE ABLE TO SUPPORT ALL TYPES OF VEHICULAR TRAFFIC. BRIDGING MATERIALS SHALL NOT BE USED ON HIGH SPEED ROADWAYS, WHICH ARE ROADS WITH A DESIGN SPEED OF 50 MPH OR HIGHER. SMOOTH RIDING CONNECTION BETWEEN ROADWAY SURFACES AND BRIDGING MATERIAL SHALL BE PROVIDED. SHOULD COMPLAINTS BE RECEIVED DUE TO NOISE GENERATED FROM THIS WORK, THE CONTRACTOR SHALL IMMEDIATELY ADDRESS THOSE COMPLAINTS.

11. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE THE USE AND THE DURATION OF USE OF BRIDGING MATERIALS. THE STATE MAY REQUIRE THE BACKFILLING AND PATCHES OF TRENCHES DUE TO THE EXCESSIVE USAGE OF STEEL PLATES.

12. UNLESS OTHERWISE NOTED, NO TRENCH SHALL BE OPENED MORE THAN 300 FEET IN ADVANCE OF INSTALLED AND TESTED PIPELINE AND/OR DUCTLINE.

13. EXISTING DRAINAGE SYSTEMS SHALL BE FUNCTIONAL AT ALL TIMES.

14. THE CONTRACTOR SHALL EXERCISE CARE TO MINIMIZE DAMAGES TO EXISTING HIGHWAY IMPROVEMENTS. ALL DAMAGES SHALL BE REPAIRED BY THE CONTRACTOR, AT HIS EXPENSE, TO THE SATISFACTION OF THE DISTRICT ENGINEER.

15. APPROVAL OF PERMIT CONSTRUCTION PLANS SHALL BE VALID FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF NOTIFICATION OF APPROVAL TO THE APPLICANT. IN THE EVENT CONSTRUCTION DOES NOT COMMENCE WITHIN THIS ONE-YEAR PERIOD, THE APPLICANT WILL BE REQUIRED TO RESUBMIT THE CONSTRUCTION PLANS FOR THE DIVISION'S REVIEW AND RE-APPROVAL.

16. ALL REGULATORY, GUIDE, AND CONSTRUCTION SIGNS AND BARRICADES SHALL HAVE A HIGH-INTENSITY TYPE III OR IV RETROREFLECTIVE BACKGROUND.

17. THE CONTRACTOR SHALL INFORM THE STATE HIGHWAY'S PERMIT OFFICE (831-6712) AT LEAST TWO (2) DAYS PRIOR TO CLOSING ANY LANES.

18. DRIVEWAYS SHALL BE KEPT OPEN UNLESS THE OWNERS OF THE PROPERTIES USING THESE RIGHTS-OF-WAYS ARE OTHERWISE PROVIDED FOR SATISFACTORILY.

19. WHERE PEDESTRIAN WALKWAYS EXIST THEY SHALL BE MAINTAINED IN A SAFE AND PASSABLE CONDITION, OR OTHER FACILITIES FOR PEDESTRIANS SHALL BE PROVIDED. PASSAGES BETWEEN WALKWAYS AT INTERSECTIONS SHALL LIKEWISE BE PROVIDED. ALL WALKWAYS SHALL CONFORM TO ADA REQUIREMENTS.

20. THE CONTRACTOR SHALL REFERENCE, TO THE SATISFACTION OF THE ENGINEER, ALL EXISTING TRAFFIC SIGNS, POSTS, AND PAVEMENT MARKINGS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL REPLACE OR REPAIR ALL TRAFFIC SIGNS, POSTS, AND PAVEMENT MARKINGS DISTURBED BY HIS ACTIVITIES, AT HIS EXPENSE, UNLESS DIRECTED BY THE ENGINEER OR HIS REPRESENTATIVE.

21. THE CONTRACTOR SHALL EXERCISE CARE WHEN PERFORMING WORK IN OR ADJACENT TO THE STATE HIGHWAY RIGHT-OF-WAY. DAMAGES TO THE EXISTING FACILITIES SHALL BE IMMEDIATELY REPORTED TO THE RESPECTIVE UTILITY COMPANIES, AND/OR CITY OR STATE AGENCIES. THE REPAIR WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

22. HIGHWAY LIGHTS SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. SHOULD WORK BE NECESSARY, THE CONTRACTOR SHALL NOTIFY THE STATE HIGHWAYS' HIGHWAY LIGHTING SUPERVISOR (837-8056), THREE (3) WORKING DAYS PRIOR TO COMMENCING WORK.

23. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF TRANSPORTATION SERVICES, PUBLIC TRANSIT DIVISION AT 768-8396 AND OAHU TRANSIT SERVICES, INC. (BUS OPERATIONS: 848-4578 OR 852-6016 AND PARA-TRANSIT OPERATIONS: 454-5041 OR 454-5020) TWO WEEKS PRIOR TO COMMENCING ANY WORK. THE CONTRACTOR SHALL INFORM OF THE LOCATION AND SCOPE OF WORK, PROPOSED CLOSURE OF ANY STREET OR TRAFFIC LANES, AND THE NEED TO RELOCATE ANY BUS STOP.

24. THE PERMIT TO PERFORM WORK UPON STATE HIGHWAY MAY BE REVOKED BECAUSE OF DEFAULT IN ANY OF THE FOLLOWING, BUT NOT LIMITED TO, CONDITIONS:

   A. WORK PERFORMED BEFORE OR AFTER PERMITTED HOURS.
   B. FAILURE TO MAINTAIN ROADWAY SURFACES IN A SMOOTH AND SAFE CONDITION.
   C. FAILURE TO CLEAN UP CONSTRUCTION DEBRIS GENERATED FROM PROJECT WORK.
   D. FAILURE TO PROVIDE PROPER TRAFFIC CONTROL.
   E. FAILURE TO REPLACE DAMAGED PAVEMENT MARKINGS AND SIGNS.
   F. FAILURE TO MAINTAIN HIGHWAY LIGHTS AND/OR TRAFFIC SIGNAL SYSTEMS.
   G. FAILURE TO ADDRESS PUBLIC COMPLAINTS TO THE SATISFACTION OF THE DISTRICT ENGINEER.

25. THE CONTRACTOR SHALL NOTIFY THE STATE HIGHWAYS PERMIT OFFICE (831-6712) AT LEAST TWO DAYS PRIOR TO PERFORMING ANY TRENCH RESTORATION WORK. THIS WORK SHALL INCLUDE ANY BACKFILLING AND COMPACTING OF TRENCH MATERIAL; ANY PLACING AND COMPACTING OF BASE COURSE MATERIAL; AND ANY PAVING OPERATIONS. ANY TRENCH RESTORATION WORK PERFORMED BY THE CONTRACTOR THAT IS NOT WITNESSED BY A STATE REPRESENTATIVE WILL BE REQUIRED TO BE REMOVED AND RESTORED WITH A STATE REPRESENTATIVE PRESENT. ALL RESTORATION WORK WILL BE AT THE CONTRACTOR'S EXPENSE.

26. TEMPORARY COLD MIX TRENCH PATCHES WILL BE PERMITTED IN ANY GIVEN AREA FOR A MAXIMUM DURATION OF TWO WEEKS, AND SHALL BE A MINIMUM OF 2 INCHES THICK. ALL TEMPORARY PATCHES SHALL BE PLACED OVER PROPERLY PLACED AND COMPACTED BACKFILL AND BASE COURSE LAYERS. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY PATCHES AND TO MAKE REPAIRS TO UNSATISFACTORY PATCHES WITHIN 24 HOURS.

27. PLASTIC MARKING TAPE. PROVIDE PLASTIC MARKING TAPE THAT IS ACID AND ALKALI RESISTANT POLYETHYLENE FILM 6 INCHES WIDE WITH MINIMUM THICKNESS OF 0.004 INCH. PROVIDE TAPE WITH MINIMUM STRENGTH OF 1750 PSI LENGTHWISE AND 1500 PSI CROSSWISE. MANUFACTURE TAPE WITH INTEGRAL WIRES, FOIL BACKING OR OTHER MEANS TO ENABLE DETECTION BY A METAL DETECTOR WHEN THE TAPE IS BURIED UP TO 3 FEET DEEP. MANUFACTURE TAPE SPECIFICALLY FOR MARKING AND LOCATING UNDERGROUND UTILITIES. PROVIDE THE METALLIC CORE OF THE TAPE ENCASED IN A PROTECTIVE JACKET OR PROVIDED WITH OTHER MEANS TO PROTECT IT FROM CORROSION. CONFORM TO THE FOLLOWING TAPE COLOR AND BEAR A CONTINUOUS PRINTED INSCRIPTION DESCRIBING THE SPECIFIC UTILITY.

   RED: ELECTRIC
   YELLOW: GAS, OIL, DANGEROUS MATERIALS
   YELLOW: TELEPHONE, TELEGRAPH, TELEVISION, POLICE, AND FIRE COMMUNICATIONS
   BLUE: WATER SYSTEMS
   GREEN: SEWER SYSTEMS

28. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH AS-BUILT PLANS UPON COMPLETION OF THE WORK DONE IN THE STATE RIGHT-OF-WAY. THIS SHALL BE DONE PRIOR TO THE DEPARTMENT'S RELEASE OF THE PERFORMANCE BOND.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS FOR PERMIT PROJECTS WITHIN STATE HIGHWAY RIGHT-OF-WAY

1. THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS FOR OAHU DISTRICT PERMIT PROJECTS. THIS IS AVAILABLE AT THE OAHU DISTRICT OFFICE AT 727 KAKOI STREET (PH. 831-6793). DUE TO POTENTIAL COST IMPACTS, THE CONTRACTOR NEEDS TO BE AWARE OF THESE REQUIREMENTS.

2. THE CONTRACTOR SHALL COMPLETE AND SUBMIT A CONTRACTOR'S CERTIFICATION OF NPDES COMPLIANCE, INCLUDING COMPLETION OF THE BEST MANAGEMENT PRACTICE (BMP) CHECKLIST AND SUBMITTAL OF A WRITTEN BMP PLAN AND DRAWINGS, PRIOR TO ISSUANCE OF THE PERMIT TO PERFORM WORK UPON STATE HIGHWAYS. DUE TO POTENTIAL TIME IMPACTS ON REVIEWING BMPs, THE CONTRACTOR NEEDS TO ALLOW ENOUGH TIME FOR THE APPROVAL PROCESS.

3. THE CONTRACTOR SHALL MEET APPLICABLE CONDITIONS DESCRIBED IN THE CURRENT HAWAII REVISED STATUES (HAR) CHAPTER 11-55. THE CONTRACTOR SHALL ALSO FOLLOW THE GUIDELINES IN THE CURRENT HIGHWAYS DIVISION'S "CONSTRUCTION BEST MANAGEMENT PRACTICE FIELD MANUAL" IN DEVELOPING, INSTALLING AND MAINTAINING THE BEST MANAGEMENT PRACTICES (BMPs) FOR THE PROJECT. IF THERE ARE ANY CONFLICTS BETWEEN THE TWO DOCUMENTS, THEN THE CONDITION IN THE HAR 11-55 SHALL GOVERN.

4. THE CONTRACTOR SHALL FOLLOW THE GUIDELINES IN THE CITY AND COUNTY OF HONOLULU'S "RULES FOR SOIL EROSION STANDARDS AND GUIDELINES" FOR THE PROJECT.

5. PLEASE BE ADVISED THAT NPDES REQUIREMENTS FOR PERMIT PROJECTS WITHIN STATE HIGHWAY RIGHT-OF-WAY ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

EROSION CONTROL/BEST MANAGEMENT PRACTICES NOTES:

1. EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO START OF PROJECT AND BE MAINTAINED UNTIL COMPLETION OF PROJECT.

2. CONTRACTOR TO PERIODICALLY INSPECT COMPOST FILTER SOCK, STABILIZED CONSTRUCTION ENTRANCE ESPECIALLY DURING HEAVY RAINFALL.

3. THE FINAL LIFT OF EACH DAY'S WORK SHALL BE COMPACTED TO PREVENT EROSION OR FILL MATERIAL.

4. GOOD HOUSEKEEPING SHALL BE UTILIZED TO ENSURE PROTECTION OF ROADWAYS FROM MUD, DIRT, AND DEBRIS.

5. THE CONTRACTOR SHALL ENSURE THAT ALL TIRES OF CONSTRUCTION VEHICLES ARE SUFFICIENTLY CLEANED OFF SO THAT DIRT OR DEBRIS IS NOT TRACKED OFF THE CONSTRUCTION SITE. WASHING OFF TIRES WITH WATER WILL NOT BE ACCEPTABLE UNLESS THE RUNOFF IS CONTAINED AND DOES NOT ENTER THE STORM DRAIN SYSTEM OR ONTO THE STATE'S ROW.

6. AT THE END OF GRADING OPERATIONS AND AT THE COMPLETION OF PROJECT, CONTRACTOR SHALL INSPECT ALL CATCH BASIN, DRAIN INLET AND DRAIN MANHOLE SURROUNDING THE PROJECT SITE. ANY ACCUMULATED SEDIMENT AND DEBRIS FOUND IN THE STORM DRAIN STRUCTURES SHALL BE REMOVED. PLEASE NOTE THAT FLUSHING INTO THE DRAIN STRUCTURES ARE PROHIBITED.

7. ANY DIRT OR GRASSED AREA DISTURBED SHALL BE RESTORED BY RE-GRASSING THE AREA OR BY SEEDED HYDROMULCH. THE GRASS SHALL BE FULLY ESTABLISHED AT COMPLETION OF PROJECT.

ARCHEOLOGICAL NOTE:

1. PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE HAWAII POLICE DEPARTMENT AND THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES, HISTORIC PRESERVATION DIVISION (692-8015).

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

GORDON T. RING
LICENSED PROFESSIONAL ENGINEER
No. 9300-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE 4/30/24 EXP. DATE

R. M. TOWILL CORPORATION
Planning • Engineering • Environmental Services • Transportation • Surveying • Construction Management
808 842 1133 2024 North King Street - Suite 200 Honolulu Hawaii 96819-2494

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KALAUHA'IHA'I FISHPOND (LUCAS SPRING) RESTORATION, PHASE 3

NIU VALLEY, OAHU, HAWAI'I

CONSTRUCTION NOTES – 1

DESIGNED: GR	SUBMITTED: --
DRAWN: GR	DATE: JUNE 2023
CHECKED: GR	SCALE: AS SHOWN
APPROVED:	DRAWING NO. C-1
CHIEF ENGINEER DATE	

JOB NO. J40C030A

GENERAL CONSTRUCTION NOTES FOR DLNR PROJECTS:

1. ALL APPLICABLE CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISION OF THE STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", DATED 2005; THE COUNTY OF (XXXX) DEPARTMENT OF PUBLIC WORKS "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", DATED (XXXX) AND "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION", DATED (XXXX) WHERE APPLICABLE AND THE APPLICABLE STATE BUILDING CODES AS ADOPTED BY THE STATE BUILDING CODE COUNCIL.
2. EXISTING TOPOGRAPHIC SURVEY WAS CONDUCTED ON (XXXX) BY (XXXX). THIS TOPOGRAPHIC SURVEY WAS BASED ON THE BEST AVAILABLE INFORMATION AND ACCURACY MUST BE VERIFIED PRIOR TO STARTING CONSTRUCTION.
3. VERIFY AND CHECK ALL DIMENSIONS AND DETAILS SHOWN ON THE DRAWINGS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR DIRECTION.
4. DURING THE PERFORMANCE PERIOD OF THIS CONTRACT, THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE CONTROL AND RESPONSIBILITY OF THE JOBSITE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE SITE SAFETY CONDITIONS FOR ALL PERSONS ENTERING THE JOBSITE, THE CONDITION OF THE SITE AND ALL EXISTING IMPROVEMENTS, AND FOR ALL MATERIAL AND EQUIPMENT STORED AT THE PROJECT SITE.
5. BLASTING IS NOT ALLOWED.
6. IN THE EVENT HISTORIC REMAINS, SUCH AS ARTIFACTS, BURIALS, OR CONCENTRATIONS OF SHELL OR CHARCOAL ARE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, WORK SHALL IMMEDIATELY CEASE IN THE VICINITY OF THE ENCOUNTER. NOTIFY THE STATE HISTORIC PRESERVATION DIVISION AT (808) 692-8015, FOR AN ASSESSMENT OF THE ENCOUNTER AND RECOMMENDATIONS ON MITIGATION MEASURES.
7. CONSTRUCT TEMPORARY BARRICADES DURING CONSTRUCTION, FOR SAFETY AND THE PROTECTION OF LIFE AND PROPERTY.
8. EXISTING PEDESTRIAN WALKWAYS SHALL BE MAINTAINED IN A PASSABLE CONDITION OR PROVIDE FOR ALTERNATE/TEMPORARY ACCESSIBLE PEDESTRIAN ACCESS ROUTES AND FACILITIES PER THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN CHAPTER 2, ADAAG 201.3, AND ADAAG 206.1.
9. DO NOT PERFORM ANY CONSTRUCTION ACTIVITIES THAT CAUSE ROCKS, SOIL, OR DEBRIS IN ANY FORM TO FALL, SLIDE, OR FLOW ONTO ADJOINING PROPERTIES, STREETS, OR NATURAL WATER COURSES. FINES DUE TO VIOLATIONS AND ANY NECESSARY REMEDIAL ACTIONS SHALL BE BORNE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.
10. AS APPLICABLE, COORDINATE CONSTRUCTION ACTIVITIES WITH ADJACENT CONSTRUCTION SITE(S). AVOID CAUSING ANY DELAYS OR HINDRANCE OF WORK OR PERFORMANCE TO THE ADJACENT CONSTRUCTION SITE(S).
10. THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA.
11. COORDINATE ALL SITE UTILITY WORK WITH "THE ONE CALL CENTER" AT (866) 423-7287 AT LEAST 5 WORKING DAYS PRIOR TO THE START OF EXCAVATION OR TRENCHING.
12. VERIFY AND COORDINATE THE ACTUAL LOCATION OF ALL SITE UTILITIES WITH THE RELATED AGENCIES AND UTILITY COMPANIES IN THE PROJECT AREA PRIOR TO EXCAVATING.
13. WHEN CONNECTING NEW UTILITIES TO EXISTING, EXPOSE THE EXISTING UTILITY LINES AT THE DENOTED CONNECTION POINT TO VERIFY CHARACTERISTICS PRIOR TO COMPLETING EXCAVATION FOR NEW UTILITIES.
14. VERIFY AND COORDINATE THE ACTUAL LOCATION OF ALL SITE UTILITIES WITH THE RELATED AGENCIES AND UTILITY COMPANIES IN THE PROJECT AREA PRIOR TO EXCAVATING.
15. IF WATER, SEWAGE OR ELECTRICAL SERVICES ARE PLANNED TO BE INTERRUPTED FOR MORE THAN 1 HOUR, PROVIDE FOR TEMPORARY WATER, SEWAGE, AND ELECTRICAL SERVICES DURING THE INTERRUPTION AT NO ADDITIONAL COST TO THE STATE.
16. MAKE ARRANGEMENTS FOR TEMPORARY CONSTRUCTION SITE UTILITIES SUCH AS ELECTRICITY, WATER, ETC. AT NO ADDITIONAL COST TO THE STATE.
17. ALL EXISTING UTILITIES, SHOWN ON THE PLANS OR UNCOVERED, SHALL BE PROTECTED AT ALL TIMES DURING CONSTRUCTION.
18. ANY DAMAGED UTILITIES, AS A RESULT OF CONTRACTOR OPERATIONS, SHALL BE IMMEDIATELY REPAIRED AT NO ADDITIONAL COST TO THE STATE.
19. CONFORM WITH THE APPLICABLE PROVISIONS OF CHAPTER 54, WATER QUALITY STANDARDS, AND CHAPTER 55, WATER POLLUTION CONTROL, OF TITLE 11, HAWAII ADMINISTRATIVE RULES OF THE STATE DEPARTMENT OF HEALTH.
20. OBTAIN AND PAY FOR ALL REQUIRED PERMITS FROM THE APPROPRIATE GOVERNMENT AGENCIES.
21. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE THE SERVICES OF AN ESCP (EROSION AND SEDIMENT CONTROL PLAN) COORDINATOR. THE DESIGNEE SHALL HOLD A CURRENT ESCP COORDINATOR CERTIFICATE FROM THE CITY'S DEPARTMENT OF PLANNING AND PERMITTING.
22. RESTORE ALL AREAS DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES, TO EQUAL OR BETTER CONDITION(S), INCLUDING BUT NOT LIMITED TO VEGETATION, PAVEMENTS, EMBANKMENTS, CURBS, SIGNS, LANDSCAPING, STRUCTURES, UTILITIES, WALKWAYS, FENCES, ETC. UNLESS SPECIFICALLY NOTED OTHERWISE
23. PROVIDE ALL INCIDENTAL AND NECESSARY MATERIALS AND LABOR TO COMPLETE THE PROJECT.
24. THE JOB SITE SHALL BE LEFT IN A SAFE AND SECURE CONDITION AT THE END OF EACH WORKDAY. CLEAN UP AND REMOVE ALL RUBBISH FROM THE JOB SITE ON A DAILY BASIS. MAINTAIN THE WORK AREA AND PREMISES IN A CLEAN ORDERLY CONDITION AT ALL TIMES.
25. PRIOR TO ACCEPTANCE OF THE PROJECT BY THE STATE, CLEAN UP AND REMOVE ALL RUBBISH AND DEBRIS FROM THE ENTIRE JOB SITE.

