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ACTING DIRECTOR

October 10, 2022

2021/ED-13(MS)

Ms. Mary Alice Evans
Director
State of Hawaii
Office of Planning and Sustainable Development
Environmental Review Program
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813

Dear Ms. Evans:

SUBJECT:	Chapter 25, Revised Ordinances of Honolulu Final Environmental Assessment (FEA)
Project:	Hawaiian Cement Sand Shed Project
Owner/Applicant:	Hawaiian Cement Corporation
Agent:	R.M. Towill (Isaiah Sato)
Location:	91-055 Kaomi Loop - Honouliuli
Tax Map Key (TMK):	9-1-026: 056

With this letter, the Department of Planning and Permitting hereby transmits the FEA and Finding of No Significant Impact (FONSI) for the Hawaiian Cement Sand Shed Project, located at 91-055 Kaomi Loop (TMK 9-1-026: 056), in the Kapolei District on the Island of Oahu. Please publish this finding in the October 23, 2022, edition of *The Environmental Notice*.

The FEA includes copies of public comments received and the corresponding responses from the Applicant that were received during the 30-day public comment period on the Draft Environmental Assessment and Anticipated FONSI.

We have uploaded an electronic copy of this letter, a completed publication form, and the FEA on your online submittal site.

Should you have any questions, please contact Malynne Simeon, of our staff, at (808) 768-8023 or via email at msimeon@honolulu.gov.

Very truly yours,

Dawn Takeuchi Apuna
Acting Director

October 2015

NON-CHAPTER 343 DOCUMENT
PUBLICATION FORM
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

Project Name: Hawaiian Cement Sand Shed

Applicable Law: The subject EA is triggered by Revised Ordinances of Honolulu (ROH) Chapter 25.

Type of Document: Final Environmental Assessment

Island: O‘ahu

District: ‘Ewa

TMK: 9-1-026: 056

Permits Required: Various (see document Section 2.5)

Applicant or Proposing Agency:
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Hawaiian Cement Corporation
Jim Gomes
Cement Division General Manager
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Kapolei, HI 96707
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Approving Agency or Accepting Authority:
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Status: FEA-FONSI

Project Summary:
(Summarize proposed action and purpose/need in less than 200 words in the space below)**:**

The Applicant, Hawaiian Cement Corporation, proposes the construction of a new sand shed for their operations in James Campbell Industrial Park (JCIP), Kapolei, on O`ahu. The Applicant proposes to construct a 37,975-square-foot sand shed over an existing concrete surface. The sand shed will be approximately 50 feet tall. The Project will also include an approximately 300-foot long retaining wall, septic tank and leach field, and waterline and fire hydrant improvements. The Project will be located on a 7.652-acre site, Tax Map Key (TMK) parcel: 9-1-026: 056, at 91-055 Kaomi Loop, Kapolei, HI, 96707 on the island of O'ahu.

Final Environmental Assessment

Pursuant to Revised Ordinances of Honolulu (ROH) Chapter 25 Shoreline Management Area

Hawaiian Cement Sand Shed

Located at 91-055 Kaomi Loop
Kapolei, Hawai'i 96707
Island of O'ahu, State of Hawai'i
Tax Map Key: (1) 9-1-026: 056

September 2022

Source: Google Earth

Applicant:
Hawaiian Cement Corporation
99-1300 Halawa Valley St.
Aiea, HI 96701

Approving Agency:
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawai'i 96813

Final Environmental Assessment

Pursuant to Revised Ordinances of Honolulu (ROH) Chapter 25 Shoreline Management Area

Hawaiian Cement Sand Shed

Located at 91-055 Kaomi Loop
Kapolei, Hawai'i 96707
Island of O'ahu, State of Hawai'i
Tax Map Key: (1) 9-1-026: 056

September 2022

Developer/Applicant:

Hawaiian Cement Corporation
99-1300 Halawa Valley St.
Aiea, HI 96701

Approving Agency:

City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
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Prepared By:

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Acronyms and Abbreviations

Acronym	Meaning
ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act
ADAAG	Americans with Disabilities Act Accessibility Guidelines
AIS	Archaeological Inventory Survey
ANSI	American National Standards Institute
APE	Area of Potential Effect
BMPs	Best Management Practices
BPH	Bike Plan Hawai'i
CAA	Federal Clean Air Act
CIAR	Cultural Impact Assessment Report
City, CCH	City and County of Honolulu
CFR	Code of Federal Regulations
CWA	Clean Water Act of 1972, as amended
CWB	Clean Water Branch, DOH
CWRM	Commission on Water Resource Management, DLNR
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
DAR	Division of Aquatic Resources, DLNR
dB	Decibel
DBEDT	State of Hawai'i, Department of Business, Economic Development & Tourism
DEA	Draft Environmental Assessment
DLNR	State Department of Land and Natural Resources
DOE	State Department of Education
DOFAW	Division of Forestry and Wildlife, DLNR
DOH	Department of Health, State
DP	Development Plan (of the City, DPP)
DPP	Department of Planning and Permitting, City
DPR	Department of Parks and Recreation, City
DTS	Department of Transportation Services, City
EA	Environmental Assessment
ESCP	Erosion and Sediment Control Plan
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
F	Fahrenheit
FEA	Final Environmental Assessment
FEMA	Federal Emergency Management Agency

Acronym	Meaning
FIRM	Flood Insurance Rate Map
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
GHG	Greenhouse Gas
GP	General Plan
HAR	Hawai'i Administrative Rules
HART	Honolulu Authority for Rapid Transit
HDOT	State Department of Transportation
HECO	Hawaiian Electric Company
HHFDC	Hawai'i Housing Finance Development Corporation
HPD	Honolulu Police Department
HRS	Hawai'i Revised Statutes
HSTP	Hawai'i Statewide Transportation Plan
IBC	International Building Code
ICAC	Interagency Climate Adaptation Committee
LID	Low Impact Development
LUO	Land Use Ordinance
LOS	Level of Service
LRFD	Load Resistance Factor Design
LRFI	Literature Review and Field Inspection
MOA	Memorandum of Agreement
mph	Miles Per Hour
msl	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHO	Native Hawaiian Organization
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OEQC	Office of Environmental Quality Control
OMPO	O'ahu Metropolitan Planning Organization
OP	Office of Planning, State
OTS	O'ahu Transit Services, City
PUC	Primary Urban Center
RMTC	R. M. Towill Corporation
ROH	Revised Ordinances of Honolulu
ROW	Right-of-Way
SCA	Sewer Connection Application
SCP	Sustainable Communities Plan (of the City, DPP)
SHPD	State Historic Preservation Division, DLNR
SHPO	State Historic Preservation Officer, DLNR

Acronym	Meaning
SIHP	State Inventory of Historic Places
SLH	Session Laws of Hawai'i
SLR	Sea Level Rise
SLUD	State Land Use District
SMA	Special Management Area
SOBA	Southern O'ahu Basal Aquifer
SOEST	School of Ocean and Earth Science and Technology, University of Hawai'i
SSA	Shoreline Setback Area
SWQ	Stormwater Quality
TMK	Tax Map Key
TOD	Transit-Oriented Development
UH	University of Hawai'i
USACE	U. S. Army Corps of Engineers
USDA	U. S. Department of Agriculture
USFWS	U. S. Fish and Wildlife Service
USGS	U. S. Geological Survey
vph	Vehicles per hour
WOUS	Waters of the United States

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Section 1

Introduction

Section 1 Introduction

1.1 Purpose of Environmental Assessment

The Applicant, Hawaiian Cement Corporation, proposes the construction of a new sand shed for their operations in James Campbell Industrial Park, Kapolei, on O`ahu. Pursuant to Revised Ordinances of Honolulu (ROH) Chapter 25 Shoreline Management Area, a Special Management Area Use Permit – Major (SMP) is required for the proposed improvements. Thus, the Applicant plans to submit a SMP application to the Department of Planning and Permitting for processing.

The initial phase of the SMP involves the preparation and acceptance of an Environmental Assessment (EA) or Environmental Impact Statement (EIS), as determined by the City's Department of Planning and Permitting.

1.2 Project Information Summary

Type of Document:	Final Environmental Assessment (FEA)
Project Name:	Hawaiian Cement Sand Shed
Applicant:	Hawaiian Cement Corporation 99-1300 Halawa Valley St. Aiea, HI 96701
Landowner:	Hawaiian Cement Corporation 99-1300 Halawa Valley St. Aiea, HI 96701
Approving Agency:	Department of Planning & Permitting City and County of Honolulu 650 South King Street, 7th Floor Honolulu, Hawai'i 96813
Agent:	R.M. Towill Corporation Isaiah Sato 2024 North King Street, Suite 200 Honolulu, Hawai'i 96819-3494 Phone (808) 748-7431
Location:	91-055 Kaomi Loop Kapolei, Hawai'i 96707 Island of O'ahu, State of Hawai'i (**Figure 1-2**)

Tax Map Key:	(1) 9-1-026: 056 (**Figure 4**)
Lot Area:	7.652 acres.
State Land Use Classification:	Urban (**Figure 20**)
City and County of Honolulu:	
Zoning:	I-2 Intensive Industrial District (**Figure 24**)
'Ewa Development Plan – Urban Land Use Map:	Industrial (**Figure 21**)
'Ewa Development Plan – Public Infrastructure Map	No improvements affecting the Project Site (**Figure 22**)
'Ewa Development Plan – Supplemental Public Infrastructure Map	No improvements affecting the Project Site (**Figure 23**)
Height Limit:	60-feet
Special Management Area (SMA):	Within SMA (**Figure 25**)
Flood Zone:	Zone D (**Figure 15**)
Tsunami Zone:	Within Tsunami Evacuation Zone (west portion of site) and Extreme Tsunami Evacuation Zone (east portion of site) (**Figure 18**)
Existing Use:	11 concrete silos capable of storing over 20,000 tons of cement, two loading truck lanes, bagging operation and warehouse and a concrete batch plant able to service larger concrete projects.
Proposed Action:	The Applicant proposes to construct a 37,975-square-foot sand shed over an existing concrete surface. The sand shed will be approximately 50 feet tall. The Project will also include an approximately 300-foot long retaining wall, proposed septic tank and leach field, and waterline and fire hydrant improvements. Existing silos, loading truck lanes, bagging operations, and warehouse will not be impacted by the proposed project

Agencies Consulted Prior To Preparation of Draft Environmental Assessment:

State Agencies

- Office of Planning
- Department of Land and Natural Resources
  - Land Division
- Department of Education

City and County of Honolulu

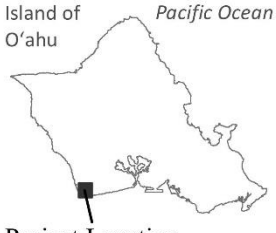
- Board of Water Supply
- Department of Planning and Permitting

Other

- Hawaii Gas

Figure 1: Location Map

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

Project Site

Location Map

Hawaiian Cement Sand Shed

N

Prepared By:
R. M. TOWILL CORPORATION

Figure 2: Perspective View

Figure 3: Existing Site

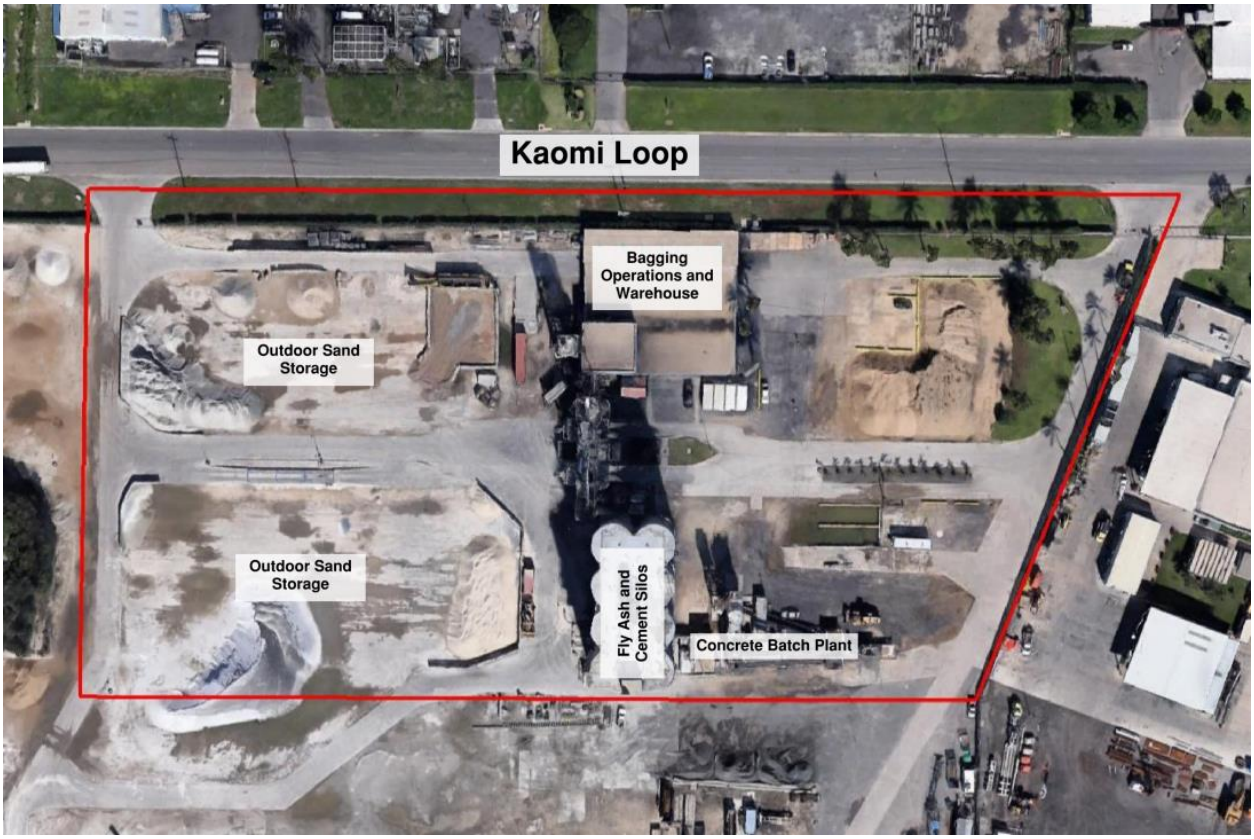
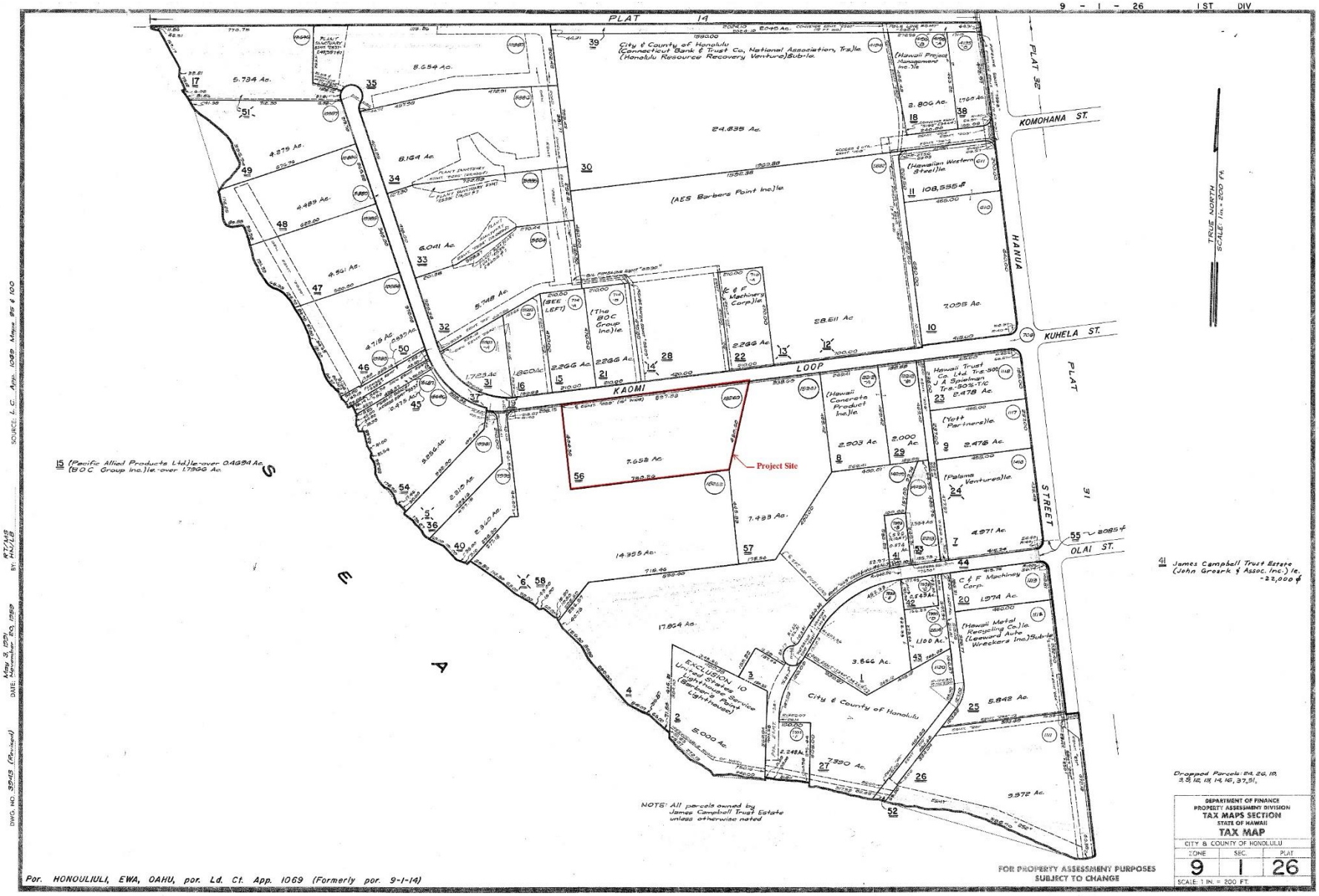


Figure 4: Tax Map Key Plat



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Section 2

Project Description

Section 2 Project Description

2.1 Description of Proposed Action

The Applicant, Hawaiian Cement Corporation, proposes the construction of a new sand shed for their operations in James Campbell Industrial Park (JCIP), Kapolei, on O`ahu (the "Project"). The Applicant proposes to construct a 37,975-square-foot sand shed over an existing concrete surface. The sand shed will be approximately 50 feet tall. The Project will also include an approximately 300-foot long retaining wall, septic tank and leach field, and waterline improvements. See **Figure 7** for a Site Plan and **Figure 8** for the Sand Shed structure.