SEWER NOTES:

1. ALL SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY'S "STANDARD SPECIFICATIONS," SEPT. 1986, THE DEPARTMENT OF ENVIRONMENTAL SERVICES "WASTEWATER SYSTEM DESIGN STANDARDS," JULY 2017, AND "WASTEWATER SYSTEM STANDARD DETAILS," JULY 2017, CURRENT CITY PRACTICES AND REVISED ORDINANCES OF HONOLULU, 1990 AS AMENDED.
2. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGEMENT BRANCH, WASTEWATER ENGINEERING AND CONSTRUCTION DIVISION, ENV, AT 768-8785, 768-8769, OR 768-8755 TO ARRANGE FOR INSPECTION SERVICES AND SUBMIT THREE (3) SETS OF APPROVED CONSTRUCTION PLANS AND ONE (1) PDF COPY ON A CD TO THE WASTEWATER BRANCH, DPP SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF SEWER WORK. THE CONTRACTOR SHALL PAY FOR ALL INSPECTION COSTS.
3. THE UNDERGROUND PIPES, CABLES OR DRAIN PIPES KNOWN TO EXIST BY THE ENGINEER FROM HIS RESEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF THE FACILITIES, INCLUDING AND AFFECTING SEWER LINES, IN THE PRESENCE OF THE WASTEWATER INSPECTOR AND EXERCISE PROPER CARE IN EXCAVATING THE AREA. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL PAY FOR ALL DAMAGED UTILITIES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS SEWER SERVICE TO ALL AFFECTED AREAS DURING CONSTRUCTION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SEWAGE SPILLS CAUSED DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE STATE DEPARTMENT OF HEALTH AND UTILIZE APPROPRIATE SAMPLING AND ANALYZING PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PUBLIC NOTIFICATION AND PRESS RELEASES.
6. MAINTAIN 3'-0" MIN. HORIZONTAL CLEAR SEPARATION BETWEEN ALL SEWER SYSTEMS AND NEAREST DRAIN PIPES, PULL BOXES, AND HAND HOLES PARALLELING THE SEWER SYSTEM AT NO COST TO THE CITY. MAINTAIN 6'-0" MIN. HORIZONTAL CLEAR SEPARATION BETWEEN ALL SEWER SYSTEM AND ELECTRICAL TRANSFORMER PADS AT NO COST TO THE CITY. DO NOT PLACE ELECTRICAL APPURTENANCES IN BETWEEN SEWER LATERALS.
7. AT THE DRAIN PIPE SEWER CROSSINGS, ADJUST ALL DRAIN PIPE ELEVATIONS TO MAINTAIN 24" VERTICAL CLEAR SEPARATION ABOVE ALL SEWER LINES. IF LESS THAN 24" CLEAR ABOVE THE SEWER LINE. RC JACKET THE SEWER LINE PER CITY STANDARD DETAIL S-03 AT NO COST TO THE CITY.
8. IF THE DRAIN PIPE CROSSES UNDER THE SEWER LINE, PROVIDE A RC JACKET ON THE SEWER LINE PER CITY SEWER STANDARD DETAIL S-03 AT NO COST TO THE CITY.

WATER NOTES:

1. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND CONSTRUCTION OF WATER SYSTEM FACILITIES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE CITY AND COUNTY OF HONOLULU BOARD OF WATER SUPPLY'S "WATER SYSTEM STANDARDS", DATED 2002, THE "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", VOLUME 3, DATED 2021, AND ALL SUBSEQUENT AMENDMENTS AND ADDITIONS.
2. NO DEVIATION TO THE BOARD OF WATER SUPPLY 2002 WATER SYSTEM STANDARDS SHALL BE ALLOWED WITHOUT THE MANAGER AND CHIEF ENGINEER'S APPROVAL.
3. ALL PLANS APPROVED BY THE BOARD OF WATER SUPPLY ARE BASED SOLELY ON THE ADEQUACY OF THE WATER SUPPLY AND/OR IF WORK IS TO BE DONE ON/OR NEAR THE WATER SYSTEM.
4. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ON THE PLANS ARE FROM THE LATEST AVAILABLE DATA, BUT ARE NOT GUARANTEED AS TO THEIR ACCURACY OR THE ENCOUNTERING OF OTHER OBSTACLES DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL DAMAGES TO EXISTING UTILITIES. THE CONTRACTOR SHALL NOT ASSUME THAT WHERE NO UTILITIES ARE SHOWN, THAT NONE EXIST.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL WATERLINES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE ESPECIALLY CAREFUL WHEN EXCAVATING BEHIND WATERLINES, TEES, AND BENDS WHEREVER THERE IS A POSSIBILITY OF WATERLINE MOVEMENT DUE TO THE REMOVAL OF THE SUPPORTING EARTH BEYOND THE EXISTING REACTION BLOCKS. THE CONTRACTOR SHALL TAKE WHATEVER MEASURES NECESSARY TO PROTECT THE WATERLINES, SUCH AS CONSTRUCTING SPECIAL REACTION BLOCKS (WITH BOARD OF WATER SUPPLY APPROVAL) AND/OR MODIFYING HIS CONSTRUCTION METHOD.
6. RE-APPROVAL SHALL BE REQUIRED IF THIS PROJECT IS NOT UNDER CONSTRUCTION WITHIN A PERIOD OF TWO (2) YEARS.
7. PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL VERIFY IN THE FIELD, THE LOCATION OF EXISTING WATERLINES AND APPURTENANCES.
8. ANY ADJUSTMENTS TO THE EXISTING WATER SYSTEM REQUIRED DURING CONSTRUCTION, TO MEET THE REQUIREMENTS OF THE BWS STANDARDS, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE DONE BY THE CONTRACTOR AT NO COST TO THE BOARD.
9. WHEN A UTILITY (GAS, SEWER, ELECTRICAL DUCT LINE, FIBER OPTIC, DRAINAGE, ETC.) CROSSES BELOW A BOARD OF WATER SUPPLY WATER MAIN, THE DESIGNER OF RECORD AND THEIR CONSTRUCTION ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE ADEQUATE WATER MAIN STRUCTURAL SUPPORT AND SUBMIT THE CONSTRUCTION METHOD AND SHOW DRAWING, STAMPED BY A LICENSED ENGINEER AND REVIEWED AND ACCEPTED BY THE DESIGNER OF RECORD, TO THE BOARD OF WATER SUPPLY FOR REVIEW AND APPROVAL. ALL WORK SHALL BE AT NOT COST TO THE BOARD OF WATER SUPPLY.
10. AT UTILITY CROSSINGS WHERE PROPER COMPACTION UNDER A WATER MAIN IS DIFFICULT TO ACHIEVE, CLSM SHALL BE INSTALLED IN PLACE OF BACKFILL MATERIAL AND PIPE CUSHION MATERIAL. CLSM MIXTURE TO BE FURNISHED SHALL BE IN ACCORDANCE WITH DIVISION 200 – MATERIALS, SECTIO9N 209.06 CONTROLLED LOW STRENGTH MATERIAL (CLSM) OF THE WATER SYSTEM STANDARDS AS AMENDED.
11. THE CONTRACTOR SHALL NOTIFY CAPITAL PROJECTS DIVISION, CONSTRUCTION SECTION IN WRITING ONE WEEK PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.

SPECIAL PROVISIONS FOR HDPE PIPE (DRAIN PIPE)

1. POLYETHYLENE PLASTIC PIPE SHALL BE HIGH DENSITY POLYETHYLENE PIPE (HDPE) AND MEET APPLICABLE REQUIREMENTS OF ASTM D3350-05, ASTM F714-05, AND ASTM F1055-98.
2. HDPE PIPE AND FITTINGS WILL BE USED IN ACCORDANCE WITH THE MATERIAL SPECIFICATIONS. ALL ADDITIONAL APPURTENANCES (MANHOLES, TEES, GASKETS, ETC.) WILL MEET THE MATERIAL SPECIFICATIONS. ALL PIPE INSTALLED BY PIPE BURSTING WILL BE JOINED BY BUTT FUSION, AS DETAILED IN THE SPECIFICATIONS.
3. CONTRACTOR SHALL COMPLETELY REMOVE THE INTERNAL AND EXTERNAL BEADS RESULTING FROM THE PIPE FUSING BEFORE INSTALLATION.
4. THE PIPE SHALL BE EXTRUDED FROM A POLYETHYLENE COMPOUND AND SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
   A. THE POLYETHYLENE RESIN SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM D3350 FOR PE 3408 MATERIAL WITH A CELL CLASSIFICATION OF 335434E (GRAY), OR BETTER.
   B. THE POLYETHYLENE COMPOUND SHALL BE SUITABLY PROTECTED AGAINST DEGRADATION BY ULTRAVIOLET LIGHT.
   C. THE MAXIMUM ALLOWABLE HOOP STRESS SHALL BE 800 PSI AT 23.4 DEGREES F.
   D. THE PIPE MANUFACTURER SHALL BE LISTED WITH THE PLASTIC PIPE INSTITUTE AS MEETING THE RECIPE AND MIXING REQUIREMENTS OF THE RESIN MANUFACTURER FOR THE RESIN USED TO MANUFACTURE THE PIPE IN THIS PROJECT.
   E. PIPE SIZES SHALL CONFORM TO ASTM F714.
   F. ALL PIPING SYSTEM COMPONENTS SHALL BE THE PRODUCTS OF ONE MANUFACTURER.
5. ALL PIPE SHALL BE MADE OF VIRGIN MATERIAL. NO REWORK MATERIAL EXCEPT THAT OBTAINED FROM THE MANUFACTURERS OWN PRODUCTION OF THE SAME FORMULATION SHALL BE USED.
6. THE PIPE SHALL BE HOMOGENEOUS THROUGHOUT AND SHALL BE FREE OF VISIBLE CRACKS, HOLES, FOREIGN MATERIAL, BLISTERS, OR OTHER DELETERIOUS FAULTS.
7. PIPE COLOR SHALL BE SOLID BLACK UNLESS OTHERWISE SPECIFIED IN THESE CONTRACT DOCUMENTS.
8. FUSIBLE HDPE PIPE SHALL BE NOMINAL 6" DIAMETER WITH AN INTERNAL DIAMETER OF 5.798", DR 17.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

GORDON T. RING
LICENSED PROFESSIONAL ENGINEER
No. 9300-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE 4/30/24 EXP. DATE

R. M. TOWILL CORPORATION
Planning • Engineering • Environmental Services • Photogrammetry • Surveying • Construction Management
808.842.1133 2024 North King Street Suite 200 Honolulu, Hawaii 96819-2494

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KALAUHA'IHA'I FISHPOND (LUCAS SPRING) RESTORATION, PHASE 3

NIU VALLEY, OAHU, HAWAI'I

CONSTRUCTION NOTES – 2

DESIGNED: GR	SUBMITTED: --
DRAWN: GR	DATE: JUNE 2023
CHECKED: GR	SCALE: AS SHOWN

APPROVED: _____ _____
CHIEF ENGINEER DATE

DRAWING NO. C-2

HECO NOTES:

1. LOCATION OF HECO FACILITIES
THE LOCATION OF HECO'S OVERHEAD AND UNDERGROUND FACILITIES SHOWN ON THE PLANS ARE FROM EXISTING RECORDS WITH VARYING DEGREES OF ACCURACY AND ARE NOT GUARANTEED AS SHOWN. THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATIONS OF THE FACILITIES AND SHALL EXERCISE PROPER CARE IN EXCAVATING AND WORKING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES AND UTILITY CROSSINGS ARE SHOWN, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS AND CROSSINGS TO VERIFY THE DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HECO'S FACILITIES WHETHER SHOWN OR NOT SHOWN ON THE PLANS.

2. COMPLIANCE WITH HAWAII OCCUPATIONAL SAFETY AND HEALTH LAWS
THE CONTRACTOR SHALL COMPLY WITH THE STATE OF HAWAII'S OCCUPATIONAL SAFETY AND HEALTH LAWS AND REGULATIONS, INCLUDING WITHOUT LIMITATION, THOSE RELATED TO WORKING ON OR NEAR EXPOSED OR ENERGIZED ELECTRICAL LINES AND EQUIPMENT.

3. EXCAVATION CLEARANCE
THE CONTRACTOR SHALL OBTAIN AN EXCAVATION CLEARANCE FROM HECO'S PLANNING AND DESIGN SECTION OF THE CUSTOMER INSTALLATIONS DEPARTMENT (543-5654) LOCATED AT 820 WARD AVENUE, 4TH FLOOR, A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO STARTING CONSTRUCTION.

4. CAUTION!!! ELECTRICAL HAZARD!!!
EXISTING HECO OVERHEAD AND UNDERGROUND LINES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION UNLESS PRIOR SPECIAL ARRANGEMENTS HAVE BEEN MADE WITH HECO. ONLY HECO PERSONNEL ARE TO HANDLE THESE ENERGIZED LINES AND ERECT TEMPORARY GUARDS TO PROTECT THESE LINES FROM DAMAGE. THE CONTRACTOR SHALL WORK CAUTIOUSLY AT ALL TIMES TO AVOID ACCIDENTS AND DAMAGE TO EXISTING HECO FACILITIES, WHICH CAN RESULT IN ELECTROCUTION.

5. OVERHEAD LINES
STATE LAW (OSHA) REQUIRES THAT A WORKER AND THE LONGEST OBJECT HE OR SHE MAY CONTACT CANNOT COME CLOSER THAN A SPECIFIED MINIMUM RADIAL CLEARANCE WHEN WORKING CLOSE TO OR UNDER ANY OVERHEAD LINES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE INFORMED OF AND COMPLY WITH THE LAW. AT ANY TIME SHOULD THE CONTRACTOR ANTICIPATE THAT HIS WORK WILL RESULT IN THE NEED TO ENCROACH WITHIN THE MINIMUM REQUIRED CLEARANCE AS STATED IN THE LAW, THE CONTRACTOR SHALL NOTIFY HECO AT LEAST FOUR (4) WEEKS PRIOR TO THE PLANNED ENCROACHMENT SO THAT, IF FEASIBLE, THE NECESSARY PROTECTIONS (E.G. RELOCATE OR DE-ENERGIZE HECO LINES) CAN BE INVESTIGATED. HECO MAY ALSO BE ABLE TO BLANKET ITS DISTRIBUTION (12KV AND BELOW) LINES TO PROVIDE A VISUAL AID IN PREVENTING ACCIDENTAL CONTACT. HECO'S COST OF SAFEGUARDING OR IDENTIFYING ITS LINES WILL BE CHARGED TO THE CONTRACTOR. CONTACT HECO'S CUSTOMER INSTALLATIONS DEPARTMENT AT 543-7846 FOR ASSISTANCE IN IDENTIFYING AND SAFEGUARDING OVERHEAD POWER LINES.

6. POLE BRACING
   a) CONTRACTOR SHALL NOT EXCAVATE WITHIN 10 FEET OF HAWAIIAN ELECTRIC'S UTILITY POLES OR ANY ANCHOR SYSTEM SUPPORTING THE UTILITY POLE. IF CONTRACTOR MUST EXCAVATE AN AREA MORE THAN 12 INCHES DEEP BY 12 INCHES WIDE, AND CLOSER THAN 10 FEET FROM A UTILITY POLE OR ITS ANCHOR SYSTEM, EXCEPT WHEN EXCAVATING FOR RISERS IN A SINGLE TRENCH NOT WIDER THAN 12 INCHES AND NOT DEEPER THAN 3 FEET, CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING, SUPPORTING, SECURING, AND TAKING ALL PRECAUTIONS TO PREVENT DAMAGE TO OR LEANING OF EXISTING POLES. BEFORE COMMENCING SUCH EXCAVATION, CONTRACTOR MUST NOTIFY HAWAIIAN ELECTRIC WHICH MAY LEAD TO IMPLEMENTING POLE BRACING REQUIREMENTS. HAWAIIAN ELECTRIC REQUIRES A MINIMUM OF TEN (10) WORKING DAYS TO CONDUCT THE REVIEW OF CONTRACTOR'S SUBMITTAL. CONTRACTOR SHALL SUBMIT ITS BRACING CALCULATIONS AND DRAWINGS, PREPARED AND STAMPED BY A LICENSED STRUCTURAL ENGINEER, TO HAWAIIAN ELECTRIC'S CUSTOMER RELATIONS(543-7070) FOR REVIEW. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND REMOVAL OF THE TEMPORARY POLE BRACING SYSTEM, AS WELL AS ALL COSTS INCURRED BY HAWAIIAN ELECTRIC TO REVIEW CONTRACTOR'S AND TO REPAIR OR STRAIGHTEN POLES IMPACTED BY CONTRACTOR'S ACTIVITIES, INCLUDING RESPONSE AND RESTORATION COSTS INCURRED BY HAWAIIAN ELECTRIC ARISING OUT OF OR RELATED TO OUTAGES CAUSED BY CONTRACTOR'S FAILURE TO MEET THE FOREGOING REQUIREMENTS. HAWAIIAN ELECTRIC'S RECEIPT OF POLE BRACING CALCULATION OR DRAWING SUBMITTALS OF ANY CONTRACTOR, INCLUDING WORK PROCEDURE, SHALL NOT RELIEVE CONTRACTOR FROM ANY LIABILITY RESULTING FROM CONTRACTOR'S EXCAVATION NEAR OR AROUND HAWAIIAN ELECTRIC'S UTILITY POLES.
   b) HAWAIIAN ELECTRIC MAY PROVIDE TO THE CUSTOMER INFORMATION RELATED TO POLE BRACING, INCLUDING CALCULATIONS AND OTHER BASIC ENGINEERING. HOWEVER, HAWAIIAN ELECTRIC PROVIDES THIS INFORMATION FOR INFORMATIONAL PURPOSES ONLY AND DOES NOT WARRANT ANY OF THE INFORMATION PROVIDED TO THE CUSTOMER. HAWAIIAN ELECTRIC HEREBY DISCLAIMS ANY LIABILITY ASSOCIATED WITH THE CUSTOMER'S USE OF INFORMATION PROVIDED THE THE CUSTOMER FROM HAWAIIAN ELECTRIC. IT IS THE CUSTOMER'S DUTY TO OBTAIN ENGINEERING FROM ITS OWN ENGINEER OR CONTRACTOR IN ORDER TO BRACE POLES AND THE USE OF HAWAIIAN ELECTRIC'S INFORMATION DOES NOT EXCUSE THE CUSTOMER FROM PERFORMING ITS OWN EVALUATION OF THE BRACING NEEDS. SHOULD THE CUSTOMER INSTALL BRACING AT ANY POLE LOCATION, CUSTOMER SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS HAWAIIAN ELECTRIC FROM ANY THIRD-PARTY CLAIMS ASSOCIATED WITH THE CUSTOMER'S BRACING OF A POLE. SHOULD THE WORK CUSTOMER PERFORM AT OR NEAR THE POLE LOCATION COMPROMISE THE POLE OR ITS SURROUNDINGS IN ANY WAY, CUSTOMER SHALL RESTORE OR REPLACE THE POLE SO THAT IT IS NO LONGER COMPROMISED.

7. UNDERGROUND LINES
THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF UNDERGROUND LINES. HECO'S EXISTING ELECTRICAL CABLES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION. ONLY HECO PERSONNEL ARE TO BREAK INTO EXISTING HECO FACILITIES, HANDLE THESE CABLES, AND ERECT TEMPORARY GUARDS TO PROTECT THESE CABLES FROM DAMAGE. THE COST OF HECO'S ASSISTANCE IN PROVIDING PROPER SUPPORT AND PROTECTION OF ITS UNDERGROUND LINES WILL BE CHARGED TO THE CONTRACTOR. FOR ASSISTANCE/COORDINATION IN PROVIDING PROPER SUPPORT AND PROTECTION OF THESE LINES, THE CONTRACTOR SHALL CALL HECO'S CUSTOMER INSTALLATIONS DEPARTMENT AT 543-7846 A MINIMUM OF TEN (10) WORKING DAYS IN ADVANCE.

SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HECO'S 138KV UNDERGROUND LINES (SEE HECO INSTRUCTIONS TO CONSULTANTS/CONTRACTORS ON "EXCAVATION NEAR HECO'S UNDERGROUND 138KV LINES" FOR DETAILED REQUIREMENTS).

FOR VERIFICATION OF UNDERGROUND LINES, THE CONTRACTOR SHALL CALL THE HAWAII ONE CALL CENTER AT 866-423-7287 MINIMUM OF FIVE (5) WORKING DAYS IN ADVANCE.

8. UNDERGROUND FUEL PIPELINES
THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF HECO'S UNDERGROUND FUEL OIL PIPELINES. SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HECO'S UNDERGROUND FUEL OIL PIPELINES (SEE HECO'S SPECIFIC FUEL PIPELINE "GUIDELINES" TO CONSULTANTS/CONTRACTORS ON EXCAVATION NEAR HECO'S UNDERGROUND FUEL PIPELINES FOR DETAILED REQUIREMENTS).

9. EXCAVATIONS
WHEN TRENCH EXCAVATION IS ADJACENT TO OR BENEATH HECO'S EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR IS RESPONSIBLE FOR:
   a) ARRANGING FOR HECO STANDBY PERSONNEL TO OBSERVE WORK AT CONTRACTOR'S COST.
   b) SHEETING, BRACING, OR OTHERWISE SUPPORTING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE AND TO PREVENT POSSIBLE SLIDES, CAVE-INS, AND SETTLEMENTS.
   c) PROPERLY SUPPORTING EXISTING STRUCTURES OR FACILITIES WITH BEAMS, STRUTS, UNDER-PINNINGS, OR OTHER NECESSARY METHODS TO FULLY PROTECT IT FROM DAMAGE.
   d) BACKFILLING WITH PROPER BACKFILL MATERIAL INCLUDING SPECIAL THERMAL BACKFILL WHERE EXISTING (REFER TO ENGINEERING DEPARTMENT FOR THERMAL BACKFILL SPECIFICATIONS).

HECO NOTES CON'T:

10. RELOCATION OF HECO FACILITIES
ANY WORK REQUIRED TO RELOCATE OR MODIFY HECO FACILITIES SHALL BE DONE BY HECO, OR BY THE CONTRACTOR UNDER HECO'S SUPERVISION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, AND SHALL PROVIDE NECESSARY SUPPORT FOR HECO'S WORK, WHICH MAY INCLUDE, BUT NOT LIMITED TO, STAKING OF POLE/ANCHOR LOCATIONS, IDENTIFYING RIGHT OF WAY AND PROPERTY LINES, EXCAVATION AND BACKFILL, PERMITS AND TRAFFIC CONTROL, BARRICADING, AND RESTORATION OF PAVEMENT, SIDEWALKS, AND OTHER FACILITIES. ALL COSTS ASSOCIATED WITH ANY RELOCATION OR MODIFICATION (EITHER TEMPORARY OR PERMANENT) FOR THE CONVENIENCE OF THE CONTRACTOR, OR TO ENABLE THE CONTRACTOR TO PERFORM HIS WORK IN A SAFE AND EXPEDITIOUS MANNER IN FULFILLING HIS CONTRACT OBLIGATIONS SHALL BE BORNE BY THE CONTRACTOR.

11. CONFLICTS
ANY REDESIGN OR RELOCATION OF HECO'S FACILITIES NOT SHOWN ON THE PLANS MAY BE CAUSE FOR LENGTHY DELAYS. THE CONTRACTOR ACKNOWLEDGES THAT HECO IS NOT RESPONSIBLE FOR ANY DELAY OR DAMAGE THAT MAY ARISE AS A RESULT OF ANY CONFLICTS DISCOVERED OR IDENTIFIED WITH RESPECT TO THE LOCATION OR CONSTRUCTION OF HECO'S ELECTRICAL FACILITIES IN THE FIELD, REGARDLESS OF WHETHER THE CONTRACTOR HAS MET THE REQUESTED MINIMUM ADVANCE NOTICES. IN ORDER TO MINIMIZE ANY DELAY OR IMPACT ARISING FROM SUCH CONFLICTS, HECO SHOULD BE NOTIFIED IMMEDIATELY UPON DISCOVERY OR IDENTIFICATION OF SUCH CONFLICT.