The Project will be located on a 7.652-acre site, Tax Map Key (TMK) parcel: 9-1-026: 056, at 91-055 Kaomi Loop, Kapolei, HI, 96707 on the island of O'ahu ("Project Site"). The Project Site is located within JCIP and is accessed off of Kaomi Loop. See **Figure 1-3** for location maps.

2.1.1 Sand Shed

The Applicant has an existing sand shed operation on a neighboring parcel, located makai of the Project Site. This proposed sand shed will assist in the replacement of the operation. There are 5 existing employees at the Project Site and a 6th employee will relocate from the neighboring parcel.

Currently on the project site, there are two primary outdoor sand storage areas located on the west side of the site. These sites are shown in **Figure 5 and 6** below. The proposed sand shed will be in area 1 shown in **Figure 5**.

In the current operations, sand is brought onto the site and stored in Area 2. Prior to supplying sand to a customer, the sand is processed and moved to the storage area on the Kaomi Loop side of the site (area 1). To maintain the quality of product, it is important for the sand supplied to customers to be dry and free from debris.

The proposed shed provides the following benefits:

- Reduce weather impacts on sand operations. The shed will provide covering and assist in keeping the sand free from moisture.
- Provide erosion and dust control for sand operations.
- Reduce debris and landscape growth on stored sand. As shown in **Figure 6,** seeds are spread via wind and may grow on stored sand.

Figure 5: Existing Sand Storage Area 1

Figure 6: Existing Sand Storage Area 2

2.1.2 Retaining Wall

A retaining wall is proposed on the makai end of sand storage area shown in **Figure 6**. The retaining wall will provide erosion control for the outdoor sand storage area.

2.1.3 Septic Tank and Leach Field

The on-site wastewater system is limited to an existing cesspool adjacent to the bagging operations building. The cesspool directly infiltrates untreated wastewater into the coral outcrop fill below the Project Site. The sole source of wastewater generation for the cesspool is the bagging operations building employee bathroom.

Since there are no sewer facilities within Kaomi Loop, the Project Site will not tie into the City sewer system. The project will replace this cesspool with a new packaged wastewater treatment plant (septic tank and leach field), or similar product sized for their limited needs. The proposed location of the wastewater improvements is shown in **Figure 7**.

The Project will install new facilities in accordance with the requirements of the City and County of Honolulu Wastewater Design Standards, and with HAR Chapter 11-62, DOH Wastewater Systems. The new system will have a significant improvement on effluent water quality and the Project will not impact regional wastewater collection systems in the area.

2.1.4 Waterline

There is a single BWS water meter fronting a neighboring lot that was installed to serve 3 lots, TMKs: 9-1-260: 056, 057 & 058. This meter connects to the BWS water system at Kaomi Loop. The single meter was installed prior to the lot being subdivided and sold to separate owners. The Project will install a new water meter and fire hydrant, as required, in accordance with the latest BWS and NFPA rules.

2.2 Existing and Surrounding Uses

The Applicant has operated out of the Project Site since 1959 to manufacture cement for the State of Hawaii. In 1999, it ceased its cement production operation and became an import terminal operation at Kalaeloa Harbor. Since then, the Applicant has subdivided its Kaomi loop property into 3 lots. Today, the Applicant utilizes the 7.652 remaining acres for cement loading, bagging products, and storing sand.

Within the project site are a series of 11 concrete silos, two loading truck lanes, a bagging warehouse, and a concrete batch plant. The silos, loading truck lanes, bagging warehouse, and concrete batch plant will not be impacted by the proposed project. See **Figure 2 and 3** for a Google Earth image of the existing site.

The concrete silos are capable of storing over 20,000 tons of cement and fly ash. The fly ash is a byproduct of coal and is imported from overseas. The cement or fly ash is primarily loading into vehicles via the two loading truck lanes.

Within the bagging operations and warehouse building, employees process and bag cementitious products. These cement products are distributed to construction and/or sales companies such as Home Depot, Lowe's, or specific contractors.

The concrete batch plant provides service for larger concrete projects along the leeward coast. This allows contractors to obtain concrete in the general vicinity of their project instead of further east in other areas of the island.

2.3 Land Ownership

The Project Site is owned by Hawaiian Cement.

2.4 Estimated Costs and Schedule

The construction of the Project is anticipated to begin in after receipt of all required permits and approvals. Construction is estimated to be completed in approximately 12 months. The total project costs are estimated to be $4 million.

2.5 Required Permits and Approvals

The following is a list of permits and approvals that may be required:

2.5.1 State of Hawai'i

- Department of Health: Construction Noise Permit; Archaeological Literature Review and Field Inspection (LRFI) or Archaeological Inventory Survey (AIS); Burial Treatment Plan (if needed); and National Pollutant Discharge Elimination System (NPDES) permit for construction activities and storm water discharge.

2.5.2 City and County of Honolulu

- Department of Planning and Permitting: Special Management Area Use Permit; Building Permits; Trenching Permit; Grading Permit; and Construction Plan Approval.
- Honolulu Board of Water Supply: Water Connection
- Honolulu Fire Department: Plan Review

2.5.3 Special Management Area 79/SMA-97

An SMA Permit was approved (No. 79/SMA-97). The SMA permit was approved via Resolution 79-336 on December 12, 1979. The SMA was issued under the following conditions:

1. *Prior to implementation of the project, the applicant must meet the requirements and obtain approval of all governmental agencies, normally required for such projects.*
2. *The application for "Authority to Construct" and "Permit to Operate", shall be approved by the DOH prior to the issuance of the building permit for the coal handling facility.*
3. *High sulfur content coal shall not be used without prior approval of the DOH.*
4. *The applicant shall meet all requirements of Environmental Protection agency relating to "Prevention of Significant Deterioration (40 CFR Part 52) regulations and the "non-attainment area".*

The applicant obtained the necessary approvals prior to construction or usage of the facility.

2.5.4 Special Management Area 95/SMA-022

The Project obtained a SMA-Minor on April 24, 1995, for the project Grading to Construct a Stormwater Collection Basin on the downstream parcel 9-1-026: 058. This permit was approved prior to the subdivision of the lots. The SMA-Minor was approved with no conditions.

2.6 Alternatives Considered

2.6.1 No Action Alternative

The "No Action" alternative would involve no further effort to redevelop existing site. The

possibility of taking no action would fail to achieve the property's highest and best use. Since Hawaiian Cement needs to relocate their sand shed operation from a neighboring parcel owned by another entity and desire to consolidate their operations on the subject parcel that they own, the "no action" alternative will limit the Hawaiian Cement's ability to store material (golf course sand) and affect their service construction projects throughout the island.

2.6.2 Alternative 2: Preferred Alternative/Proposed Action

Alternative 2, the "Preferred Alternative" is to construct a new sand shed. The "preferred alternative" involves the construction of a new sand shed for their operations in JCIP, Kapolei, on O`ahu .

The Applicant proposes to construct a 37,975-square-foot sand shed over an existing concrete surface. The sand shed will be approximately 50 feet tall. The Project will also include an approximately 300-foot long retaining wall, septic tank and leach field, and waterline and fire hydrant improvements. See **Figure 4** for a Site Plan and **Figure 5** for the Sand Shed structure.

The Applicant has an existing sand shed operation on a neighboring parcel, located makai of the Project Site. This proposed sand shed will replace that operation. There are 5 existing employees at the Project Site and a 6th employee will relocate from the neighboring parcel.

The "preferred alternative" is required to replace the existing operations on the adjacent site. The owner was performing operations while utilizing a sand shed on the adjacent COPART, Inc lot.

2.6.3 Alternative 3: No Sand Shed

The "No Shed" alternative is to remove the use existing sand shed on the neighboring parcel without constructing a new sand shed. Without a new sand shed, the sand will not be protected and will greatly impact Hawaiian Cement's operations. The protection of the sand is key for golf course applications. Furthermore, without the protection of a sand shed, the exposure of material will increase the potential for dust pollution and soil runoff.

2.6.4 Alternative 4: Smaller Sand Shed

The "Smaller Sand Shed" alternative is to remove the use of existing sand shed on the neighboring parcel and constructing a smaller sand shed. This alternative will result in a mixture of product stored under the proposed sand shed and a portion of the product exposed to the outside. The preferred alternative is sized appropriately to accommodate current and future sand shed operations. Thus, a smaller sand shed will result in material being stored outside and pose concerns similar to the "No Shed" alternative.