12. DAMAGE TO HECO FACILITIES
THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL HECO SURFACE AND SUBSURFACE UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HECO'S FACILITIES AS A RESULT OF HIS OPERATIONS. THE CONTRACTOR SHALL IMMEDIATELY REPORT SUCH DAMAGES OR ANY HAZARDOUS CONDITIONS RELATED TO HECO'S LINES TO HECO'S TROUBLE DISPATCHER AT 548-7961. REPAIR WORK SHALL BE DONE BY HECO OR BY THE CONTRACTOR UNDER HECO'S SUPERVISION. COSTS FOR DAMAGES TO HECO'S FACILITIES SHALL BE BORNE BY THE CONTRACTOR.

IN CASE OF DAMAGE OR SUSPECTED DAMAGE TO HECO'S FUEL PIPELINE, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY HECO'S HONOLULU POWER PLANT SHIFT SUPERVISOR AT 533-2102 (A 24-HOUR NUMBER) SO HECO PERSONNEL CAN SECURE THE DAMAGED SECTION AND REPORT ANY OIL SPILLS TO THE PROPER AUTHORITIES. IN CASE OF DAMAGE DAMAGE OR SUSPECTED DAMAGE TO THE WAIAU OR KAHE FUEL PIPELINES, THE CONTRACTOR SHALL ALSO NOTIFY CHEVRON AT 682-2227. ALL COSTS ASSOCIATED WITH THE DAMAGE, REPAIR, AND OIL SPILL CLEANUP SHALL BE BORNE BY THE CONTRACTOR.

13. HECO STAND-BY PERSONNEL
THE CONTRACTOR MAY REQUEST HECO TO PROVIDE AN INSPECTOR TO STAND-BY DURING CONSTRUCTION NEAR HECO'S FACILITIES. THE COST OF SUCH INSPECTION WILL BE CHARGED TO THE CONTRACTOR. THE CONTRACTOR SHALL CALL HECO'S CUSTOMER INSTALLATIONS DEPARTMENT AT 543-7846 A MIMIMUM OF FIVE (5) WORKING DAYS IN ADVANCE TO ARRANGE FOR HECO STAND-BY PERSONNEL.

14. CLEARANCES
THE FOLLOWING CLEARANCES SHALL BE MAINTAINED BETWEEN HECO'S DUCTLINE AND ALL ADJACENT STRUCTURES (CHARTED AND UNCHARTED) IN THE TRENCH:

MINIMUM SEPARATION CLEARANCES TO EXISTING UNDERGROUND DUCTLINES HORIZONTAL (PARALLEL)

UTILITY BEING INSTALLED	EXISTING DIRECT BURIED CABLE	EXISTING DIRECT BURIED IN CONDUIT (no concrete encasement)	EXISTING 3" CONCRETE ENCASEMENT	APPLICABLE NOTES:
HECO DB CONDUITS	12"	3"	0"	
HECO 3" ENCASEMENT	0"	0"	0"	
TELEPHONE / CATV DB	12"	12"	6"	
TELEPHONE / CATV DB DUCTS	12"	12"	6"	
TELEPHONE /CATV 3" ENCASEMENT	0"	0"	0"	5
TRAFFIC SIGNAL	12"	12"	12"	
WATER DB	36"	36"	36"	1,4
WATER SERVICE LATERALS	12"	12"	12"	
WATER (CONCRETE JACKETED)	36"	36"	36"	1,4
GAS DB	12"	12"	12"	1
GAS (CONCRETE JACKETED)	12"	12"	12"	1
SEWER DB	36"	36"	36"	1,2
SEWER (CONCRETE JACKETED)	36"	36"	36"	1,2
DRAIN/DRAIN STRUCTURES	12"	12"	12"	1
FUEL PIPELINES				3

Notes:
1. Where space is available, parallel clearance to other utilities, or foreign structures other than communication or traffic signal shall be 36".
2. If 36" clearance cannot be met:
   - If clearance is less than 12", Jacket sewer line with reinforced concrete (per HECO's std. 30-1030) for a distance of 5' plus pipe diameter.
   - If clearance is between 12" and 36", jacket sewer line with plain concrete.
3. All fuel pipeline crossings shall be reviewed and approved by the company that owns and maintains it.
4. 5 feet clear to water mains 16" and larger.
5. For situations with 0" minimum separation, a 6" separation is recommended.
6. Clearances measured from outer edges or diameters of utilities. Whenever concrete jackets are involved, clearances shall be total clear distance between the concrete jacket and utility concerned.

MINIMUM SEPARATION CLEARANCES TO EXISTING UNDERGROUND DUCTLINES VERTICAL (CROSSING)

UTILITY BEING INSTALLED	EXISTING DIRECT BURIED CABLE	EXISTING DIRECT BURIED IN CONDUIT (no concrete encasement)	EXISTING 3" CONCRETE ENCASEMENT	APPLICABLE NOTES:
HECO DB CONDUITS	6"	3"	0"	
HECO 3" ENCASEMENT	0"	0"	0"	
TELEPHONE / CATV DB	12"	12"	6"	
TELEPHONE / CATV DB DUCTS	12"	12"	6"	
TELEPHONE / CATV 3" ENCASEMENT	0"	0"	0"	5
TRAFFIC SIGNAL	12"	12"	6"	
WATER SERVICE LATERALS	12"	12"	12"	
WATER DB	6"	6"	6"	2
WATER (CONCRETE JACKETED)	12"	12"	12"	2
GAS DB	12"	12"	12"	
GAS (CONCRETE JACKETED)	12"	12"	12"	
SEWER DB	24"	24"	24"	1
SEWER (CONCRETE JACKETED)	24"	24"	24"	1
DRAIN/DRAIN STRUCTURES	12"	12"	6"	
FUEL PIPELINES				3

Notes:
1. If clearance cannot be met:
   - If clearance is less than 12", jacket sewer line with reinforced concrete (per HECO's std. 30-1030) for a distance of 5' plus pipe diameter.
   - If clearance is between 12" and 24", jacket sewer line with plain concrete.
2. 12" vertical clearance for pipe diameters greater than 16".
3. All fuel pipeline crossings shall be reviewed and approved by the company that owns and maintains it.
4. 5 feet clear to water mains 16" and larger.
5. For situations with 0" minimum separation, a 6" separation is recommended.
6. Clearances measured from outer edges or diameters of utilities. Whenever concrete jackets are involved, clearances shall be total clear distance between the concrete jacket and utility concerned.

THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER & HECO OF ANY HEAT SOURCES (POWER CABLE DUCT BANK, STEAMLINE, ETC.) ENCOUNTERED THAT ARE NOT PROPERLY IDENTIFIED ON THE DRAWING.

15. INDEMNITY
THE CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS HECO FROM AND AGAINST ALL LOSSES, DAMAGES, CLAIMS, AND ACTIONS, INCLUDING BUT NOT LIMITED TO REASONABLE ATTORNEY'S FEES AND COSTS BASED UPON OR ARISING OUT OF DAMAGE TO PROPERTY OR INJURIES TO PERSONS, OR OTHER TORTIOUS ACTS CAUSED OR CONTRIBUTED TO BY CONTRACTOR OR ANYONE ACTING UNDER ITS DIRECTION OR CONTROL OR ON ITS BEHALF; PROVIDED CONTRACTOR'S INDEMNITY SHALL NOT BE APPLICABLE TO ANY LIABILITY BASED UPON THE SOLE NEGLIGENCE OF HECO.

16. SCHEDULE
CONTRACTOR SHALL FURNISH HIS CONSTRUCTION SCHEDULE SIX (6) MONTHS PRIOR TO STARTING WORK ON HECO FACILITIES. CONTRACTOR SHALL GIVE HECO, IN WRITING, THREE (3) MONTHS NOT TO PROCEED WITH HECO'S PORTION OF WORK.

17. AUTHORITY
ALL CONSTRUCTION, RESTORATION WORK, AND INSPECTION SHALL BE SUBJECT TO WHICHEVER GOVERNMENTAL AGENCY HAS AUTHORITY OVER THE WORK.

18. SPECIFICATIONS
CONSTRUCTION OF HECO'S UNDERGROUND FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REVISIONS OF HECO SPECIFICATIONS CS7001, CS7003, CS7202, CS9301, AND CS9401 AND APPLICABLE HECO STANDARDS.

19. CONSTRUCTION
CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES TO PROPERLY PERFORM AND FULLY COMPLETE ALL WORK SHOWN ON THE CONTRACT, DRAWINGS, AND SPECIFICATIONS. ALL MATERIALS SHALL BE NEW AND MANUFACTURED IN THE UNITED STATES OF AMERICA. ALL MANHOLE, HANDHOLE, AND DUCTLINE INSTALLATIONS SHALL BE INSPECTED AND APPROVED BY HECO PRIOR TO EXCAVATION AND PRIOR TO PLACING CONCRETE. CONTRACTOR SHALL NOTIFY HECO'S INSPECTION DIVISION AT 543-4329 AT LEAST 48 HOURS PRIOR TO PLACING CONCRETE.

CONTRACTOR TO COORDINATE WORK TO BREAK INTO HECO'S EXISTING ELECTRICAL FACILITIES WITH HECO'S INSPECTION DIVISION AT 543-4329 AT LEAST TEN (10) WORKING DAYS IN ADVANCE.

20. STAKEOUT
THE CONTRACTOR SHALL ARRANGE FOR TONEOUTS OF ALL UNDERGROUND FACILITIES AND SHALL STAKEOUT ALL PROPOSED HECO FACILITIES WITHIN THE PROJECT AREA SO AS TO NOT CONFLICT WITH ANY UTILITY (EXISTING OR PROPOSED) AND ANY PROPOSED CONSTRUCTION OR IMPROVEMENT WORK FOR VERIFICAITON BY HECO BEFORE PROCEEDING WITH HECO WORK.

21. DUCTLINES
ALL DUCTLINE INSTALLATIONS SHALL BE PVC SCHEDULE 40 ENCASED IN CONCRETE, UNLESS OTHERWISE NOTED. ALL COMPLETED DUCTLINES SHALL BE MANDREL TESTED BY THE CONTRACTOR IN THE PRESENCE OF HECO'S INSPECTOR USING HECO'S STANDARD PRACTICE. THE CONTRACTOR SHALL INSTALL A 1/8" POLYOLEFIN PULL LINE IN ALL COMPLETED DUCTLINES AFTER MANDREL TESTING IS COMPLETE.

22. JOINT POLE REMOVAL
THE LAST JOINT POLE OCCUPANT OFF THE POLES SHALL REMOVE THE POLES.

23. AS-BUILT PLANS
THE CONTRACTOR SHALL PROVIDE HECO WITH TWO SETS OF AS-BUILT REPRODUCIBLE TRACINGS SHOWING THE OFFSETS, STATIONING, AND VERTICAL ELEVATION OF THE DUCT LINE(S) CONSTRUCTED.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

GORDON T. RING
LICENSED PROFESSIONAL ENGINEER
No. 9300-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE 4/30/24 EXP. DATE

R. M. TOWILL CORPORATION
Planning - Engineering - Environmental Services - Photogrammetry - Surveying - Construction Management
808 842 1133 2024 North King Street Suite 200 Honolulu Hawaii 96819-3464

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KALAUHA'IHA'I FISHPOND (LUCAS SPRING) RESTORATION, PHASE 3

NIU VALLEY, OAHU, HAWAI'I

CONSTRUCTION NOTES - 3

DESIGNED: GR	SUBMITTED: --
DRAWN: GR	DATE: JUNE 2023
CHECKED: GR	SCALE: AS SHOWN

APPROVED: _____ DRAWING NO. C-3
CHIEF ENGINEER DATE

JOB NO. J40CO30A SHEET NO. 4 OF 10 SHEETS

TRUE NORTH
1" = 10'

FISHPOND

ABANDONED W12 (PER ASBUILT)

G4 (PER ASBUILT)

W16 (PER ASBUILT)

S10 (PER ASBUILT)

W24 (PER ASBUILT)

KALANIANA'OLE HWY (STATE)

ROW

EXIST ℄–C KALANIANA'OLE HWY

8" PVC DRAIN LINE

186+00

6" GATE VALVE

HDD ENTRY PIT

D8

DMH–1

D6

10'

PC=186+34.33

6" HDPE DRAIN LINE

163°28'51" — 52.85'
(STA. "POND" TO DMH–1)

67.37' — 0°50'31"
(STA. "DWY/FLD" TO STA. "POND")

TEMP. BENCHMARK
(1/2" REBAR)
STA. "POND"
6988.08 N
–9439.95 E
ELEV=4.54

TEMP. BENCHMARK
("+" CUT (FND))
STA. "DWY/FLD"
7055.45 N
–9438.96 E
ELEV=7.77

187+00

10' WIDE USE AND OCCUPANCY AGREEMENT

HDD EXIT PIT

DMH–2

ROW

D6

6" PERFORATED PVC DRAIN LINE

10' WIDE USE AND OCCUPANCY AGREEMENT

10'

COTG

LEGEND

- EXIST. RIGHT–OF–WAY, PROPERTY LINE
- 17 EXIST. CONTOUR
- LIMITS OF LAND USE AND OCCUPANCY AGREEMENT
- —DX— NEW DRAIN LINE
- NEW DRAIN MANHOLE
- NEW DRAIN MANHOLE
- BENCHMARK

GENERAL SITE PLAN
SCALE: 1" = 10'

GRAPHIC SCALE:
1" = 10' 10' 5' 0 10' 20'
SCALE IN FEET

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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LICENSED PROFESSIONAL ENGINEER
No. 9300–C
HAWAII, U.S.A.

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STATE OF HAWAII
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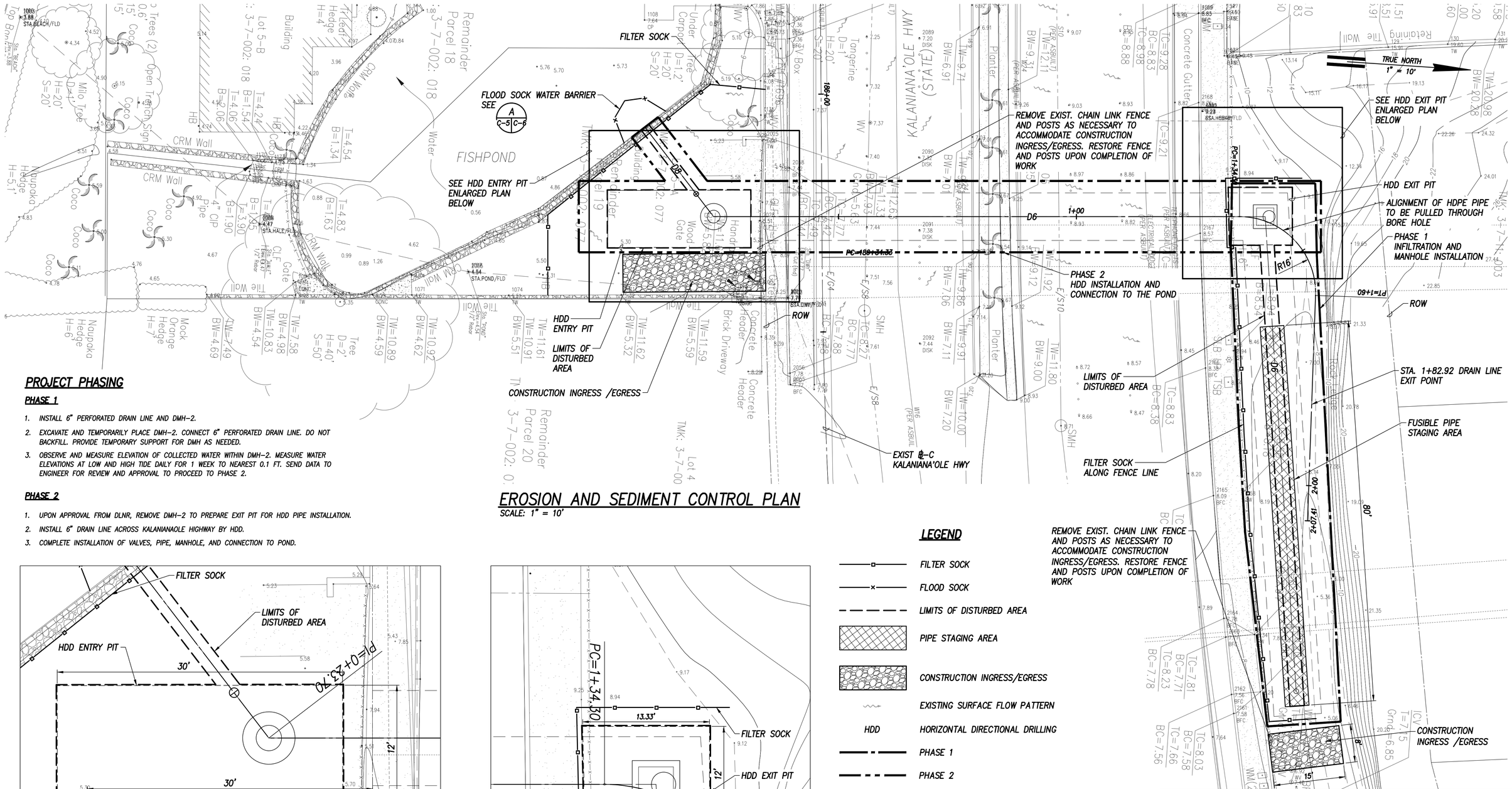
NIU VALLEY, OAHU, HAWAI'I

GENERAL SITE PLAN

DESIGNED: GR	SUBMITTED: --
DRAWN: GR	DATE: JUNE 2023
CHECKED: GR	SCALE: AS SHOWN
APPROVED:	DRAWING NO. C–4
CHIEF ENGINEER DATE	

JOB NO. J40C030A

SHEET NO. 5 OF 10 SHEETS



PROJECT PHASING

PHASE 1

1. INSTALL 6" PERFORATED DRAIN LINE AND DMH-2.
2. EXCAVATE AND TEMPORARILY PLACE DMH-2. CONNECT 6" PERFORATED DRAIN LINE. DO NOT BACKFILL. PROVIDE TEMPORARY SUPPORT FOR DMH AS NEEDED.
3. OBSERVE AND MEASURE ELEVATION OF COLLECTED WATER WITHIN DMH-2. MEASURE WATER ELEVATIONS AT LOW AND HIGH TIDE DAILY FOR 1 WEEK TO NEAREST 0.1 FT. SEND DATA TO ENGINEER FOR REVIEW AND APPROVAL TO PROCEED TO PHASE 2.

PHASE 2

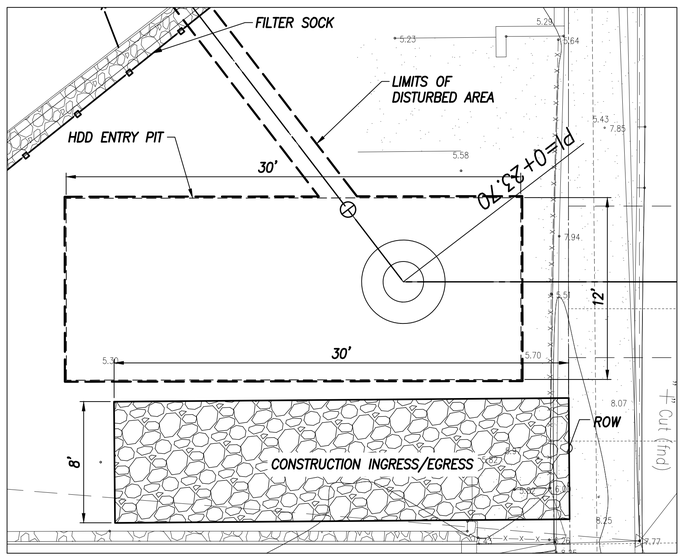
1. UPON APPROVAL FROM DLNR, REMOVE DMH-2 TO PREPARE EXIT PIT FOR HDD PIPE INSTALLATION.
2. INSTALL 6" DRAIN LINE ACROSS KALANIANAOLE HIGHWAY BY HDD.
3. COMPLETE INSTALLATION OF VALVES, PIPE, MANHOLE, AND CONNECTION TO POND.

EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1" = 10'

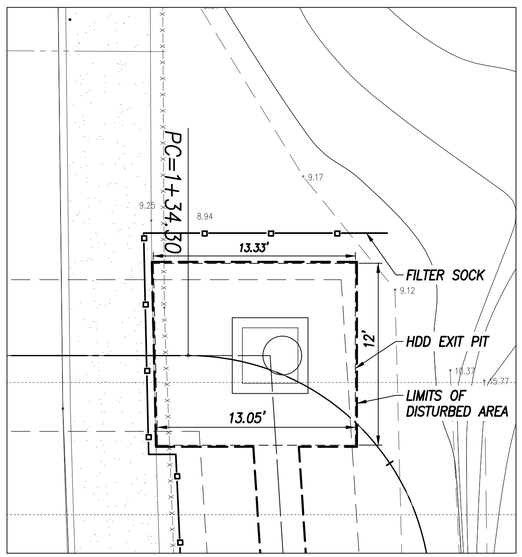
LEGEND

- FILTER SOCK
- FLOOD SOCK
- LIMITS OF DISTURBED AREA
- PIPE STAGING AREA
- CONSTRUCTION INGRESS/EGRESS
- EXISTING SURFACE FLOW PATTERN
- HDD — HORIZONTAL DIRECTIONAL DRILLING
- PHASE 1
- PHASE 2



HDD ENTRY PIT

SCALE: 1" = 5'



HDD EXIT PIT

SCALE: 1" = 5'

GRAPHIC SCALES:

1" = 10' 10' 5' 0 10' 20'

1" = 5' 5' 0 5' 10'

SCALE IN FEET

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

GORDON T. RING LICENSED PROFESSIONAL ENGINEER No. 9300-C HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
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NIU VALLEY, OAHU, HAWAI'I

EROSION AND SEDIMENT CONTROL PLAN

DESIGNED: GR	SUBMITTED: --
DRAWN: GR	DATE: JUNE 2023
CHECKED: GR	SCALE: AS SHOWN
APPROVED:	DRAWING NO. C-5
CHIEF ENGINEER	DATE

GOOD HOUSEKEEPING BMPS NOTES:

1. STREET SWEEPING AND VACUUMING.
   ALL POLLUTANTS DISCHARGED FROM CONSTRUCTION SITE TO OFF-SITE AREAS MUST BE SWEPT OR VACUUMED EACH DAY BEFORE LEAVING THE JOB SITE.
2. MATERIALS DELIVERY, STORAGE AND USE MANAGEMENT.
   PREVENT, REDUCE, OR ELIMINATE THE DISCHARGE OF POLLUTANTS FROM MATERIAL DELIVERY, STORAGE, AND USE TO THE STORM WATER SYSTEM OR WATERCOURSES BY MINIMIZING THE STORAGE OF HAZARDOUS MATERIALS ONSITE, STORING MATERIALS IN A DESIGNATED AREA, INSTALLING SECONDARY CONTAINMENT. CONSTRUCTION MATERIALS, WASTE, TOXIC AND HAZARDOUS SUBSTANCES, STOCKPILES AND OTHER SOURCES OF POLLUTION SHALL NOT BE STORED IN BUFFER AREAS, NEAR AREAS OF CONCENTRATED FLOW, OR AREAS ABUTTING THE MS4, RECEIVING WATERS, OR DRAINAGE IMPROVEMENTS THAT DISCHARGE OFF-SITE. PRIMARY AND SECONDARY CONTAINMENT CONTROLS AND COVERS SHALL BE IMPLEMENTED TO THE MAXIMUM EXTENT PRACTICAL (MEP).
3. SPILL PREVENTION AND CONTROL.
   CREATE AND IMPLEMENT SPILL PREVENTION AND RESPONSE PLANS TO ELIMINATE AND MINIMIZE THE DISCHARGE OF POLLUTANTS TO THE MS4 AND RECEIVING WATERS FROM LEAKS AND SPILLS BY REDUCING THE CHANCE FOR SPILLS, ABSORBING, CONTAINING, AND CLEANING UP SPILLS AND PROPERLY DISPOSING OF SPILL MATERIALS. AT A MINIMUM, ALL PROJECTS SHALL CLEANUP ALL LEAKS AND SPILLS IMMEDIATELY.
4. HAZARDOUS MATERIALS.
   PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM HAZARDOUS WASTE THROUGH PROPER MATERIAL USE AND WASTE DISPOSAL. IN THE EVENT THAT HAZARDOUS MATERIALS ARE DISCHARGED TO THE MS4, THE PROPERTY OWNER OR ESCP COORDINATOR SHALL IMMEDIATELY NOTIFY THE DEPARTMENT OF FACILITIES MAINTENANCE, HONOLULU FIRE DEPARTMENT, AND HONOLULU POLICE DEPARTMENT OF THE DISCHARGE BY TELEPHONE. A WRITTEN REPORT DESCRIBING THE POLLUTANTS THAT WERE DISCHARGED, THE REASONS FOR THE DISCHARGE, AND THE MEASURES THAT HAVE BEEN TAKEN OR WILL BE TAKEN TO PREVENT A REOCCURRENCE OF THE DISCHARGE SHALL BE SUBMITTED TO THE DIRECTOR NO LESS THAN 3 DAYS AFTER NOTIFICATION BY PHONE.
5. NONHAZARDOUS MATERIALS.
   IN THE EVENT THAT NONHAZARDOUS MATERIALS ARE DISCHARGED TO THE MS4, THE PROPERTY OWNER OR ESCP COORDINATOR SHALL NOTIFY THE CITY DEPARTMENT OF FACILITIES MAINTENANCE BY TELEPHONE NO LATER THAN THE NEXT BUSINESS DAY. A WRITTEN REPORT DESCRIBING THE POLLUTANTS THAT WERE DISCHARGED, THE REASONS FOR THE DISCHARGE, AND THE MEASURES THAT HAVE BEEN TAKEN OR WILL BE TAKEN TO PREVENT A REOCCURRENCE OF THE DISCHARGE SHALL BE SUBMITTED TO THE DIRECTOR NO LESS THAN 3 DAYS AFTER NOTIFICATION BY PHONE.
6. VEHICLE AND EQUIPMENT CLEANING.
   ELIMINATE AND MINIMIZE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM VEHICLE AND EQUIPMENT CLEANING OPERATIONS BY USING OFF-SITE FACILITIES WHEN FEASIBLE, WASHING IN DESIGNATED, CONTAINED AREAS ONLY, AND ELIMINATING DISCHARGES TO THE STORM DRAIN SYSTEM BY EVAPORATING AND/OR TREATING WASH WATER, AS APPROPRIATE OR INFILTRATING WASH WATER FOR EXTERIOR CLEANING ACTIVITIES THAT USE WATER ONLY.
7. VEHICLE AND EQUIPMENT FUELING.
   PREVENT FUEL SPILLS AND LEAKS BY USING OFF-SITE FACILITIES, FUELING ONLY IN DESIGNATED AREAS, ENCLOSING OR COVERING STORED FUEL, AND IMPLEMENTING SPILL CONTROLS SUCH AS SECONDARY CONTAINMENT AND ACTIVE MEASURES USING SPILL RESPONSE KITS.
8. VEHICLE AND EQUIPMENT MAINTENANCE.
   ELIMINATE AND MINIMIZE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM VEHICLE AND EQUIPMENT MAINTENANCE OPERATIONS BY USING OFF-SITE FACILITIES WHEN FEASIBLE, PERFORMING WORK IN DESIGNATED AREAS ONLY, USING SPILL PADS UNDER VEHICLES AND EQUIPMENT, CHECKING FOR LEAKS AND SPILLS, AND CONTAINING AND CLEANING UP SPILLS IMMEDIATELY.
9. SOLID WASTE MANAGEMENT.
   PREVENT OR REDUCE DISCHARGE OF POLLUTANTS TO THE LAND, GROUNDWATER, AND IN STORM WATER FROM SOLID WASTE OR CONSTRUCTION AND DEMOLITION WASTE BY PROVIDING DESIGNATED WASTE COLLECTION AREAS, COLLECT SITE TRASH DAILY, AND ENSURING THAT CONSTRUCTION WASTE IS COLLECTED, REMOVED, AND DISPOSED OF ONLY AT AUTHORIZED DISPOSAL AREAS.
10. SANITARY/SEPTIC WASTE MANAGEMENT.
    TEMPORARY AND PORTABLE SANITARY AND SEPTIC WASTE SYSTEMS SHALL BE MOUNTED OR STAKED IN, WELL-MAINTAINED AND SCHEDULED FOR REGULAR WASTE DISPOSAL AND SERVICING. SOURCES OF SANITARY AND/OR SEPTIC WASTE SHALL NOT BE STORED NEAR THE MS4 OR RECEIVING WATERS.
11. STOCKPILE MANAGEMENT.
    STOCKPILES SHALL NOT BE LOCATED IN DRAINAGE WAYS, WITHIN 50 FEET FROM AREAS OF CONCENTRATED FLOWS, AND ARE NOT ALLOWED IN THE CITY RIGHT-OF-WAY. SEDIMENT BARRIERS OR SILT FENCES SHALL BE USED AROUND THE BASE OF ALL STOCKPILES. STOCKPILES SHALL NOT EXCEED 15 FEET IN HEIGHT. STOCKPILES GREATER THAN 15 FEET IN HEIGHT SHALL REQUIRE 8 FOOT WIDE BENCHING IN ACCORDANCE WITH ROH CHAPTER 14, ARTICLE 15. STOCKPILES MUST BE COVERED WITH PLASTIC SHEETING OR A COMPARABLE MATERIAL IF THEY WILL NOT BE ACTIVELY USED WITHIN 7 DAYS.
12. LIQUID WASTE MANAGEMENT.
    LIQUID WASTE SHALL BE CONTAINED IN A CONTROLLED AREA SUCH AS A HOLDING PIT, SEDIMENT BASIN, ROLL-OFF BIN, OR PORTABLE TANK OF SUFFICIENT VOLUME AND TO CONTAIN THE LIQUID WASTES GENERATED. CONTAINMENT AREAS OR DEVICES MUST BE IMPERMEABLE AND LEAK FREE AND SHOULD NOT BE LOCATED WHERE ACCIDENTAL RELEASE OF THE CONTAINED LIQUID CAN DISCHARGE TO WATER BODIES, CHANNELS, OR STORM DRAINS.
13. CONCRETE WASTE MANAGEMENT.
    PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM CONCRETE WASTE BY CONDUCTING WASHOUT OFFSITE OR PERFORMING ONSITE WASHOUT IN A DESIGNATED AREA CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MILLIMETER POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL. CONTAINMENT AREAS OR DEVICES SHOULD NOT BE LOCATED WHERE ACCIDENTAL RELEASE OF THE CONTAINED LIQUID CAN DISCHARGE TO WATER BODIES, CHANNELS, OR STORM DRAINS. WASHOUT FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75 PERCENT FULL. ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE SHOULD BE BROKEN UP, REMOVED, AND DISPOSED OF AS SOLID WASTES.

GOOD HOUSEKEEPING BMPS NOTES (CONT'D):

14. CONTAMINATED SOIL MANAGEMENT.
    AT MINIMUM CONTAIN CONTAMINATED MATERIAL SOIL BY SURROUNDING WITH IMPERMEABLE LINED BERMS OR COVER EXPOSED CONTAMINATED MATERIAL WITH PLASTIC SHEETING. CONTAMINATED SOIL SHOULD BE DISPOSED OF PROPERLY IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
15. DUST CONTROL.
    THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL PROVIDE EFFECTIVE MEASURES FOR THE CONTROL OF DUST FROM THE PROJECT SITE AND HAUL ROADS SO IT SHALL NOT BE TRANSPORTED OR DISCHARGED TO OFF-SITE AREAS. THE WORK MUST BE IN CONFORMANCE WITH AIR POLLUTION CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES: TITLE 11 CHAPTER 60.1, "AIR POLLUTION CONTROL".
16. BMP AND SITE MAINTENANCE.
    THE CONTRACTOR SHALL MAINTAIN TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE PROJECT DURATION. THE CONTRACTOR SHALL CLEAN TRASH AND DEBRIS AROUND THE SURROUNDING AREA ON A WEEKLY BASIS.

EROSION AND SEDIMENT CONTROL PLAN SCHEDULE AND RAIN RESPONSE PLAN NOTES:

PROJECT SEQUENCE:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCES, PERIMETER CONTROLS, AND CLEARING AND GRUBBING AS NECESSARY FOR THE INSTALLATION OF THESE BMPS.
2. CLEAR AND GRADE THE SITE AS SHOWN IN THE GRADING PLANS. RELOCATE, RECONSTRUCT AND MAINTAIN BMPS AS NEEDED TO KEEP THEM EFFECTIVE AT ALL TIMES. INITIATE TEMPORARY STABILIZATION IMMEDIATELY ONCE GRADING IS COMPLETED IN EACH PHASE.
3. INITIATE STABILIZATION OF STEEP SLOPES (> 15%) WITH HYDROSEEDING OR CHEMICAL STABILIZATION AS SOON AS GRADING IS COMPLETED ON THOSE AREAS.
4. PROCEED WITH CONSTRUCTION WITH LEAST POSSIBLE DISTURBANCE OF VEGETATIVE AREAS AND TEMPORARY STRUCTURES.
5. STABILIZE EXPOSED AREAS WITH GRASSING IF NOT BEING ACTIVELY USED WITHIN 7 DAYS.
6. PLANT PERMANENT GROUND COVER.
7. REMOVE OR DISMANTLE TEMPORARY EROSION CONTROL STRUCTURES AFTER FULL ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
8. PRACTICE GOOD HOUSEKEEPING MEASURES THROUGHOUT THE DURATION OF CONSTRUCTION.
9. INSPECTIONS WILL BE PERFORMED WEEKLY.

RAIN RESPONSE PLAN:

THE FOLLOWING WILL BE PERFORMED WHEN HEAVY RAINS, TROPICAL STORM OR HURRICANE IS IMMINENT OR IS FORECASTED IN THE NEXT 48 HOURS:

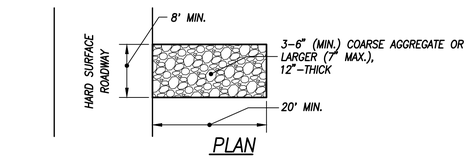
1. TEMPORARY SUSPENSION OF ACTIVE GRADING.
2. INSPECT ALL PERIMETER CONTROLS AND INLET PROTECTION DEVICES, AND MAINTAIN AS NEEDED. REINSTALL ANY PERIMETER CONTROLS THAT WERE REMOVED DUE TO ACTIVE WORK IN THE AREA. IF A SEVERE STORM IS EXPECTED, REMOVE INLET PROTECTION DEVICES TO PREVENT FLOODING ON SURROUNDING STREETS.
3. COVER OR RELOCATE MATERIAL STOCKPILES AND LIQUID MATERIAL CONTAINERS TO AVOID CONTACT WITH RAINWATER.
4. PLACE SPILL PANS OR OIL-ONLY SPILL PADS UNDER CONSTRUCTION VEHICLES TO PREVENT RUNOFF FROM CONTACTING ANY SPILLED PETROLEUM PRODUCTS. PROPERLY DISPOSE OF ANY ACCUMULATED OILY WATER AFTER THE RAIN EVENT.
5. RE-INSPECT AFTER THE APPROACHING HEAVY RAINS, TROPICAL STORM OR HURRICANE AND REPLACE OR MAINTAIN BMPS AS NEEDED.

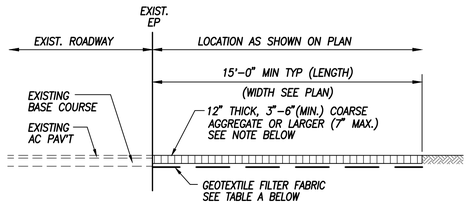
EROSION PREVENTION / SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL FOLLOW THE GUIDELINES IN THE CITY AND COUNTY OF HONOLULU'S "RULES RELATING TO WATER QUALITY."
2. MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE ANY EARTHWORK IS INITIATED.
3. SLOPE PROTECTION
   SLOPE PROTECTION IS REQUIRED ON AREAS WITH SLOPES GREATER THAN 15% AND ON AREAS OF MODERATE SLOPE THAT ARE PRONE TO EROSION UNLESS THEY ARE BEING ACTIVELY WORKED. USE DIVERSION OF SLOPE (DIKES, SWALES, SLOPE DRAINS) TO DIVERT WATER AROUND THE SLOPE. PROVIDE A 10-FT BUFFER ZONE AT THE TOE OF SLOPE. ONLY 5 ACRES MAY BE DISTURBED AT ANYTIME ON SLOPES GREATER THAN 15%.
4. TEMPORARY STABILIZATION IS REQUIRED ON DISTURBED AREAS WHICH ARE AT FINAL GRADE OR WHEN THE DISTURBED AREA WILL NOT BE WORKED FOR 14 CONSECUTIVE DAYS OR MORE, AS INDICATED IN GRADING LOG. CONTRACTOR SHALL MAINTAIN GRADING LOG IN SWPPP TO DOCUMENT WHEN GRADING ACTIVITIES BEGIN AND END BY AREAS.
5. PERMANENT STABILIZATION
   ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED USING VEGETATIVE COVERING, PAVEMENT OR EQUIVALENT, PRIOR TO REMOVING EROSION AND SEDIMENT MEASURES. TRAPPED SEDIMENT AND AREAS OF DISTURBED SOIL WHICH RESULT FROM THE REMOVAL OF THE TEMPORARY MEASURES SHALL BE IMMEDIATELY AND PERMANENTLY STABILIZED.
6. PRESERVE EXISTING VEGETATION
   CLEARLY MARK THE AREAS TO BE PRESERVED WITH FLAGS OR TEMPORARY FENCING. WHERE TEMPORARY FENCING IS USED, FENCING MUST BE ADEQUATELY SUPPORTED BY POSTS AND MAINTAINED IN AN UPRIGHT POSITION.

EROSION PREVENTION / SEDIMENT CONTROL NOTES (CONT'D):

7. MINIMIZE SOIL COMPACTION
   AREAS WHERE FINAL STABILIZATION OR INFILTRATION PRACTICES WILL BE INSTALLED SHALL BE PROTECTED FROM EXCESSIVE COMPACTION DURING CONSTRUCTION. VEHICLE AND EQUIPMENT USE SHALL BE RESTRICTED OR TECHNIQUES TO CONDITION THE SOILS TO SUPPORT VEGETATION SHALL BE IMPLEMENTED IN THE AREAS THAT HAVE BEEN COMPACTED AND ARE DESIGNATED TO REMAIN VEGETATIVE OR POST-CONSTRUCTION INFILTRATION AREAS. CLEARLY MARK THE AREAS TO BE AVOIDED WITH FLAGS OR TEMPORARY FENCING. WHERE TEMPORARY FENCING IS USED, FENCING MUST BE ADEQUATELY SUPPORTED BY POSTS AND MAINTAINED IN AN UPRIGHT POSITION.
8. PERIMETER CONTROLS
   PERIMETER CONTROLS ARE REQUIRED DOWNSLOPE OF ALL DISTURBED AREAS. MAINTAIN DOWNSTREAM VEGETATED BUFFER AREA.
9. TRACKING CONTROL
   - MINIMIZE SEDIMENT TRACK-OUT ONTO OFF-SITE STREETS, OTHER PAVED AREAS, AND SIDEWALKS FROM VEHICLES EXITING THE CONSTRUCTION SITE BY RESTRICTING VEHICLE TRAFFIC TO PROPERLY DESIGNATED AREAS AND USING ADDITIONAL CONTROLS TO REMOVE SEDIMENT FROM VEHICLE TIRES PRIOR TO EXITING THE SITE.
   - VEHICULAR PARKING AND MOVEMENTS ON PROJECT SITES MUST BE CONFINED TO PAVED SURFACES OR PREDEFINED PARKING AREAS AND VEHICLE PATHS, WHICH SHALL BE MARKED WITH FLAGS OR BOUNDARY FENCING.
   - ALL POLLUTANTS AND MATERIALS THAT ARE DROPPED, WASHED, TRACKED, SPILLED, OR OTHERWISE DISCHARGED FROM A PROJECT SITE TO OFF-SITE STREETS, OTHER PAVED AREAS, SIDEWALKS OR THE MS4 MUST BE CLEANED USING DRY METHODS SUCH AS SWEEPING OR VACUUMING.
   - WASHING POLLUTANTS AND MATERIALS THAT ARE DISCHARGED FROM THE PROJECT SITE TO THE MS4 INTO DRAIN INLETS OR CATCH BASINS IS PROHIBITED UNLESS THE MATERIAL IS SEDIMENT AND THE INLETS ARE DIRECTED TO A SEDIMENT BASIN OR SEDIMENT TRAP.
   - CONTRACTOR SHALL PROVIDE A STAFF GAGE SHOW.
10. BEST MANAGEMENT PRACTICES (BMPS) SHALL NOT BE REMOVED UNTIL FINAL STABILIZATION IS COMPLETE FOR THAT PHASE.
11. REFER TO CITY AND COUNTY OF HONOLULU BEST MANAGEMENT PRACTICES MANUAL- CONSTRUCTION, FOR MORE INFORMATION ON BMPS.
13. AN ESCP COORDINATOR IS REQUIRED FOR THIS PROJECT. THE OWNER OF THE PROPERTY OR THEIR AUTHORIZED AGENT MUST DESIGNATE A PERSON RESPONSIBLE FOR IMPLEMENTING THE ESCP AT THE PROJECT SITE ("ESCP COORDINATOR") PRIOR TO PERMIT ISSUANCE USING THE FORM PROVIDED AS APPENDIX A TO THE RULES RELATING TO WATER QUALITY.
14. THE CONTRACTOR SHALL COMPLY WITH THE PROJECT SCHEDULING REQUIREMENT AS SPECIFIED IN THE "ADMINISTRATIVE RULES, TITLE 20, DEPARTMENT OF PLANNING AND PERMITTING, CHAPTER 3, RULES RELATING TO WATER QUALITY", SECTION 20-3-28. THE SCHEDULED START DATE SHALL BE SUBMITTED TO THE DIRECTOR IN WRITING 2 WEEKS PRIOR TO COMMENCING ANY WORK GOVERNED BY THESE RULES.



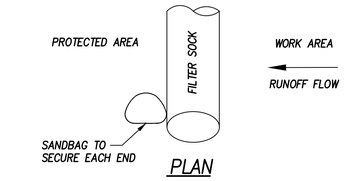


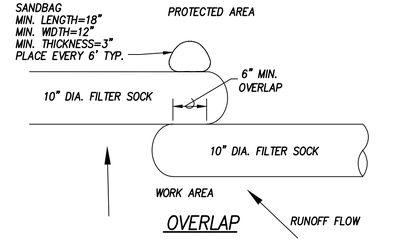
NOTE:
12" COARSE AGGREGATE LAYER SHALL BE REMOVED IMMEDIATELY PRIOR TO INSTALLATION OF ROADWAY BASE COURSE.