2.6.5 Alternative 5: Alternative Location

The "Alternative Location" alternative is to place the sand shed directly makai of the preferred alternative. This location is similar to the preferred alternative and would not have any major impacts to the design, use, or impact of the proposed sand shed. Alternative locations on the east portion of the site would impact the existing building and/or concrete silos. This would result in a larger disturbance.

Figure 7: Site Plan

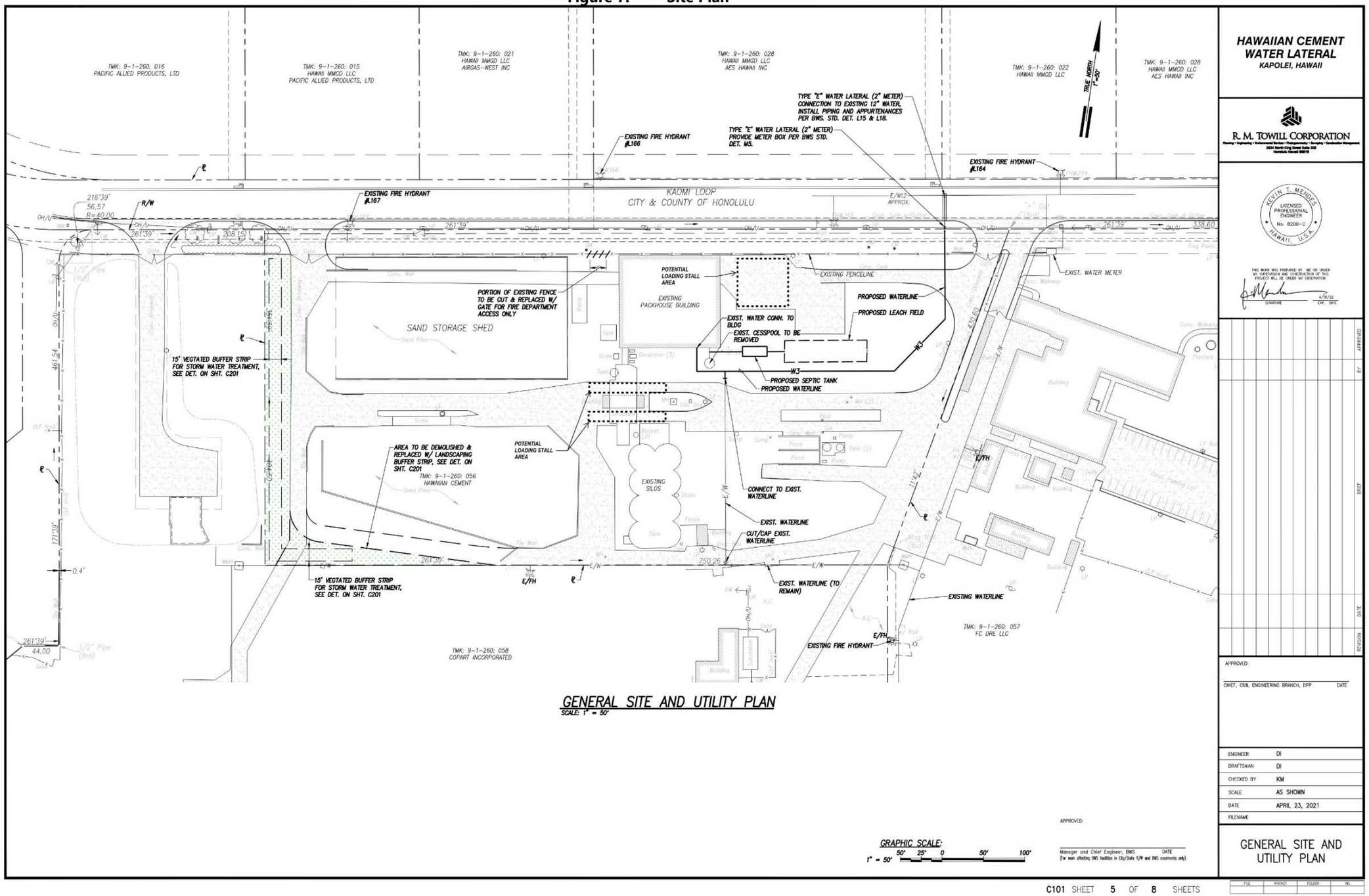
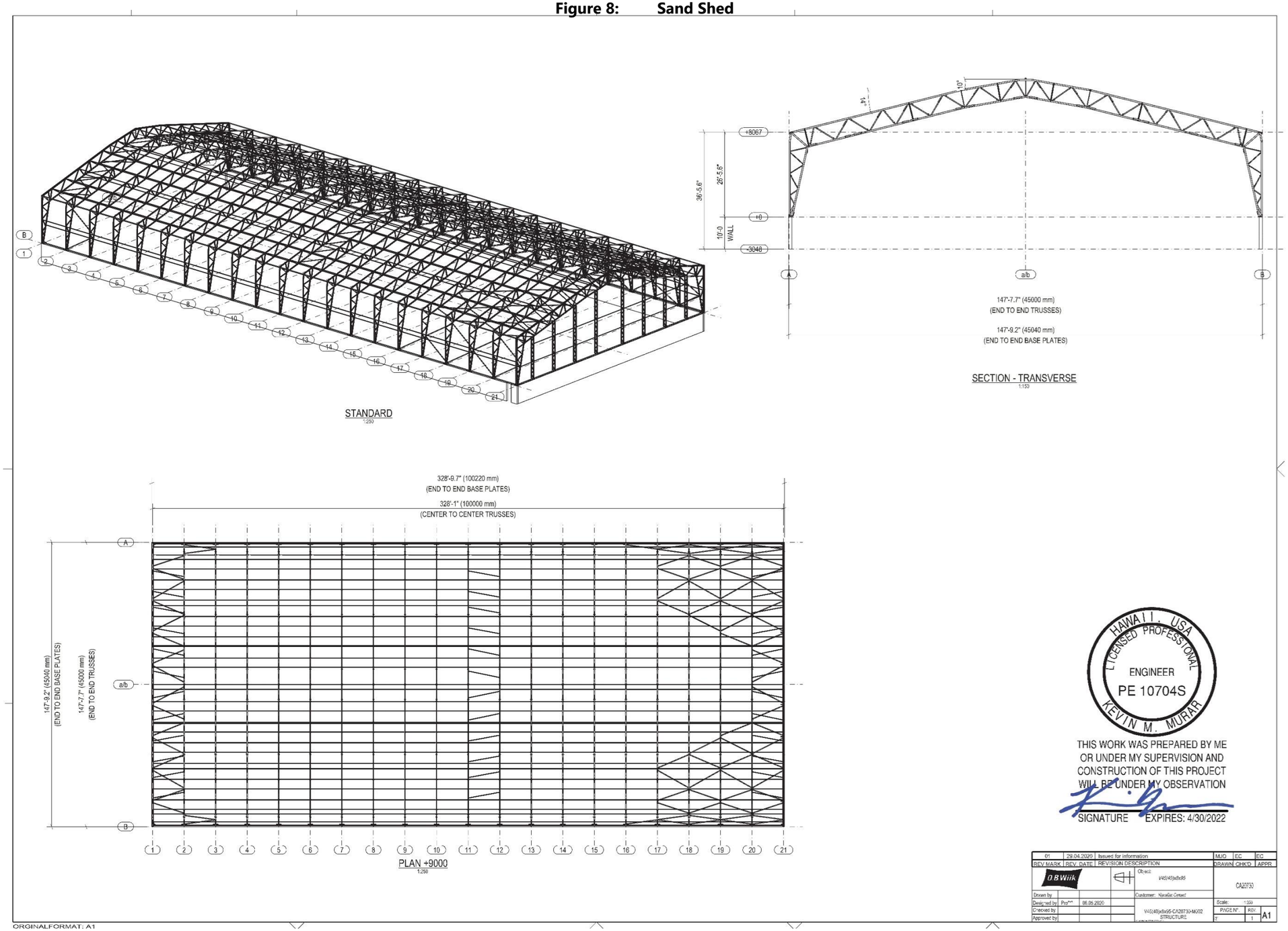


Figure 8: Sand Shed



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Section 3

Existing Environment, Project Impacts, & Mitigation Measures

Section 3 Existing Environment, Project Impacts, & Mitigation Measures

3.1 Climate

The climate of the Honolulu area is typically warm and dry. Prevailing trade winds arrive from the northeast. Throughout the course of the year, the temperature typically varies from 66 degrees Fahrenheit (F) to 88 degrees F. Average low temperatures range from 66 degrees F in January to 73 degrees F in August. Average high temperature ranges from 80 degrees F in January to 88 degrees F in August. The hot season in Kapolei ranges from June to October with an average daily high temperature above 86 F. The cool season lasts from December to March with an average daily high temperature below 82 degrees F.

The wet season in Kapolei ranges from October to March and the dry season ranges from March to October. The average monthly rainfall ranges from 2.7 inches in early January to 0.3 inches in June.