TABLE A GEOTEXTILE REQUIREMENTS

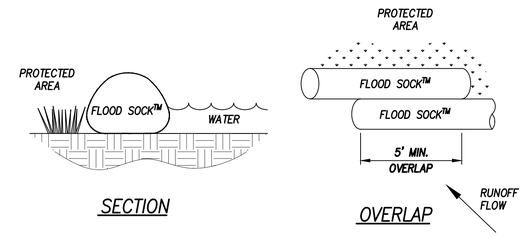
PHYSICAL PROPERTY	REQUIREMENTS
GRAB TENSILE STRENGTH	220 LB (ASTM D1682)
ELONGATION FAILURE	60% (ASTM D1682)
MULLEN BURST STRENGTH	430 LB (ASTM D3768)
PUNCTURE STRENGTH	125 LB (ASTM D751, MODIFIED)
EQUIVALENT OPENING	SIZE 40-80 (U.S. STD SIEVE, CW-02215)

B C-5 C-6 CONSTRUCTION INGRESS/EGRESS
NOT TO SCALE

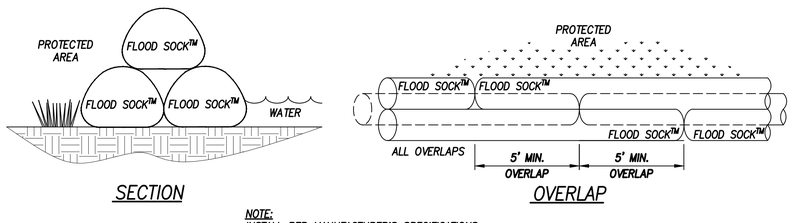




C C-5 C-6 COMPOST FILTER SOCK DETAIL
NOT TO SCALE



SINGLE SOCK METHOD



NOTE:
INSTALL PER MANUFACTURER'S SPECIFICATIONS

MULTIPLE SOCK METHOD

A C-5 C-6 FLOOD SOCK WATER BARRIER
NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

GORDON T. RING
LICENSED PROFESSIONAL ENGINEER
No. 9300-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE 4/30/24 EXP. DATE

R. M. TOWILL CORPORATION
Planning - Engineering - Environmental Services - Photogrammetry - Surveying - Construction Management
808 842 1133 2024 North King Street Suite 200 Honolulu, Hawaii 96819-3464

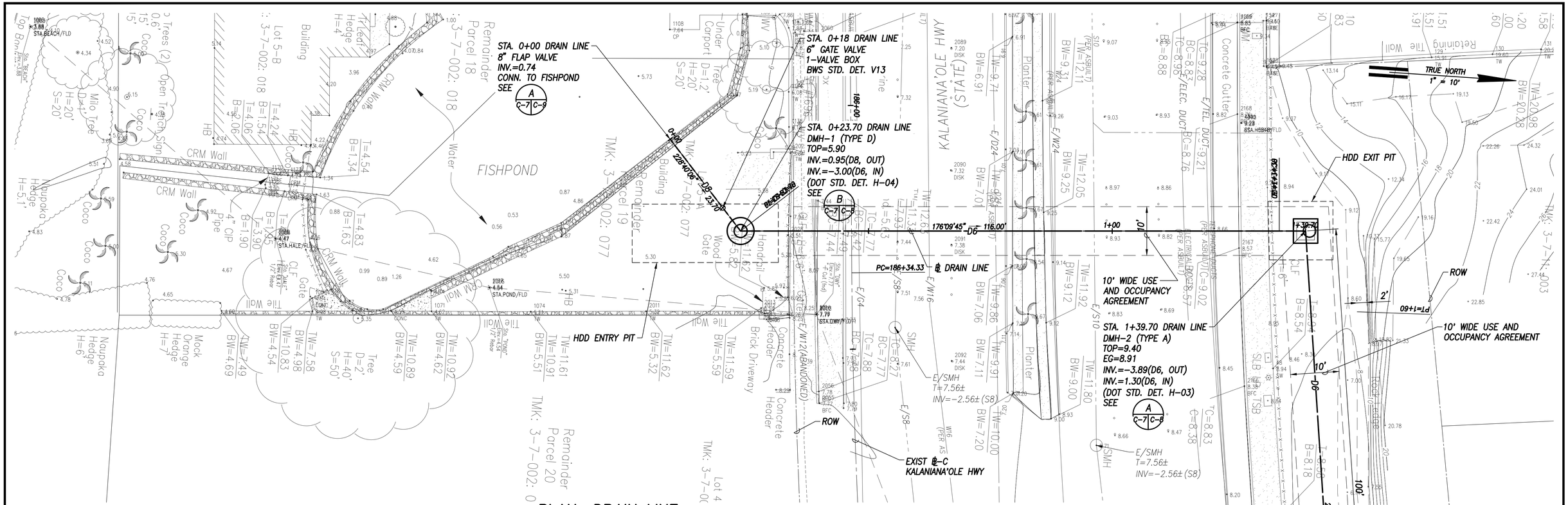
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KALAUHA'IHA'I FISHPOND (LUCAS SPRING) RESTORATION, PHASE 3

NIU VALLEY, OAHU, HAWAI'I

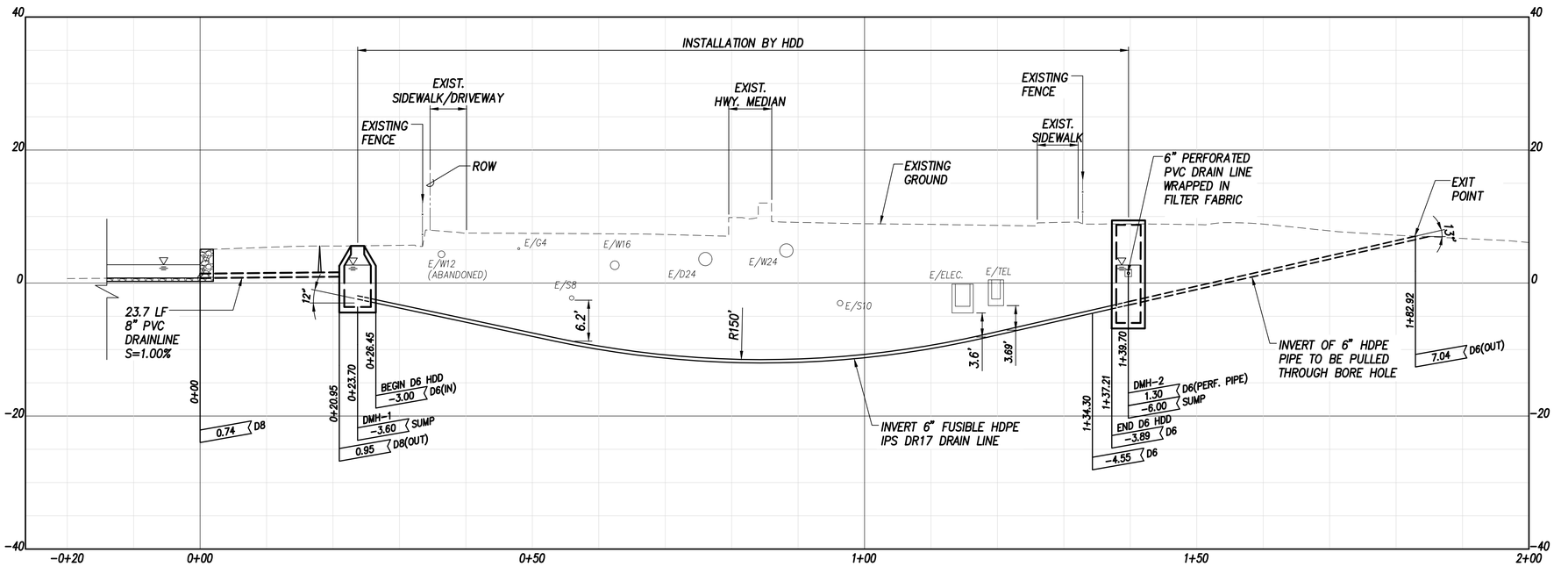
EROSION AND SEDIMENT CONTROL NOTES

DESIGNED: GR	SUBMITTED: --
DRAWN: GR	DATE: JUNE 2023
CHECKED: GR	SCALE: AS SHOWN
APPROVED:	DRAWING NO. C-6
CHIEF ENGINEER	DATE



PLAN: DRAIN LINE

SCALE: 1" = 10'



PROFILE: DRAIN LINE

SCALES: HOR. 1" = 10'
VERT. 1" = 10'

GRAPHIC SCALE:
1" = 10' 10' 5' 0 10' 20'
SCALE IN FEET

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

GORDON T. RING LICENSED PROFESSIONAL ENGINEER No. 9300-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE 4/30/24 EXP. DATE

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Planning • Engineering • Environmental Services • Photogrammetry • Surveying • Construction Management
808.842.1133 2024 North King Street Suite 200 Honolulu Hawaii 96819-3464

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KALAUHA'IHA'I FISHPOND (LUCAS SPRING) RESTORATION, PHASE 3

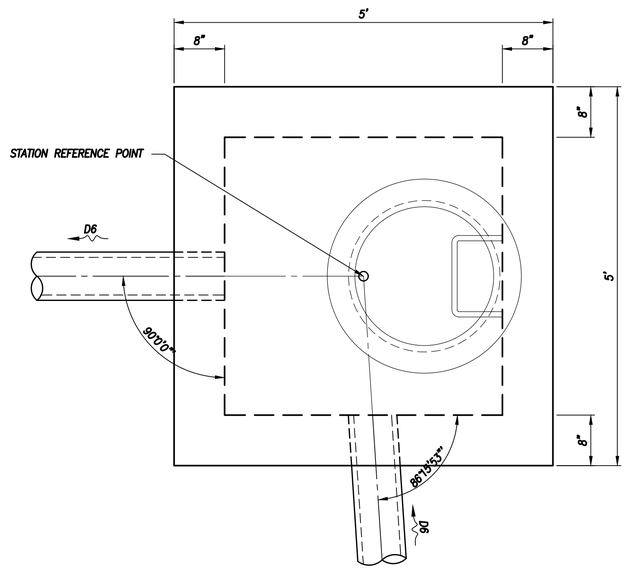
NIU VALLEY, OAHU, HAWAI'I

DRAIN LINE PLAN & PROFILE

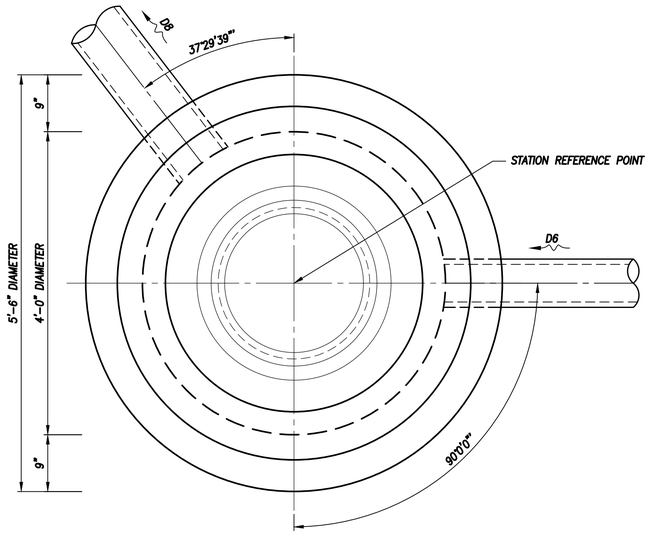
DESIGNED: GR	SUBMITTED: --
DRAWN: GR	DATE: JUNE 2023
CHECKED: GR	SCALE: AS SHOWN
APPROVED:	DRAWING NO. C-7
CHIEF ENGINEER	DATE

JOB NO. J40C030A

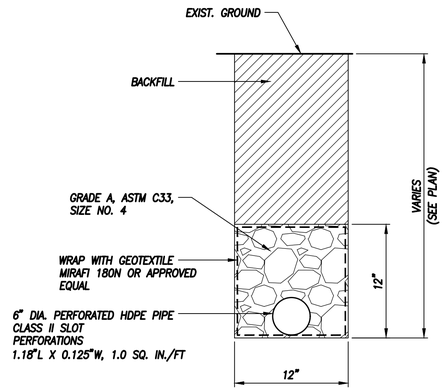
SHEET NO. 8 OF 10 SHEETS



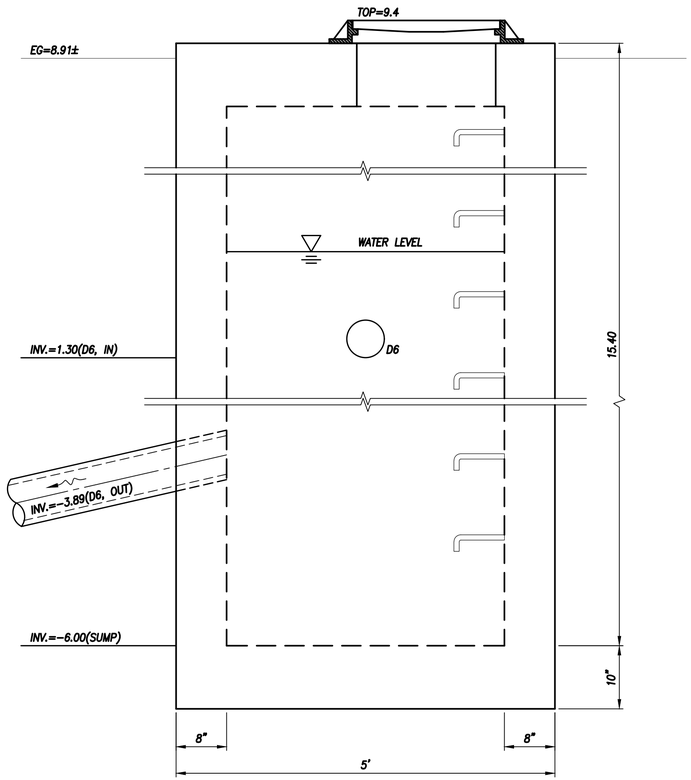
PLAN



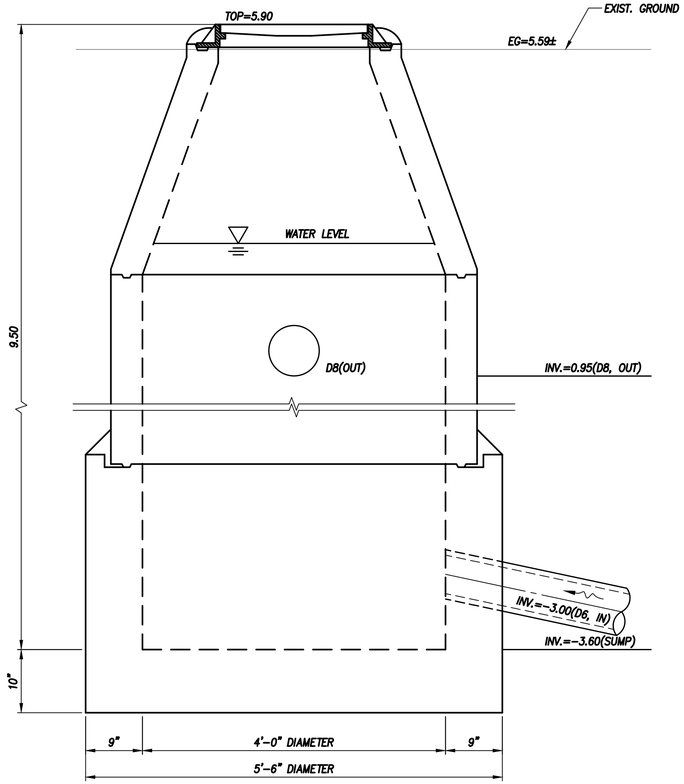
PLAN



C C-7 C-8 SUBDRAIN DETAIL
NOT TO SCALE



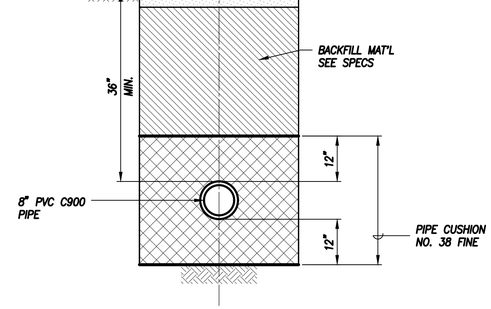
SECTION



SECTION

A C-7 C-8 TYPE "A" STORM DRAIN MANHOLE (DMH-2)
NOT TO SCALE

B C-7 C-8 TYPE "D" STORM DRAIN MANHOLE (DMH-1)
NOT TO SCALE



D C-7 C-8 TRENCH RESTORATION DETAIL
NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

GORDON T. RING
LICENSED PROFESSIONAL ENGINEER
No. 9300-C
HAWAII, U.S.A.

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SIGNATURE 4/30/24 EXP. DATE

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800 842 1133 2024 North King Street Suite 200 Honolulu Hawaii 96819-3434

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

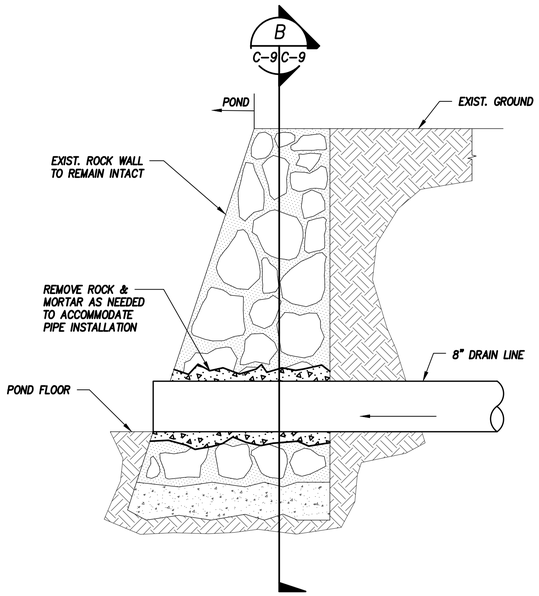
KALAUHA'IHA'I FISHPOND (LUCAS SPRING) RESTORATION, PHASE 3

NIU VALLEY, OAHU, HAWAI'I

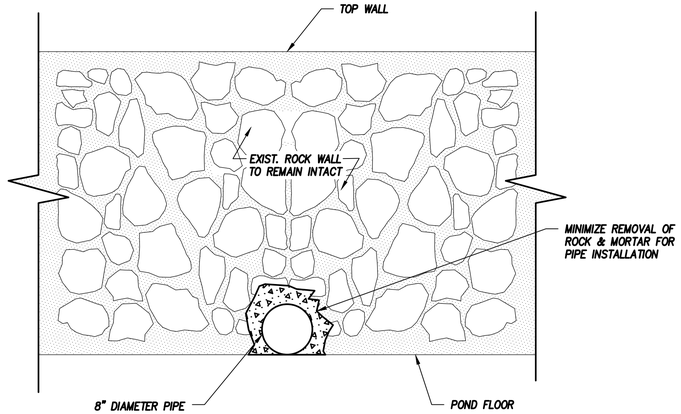
DRAINAGE DETAILS

DESIGNED: GR	SUBMITTED: --
DRAWN: GR	DATE: JUNE 2023
CHECKED: GR	SCALE: AS SHOWN
APPROVED:	DRAWING NO. C-8
CHIEF ENGINEER DATE	

JOB NO. J40C030A



B
C-9 C-9

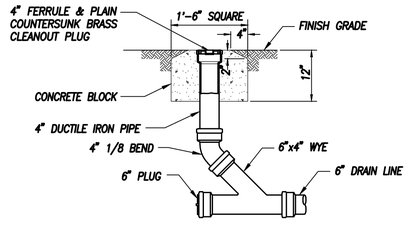


B
C-9 C-9 SECTION
SCALE: 1" = 1'

ROCK WALL NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXIST. ROCK WALL.
2. CONTRACTOR SHALL PROVIDE TEMPORARY STRUCTURAL SUPPORTS FOR THE EXIST. ROCK WALL AS NEEDED TO INSTALL DRAIN PIPE.
3. PROTECT EXISTING ROCK WALL DURING CONSTRUCTION AND INSTALLATION OF DRAIN PIPE.
4. MINIMIZE ROCK REMOVAL.

A
C-7 C-9 TYPICAL ROCK RETAINING WALL
SCALE: 1" = 1'



C
C-7 C-9 CLEANOUT TO GRADE (COTG) FOR DRAIN LINE
NOT TO SCALE

GRAPHIC SCALE:
1" = 1' 1' 0.5' 0 1' 2'
SCALE IN FEET

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

GORDON T. RING
LICENSED PROFESSIONAL ENGINEER
No. 9300-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE 4/30/24 EXP. DATE

R. M. TOWILL CORPORATION
Planning • Engineering • Environmental Services • Photogrammetry • Surveying • Construction Management
800 842.1133 2024 North King Street Suite 200 Honolulu Hawaii 96819-2464

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KALAUHA'IHA'I FISHPOND (LUCAS SPRING) RESTORATION, PHASE 3

NIU VALLEY, OAHU, HAWAI'I

MISCELLANEOUS DETAILS

DESIGNED: GR	SUBMITTED: --
DRAWN: GR	DATE: JUNE 2023
CHECKED: GR	SCALE: AS SHOWN

APPROVED: _____ _____
CHIEF ENGINEER DATE

DRAWING NO. C-9

JOB NO. J40C030A SHEET NO. 10 OF 10 SHEETS

STANDARD WELL CONSTRUCTION PERMIT CONDITIONS

1. The Chairperson of the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work authorized by this permit commences and staff shall be allowed to inspect installation activities in accordance with §13-168-15, Hawaii Administrative Rules (HAR).

2. This permit shall be prominently displayed, or made available, at the site of construction work until work is completed.

3. The well construction permit shall be for construction and testing of the well only. The permittee shall coordinate with the Chairperson and conduct a pumping test in accordance with the HWCPIS (the latest pump test worksheet can be obtained by contacting Commission staff or at http://files.hawaii.gov/dlnr/cwrm/forms/APTR.pdf). The permittee shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson. No withdrawal of water shall be made for purposes other than testing without a Certificate of Pump Installation Completion. The permitted pump capacity described on the pump installation permit **may be reduced** in the event that the pump test does not support the capacity.

4. In basal ground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical thickness (41 times initial head) of the basal ground water unless otherwise authorized by the Chairperson. If it can be shown that the well does not tap basal ground water then this condition may be waived after consultation with and acceptance by Commission staff. However, in no instance can the well be drilled deeper than one-half (1/2) of the theoretical thickness without Commission approval.

5. The permittee shall incorporate mitigation measures to prevent construction debris from entering the aquatic environment, to schedule work to avoid periods of high rainfall, and to revegetate any cleared areas as soon as possible.

6. In the event that historically significant remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee shall stop work and immediately contact the Department of Land and Natural Resources' State Historic Preservation Division. Work may recommence only after written concurrence by the State Historic Preservation Division.

7. The proposed well construction shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to construct the well shall not constitute a determination of correlative water rights.

8. The Well Completion Report Part I shall be submitted to the Chairperson within sixty (60) days after completion of work (please contact staff or visit http://files.hawaii.gov/dlnr/cwrm/forms/WCR1.pdf for current form).

9. The permittee shall comply with all applicable laws, rules, and ordinances; non-compliance may be grounds for revocation of this permit.

10. The well construction permit application and, if relevant, any related staff submittal approved by the Commission are incorporated into this permit by reference.

11. If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

12. Any variances from the HWCPIS shall be approved by the Chairperson prior to invoking the variance.

13. The work proposed in the well construction permit application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than the date the permit expires.

14. If the well is not to be used it must be properly capped. If the well is to be abandoned during the course of the project then the permittee must apply for a well abandonment permit in accordance with §13-168-12(f), HAR, prior to any well sealing or plugging work.

15. The permittee, its successors, and assigns shall indemnify, defend, and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, or death arising out of any act or omission of the applicant, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit.

16. This permit shall apply to the location shown on the application only. If the well is to be relocated, the permittee shall apply for a new well construction/pump installation permit in accordance with §13-168-12(f), HAR.

17. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON

KENNETH S. FINK, M.D., MGA, MPH
NEIL J. HANNAHS
AURORA KAGAWA-VIVIANI, PH.D.
WAYNE K. KATAYAMA
PAUL J. MEYER
LAWRENCE H. MIIKE, M.D., J.D.

M. KALEO MANUEL
DEPUTY DIRECTOR

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES | KA 'OIHANA KUMUWAIWAI 'ĀINA
COMMISSION ON WATER RESOURCE MANAGEMENT | KE KAHUWAI PONO
P.O. BOX 621
HONOLULU, HAWAII 96809

October 30, 2023

TO: Kenneth Fink, M.D., Director
Department of Health
Attention: Sina Pruder, Chief, Wastewater Branch

FROM: M. Kaleo Manuel, Deputy Director for
Dawn N.S. Chang, Chairperson
Commission on Water Resource Management

SUBJECT: Well Permit Application
Kalauhaihai Restoration Well (Well No. 3-1643-002) TMK: (1) 3-7-011:003
Well address: 5850 Kalanianaole Highway Honolulu, Oahu 96821

Transmitted for your review and comment is a copy of the captioned Well permit application.

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. **Please respond by returning this cover memo form by November 10, 2023**. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at (808) 587-0255.

RI:ky
Attachment(s)

RESPONSE:

[ ] This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 25 or more people at least 60 days per year or has 15 or more service connections) and **must** receive Director of Health approval **prior** to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-20-29.

[ ] This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year or 15 service connections) and if the well water is used for drinking, the private owner **should** test for bacteriological and chemical presence before initiating such use and routinely monitor the water quality thereafter. However, if future planned use from this source increases to meet the public water system definition then Director of Health approval is required **prior** to implementation.

[ ] If the well is used to supply both potable and non-potable purposes in a single system, the user shall eliminate cross-connections and backflow connections by physically separating potable and non-potable systems by an air gap or an approved backflow preventer, and by clearly labeling all non-potable spigots with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices should be routinely inspected and tested.