The windier parts of the year last from June to September. The average wind speed is highest in July at 16.4 miles per hour (mph) and the average wind speed is the lowest in January at 12.2 mph.

See **Section 3.6.2** for discussion on climate change and it's impacts on sea level rise.

Project Impacts and Mitigation

During construction, trade winds and windy weather conditions have the potential to carry some dust from the Project Site to surrounding properties. Construction Best Management Practices (BMPs) as outlined in **Section 3.2 Air Quality** to control dust will be employed.

On the long-term, the proposed project is not anticipated to result nor constitute a source of impact to rainfall resources or the climate of the project area or region. Mitigation measures to minimize long-term impacts of the project on climate include the implementation of low impact development (LID) stormwater measures such as a green belt and landscaping such as trees, shrubs, and ground cover to minimize heat gain. The use of drought-tolerant plants will be encouraged to minimize the use of potable water for irrigation.

3.2 Air Quality

The Federal Clean Air Act (CAA), as amended, is the primary federal law that governs air quality,

while the Hawai'i Air Pollution Control Act is its companion state law. These laws and related regulations by the United States Environmental Protection Agency (EPA) and the Hawai'i DOH, Clean Air Branch, set the standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and State ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2) ozone (O_3), particulate matter (PM), which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM) and particles of 2.5 micrometers and smaller (PM2.5), and sulfur dioxide (SO_2). The NAAQS and State standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under NEPA.

O'ahu is in attainment of both Federal and State air quality standards. Readings at the Kapolei monitoring station operated by the State of Hawai'i DOH, located approximately 2.1 miles northeast of the Project Site, show that criteria pollutants were below state and federal ambient air quality standards. Air quality in the vicinity of the Project presently is mostly affected by emissions from vehicular and industrial sources from Kapolei and Campbell Industrial which emit carbon monoxide, nitrogen oxides, hydrocarbons, and other air pollutants.

Project Impacts and Mitigation

Potential short-term direct and indirect impacts on air quality could occur during Project construction activities. There are two potential types of air pollution emissions that could directly result in short-term air quality impacts during Project demolition and construction phases: (1) fugitive dust from soil excavation, aggregate processing and vehicle movement; and (2) exhaust emissions from on-site construction equipment. There are also indirect, short-term air quality impacts from the disruption of traffic on nearby roadways, from slow moving construction equipment traveling to and from the Project Site, and from a temporary increase in local traffic caused by commuting construction workers.

Fugitive dust, or airborne particulate matter, can be generated from exposed soils and construction traffic on unpaved surfaces. Fugitive dust emissions from demolition and construction activities are difficult to estimate accurately because of their elusive nature of emission and because the potential for dust generation varies greatly depending upon the type of soil at the construction site, the amount and type of dirt-disturbing activity taking place, the moisture content of exposed soil in work areas, and the wind speed. The U.S. EPA has provided a rough estimate for uncontrolled fugitive dust emissions from construction activity of 1.2 tons per acre per month under conditions of "medium" activity, moderate soil silt content (30%), and precipitation/evaporation (P/E) index of 50. Uncontrolled fugitive dust emissions from Project demolition and construction work would likely be somewhere near this level. State DOH air pollution control regulations require that there be no visible fugitive dust emissions at the project boundary. Therefore, an effective dust control plan will be implemented by the project contractor to ensure compliance with state regulations. Fugitive dust emissions will be controlled to a large extent by watering of active work areas, using dust screens, keeping adjacent paved roads clean, and by covering open-bodied

trucks. Adequate fugitive dust control can usually be accomplished by the establishment of a frequent watering program to keep bare-dirt surfaces in active construction areas from becoming significant sources of dust. On days without rainfall, construction areas will be watered at least twice during the workday to help keep dust to a minimum. Control regulations will further stipulate that open-bodied trucks be covered at all times when in motion if they are transporting materials likely to give rise to airborne dust. Haul trucks tracking dirt onto paved streets from unpaved areas are oftentimes a significant source of dust in construction areas. Some means to alleviate this problem, such as tire washing or road cleaning, may be appropriate. Dust monitoring will be considered as a means to quantitatively evaluate the effectiveness of dust control measures.

In addition to fugitive dust, short-term effects due to exhaust emissions from stationary and mobile heavy construction equipment, land clearing, excavation, and roadway paving activities may also affect air quality during the period of construction. The largest of this equipment is usually diesel-powered. Nitrogen oxides emissions from diesel engines can be relatively high compared to gasoline powered equipment, but the standards for nitrogen dioxide are set on an annual basis and are not likely to be violated by short term construction equipment emissions. Also, the short-term (1- hour) standard for nitrogen dioxide is based on a three-year average; thus it is unlikely that relatively short-term construction emissions would exceed the standard. Carbon monoxide emissions from diesel engines, on the other hand, are low and should be relatively insignificant compared to vehicular emissions on nearby roadways. Indirectly, slow-moving construction vehicles on roadways leading to and from the Project Site could obstruct the normal flow of traffic to such an extent that overall vehicular emissions increase. Exhaust emissions will be mitigated by ensuring that project contractors properly maintain their internal combustion engines and comply with DOH Rules Title 11, Chapter 59 and 60, regarding Air Pollution Control. Additionally, the contractor would move heavy construction equipment during periods of low traffic volume. Likewise, the schedules of commuting construction workers may be adjusted as needed to avoid peak hours in the Project vicinity.

Long-term impacts on air quality from motor vehicle exhausts can potentially occur at or near locations that attract large volumes of motor vehicle traffic. Carbon monoxide emissions, especially at public areas near traffic-congested intersections, are of particular concern. After construction, any long-term impacts on air quality from motor vehicle traffic related to this Project will likely be negligible. The proposed Project will be accessed from a driveway off of Kaomi Loop. In the final conditions, traffic volumes in the vicinity are not expected to be impacted by the proposed project. The Applicant will be replacing its sand shed operations on the adjacent site with the new sand shed operations and will maintain similar employees and sand truck loads. The proposed Project is not expected to have an impact on traffic operations in the project vicinity since the existing vehicle traffic that was accessing the neighboring parcel will now be loading at the new sand shed parcel and the existing sand shed will be decommissioned.

The new sand shed project will not, in and of itself, result in increased long-term air quality impacts such as increased 'greenhouse' gases that result in increase in global temperature rise, since it is a warehouse operation that will store sand for golf course maintenance. Due

to the predicted minimal impact of the project, further mitigation of any potential long-term impacts is not anticipated to be required.

3.3 Flora and Fauna

A *Draft Cultural Impact Assessment Report (CIAR) for the Proposed Hawaiian Cement Sand Shed* was prepared by Honua Consulting and is provided in **Appendix E**. The CIAR briefly studied the flora and fauna at the Project Site as described in the following section.

The U.S. Fish and Wildlife Service (USFWS), State Department of Land and Natural Resources (DLNR), and the State Office of Planning & Sustainable Development (OPSD) have provided comments regarding the project's potential biological impacts and recommended mitigation measures. The impacts and mitigation measures are described in the following section.

3.3.1 Flora

There is no endangered flora in the area and there are no anticipated impacts to rare flora of cultural significance.

Project Impacts and Mitigation

The Project is not likely to have any long-term adverse impacts on any state or federally listed threatened or endangered species or species of cultural or environmental concern. There will be no trees on-site that will be impacted by the construction.

In a letter dated July 19, 2022, the State Department of Forestry and Wildlife (DOFAW) recommended to minimize the movement of plant or soil between worksites to reduce the movement of pathogens, such as pests or invasive plants that could harm the ecosystem. Furthermore, DOFAW recommended coordinating with the Hawaii Wildlife Management Organization on how wildfire prevention can be addressed in the area. Hawaiian Cement will comply with these recommendations.

3.3.2 Fauna

The CIAR states:

"There is unlikely to be any impacts to candidate, threatened, or endangered fauna over the course of this project based on the biological assessment.

Hawaiian short-eared owl

The CIAR further states:

"There is regional concern about the pueo (Asio flammeus sandwichensis), but no pueo have been viewed in the area and the area is poorly suited for nesting or foraging due to its proximity to built environment."

DOFAW further recommended that if pueo nests are present, DOFAW staff should be notified and a buffer zone should be established in which no clearing occurs until nesting is completed.

Hawaiian hoary bat

In a letter dated July 29, 2022, the USFWS noted the following:

> *The Hawaiian hoary bat roosts in both exotic and native woody vegetation across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away.*
>
> *To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you consider incorporating the following applicable measures into your project description:*
>
> - *Do not disturb, remove, or trim woody plants greater than 15 feet tall during the bat birthing and pup rearing season (June 1 through September 15).*
> - *Do not use barbed wire for fencing.*

DOFAW had similar comments in a letter dated July 19, 2022.

Hawaiian seabirds

In a letter dated July 29, 2022, the USFWS noted the following:

> *Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable.*
>
> *To avoid and minimize potential project impacts to seabirds we recommend you incorporate the following applicable measures into your project description:*
>
> - *Fully shield all outdoor lights so the bulb can only be seen from below bulb height and only use when necessary.*
> - *Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.*
> - *Avoid nighttime construction during the seabird fledging period, September 15 through December 15.*

DOFAW had similar comments in a letter dated July 19, 2022.