[ ] It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

[ ] For the applicant's information, a source of possible wastewater contamination [**is** [ ] **is not** located near the proposed well site (information attached).

[ ] An NPDES permit is required.

[ ] Other relevant DOH rules/regulations, information, or recommendations are attached.

[ ] In the event that the location of the well changes but is still within the parcel described on this application, our division considers the comments to still be applicable, and we do not need to review the new location.

[ ] An injection well permit is required for the disposal of the effluent from this well.

[X] No comments/objections

Contact Person: Mark Tomomitsu, PD Sup, Oahu, 808-586-4294 Phone:

Signed: Mark T. Tomomitsu Date: 11/7/2023

WWB LUD 6047

EXHIBIT 5: WWB AND SHPD COMMENTS

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

LAURA H. E. KAAKUA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
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
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD, STE 555
KAPOLEI, HAWAII 96707

October 31, 2023

IN REPLY REFER TO:
Project No.: 2023PR01090
Doc No.: 2310SH12
Archaeology

Carty S. Chang, Chief Engineer
Engineering Division
Department of Land and Natural Resources
P.O. Box 373
Honolulu, Hawai'i 96809
Email Reply to: carty.s.chang@hawaii.gov
Electronic Transmittal Only, No Hard Copy to Follow

Dear Carty Chang:

SUBJECT: **Hawai'i Revised Statutes Chapter 6E-8 Historic Preservation Review –**
Kalauha'iha'i Fishpond Artesian Water Restoration Trench Collection System
Initiation of Consultation and Request for a Letter of Determination
Literature Review and Field Inspection Report
Waikīkī Ahupua'a, Honolulu (Kona) District, Island of O'ahu
TMK: (1) 3-7-002:018, (1) 3-7-002:077, (1) 3-7-011:999 and Kalaniana'ole Highway

The State Historic Preservation Division (SHPD) received a letter dated September 8, 2023 from the Department of Land and Natural Resources (DLNR), Engineering Division to request from SHPD a letter of determination for the Kalauha'iha'i Fishpond Artesian Water Restoration Trench Collection System project on the island of O'ahu. Accompanying this letter was a draft document titled, *Archaeological Literature Review and Field Inspection to Support Consultation with SHPD for Kalauha'iha'i Fishpond Artesian Water Restoration Trench Collection System Project, Waikīkī (Niu) Ahupua'a, Honolulu (Kona) District, O'ahu, TMKs: (1) 3-7-002:077 por. and 3-7-011:999 Kalaniana'ole Highway* (Shideler and Hammatt 2023) prepared by Cultural Surveys Hawai'i, Inc. (CSH) in support of the proposed project as well as project plans, a completed SHPD HRS 6E Submittal Form, and an additional 2016 report prepared by CSH. The SHPD received this submittal on September 11, 2023 (HICRIS Submission No. 2023PR01090.001).

Shideler and Hammatt (2023) state that Kalauha'iha'i (sometimes spelled Kalauha'eha'e) Fishpond is a historic pond located on beachfront property along Kalaniana'ole Highway in Niu, east Honolulu. The proposed project was developed in consultation with the Maunalua Fishpond Heritage Center to restore the flow of artesian water to Kalauha'iha'i Fishpond. DLNR is proposing a trench collection system to capture the artesian water from the mauka side of Kalaniana'ole Highway and to carry it by pipe under the highway to the fishpond.

The proposed trench collection system will operate by collecting water in a 120' long trench and drain line installed on the mauka side of Kalaniana'ole Highway. Collected water will flow from the trench and drain line to a special artesian water collection structure, then through a 120' long 6-inch diameter pipe under Kalaniana'ole Highway to a manhole, and finally to a 24' long, 8-inch diameter drain line which will outlet the water into the fishpond.

The 120' long trench and drain line will be installed via trenching. The 6-inch pipe across Kalaniana'ole Highway will be installed via directional drilling with an entry pit located on the makai side of the highway and an exit pit located on the mauka side of the highway. On the makai side of the highway, the 24' long, 8-inch diameter pipe connecting to the fishpond will be installed via trenching. To facilitate the connection of the 24' long, 8-inch diameter pipe to the fishpond, only the portion of the fishpond wall where the 8-inch diameter pipe will be installed

will need to be removed and mortar installed around the pipe to accommodate the pipe installation through the wall. Additional details regarding the scope of work are listed in DLNR Engineering Division's letter.

DLNR Engineering Division has defined the project area as approximately 0.07 acres, stating the area of ground disturbance is likely to be significantly less.

The letter received states minimal stones from the fishpond wall will need to be removed for the installation of the connection pipe; any proposed disturbance to the fishpond wall will be minimized and the wall will be restored following installation.

One historic property was identified within the project area, the Kalauha'iha'i Fishpond. The SHPD 6E Submittal Form indicates the fishpond has been determined to maintain all aspects of integrity and to be a significant historic property per HAR §13-275-6 under criteria a, d, and e. The Shideler and Hammatt (2023) report notes the fishpond is significant under Criteria a, b, d, and e. SHPD records indicate the fishpond has been evaluated several times, resulting in varied determinations (SHPD Doc. Nos. 1201MV14, 1605JLP09, 1608KM12). In 2012 the SHPD determined the fishpond met all aspects of integrity per HRS §13-276. It is unclear whether consultation with native Hawaiian organizations occurred for each of the previous determinations of significance.

The SHPD HRS 6E Submittal Form received notes an effect determination of "Effect, with proposed mitigation commitments."

The DLNR Engineering Division recommends archaeological monitoring for identification purposes is conducted for the project. However, DLNR Engineering Division states on-site archaeological monitoring does not appear to be warranted for the portion of the project area mauka of TMK: (1) 3-7-002:077, including the trench collection system on the mauka side of Kalaniana'ole Highway, as well as the crossing of the highway ROW. **The SHPD requests** archaeological monitoring is conducted during <u>all</u> ground disturbance associated with the project on both the mauka and makai sides of Kalaniana'ole Highway.

Because the DLNR Engineering Division is proposing archaeological monitoring for identification, **the SHPD cannot concur** with a determination of "Effect, with proposed mitigation commitments" as the Chapter 6E historic preservation review is still in the identification step of the process.

The DLNR Engineering Division also recommends assigning Kalauha'iha'i Fishpond a State Inventory of Historic Places (SIHP) number. The SHPD notes, Kalauha'iha'i Fishpond is assigned SIHP 50-80-15-07213, but the only information recorded is that the fishpond has aquaculture/agriculture function; thus **the SHPD requests** the SIHP number is updated to include GIS data, its associated features, and criteria of significance and integrity. At this time the SHPD requests additional documentation as listed below.

Prior to the start of the project, **the SHPD requests the following**:

- The letter received states in September 2019, R. M. Towill Corporation (RMTC) under contract to the DLNR undertook exploratory boring in the unlined ditch across the Kalaniana'ole Highway from the Kalauha'iha'i Fishpond. Please provide a report of the findings to HICRIS.

- Please convert the CSH 2023 Archaeological Literature Review and Field Inspection report to an Archaeological Inventory Survey (AIS) report that complies with HAR §13-276-5. Prior to submitting the AIS and prior to any impact to the fishpond or its features the SHPD requests the following:
    1. A qualified archaeologist take scaled photographs of all areas where the fishpond may be disturbed by stone removal or other activities, documenting the location(s) with a sub-meter accurate Global Positioning System (GPS) unit, and submit the photographic documentation to SHPD for approval. Please include the photographs in the archaeological monitoring plan and report. The SHPD anticipates requesting additional scaled photographs are documented from the same location(s) after the stones have been restored and include the post-project photographs in the archaeological monitoring report (AMR).

2. A qualified archaeologist record a scaled plan view of the entire site with associated GPS points of the fishpond and all of its above-ground features. SHPD is also requesting more detailed scaled drawings, including plan views and elevations/profile views, of sections where stones will be removed during the project, as well as any character-defining features, and a representative section of typical pond wall. Please incorporate this documentation into the AIS report.
3. Chapter 6E consultation. The Kalauha'iha'i Fishpond is significant under criterion e, and therefore per HRS §13-275-6(c) prior to submission of significance, the agency shall consult with ethnic organizations or members of the ethnic group for whom some of the historic properties may have significance under criterion e to seek their views on the significance evaluations. For native Hawaiian properties which may have significance under criterion e, the Office of Hawaiian Affairs shall be consulted. **The SHPD requests** consultation include examining whether any associated features, including the Lucas Spring, and/or the fishpond may be identified as a Traditional Cultural Property.
4. Upon completion of the afore-mentioned consultation, please submit the documentation required to update the SIHP number to the Kalauha'iha'i Fishpond and its features. Based on the results of consultation, please submit the documentation required to assign Lucas Spring either an independent SIHP number or to be included as a feature of the Kalauha'iha'i Fishpond SIHP number.
5. In the AIS report, please include an updated evaluation of significance and integrity for the Kalauha'iha'i Fishpond including its features as appropriate. If through consultation, Lucas Spring is determined cultural, please include an evaluation of integrity and significance for Lucas Spring. **Please include** a summary of the Chapter 6E consultation efforts and responses received in the AIS report.

Upon acceptance of the AIS and prior to the start of the project:

1. Please submit a draft archaeological monitoring plan for SHPD review and approval prior to the start of the project.
2. Please submit a Preservation Plan that complies with HAR §13-277 for the Kalauha'iha'i Fishpond and its features.

Please submit in writing to SHPD whether DLNR Engineering agrees to completing the above requests.

The SHPD has uploaded records of correspondence from previous projects involving the Kalauha'iha'i Fishpond under Project Documents in HICRIS Project No. 2023PR01090.

Please note, because a portion of the proposed project will be within a State of Hawai'i Department of Transportation (HDOT) property, HDOT may require a right-of-entry and/or use-and-occupancy permit.

The SHPD looks forward to continuing the Chapter 6E process for the proposed project. **Please submit** all forthcoming information and correspondence related to the subject project to SHPD via HICRIS to Project No. 2023PR01090 using the Project Supplement option.

The DLNR is the office of record for this project. Please maintain a copy of this letter with your environmental review record for this project.

Please contact Stephanie Hacker, Historic Preservation Archaeologist IV, at Stephanie.Hacker@hawaii.gov or at (808) 692-8046 for matters regarding archaeological resources or this letter.

Aloha,

Alan Downer

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Officer

cc: Laura Kaakua, DLNR First Deputy (laura.kaakua@hawaii.gov)
Mellissa Agbayani, DLNR Engineering Division (mellissa.m.agbayani@hawaii.gov)
David Shideler, CSH Inc. (dshideler@culturalsurveys.com)

Scott Belluomini, CSH Inc. (sbelluomini@culturalsurveys.com and submittals@culturalsurveys.com)
Brian Towill, RM Towill (briant@rmtowill.com)
Kelly Staples, RM Towill (kellys@rmtowill.com)
Henry Kennedy, HDOT (henry.kennedy@hawaii.gov)
Trisha Watson, Honua Consulting, (watson@honuaconsulting.com)

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division
Honolulu, Hawaii 96813

December 8, 2023

Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Request authorization for the Chairperson to
1) Enter into a Use and Occupancy Agreement with
the Department of Transportation, Highways Division;
2) Declare subject project exempt from the preparation
of an Environmental Assessment and approve the Chapter 343,
Hawaii Revised Statutes, Exemption Notice; and
3) Procure, award, and enter into the construction contract,
supplemental agreements and execute any other
necessary documents or agreements
for Job No. J40CO30A, Kalauhaihai (Lucas Spring)
Fishpond Restoration, Phase 3, Niu Valley, Oahu, Hawaii,
Tax Map Key: (1) 3-7-002: 018, 077 and
(1)3-7-011: Kalanianaole Highway right-of-way

BACKGROUND/USE AND OCCUPANCY AGREEMENT

The Department of Land and Natural Resources (DLNR) desires to enter into a Use and Occupancy Agreement (UOA) with the Department of Transportation (DOT) for the portion of Division of Aquatic Resources' (DAR's) new trench collection system and conveyance pipe that will be installed within DOT's right-of way.

On May 17, 2012, Director of DOT and the Chairperson signed a memorandum **(Exhibit 1)** regarding the transfer of "the ownership, jurisdiction, maintenance, liability and operation" of the Parcels 18 and 77 from DOT to the DLNR.

DAR's goal with the Kalauhaihai Fishpond Restoration project is to restore the freshwater flow into Kalauhaihai Fishpond and out through the historic auwai into Maunalua Bay. DAR's staff have learned from Maunalua historians and kupuna that Kalauhaihai Fishpond was historically fed by an underground lava tube that was damaged years back when Kalanianaole Highway was widened. Waterflow to Kalauhaihai Fishpond since that time has been drastically less, and there is no flow at all into Maunalua Bay. DAR's project supports the Maunalua

community's vision to restore a healthy estuary which is necessary for the life cycle of many native species, improving the fishery of Maunalua Bay, and restore Hawaiian cultural practices of Maunalua, such as limu gathering, that are dependent on a healthy estuary. DAR's Kalauhaihai Fishpond Restoration project consists of installing a trench collection system which would operate by collecting artesian water in an approximately 120-ft long, 6-inch perforated drain line wrapped in filter fabric installed underground on the mauka margin of Kalanianaole Highway, parallel to the highway. An approximately 120-ft long, 6-inch conveyance pipe under Kalanianaole Highway would connect with an access port on the makai side of Kalanianaole Highway in the fishpond property with waterflow restored through a 24-ft long 8-inch diameter connection pipe to the northwest corner of the fishpond. See **Exhibit 2** for site plan and profile of system. DLNR's Engineering Division is supporting DAR's Kalauhaihai Fishpond Restoration project by serving as the project manager, including contract supervision and technical expertise.

DLNR is currently working with DOT to finalize the draft UOA which will be reviewed as to form by the Department of Attorney General. DOT requires UOAs for all improvements within State DOT's right of way.

CHAPTER 343 - ENVIRONMENTAL ASSESSMENT

In accordance with Hawaii Administrative Rules ("HAR") § 11-200.1-15 and -16 and the Exemption List for the Department of Land and Natural Resources, reviewed and concurred on by the Environmental Council on November 10, 2020, the subject project is exempt from the preparation of an environmental assessment pursuant to:

General Exemption Type 2
Replacement or reconstruction of existing structures and facilities where the new structure will be located generally on the same site and will have substantially the same purpose, capacity, density, height, and dimensions as the structure replaced.

Part 1
No. 16. Rehabilitation and restoration of existing structures and features at historic and archaeological sites in compliance with Chapter 13-275, Hawai'i Administrative Rules, "Rules Governing Procedures for Historic Preservation Review for Governmental Projects Covered Under Section 6E-7 and 6E-8, Hawai'i Revised Statutes" which requires review by the State Historic Preservation Division for agency actions that may affect historic properties.

General Exemption Type 3
Construction and location of single new, small facilities or structures and the alteration and modification of the facilities or structures and installation of new, small, equipment and facilities and the alteration and modification of the equipment or facilities, including but not limited to: (A) Single family residences less than 3,500 square feet, as measured by the controlling law under which the proposed action is being considered, if not in conjunction with the building of two or more such units;

(B) Multi-unit structures designed for not more than four dwelling units if not in conjunction with the building of two or more such structures; (C) Stores, offices and restaurants designed for total occupant load of twenty individuals or fewer per structure, if not in conjunction with the building of two or more such structures; and (D) Water, sewage, electrical, gas, telephone, and other essential public utility services extensions to serve such structures or facilities; accessory or appurtenant structures including garages, carports, patios, swimming pools, and fences; and acquisition of utility easements.

Part 2
No 2. Construction and location of new, small facilities or structures necessary to support or enhance safe and effective management of lands and waters, such as baseyards, caretaker's residences, work cabins and shelters, sanitation facilities, and other similar structures.

It is expected that the subject project will have minimal or no significant effect on the environment and therefore should be declared exempt from the preparation of an environmental assessment. **(Exhibit 3)**.

RECOMMENDATION

That the Board:

1. Authorize the Chairperson to sign the Use and Occupancy Agreement, any amendments to the Use and Occupancy Agreement, and any other necessary documents pertaining to the Use and Occupancy Agreement, subject to the Deputy Attorney General's approval as to form.

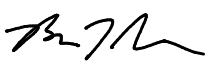
2. Declare that, after considering the potential effects of the proposed project as provided by Chapter 343, Hawaii Revised Statutes, and Section 11-200.1, Hawaii Administrative Rules, this activity will likely have minimal or no significant effect on the environment and is therefore exempt from the preparation of an environmental assessment, and authorize the Chairperson to approve the Chapter 343, Hawaii Revised Statutes, Exemption Notice.

3. Authorize the Chairperson to procure, award, and enter into the construction contract, supplemental agreements and execute any other necessary documents or agreements, related to the implementation of the project subject to review and approval as to form by the Department of Attorney General.

Respectfully submitted,

CARTY S. CHANG
Chief Engineer

REQUESTED BY:



BRIAN J. NEILSON, Administrator
Division of Aquatic Resources

APPROVED FOR SUBMITTAL:

DAWN N.S. CHANG, Chairperson
Board of Land and Natural Resources

Exhibit 1 – DOT and DLNR Signed Memorandum, dated May 17, 2012
Exhibit 2 – Project Site Plan and Profile
Exhibit 3 – Chapter 343 Exemption Notice

Exhibit 1

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

IN REPLY REFER TO:
HWY-RM
3.89214

MAY 17 2012

TO: THE HONORABLE WILLIAM J. AILA, JR., DIRECTOR
DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: GLENN M. OKIMOTO, Ph.D.
DIRECTOR OF TRANSPORTATION

SUBJECT: KALANIANAOLE HIGHWAY, FAP NO. F-072-1 (39)
EAST HALEMAUMAU TO KEAHOLE STREET, ISLAND OF OAHU, HAWAII, TMK: (1) 3-7-02:018 & 077
TRANSFER OF JURISDICTION OF PROPERTIES LOCATED AT 5839 AND 5841 KALANIANAOLE HIGHWAY

This letter is to memorialize the decision and to transfer the jurisdiction of the two properties located at 5839 and 5841 Kalanianaole Highway from the Department of Transportation (DOT) to the Department of Land and Natural Resources (DLNR).

Pursuant to the agreement made between the two Directors, William J. Aila, Jr., DLNR and Glenn M. Okimoto, Ph.D., DOT has agreed to transfer the ownership, jurisdiction, maintenance, liability and operation of the subject properties effective as of the date of this memo.

No water restoration shall be required from DOT while the properties are under DLNR's jurisdiction. Pursuant to the Code of Federal Regulations (CFR) 23, 710-409 d, should the properties no longer be used for public purposes the properties will revert back to DOT.

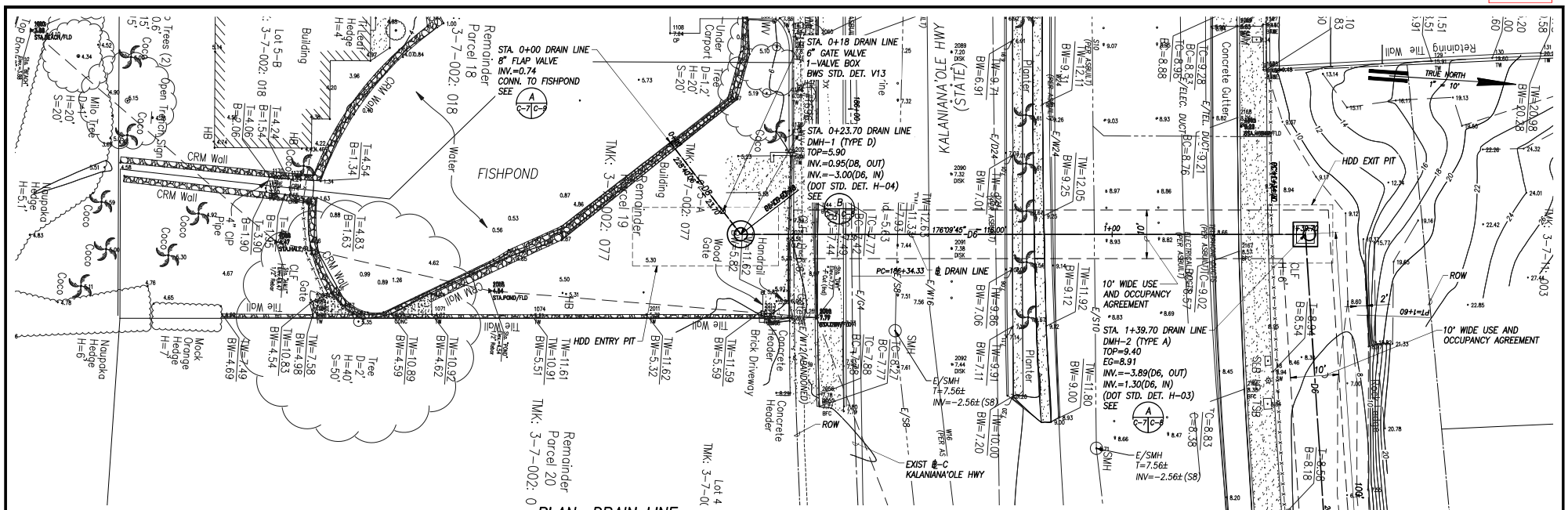
Please sign below and return original for our files.

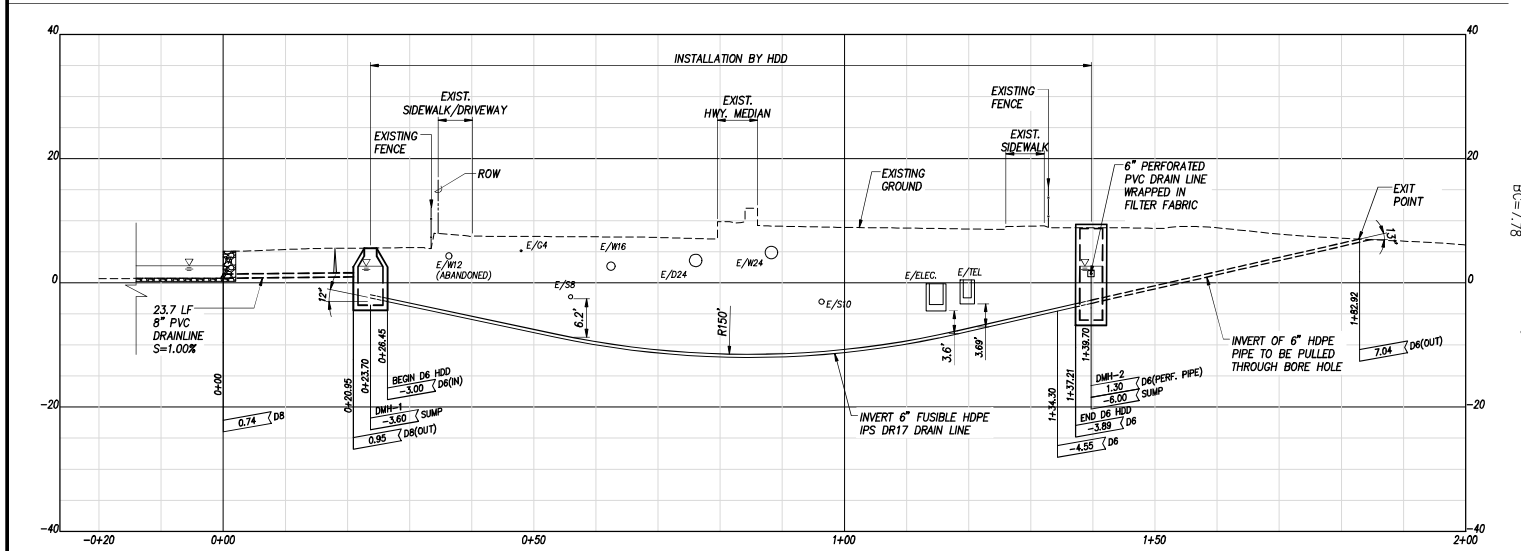
By _____
GLENN M. OKIMOTO, Ph.D.
Its DIRECTOR OF TRANSPORTATION

By _____
WILLIAM J. AILA, JR.
Its DIRECTOR OF LAND AND NATURAL RESOURCES

Enclosure

Exhibit 2





REVISION NO.	SYM.	DESCRIPTION	SHT./DF	DATE	APPROVED

GORDON T. RING LICENSED PROFESSIONAL ENGINEER No. 9300-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

4/30/24 EXP. DATE

R. M. TOWILL CORPORATION

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KALAUHA'IHA'I FISHPOND (LUCAS SPRING) RESTORATION, PHASE 3

NIU VALLEY, OAHU, HAWAI'I

DRAIN LINE PLAN & PROFILE

DESIGNED:	GR	SUBMITTED:	--
DRAWN:	GR	DATE:	JUNE 2023
CHECKED:	GR	SCALE:	AS SHOWN
APPROVED:			
CHIEF ENGINEER		DATE	

DRAWING NO. C-7

JOB NO. J40C030A

SHEET NO. 8 OF 10 SHEETS

Exhibit 3

EXEMPTION NOTIFICATION
Regarding the preparation of an environmental assessment pursuant to Chapter 343, HRS, and Chapter 11-200.1, HAR

DLNR Job No.	J40CO30A
DLNR Title:	Kalauhaihai Fishpond (Lucas Spring) Restoration, Phase 3 Niu Valley, Oahu, Hawaii
File Number:	ENG. J40CO30A
Island:	Oahu
Location: Street Address/ City/ Zipcode:	5839/5841 Kalanianaole Highway, Honolulu, Hawaii 96821
TMK Number:	(1) 3-7-002:018; 077 and Kalanianaole Highway Right of Way (1)3-7-011:999)
Applicant/Agency:	Department of Land and Natural Resources (DLNR) and the Maunalua Fishpond Heritage Center
Project Description:	This project restores groundwater flows to the historic Hawaiian Kalauhaihai Fishpond by installing a trench collection system.
Chapter 343 Trigger(s):	Use of State Funds and Lands
Exemption Type # per HAR Chapter 11-200.1-15(c)	**Exemption Type 2** *Replacement or reconstruction of existing structures and facilities where the new structure will be located generally on the same site and will have substantially the same purpose, capacity, density, height, and dimensions as the structure replaced.* **Exemption Type 3** *Construction and location of single new, small facilities or structures and the alteration and modification of the facilities or structures and installation of new, small, equipment and facilities and the alteration and modification of the equipment or facilities, including but not limited to: (A) Single family residences less than 3,500 square feet, as measured by the controlling law under which the proposed action is being considered, if not in conjunction with the building of two or more such units; (B) Multi-unit structures designed for not more than four dwelling units if not in conjunction with the building of two or more such structures; (C) Stores, offices and restaurants designed for total occupant load of twenty individuals or fewer per structure, if not in conjunction with the building of two or more such structures; and (D) Water, sewage, electrical, gas, telephone, and other essential public utility services extensions to serve such structures or facilities; accessory or appurtenant structures including garages, carports, patios, swimming pools, and fences; and acquisition of utility easements.*

Exemption Type #, Part, Item# per DLNR Exemption List (approved by OEQC on 11/10/2020):	**Exemption Type 2** *Replacement or reconstruction of existing structures and facilities where the new structure will be located generally on the same site and will have substantially the same purpose, capacity, density, height, and dimensions as the structure replaced.* PART 1 *"16. Rehabilitation and restoration of existing structures and features at historic and archaeological sites in compliance with Chapter 13-275, Hawai'i Administrative Rules, "Rules Governing Procedures for Historic Preservation Review for Governmental Projects Covered Under Section 6E-7 and 6E-8, Hawai'i Revised Statutes" which requires review by the State Historic Preservation Division for agency actions that may affect historic properties."* **Exemption Type 3** *Construction and location of single new, small facilities or structures and the alteration and modification of the facilities or structures and installation of new, small, equipment and facilities and the alteration and modification of the equipment or facilities, including but not limited to: (A) Single family residences less than 3,500 square feet, as measured by the controlling law under which the proposed action is being considered, if not in conjunction with the building of two or more such units; (B) Multi-unit structures designed for not more than four dwelling units if not in conjunction with the building of two or more such structures; (C) Stores, offices and restaurants designed for total occupant load of twenty individuals or fewer per structure, if not in conjunction with the building of two or more such structures; and (D) Water, sewage, electrical, gas, telephone, and other essential public utility services extensions to serve such structures or facilities; accessory or appurtenant structures including garages, carports, patios, swimming pools, and fences; and acquisition of utility easements.* PART 2 *"2. Construction and location of new, small facilities or structures necessary to support or enhance safe and effective management of lands and waters, such as baseyards, caretaker's residences, work cabins and shelters, sanitation facilities, and other similar structures."*

Cumulative Impact of Planned Successive Actions in Same Place Significant?	No. There will be no cumulative impact on the project site as there are no planned successive actions in this area.
Action May Have Significant Impact on Particularly Sensitive Environment?	No. The project will not have a significant impact on a particularly sensitive environment.
Analysis:	The proposed project would have a positive impact on both cultural resources and practices by restoring artesian groundwater flows to the historic Hawaiian Kalauhaihai Fishpond.
Consulted Parties:	U.S. Environmental Protection Agency, Region 9 - Pacific Islands Contact Office U.S. Army Corps of Engineers, Honolulu District State of Hawaii BLNR State of Hawaii DLNR, Engineering Division State of Hawaii DLNR, Division of Boating and Ocean Recreation State of Hawaii DLNR, Division of Forestry and Wildlife State of Hawaii DLNR, Office of Conservation and Coastal Lands State of Hawaii DLNR, State Historic Preservation Division State of Hawaii DLNR, Groundwater Regulation Branch State of Hawaii DLNR, Commission on Water Resource Management State of Hawaii DLNR, Division of Aquatic Resources State of Hawaii DLNR, Office of Conservation & Coastal Lands State of Hawaii DLNR, Land Division State of Hawaii Department of Transportation State of Hawaii Department of Transportation, Right of Ways Branch State of Hawaii Department of Transportation Highways Division State of Hawaii Disability and Communication Access Board State of Hawaii Office of Planning and Sustainable Development State of Hawaii Department of Health Clean Water Branch City and County of Honolulu Board of Water Supply City and County of Honolulu Department of Transportation Services City and County of Honolulu Department of Planning and Permitting Office of Hawaiian Affairs Historic Hawai'i Foundation Charter Communications/Spectrum Hawai'i Hawaiian Telcom Inc. Hawaiian Electric Company, Inc. Lucas, Charles Residuary Trust Maunalua Fishpond Heritage Center Connie and Yung Chang Julian Browne Lucas Highway Property LLC Neale and Litan Rath Yuki Hamada Robin Maibals/ Christopher Lo for Connie & Yung Chih Chang Christopher Lo forwarded from Representative Gene Ward A number of letters in support of the project were also received: Kimo Franklin, Kupa of Niu & Kuli'ou'ou Wally Ito, Ewa Limu Project

	Jeff Gregory Former Resident Doug Harper, Mālama Maunalua Laura Margulies, Asst. Proof. Of Animation School of Cinematic Arts, University of Hawaii at Mānoa Dennis H. Fujii & Pamela Lota Fujii Alyssa Miller Jesse Yonover & Austin Kino-Huli John Correa Kahikina Kaae-Whittle Karen Kimbrell Liloa Dunn Rabbi Natan Margalit, Ph.D. Pohai Olomua, Kupa ʻaina o Kuliʻouʻou Roy N. Morioka Waipākawi-woʻole Parker, Kupaʻāina o Kuliʻouʻou Ann Marie N. Kirk Kamaka Parker Vicky Morin Milikaʻa Vierra A list of the comments received for the Exemption Notice pre-assessment consultation is provided in the table in **Appendix A**.
Declaration:	The Department finds that this project will probably have minimal or no significant effect on the environment and is presumed to be exempt from the preparation of an environmental assessment.

DAWN N.S. CHANG, Chairperson

Date

Appendix A

Pre-Assessment Comments and Proposed Draft Responses for
Exemption Notice from Hawai'i Revised Statutes, Chapter 343 Environmental Assessment
for Project No. J40CO30A Kalauhaihai Fishpond (Lucas Spring) Restoration, Phase 3

OneDrive Link: https://hawaiioimt-my.sharepoint.com/:b:/g/personal/melissa_m_agbayani_hawaii_gov/EZ9dPsjG_lFAl1CUe6MFe_UBfPI8QXGn8K_pBrJlSlj_4A?e=GLdZCz

JOSH GREEN, M.D.
GOVERNOR | KE KIAʻĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIAʻĀINA

STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA ʻOIHANA KUMUWAIWAI ʻĀINA

ENGINEERING DIVISION
P.O. BOX 373
HONOLULU, HAWAII 96809

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

LAURA H.E. KAAKUA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
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
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Dec 14, 2023

TO: Dawn N.S. Chang, Chairperson
Board of Land and Natural Resources

THROUGH: Brian J. Neilson, Administrator
Division of Aquatic Resources

FROM: Carty S. Chang, Chief Engineer
Engineering Division

SUBJECT: Declare Project Exempt from the Preparation of an Environmental Assessment under Chapter 343 HRS and Title 11, Chapter 200.1, HAR – Exemption Notice

Project No. J40CO30A Kalauhaʻihaʻi Fishpond (Lucas Spring) Restoration, Phase 3, Niu Valley, O'ahu, Hawaiʻi (5839/5841 Kalanianaʻole Highway, Honolulu, Hawaiʻi 96821 and TMK No.: (1) 3-7-002:018; 077 and Kalanianaʻole Highway Right of Way (1)3-7-011:999)

At its meeting of December 8, 2023 (held on December 7, 2023), under agenda Item L-2, the Board of Land & Natural Resources (BLNR) delegated authority to the Chairperson to declare a construction project exempt from the preparation of an environmental assessment.

The subject project triggers consideration with respect to Chapter 343, Hawaiʻi Revised Statutes (HRS); however, in accordance with Chapter 11-200.1-15(c), Hawaiʻi Administrative Rules (HAR), and the Department of Land and Natural Resources Exemption List as reviewed and concurred by the Environmental Council on November 10, 2020, the subject project is exempt from the preparation of an environmental assessment. Additional information regarding the exemption classes is provided in Exhibit A - Exemption Notification.

BACKGROUND

The proposed project involves the reconnection of the flow of artesian water to restore the Kalauhaʻihaʻi Fishpond that sits on what was once a taro or kalo patch owned by one of the Kings associated with the Kamehameha Dynasty (https://historichawaii.org/2014/02/21/kalauhaehae-fishpond/). The purpose of recharging the coastal spring, which serves as a cultural heritage fishpond for the Hawaiian and Native Hawaiian community, is to raise and occasionally harvest fish for human consumption as part of traditional culture, customs, and practices. These uses are believed to have occurred since at least the early 1820s and for several generations.

The artesian water source feeding the fishpond sustained damage during work to widen and improve the Kalanianaʻole Highway in 1997. The project would restore natural fresh water flows to Kalauhaʻihaʻi Fishpond, an existing groundwater-dependent ecosystem, by installing a 120' long buried catchment trench system to collect natural artesian water and piping the collected water under Kalanianaʻole Highway to the fishpond. Historically, artesian water fed the fishpond from the mauka side of the highway

through a natural ±1 foot diameter lava tube beneath the highway. The lava tube and fishpond site were mapped, and flow was recorded by the U.S. Geological Survey (USGS) in 1935. The State Commission on Water Resource Management (CWRM) registered the water use as a fishpond in 1989. The National Oceanic and Atmospheric Administration (NOAA) concluded after studying the 1990s widening of the Kalaniana‘ole Highway by the State Department of Transportation (HDOT) that the artesian groundwater source feeding the fishpond was cut off resulting in severe loss of water with almost no flow into or out of the fishpond. Currently, groundwater flow to the fishpond is approximately 140 cubic meters per day or approximately 20% of its historic flow. Water currently entering the pond is rainwater and a small amount of residual artesian water. The project would reconstruct the prior waterway that historically permitted the natural flow of artesian water. Once constructed, the system would operate using the artesian head pressure and gravity flow to transport flows at approximately 1.5 cubic feet per second.

PROJECT SUMMARY
The project scope consists of restoring groundwater flows to the historic Hawaiian Kalauha‘iha‘i Fishpond by installing a trench collection system. The proposed trench collection system would operate by collecting water in a 120’ long perforated pipe installed in a gravel filled trench and drain line located on the mauka side of Kalaniana‘ole Highway. Collected water would flow from the trench to a manhole, then through a conduit under Kalaniana‘ole Highway, and finally to a drain line which outlet the water into the fishpond.

The proposed components of the trench collection system are summarized below:

- Install a new 120’ long trench with a 6-inch diameter PVC slotted drain line wrapped in filter fabric running parallel to the mauka side of Kalaniana‘ole Highway for the collection of artesian groundwater water.
- Install a new concrete manhole collection structure to collect trench flows mauka of Kalaniana‘ole Highway.
- Directional drill under Kalaniana‘ole Highway for installation of a new 6-inch pipe to convey flows from the collection structure to a new manhole near the fishpond.
- Install a new 8-inch pipe with a non-return check valve/flap makai of the highway via trenching to outlet the water flows into the fishpond. To facilitate the connection of the new 8-inch pipe to the fishpond, only the portion of the fishpond wall where the pipe would be installed would need to be removed and mortar installed around the pipe to accommodate the pipe installation through the wall.

FINDINGS AND REASONS FOR SUPPORTING RECOMMENDED DETERMINATION
Protection of native flora and fauna, including rare, and state and federally-listed threatened, and endangered species will be accomplished through the following mitigative actions listed below. Because of these mitigative actions, the Department of Land and Natural Resources (DLNR) expects that no effects to rare, state, or federally listed threatened or endangered species will occur due to the project activities.

Hawaiian hoary bat (Lasiurus cinereus semotus)
To avoid or minimize effects to the Hawaiian hoary bat, the following conservation measures will be incorporated into the project where applicable:
- No barbed wire will be used for fencing.
- No woody plants taller than 15 feet will be trimmed, removed, or disturbed during the Hawaiian hoary bat birthing and pup rearing season (June 1 to September 15).

Hawaiian seabirds (Band-rumped Storm-petrel (Oceanodroma castro), Newell’s shearwater (Puffinus auricularis newelli), Hawaiian Petrel (Pterodroma sandwichensis), Short-tailed Albatross (Phoebastria (Diomedea) albatrus))
To avoid or minimize effects to Hawaiian seabirds, the following conservation measures will be incorporated into the project where applicable:
- 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 timer 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 to December 15 on all islands.
- Install any required fencing extending above vegetation with three strands of polytape into the fence to increase visibility.

Hawaiian Waterbirds (*Hawaiian Duck (Anas wyvilliana), Hawaiian Coot (Fulica americana alai), Hawaiian Stilt (Himantopus mexicanus knudseni), Hawaiian Common Gallinule(Gallinula galeata sandvicensis))*
To avoid or minimize potential effects to the Hawaiian waterbirds, the following conservation measures will be incorporated into the project where applicable (within or adjacent to aquatic environments):

- In areas where waterbirds are known to be present, post and implement reduced speed limits, if applicable, and inform project personnel and contractors about the presence of endangered species on-site or nearby.
- If water resources are located within or adjacent to the project site, incorporate the applicable best management practices (BMPs) regarding work in aquatic environments into the project design (see below).
- If a nest or active brood is found:
    - Contact the Service within 24 hours for further guidance.
    - Establish and maintain a 100-foot buffer around all active nests or broods until the chicks 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 fledge to ensure that Hawaiian waterbirds and nests are not adversely affected.

Green Sea Turtle (Chelonia mydas)
To avoid or minimize effects to sea turtles and their nests, the following conservation measures will be incorporated into the project where applicable:

- No vehicle use on, or modification of, the beach/dune environment during the sea turtle nesting or hatching season, or on beaches where sea turtles are known to bask.
- Do not remove or destroy native dune vegetation.
- Incorporate applicable Best Management Practices for Work in Aquatic Environments into the project design.
- Have a biologist familiar with sea turtles conduct a visual survey of the project site to ensure no basking sea turtles are present.
    - If a basking sea turtle is found within the project area, cease all mechanical or construction activities within 100 feet until the animal voluntarily leaves the area.
    - Cease all activities between the basking turtle and the ocean.
- Remove any project-related debris, trash, or equipment from the beach or dune if not actively being used.
- Do not stockpile project-related materials in the intertidal zone, reef flats, or stream channels.
- Avoid nighttime work during the nesting and hatching season.
- Minimize the use of lighting and shield all project-related lights so the light is not visible from any beach.
    - If lights can't be fully shielded or if headlights must be used, fully enclose the light source with light filtering tape or filters.
- Incorporate design measures into the construction or operation of buildings adjacent to the beach to reduce ambient outdoor lighting such as:
    - tinting or using automatic window shades for exterior windows that face the beach;
    - reducing the height of exterior lighting to below 3 feet and pointed downward or away from the beach; and
    - minimize light intensity to the lowest level feasible and, when possible, include timers and motion sensors.

Protection of historic and cultural resources will be accomplished through the following mitigative actions listed below. Because of these mitigative actions, DLNR expects that effects to historic resources due to the project activities will be "Effect, with proposed mitigation commitments."

An archaeological literature review and field inspection (ALRFI) was conducted by Cultural Surveys Hawai'i, Inc. (CSH), in June 2023, for the proposed project involving the installation of the trench

collection system. The purpose of the ALRFI was to identify, document, and assess the significance of any historical sites on or near the project sites. One historic property was identified within the project area, the Kalauhaʻihaʻi Fishpond, State Inventory of Historic Places (SIHP) number 50-80-15-07213. In a letter dated October 31, 2023, the State Historic Preservation Division (SHPD) provided the following requests.

Prior to the start of the project, the SHPD requests the following:

- The letter received states in September 2019, R. M. Towill Corporation (RMTC) under contract to the DLNR undertook exploratory boring in the unlined ditch across the Kalanianaʻole Highway from the Kalauhaʻihaʻi Fishpond. Please provide a report of the findings to HICRIS.
- Please convert the CSH 2023 Archaeological Literature Review and Field Inspection report to an Archaeological Inventory Survey (AIS) report that complies with HAR §13-276-5. Prior to submitting the AIS and prior to any impact to the fishpond or its features the SHPD requests the following:
    1. A qualified archaeologist take scaled photographs of all areas where the fishpond may be disturbed by stone removal or other activities, documenting the location(s) with a sub-meter accurate Global Positioning System (GPS) unit, and submit the photographic documentation to SHPD for approval. Please include the photographs in the archaeological monitoring plan and report. The SHPD anticipates requesting additional scaled photographs are documented from the same location(s) after the stones have been restored and include the post-project photographs in the archaeological monitoring report (AMR).
    2. A qualified archaeologist record a scaled plan view of the entire site with associated GPS points of the fishpond and all of its above-ground features. SHPD is also requesting more detailed scaled drawings, including plan views and elevations/profile views, of sections where stones will be removed during the project, as well as any character-defining features, and a representative section of typical pond wall. Please incorporate this documentation into the AIS report.
    3. Chapter 6E consultation. The Kalauhaʻihaʻi Fishpond is significant under criterion e, and therefore per HRS §13-275-6(c) prior to submission of significance, the agency shall consult with ethnic organizations or members of the ethnic group for whom some of the historic properties may have significance under criterion e to seek their views on the significance evaluations. For native Hawaiian properties which may have significance under criterion e, the Office of Hawaiian Affairs shall be consulted. The SHPD requests consultation include examining whether any associated features, including the Lucas Spring, and/or the fishpond may be identified as a Traditional Cultural Property.
    4. Upon completion of the afore-mentioned consultation, please submit the documentation required to update the SIHP number to the Kalauhaʻihaʻi Fishpond and its features. Based on the results of consultation, please submit the documentation required to assign Lucas Spring either an independent SIHP number or to be included as a feature of the Kalauhaʻihaʻi Fishpond SIHP number.
    5. In the AIS report, please include an updated evaluation of significance and integrity for the Kalauhaʻihaʻi Fishpond including its features as appropriate. If through consultation, Lucas Spring is determined cultural, please include an evaluation of integrity and significance for Lucas Spring. Please include a summary of the Chapter 6E consultation efforts and responses received in the AIS report.
- Upon acceptance of the AIS and prior to the start of the project:
    1. Please submit a draft archaeological monitoring plan for SHPD review and approval prior to the start of the project.
    2. Please submit a Preservation Plan that complies with HAR §13-277 for the Kalauhaʻihaʻi Fishpond and its features.

DLNR will comply with the requirements of the SHPD. Additionally, should any burials or other cultural finds be identified during ground disturbance, the construction contractor shall immediately cease all work while the appropriate agencies including the SHPD, are notified pursuant to applicable law (HRS, Chapter 6E).

The proposed project would have a positive impact on both cultural resources and practices by restoring artesian groundwater flows to the historic Hawaiian Kalauhaʻihaʻi Fishpond. The fishpond site is intended to be used to educate and engage the surrounding community by providing access to schools for field trips, community service, learning, and research opportunities. Returning artesian water flows would allow the Kalauhaʻihaʻi Fishpond to operate properly and support a healthy ecological environment.
In accordance with Section 11-200.1-15(c), HAR, and the Exemption List for the Department of Land and Natural Resources, as reviewed and concurred upon by the Environmental Council on November 10, 2020, the subject project is exempt from the preparation of an environmental assessment pursuant to Exemption Class No. 2, that states "Replacement or reconstruction of existing structure and facilities where the new structure will be located generally on the same site and will have substantially the same purpose, capacity, density, height, and dimensions as the structure replaced" and Exemption Class No. 3, that states "Construction and location of single, new, small facilities or structures and the alteration and modification of the facilities or structures and installation of new, small equipment or facilities and the alteration and modification of the equipment or facilities."