Project Impacts and Mitigation

The Project is not likely to have any long-term adverse impacts on any state or federally listed threatened or endangered species or species of cultural or environmental concern. The Project will comply with the USFWS and DOFAW recommendations.

In a letter dated July 20, 2022, the State OPSD further recommended to shield exterior lighting and lamp posts associated with the project in order to minimize the artificial lighting illuminating the coastal areas. This light pollution can be disruptive to avian and marine life. The Project will provide shielded fixtures for the exterior lighting.

3.4 Topography and Soils

The Project Site is relatively flat, with elevations ranging from 6.5 feet above mean sea level (msl) at the south portion of the Project Site to 9.5 feet above msl at the north and west portions of the Project Site.

According to the U.S Department of Agriculture (USDA), Soil Conservation Service publication, *Soil Survey of the Islands of Kauai, O'ahu, Maui, Molokai, and Lanai, State of Hawai'i, 1972*, the soil type Coral Outcrop (CR) are found at the Project Site and illustrated in **Figure 6.** The soil survey describes Coral Outcrop as the following:

"Coral Outcrop (CR) consists of coral or cemented calcareous sand on the island of Oahu. The coral reefs formed in shallow ocean water during the time the ocean stand was at a higher level. Small areas of coral outcrop are exposed on the ocean shore, on the coastal plains, and at the foot of the uplands. Elevations range from sea level to approximately 100 feet.

This land type is used for military installations, quarries, and urban development. Vegetation is sparse. It consists of kiawe, koa haole, and fingergrass."

Project Impacts and Mitigation

The proposed Project is not anticipated to greatly alter existing topography at the Project Site. Grading will be limited to the Project Site and will not impact the surrounding area. No significant impact to topographic landforms or soils at the subject property is anticipated. The proposed project will involve major grading activities to prepare the site for development. Earthwork will consist of grubbing, grading, and excavation for the sand shed and retaining wall footings and the waterline entrenchment. Excavation at the site will be accomplished using conventional excavating equipment. Detailed design of the site will take into consideration the groundwater level and the potential for its rise. It is anticipated that the new underground water systems will not be impacted by sea level rise. For all ground disturbing activities, a grading plan and BMP plan will be implemented to prevent soil loss and runoff that may impact the area's topography. All grading operations will be conducted in full compliance with dust, erosion control, and other requirements of the City and County Grading Ordinance and the State of Hawai'i Administrative Rules, Section 11-60, 1-33 applicable to fugitive dust. Best management practices will be included in construction plans to mitigate dust and/or silt emissions.

Construction of the Project would involve land disturbance that could result in soil erosion. Additional mitigative measures may be recommended by the Project's soils engineers as building design and final locations are further defined. Potential impacts involving soils

stability or erosion will be addressed by use of applicable Federal State, and City guidelines governing development, including adherence to grading standards, erosion controls, and Clean Water Act (CWA) of 1972, as amended regulations. During construction, the potential for release of sediments in storm water runoff from excavated areas and stockpile material sites will be addressed through a City and County-approved Erosion and Sediment Control Plan (ESCP). The ESCP applications will require the use of BMPs to prevent or mitigate the potential for impacts to State waters as a result of storm water runoff from the construction site. BMPs may include, but are not limited to, stabilized construction entrances, stabilization of disturbed areas, re-vegetation, and maintenance of equipment. Additional mitigative measures may include removal of unsuitable soils under foundations and/or special foundation design. Grading, excavation, and other construction activities required for the project will be in accordance with City and State regulatory requirements. Adherence to the above mitigation measures and provisions of law are expected to mitigate against the potential for significant short or long term adverse environmental impacts.

Furthermore, in a letter dated July 27, 2022, the State DLNR, DOFAW recommended the following actions during movement of plant or soil material. *DOFAW recommends minimizing the movement of plant or soil material between worksites. Soil and plant material may contain pathogens, pests such as Little Fire ants and/or Coconut Rhinoceros beetles, or invasive plant parts that could harm our native species and ecosystems. We recommend consulting the O'ahu Invasive Species Committee (OISC) at (808) 266-7994 to help plan, design, and construct the project, learn of any high-risk invasive species in the area, and ways to mitigate their spread. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species.*

Figure 9: Soils Map

3.5 Water Resources and Hydrology

3.5.1 Groundwater

O'ahu has been divided into seven major groundwater areas, primarily on the basis of geologic or hydrologic differences. The most important sources of ground water in Hawai'i are from the freshwater parts of these systems in volcanic rocks. According to the *Summary of the O'ahu, Hawai'i, Regional Aquifer-System Analysis*, the Project Site is located in the Southern O'ahu ground water area. The area is divided into six smaller ground-water areas and the Project Site is located in the Ewa subordinate ground water-area. The Ewa area is separated by the Waianae confining bed. See **Figure 10**. There are five fresh ground-water flow systems on O'ahu. The Project Site is located within the Southern O'ahu groundwater flow system. See **Figure 11**. The Southern O'ahu groundwater flow has large amounts of basal ground water. The early development in the flow system was mainly springs near the basalt-caprock contact and flowing artesian wells open to confined parts of the aquifers near the coast.

This potable, artesian ground water resource, known as the Southern O'ahu Basal Aquifer (SOBA) is designated a soles source aquifer by the EPA in accordance with the Safe Drinking Water Act of 1974. A sole source aquifer is defined as supplying 50 percent or more of the drinking water for an area. Once an aquifer is given this designation, any project planned in areas above the aquifer receiving Federal funds must be coordinated with the Region 9 EPA Office in San Francisco.

According to the State Department of Land and Natural Resources, Commission on Water Resource Management (CWRM), the Project Site is located within the Pearl Harbor Hydrologic Unit and has a sustainable yield of 166 million gallons per day. Within the Pearl Harbor Hydrologic Unit, the project site is in the subarea Malakole with a sustainable yield of 1000 mg/l. The project site is within Ewa Caprock overlaying the Waipahu-Waiawa, Ewa-Kunia, and Makaiwa subareas. See **Figure 12.**

Project Impacts and Mitigation

No short or long term, secondary, or cumulative adverse impacts to groundwater resources are anticipated during construction or operation of the proposed Project. Due to the location of the Project Site, infiltration of water would reach seawater instead of groundwater aquifers.

3.5.2 Surface Waters

The project site is located within the Makaiwa watershed. There are no surface waters in the form of perennial or intermittent stream flows through the Project Site. The closest water body to the Project Site is the Pacific Ocean, approximately 650-feet to the southwest. See **Figure 13**.

The drainage runoff on the Project Site northeast corner of the site towards the southwest corner of the site. See **Section 3.13** for further discussion on existing and proposed storm drain system.

Project Impacts and Mitigation

The proposed Project will not impact any perennial or intermittent stream flows or channels.

If water is encountered and removed while digging foundations for the proposed roadway, walkway, concrete slab, and drainage facilities, any such discharged water must comply with federal requirements. During operation of the proposed project, site-specific construction storm water BMPs will be implemented to protect against inadvertent spills or releases of contaminants. No direct, secondary, or cumulative adverse impacts to the area wetlands are anticipated and no further mitigation is anticipated to be required. All work proposed would adhere to City regulatory requirements.

3.5.3 Wetlands

Wetlands play an integral role in the environment. They prevent erosion in the surrounding area through the presence of wetland-associated plants with root systems that hold soil in place. The plants serve as a physical barrier and absorb energy from waves. Wetlands also provide a natural filtration system for runoff. Nutrients swept into a wetland from runoff become bound to soil particles themselves or absorbed by plant roots and microorganisms that live in the soil. Through this process, most of the nutrients and pollution in the water are retained, preventing them from entering the ocean. Executive Order 11990, Protection of Wetlands, directs federal agencies to take action to minimize the destruction, loss, or degradation of wetlands on their properties and mandates the review of the impact of proposed actions on wetlands through NEPA.

There are no known wetlands in or adjacent to the project site.

Project Impacts and Mitigation

There would be no impact to wetlands because none exist in the project area.