RECOMMENDATION
Declare that, after considering the potential effects of the proposed project, as provided by Chapter 343, HRS, and Chapter 11-200.1, HAR, this project will probably have minimal or no significant effect on the environment and is, therefore, exempt from the preparation of an environmental assessment. This includes considering the cumulative impacts of planned successive actions in the same area and over time, and whether this action may be significant in a particularly sensitive environment.

Attachment: Exhibit A
c: Project Control Branch (DLNR.EN.ProjectControl@hawaii.gov)

Exhibit A

EXEMPTION NOTIFICATION
Regarding the preparation of an environmental assessment pursuant to Chapter 343, HRS, and Chapter 11-200.1, HAR

DLNR Job No.	J40CO30A
DLNR Title:	Kalauhaʻihaʻi Fishpond (Lucas Spring) Restoration, Phase 3 Niu Valley, Oʻahu, Hawaiʻi
File Number:	ENG. J40CO30A
Island:	Oʻahu
Location: Street Address/ City/ Zip code:	5839/5841 Kalanianaʻole Highway, Honolulu, Hawaiʻi 96821
TMK Number:	(1) 3-7-002:018; 077 and Kalanianaʻole Highway Right of Way (1)3-7-011:999)
Applicant/Agency:	Department of Land and Natural Resources (DLNR) and the Maunalua Fishpond Heritage Center
Project Description:	This project restores groundwater flows to the historic Hawaiian Kalauhaʻihaʻi Fishpond by installing a trench collection system.
Chapter 343 Trigger(s):	Use of State Funds and Lands
Exemption Type # per HAR Chapter 11-200.1-15(c)	**Exemption Type 2** *Replacement or reconstruction of existing structures and facilities where the new structure will be located generally on the same site and will have substantially the same purpose, capacity, density, height, and dimensions as the structure replaced.* **Exemption Type 3** *Construction and location of single new, small facilities or structures and the alteration and modification of the facilities or structures and installation of new, small, equipment and facilities and the alteration and modification of the equipment or facilities, including but not limited to: (A) Single family residences less than 3,500 square feet, as measured by the controlling law under which the proposed action is being considered, if not in conjunction with the building of two or more such units; (B) Multi-unit structures designed for not more than four dwelling units if not in conjunction with the building of two or more such structures; (C) Stores, offices and restaurants designed for total occupant load of twenty individuals or fewer per structure, if not in conjunction with the building of two or more such structures; and (D) Water, sewage, electrical, gas, telephone, and other essential public utility services extensions to serve such structures or facilities; accessory or appurtenant structures including garages, carports, patios, swimming pools, and fences; and acquisition of utility easements.*

Exemption Type #, Part, Item# per DLNR Exemption List (approved by OEQC on 11/10/2020):	**Exemption Type 2** *Replacement or reconstruction of existing structures and facilities where the new structure will be located generally on the same site and will have substantially the same purpose, capacity, density, height, and dimensions as the structure replaced.* PART 1 *"16. Rehabilitation and restoration of existing structures and features at historic and archaeological sites in compliance with Chapter 13-275, Hawai'i Administrative Rules, "Rules Governing Procedures for Historic Preservation Review for Governmental Projects Covered Under Section 6E-7 and 6E-8, Hawai'i Revised Statutes" which requires review by the State Historic Preservation Division for agency actions that may affect historic properties."* **Exemption Type 3** *Construction and location of single new, small facilities or structures and the alteration and modification of the facilities or structures and installation of new, small, equipment and facilities and the alteration and modification of the equipment or facilities, including but not limited to: (A) Single family residences less than 3,500 square feet, as measured by the controlling law under which the proposed action is being considered, if not in conjunction with the building of two or more such units; (B) Multi-unit structures designed for not more than four dwelling units if not in conjunction with the building of two or more such structures; (C) Stores, offices and restaurants designed for total occupant load of twenty individuals or fewer per structure, if not in conjunction with the building of two or more such structures; and (D) Water, sewage, electrical, gas, telephone, and other essential public utility services extensions to serve such structures or facilities; accessory or appurtenant structures including garages, carports, patios, swimming pools, and fences; and acquisition of utility easements.* PART 2 *"2. Construction and location of new, small facilities or structures necessary to support or enhance safe and effective management of lands and waters, such as baseyards, caretaker's residences, work cabins and shelters, sanitation facilities, and other similar structures."*

Cumulative Impact of Planned Successive Actions in Same Place Significant?	No. There will be no cumulative impact on the project site as there are no planned successive actions in this area.
Action May Have Significant Impact on Particularly Sensitive Environment?	No. The project will not have a significant impact on a particularly sensitive environment.
Analysis:	The proposed project would have a positive impact on both cultural resources and practices by restoring artesian groundwater flows to the historic Hawaiian Kalauhaʻihaʻi Fishpond.
Consulted Parties:	U.S. Environmental Protection Agency, Region 9 - Pacific Islands Contact Office U.S. Army Corps of Engineers, Honolulu District State of Hawaiʻi BLNR State of Hawaiʻi DLNR, Engineering Division State of Hawaiʻi DLNR, Division of Boating and Ocean Recreation State of Hawaiʻi DLNR, Division of Forestry and Wildlife State of Hawaiʻi DLNR, Office of Conservation and Coastal Lands State of Hawaiʻi DLNR, State Historic Preservation Division State of Hawaiʻi DLNR, Groundwater Regulation Branch State of Hawaiʻi DLNR, Commission on Water Resource Management State of Hawaiʻi DLNR, Division of Aquatic Resources State of Hawaiʻi DLNR, Office of Conservation & Coastal Lands State of Hawaiʻi DLNR, Land Division State of Hawaiʻi Department of Transportation State of Hawaiʻi Department of Transportation, Right of Ways Branch State of Hawaiʻi Department of Transportation Highways Division State of Hawaiʻi Disability and Communication Access Board State of Hawaiʻi Office of Planning and Sustainable Development State of Hawaiʻi Department of Health Clean Water Branch City and County of Honolulu Board of Water Supply City and County of Honolulu Department of Transportation Services City and County of Honolulu Department of Planning and Permitting Office of Hawaiian Affairs Historic Hawaiʻi Foundation Charter Communications/Spectrum Hawaiʻi Hawaiian Telcom Inc. Hawaiian Electric Company, Inc. Lucas, Charles Residuary Trust Maunalua Fishpond Heritage Center Connie and Yung Chang Julian Browne Lucas Highway Property LLC Neale and Litan Rath Yuki Hamada Robin Maibals/ Christopher Lo for Connie & Yung Chih Chang Christopher Lo forwarded from Representative Gene Ward

	Twenty-two (22) letters received out of a total of 34 letters, were in support of the project from the following: Kimo Franklin, Kupa of Niu & Kuli'ou'ou Wally Ito, Ewa Limu Project Jeff Gregory Former Resident Doug Harper, Mālama Maunalua Laura Margulies, Asst. Proof. Of Animation School of Cinematic Arts, University of Hawai'i at Mānoa Dennis H. Fujii & Pamela Lota Fujii Alyssa Miller Jesse Yonover & Austin Kino-Huli John Correa Kahikina Kaae-Whittle Karen Kimbrell Liloa Dunn Rabbi Natan Margalit, Ph.D. Pohai Olomua, Kupa 'aina o Kuli'ou'ou Roy N. Morioka Waipākawi-wo'ole Parker, Kupa'āina o Kuli'ou'ou Ann Marie N. Kirk Kamaka Parker Vicky Morin Milika'a Vierra Patricia K. Moniz, CRA Kilakila'okalani Moniz A list of the comments received for the Exemption Notice pre-assessment consultation is provided in the table in **Appendix A**. All written comments received during the comment period were responded to and addressed. The full record of the comments received and the written responses addressing the comments is also provided in **Appendix A** following the table.
Declaration:	The Department finds that this project will probably have minimal or no significant effect on the environment and is presumed to be exempt from the preparation of an environmental assessment.

DAWN N.S. CHANG, Chairperson

Dec 14, 2023
Date

Appendix A

Pre-Assessment Comment and Response Letters for
Exemption Notice from Hawai‘i Revised Statutes, Chapter 343 Environmental Assessment for
Project No. J40CO30A Kalauha‘iha‘i Fishpond (Lucas Spring) Restoration, Phase 3

"KA PA'AKAI" ANALYSIS

On September 11, 2000, the Hawai'i Supreme Court (Court) ruled in *Ka Pa'akai O Ka 'Āina vs. Land Use Commission, State of Hawai'i*[1] (Ka Pa'akai) that State and government agencies have an obligation to "preserve and protect traditional and customary Native Hawaiian rights" and that an appropriate analytical framework was needed to assess whether these rights were unduly violated.[2] The Court developed a three-pronged test, dubbed the "Ka Pa'akai Analysis," which is triggered when government agencies consider proposed uses of land and water resources that may impact the exercise of Native Hawaiian traditional and customary rights.

Although the Court stated that an agency's constitutional obligation to reasonably protect Native Hawaiian traditional and customary practices was widely applicable to all agency actions, the Court did not opine as to whether the Ka Pa'akai Analysis could or should be applied outside of contested case hearings. Then, on March 15, 2023, the Court ruled in *Flores-Case 'Ohana v. University of Hawai'i*[3] (FCO) that the obligation described in Ka Pa'akai not only applied to contested case hearings, but also to rulemaking actions.[4] In doing so, the Court provided a modified Ka Pa'akai Analysis to be used in rulemaking actions. The analysis outlined in FCO requires agencies to consider:

(1) The identity and scope of Native Hawaiian traditional and customary rights affected by the **rule**, if any;
(2) The extent to which Native Hawaiian traditional and customary rights will be affected or impaired by the **rule**; and
(3) Whether the proposed rules reasonably protect Native Hawaiian traditional and customary rights, if they are found to exist, as balanced with the State's own regulatory right.

Again, the Court in FCO did not provide further clarity on how to analyze other agency actions. However, the analysis outlined in FCO can be modified to be broadly applicable to all agency actions. Subsequently, the Department has provided the following analysis on this proposal's effects on Native Hawaiian traditional and customary practices:

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[1] Ka Pa'akai o ka 'Āina v. Land Use Comm'n (Ka Pa'akai), 94 Hawai'i 31, 7 p.3d 1068 (2000) (Ka Pa'akai)
[2] "Following up on PASH, we recognized in Ka Pa'akai that in contested case hearings, the State and its agencies have an 'affirmative duty ... to preserve and protect traditional and customary native Hawaiian rights' and provided a framework 'to effectuate the State's obligation to protect native Hawaiian customary and traditional practices while reasonably accommodating competing private interests." Flores-Case 'Ohana v. University of Hawai'i, 153 hawai'i 76, at 83 (2023) (quoting Ka Pa'akai at 45-47, 1082-1084)
[3] Flores-Case 'Ohana v. University of Hawai'i, 153 hawai'i 76, (2023)
[4] "In sum, the Ka Pa'akai framework applies to administrative rulemaking in addition to contested case hearings. Requiring the State and its agencies to consider Native Hawaiian traditional and customary rights in these contexts effectuate[s] the State's obligation to protect native Hawaiian customary and traditional practices[.]" Flores-Case 'Ohana v. University of Hawai'i, 153 hawai'i 76, at 84 (2023)

1) **The Identity and Scope of Native Hawaiian Traditional and Customary Rights Affected by the <u>Restoration of Historical Freshwater Flow to Kalauha‘iha‘i Fishpond</u>, if Any**

In 2021, a final environmental assessment (Assessment)[5] was completed and a finding of no significant impact was issued by the Department of Land and Natural Resources on the management plan developed by Maunalua Fishpond Heritage Center for the management and restoration of Kalahauha‘iha‘i Fishpond and the surrounding area. The environmental assessment[6] was prepared by Cultural Surveys Hawai‘i (CSH) and included extensive research documenting natural, cultural, and historic resources found within the area pursuant to the requirements set forth in section 11-200.1-21(4), Hawaii Adminstrative Rules (HAR).[7]

The Assessment found that Niu[8] “was a once flourishing community during pre-Contact times. The presence of fishponds, terraces, springs, religious structures, burial caves, and midden suggest the ahupua‘a was ideal and used for settlement.”[9] Upon a field inspection by CSH in 2016, Kalauha‘iha‘i Fishpond and its associated fishpond features was identified as a potential cultural site.

Loko i‘a, or traditional Hawaiian fishponds, are sophisticated aquacultural innovations developed through a “deep understanding of the environment, ecological, and social processes specific to Hawai‘i.”[10] There are six types of loko i‘a[11] that were commonly used for different purposes and chosen for the different environmental conditions of an area.

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[5] https://files.hawaii.gov/dbedt/erp/Doc_Library/2021-06-08-OA-FEA-Kalauhaihai-Fishpond-Management-Plan.pdf

[6] HRS §343-5(e) states: “Whenever an applicant proposes an action specified by subsection (a) that requires approval of an agency and that is not a specific type of action declared exempt under section 343-6, the agency initially receiving and agreeing to process the request for approval shall require the applicant to prepare an environmental assessment of the proposed action at the earliest practicable time to determine whether an environmental impact statement shall be required; provided that if the agency determines, through its judgment and experience, that an environmental impact statement is likely to be required, the agency may authorize the applicant to choose not to prepare an environmental assessment and instead prepare an environmental impact statement that begins with the preparation of an environmental impact statement preparation notice as provided by rules. The final approving agency for the request for approval is not required to be the accepting authority.”

[7] HAR §11-200.1-21(4) states: “A final [environmental assessment] shall contain, but not be limited to, the following information: . . . (4) General descritpion of the action’s technical economic, social, **cultural**, historical, and environmental characteristics.” (emphasis added).

[8] Niu is the traditional name of the ahupua‘a (traditional Hawaiian land division usually consisting of a watershed or valley from the top of the mountain to the ocean) in which the Kalauha‘iha‘i Fishpond is located. The valley is commonly referred to as Niu Valley.

[9] Assessment at page 69.

[10] Hui Mālama Loko I‘a, Kua‘āina Ulu ‘Auamo. (https://kuahawaii.org/huimalamalokoia/)

[11] Id. (The six types of loko i‘a are loko kuapā, loko pu‘uone, loko wai, loko i‘a kalo, loko ‘umeiki, and loko kāheka/hāpunapuna.).

The Assessment identified Kalauha‘iha‘i Pond as “the only intact loko pu‘uone (shoreline pond) [12] in Honolulu, besides nearby Kānewai Fishpond.”[13] The Assessment further justifies classification of Kalauha‘iha‘i Fishpond as a potentially significant cultural resources due to its high potential to “yield information important for research. . . relating to pre-Contact[14] and early post-Contact habitation and traditional land use patterns within [the ahupua‘a of Niu].”[15] The property where Kalauha‘iha‘i Fishpond is located was once the country home of Kamehameha I and Ka‘ahumanu and was also the site on O‘ahu where the ‘ai kapu[16] was officially and publicly broken by the ali‘i as an example to the rest of the island that the kapu system was no longer the religion of Hawai‘i; this gathering was known as the Kalauha‘iha‘i Assembly of 1819.[17] Thus, the fishpond and surrounding area may possibly be associated with events that have made a significant contribution to broad patterns of Hawai‘i history, in addition to being associated with the lives of persons significant in Hawaii’s past.

In addition to the field inspection, oral histories were collected. “In 2012, Laura Lucas Thompson, descendant of Alexander Adams who once owned the ahupua‘a of Niu,[18] attested to the cultural landscape of the area.”[19] In her affidavit, she provides an accounting of multiple freshwater wells/springs in the area including a well found at the estate she grew up in called Lucas Spring after her family estate, but is now called Kalauha‘iha‘i Fishpond.[20] “Ms. Laura Lucas Thompson. . . recall[ed] the cold water and the abundance of aquaculture in the pond.”[21] She also specifically recalled “the ‘cloud of ‘ōpae’ and ‘the pungent strings of limu ‘ele‘ele’ at Kalauha‘iha‘i Fishpond.”[22]

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[12] Pukui and Elbert, Hawaiian Dictionary accessed via Wehewehe Wikiwiki online Hawaiian Language Dictionaries Database (https://hilo.hawaii.edu/wehe/?q=puuone#w2w2-47525). (“Loko pu‘uone: [Fishpond] near the shore, as connected to the sea by a stream or ditch.”).
[13] Assessment at pg. 66.
[14] “Contact” refers to the arrival of Captain James Cook at Waimea Bay, Kaua‘i on January 18, 1778, which is accepted as the earilest date of arrival of western/European explorers in Hawai‘i.
[15] Assessment at pg. 66.
[16] Wehewehe Wikiwiki online Hawaiian Language Dictionaries Database (https://hilo.hawaii.edu/wehe/?q=aikapu). (“‘Aikapu: 1. To eat according to the restrictions of the kapu; 2. To obey the rules of the kapu system.”).
[17] Assessment at pg. 66.
[18] Id. (“Additionally, archival documents reviewed by CSH indicated the site was given to a Captain Adams “just before the coming of the first New England missionaries in 1820, as a reward for thwarting an attempted Russian invasion of the Island of Kaua‘i in 1815.”) (Internal citations omitted).
[19] Id at pg. 68.
[20]Id. (“In her affidavit, she recalls a well at the bottom of Kūlepeamoa Heiau. The water from the well was used for her father’s dairy. She shared her memory of the well, ‘We were not allowed to go into the well but I remember watching two young guys from the dairy swimming and saying that two ‘tunnels’ (lava tubes) were the water source.‘ At the border of Wailupe and Niu was a well called Wai Ku‘i a Kamehameha at a place called Papalea. The water originated from a large inland cave called Kaluapani‘o. Near the border of Kuli‘ou‘ou and Niu was another spring called Ke Puhi o Kanau. A spring could also be found within the subject property. Although the traditional name is not known, it was frequently called Lucas Spring, named for the Lucas family who owned the land. Lucas Spring is also today known as Kalauha‘iha‘i Pond.”) (internal citations omitted).
[21] Id.
[22] Id at pg. 69.

Mr. Tad Hara later lived above Kalauhaʻihaʻi Pond in a two-story home.[23] Mr. Hara raised koi fish in the pond and witnessed "the variety of aquatic life" naturally occurring in the fishpond such as ʻamaʻama (mullet), ʻōpae (prawns), and pāpaʻi (crabs).[24] Additionally, Mr. Hara recalled the nearshore abundance of important subsistence nearshore reef fish and invertebrates such as heʻe (octopus), pāpaʻi, pāpio (juvenile crevalle or jack), and other reef fish, when he would take his children out to catch their dinner.[25]

2) Extent to Which Native Hawaiian Traditional and Customary Rights Will Be Affected or Impaired by the <u>Restoration of Historical Freshwater Flow to Kalauhaʻihaʻi Fishpond</u>

Hawaiʻi is home to unique estuary flora and fauna that rely heavily on the balance between fresh- and saltwater.[26] The genius designs of the various types of loko iʻa enhance the phsycial environmental factors found in groundwater-dependent ecosystems[27] to maximize abundance and productivity for native species of an area.[28] In instances of a loko puʻuone such as Kalauhaʻihaʻi Fishpond, groundwater is the fishpond's main source of water and without it, the waterflow becomes stagnant and water quality can become poor; essentially causing the fishpond to become unusable and creating conditions generally more favorable to non-native species over species native to Hawaiʻi.[29] Kalauhaʻihaʻi is an extreme case where the cessation of groundwater flow caused the pond to completely dry up. Then, after indirect remediation measures, some flow returned (37,000 gallons/day), but nowhere near historic flow of 200,000 gallons/day and definitely not enough to restore the fishponds connection to the ocean.[30]

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[23] Id. ("The home's living room floor was constructed with glass from the inside so the homeowners could enjoy the pond. This residence was removed by DLNR in 2017.")
[24] Id. "Besides Mr. Hara's prizewinning koi fish, the pond also contained wild mullet, prawns, crabs, and other aquatic life."
[25] Id. "Mr. Hara would also often take his children a mile out into the ocean to catch dinner. They often caught octopus, crab, papio (juvenile crevalle), and other reef fish."
[26] Id at pg. 50. ("Groundwater-dependent ecosystems and species (collectively termed GDEs) are defined by Murray et al. (2006) as ecosystems whose ecological structure and function depends on access to groundwater. Groundwater input into ponds and streams creates refuges of cool water that are critical during hot summer months.").
[27]Id at pg. 51. ("Multiple types of groundwater-dependent ecosystems occur in the Maunalua region, including springs, wetlands, brackish and freshwater pools, and fishponds. Less than 1 km away from the Kalauhaʻihaʻi Fishpond are the Kānewai Spring (with an estimated flow of up to 840,000 gallons/day), the ancient Kānewai Fishpond, and the 33-acre coastal estuary and wetland of Paikō Lagoon Wildlife Sanctuary and associated Kuliʻouʻou Stream. These sites exhibit similar biological and hydrological attributes and connectivity.").
[28]Id at pg. 50. ("Groundwater provides a vital source of water and creates essential habitat conditions for a broad range of species and ecosystems in Hawaiʻi.").
[29] Assessment at pg. 50. ("Good water quality, essential to the survival of fish, mollusks and other aquatic species, can be provided by groundwater.").
[30] Id at pg. 39. ("University of Hawaiʻi scientist Joseph Kennedy (2011) monitored flows at Kalauhaʻihaʻi Fishpond before and after the sewer rehabilitation project. Kennedy determined that groundwater flow into the impacted Kalauhaʻihaʻi Fishpond increased after the project by about two orders of magnitude.

Given the restorative nature of this project, there are no negative impacts to Native Hawaiian traditional and customary practices that have been identified. To the contrary, it is anticipated that if this project is successful, the restoration of freshwater flow to (near) historic levels will also restore the Native Hawaiian traditional and customary practices documented through kamaʻāina testimony and archaelogical surveying which have been eliminated since the water stopped flowing as a result of DOT's highway widening project in 1997 and unsuccessful remedial efforts to date.

3) The Feasible Action, If Any, to be Taken by the Permitting Agency to Reasonably Protect Native Hawaiian Traditional and Customary Rights, if They are Found to Exist

This project, in and of itself, can be viewed as protecting native Hawaiian traditional and customary practices by restoring the environmental conditions that allowed those traditional and customary practices to be exercised in the area in the first place. Native Hawaiian traditional and customary practices hinge on the existence of native flora and fauna. Therefore, when environmental conditions are favorable for native flora and fauna, then Native Hawaiian traditional and customary practices thrive. Because the natural resources of the State are held and managed by the State in trust for the people of Hawaiʻi, the Department has a fiduciary duty to ensure those natural resources endure for future generations. The State does so using many different tools including habitat restoration, that is restoring environmental conditions favorable for native flora and fauna. Here, the feasible action to protect Native Hawaiian traditional and customary rights is issuance of the permit itself.

Although the increased spring discharge of 140 m3 per day represents only about 20% of the historic flow measured at over 200,000 gallons or approximately 750 m3 per day, it is still a significant improvement over the prior decades' average flow when the pond was almost completely dry.") (internal citations omitted).