Figure 10: O'ahu Groundwater

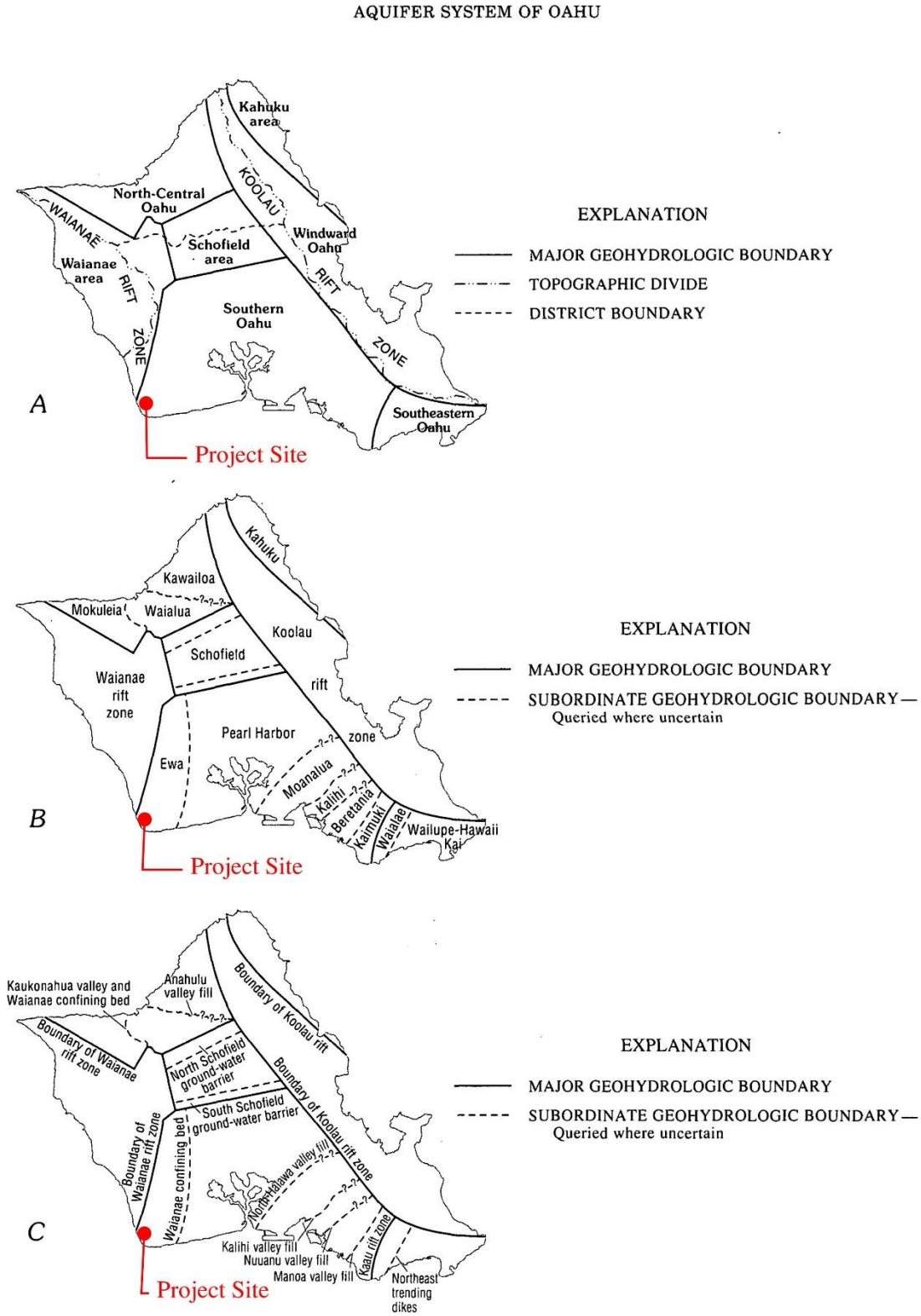


FIGURE 9.—Ground-water areas and geohydrologic barriers, island of Oahu. *A*, Major ground-water areas. *B*, Subordinate ground-water areas. *C*, Geohydrologic barriers.

Figure 11: O'ahu Freshwater

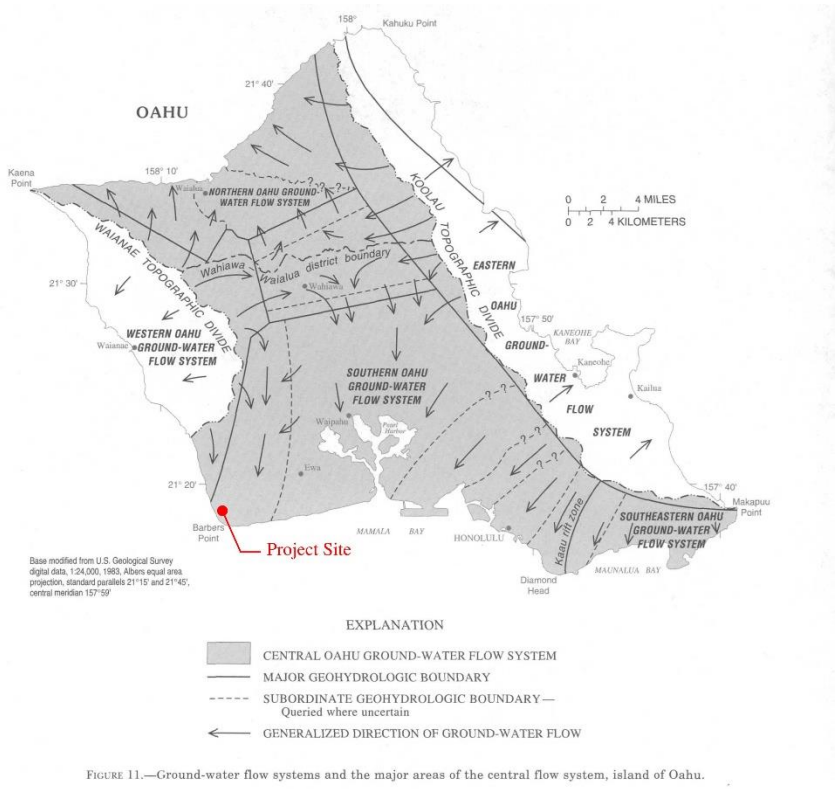


FIGURE 11.—Ground-water flow systems and the major areas of the central flow system, island of Oahu.

Figure 12: Hydrologic Units

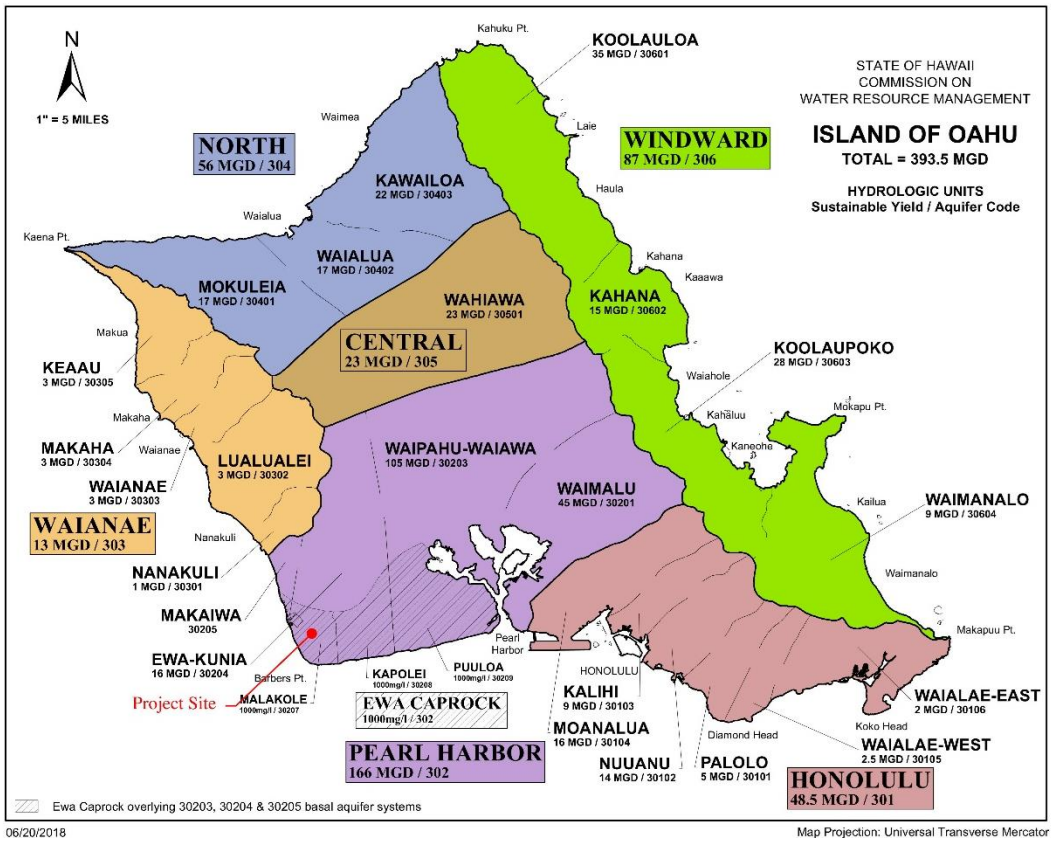
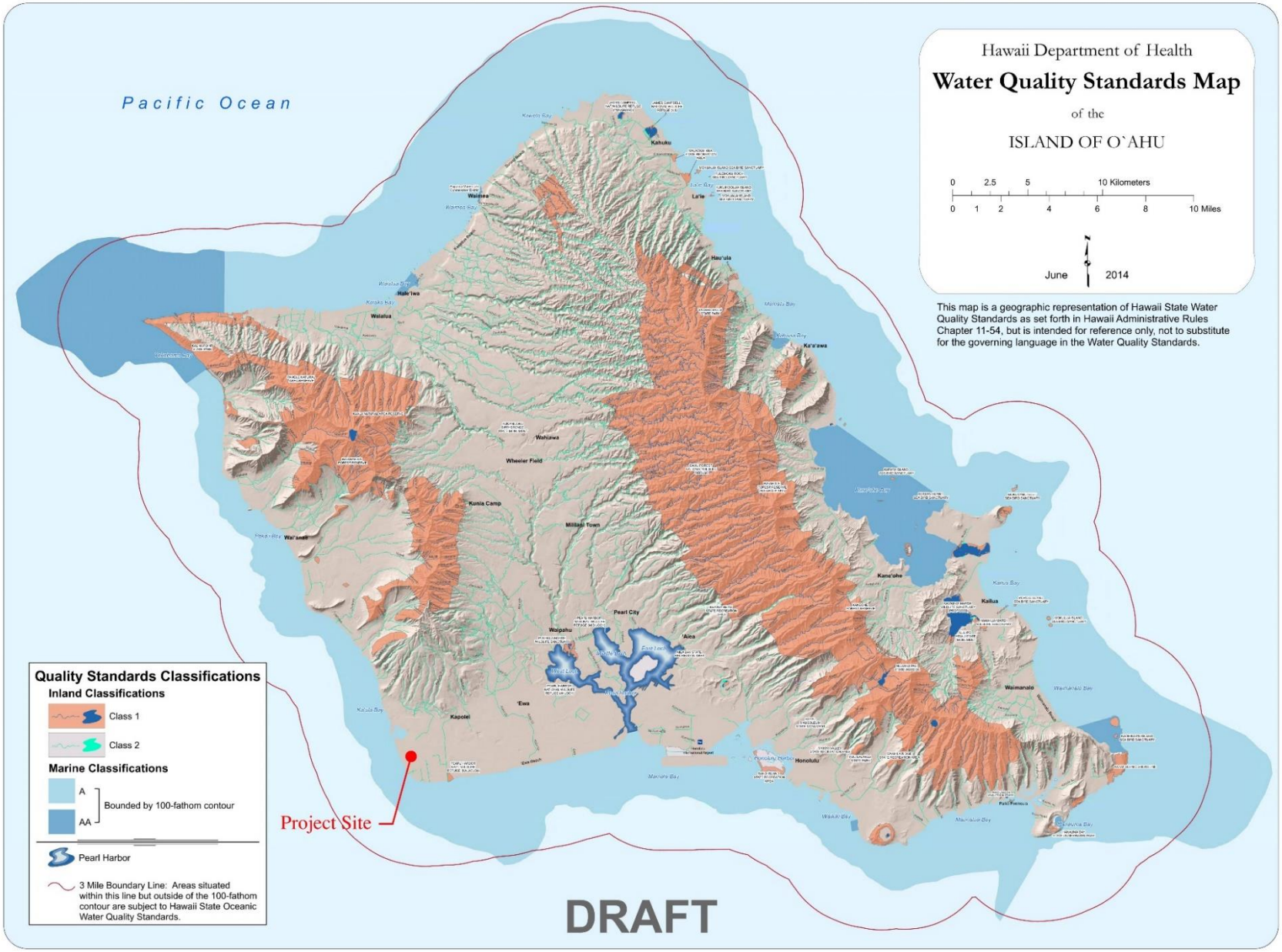


Figure 13: Water Quality Standards Map



3.6 Natural Hazards (Floods, Climate Change and Sea Level Rise, Tsunamis, Seismic Hazards, Hurricanes and High Winds)

This section summarizes potential natural hazards including, floods, tsunamis, seismic hazards, hurricanes, and high winds, and potential effects of the proposed project, and mitigation measures.

In case of a natural hazard, construction activities would cease for the period that the flood, seismic, hurricane, or tsunami hazard exists. Equipment would be secured in work and support areas. No additional impacts related to the construction operations are anticipated due to flood, climate change and SLR, seismic, hurricane, or tsunami hazard.

3.6.1 Flood Zones

According to the Flood Insurance Rate Map (FIRM), map number 15003C0312G, prepared by the Federal Emergency Management Agency (FEMA), the subject property is located in Flood Zone "D". See **Figure 12**. FEMA describes Zone "D" as the following:

> Zone "D": *"Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase apply, but coverage is available in participating communities."*

Project Impacts and Mitigation

The proposed project involving sand shed, retaining wall, septic tank and leach field, and waterline and fire hydrant is not expected to be significantly impacted based on its location within the FEMA Flood Zone D. Construction of the proposed Project would adhere to design standards as set forth in ROH, Chapter 21A, "Flood Hazards", as required.

3.6.2 Climate Change and Sea Level Rise

In 2014, the Hawai'i State legislature passed the Hawai'i Climate Adaptation Initiative Act (Act 83, 2014). The purpose of the act is to address the effect of climate change by implementing a climate adaption plan. Studies supporting this plan projected sea level to rise one foot by 2050 and three feet by 2100. Rising sea levels will increase the probability of coastal flooding and erosion, which could damage coastal infrastructure. The Hawai'i State Legislature also passed a law (SB 2745) in 2012 that amends the State Planning Act to include climate change as one of the priority guidelines.

Climate change is considered a threat to all coastal areas. Planning for climate change and sea level rise (SLR) is challenging as there are multiple variables and changing and unknown factors. Research indicates that greenhouse gas (GHG) emissions, including carbon dioxide, methane, nitrous oxide, and fluorinated gases, are a key contributor to the unprecedented increases in global atmospheric warming over the past century (USEPA, 2011 and IPRC, 2013). University of Hawai'i (UH) researchers have documented the effects of climate change in Hawai'i, as air temperatures have risen; rain intensity has increased while total rainfall has decreased; stream flows have decreased; sea surface temperatures and sea levels have increased; and the ocean is

becoming more acidic (IPRC, 2013, var. and SB No. 2745, 2012). These trends are projected to continue to increase in the future, which poses unique and considerable challenges to Hawai'i. It is estimated that sea level has risen in Hawai'i by approximately 0.6 inches per decade (1.5 millimeter per year) over the past century (SOEST, 2012). The estimates point to a potential aggregate SLR of 1.3 feet (40 centimeter) by the year 2060 and a rise of 3.3 feet (100 centimeter) by 2110 (SOEST, 2012).

The Hawai'i State Legislature passed a law (SB 2745) in 2012 that amended the State Planning Act to include climate change as one of the State's priority guidelines. In 2014, the Hawai'i State legislature passed the *Hawai'i Climate Adaptation Initiative Act* (Act 83, 2014), codified as HRS, Chapter 225P, which established an Interagency Climate Adaptation Committee (ICAC). The purpose of Act 83 is to address the effects of climate change by implementing a climate adaption plan. On June 6, 2017, Governor David Ige signed Act 32, Session Laws of Hawai'i, which amended HRS, Chapter 225P by renaming the ICAC to the Hawai'i Climate Change Mitigation and Adaptation Commission ("Commission"). The Commission published the *Hawai'i Sea Level Rise Vulnerability and Adaptation Report* ("SLR Report") in December 2017, which included recommendations on how to reduce exposure and increase adaptability to the impacts of SLR. Research within the SLR Report notes that the intensity and frequency of natural disasters have increased and will continue to do so, and further provides technical projections of areas along the coast that are vulnerable to SLR based on the latest available science. The SLR Report includes recommendations to address risks associated with climate change. The SLR Report found that a SLR of 3.2 feet and the associated erosion, flooding, and waves inundation, will have significant impacts to O'ahu's building and land values, residents and infrastructure.

Portions of O'ahu that are vulnerable to the SLR are illustrated on the Hawai'i Sea Level Rise Viewer, an online interactive map created in conjunction with the SLR Report. Specifically, the viewer defines an area called the SLR exposure area (SLR-XA), which is the projected extent of chronic flooding due to SLR (PacIOOS, 2018). The Project Site is not located within the 3.2 feet SLR-XA. **Figure 16**, PACIOOS Sea Level Rise Exposure Area – 3.2 feet was derived from the Viewer accessed at https://www.pacioos.Hawai'i.edu/shoreline/slr-Hawai'i/.

The National Oceanic and Atmospheric Administrators (NOAA) have come up with a viewer to view impacted areas at different levels of sea level rise. At 5 feet SLR and above, the Project Site will be affected by sea level rise. The Project Site will not be affected by 4 feet of SLR. See **Figure 17** The data shown in **Figure 17** was derived from NOAA's viewer The data was accessed at https://coast.noaa.gov/slr/.

Based on Guidance from the Honolulu Climate Change Commission, the City and County of Honolulu recommended the benchmarks of 3.2 feet SLR-XA (via Hawai'i Sea Level Rise Viewer) and 6 feet SLR (via NOAA Sea Level Rise viewer) to be used as a planning benchmark. High tide flooding and nuisance flooding may be present and precede global mean SLR by decades.

Project Impacts and Mitigation

Climate change and SLR and associated coastal impacts are a concern for the State of Hawai'i and the world, and requires a global response. The project would not result nor constitute a source of impact to the climate of the project area or region, and does not

propose activities that will lead to an increase in the generation of GHGs, as discussed in **Section 3.1 Climate** and **3.2 Air Quality**. LID greening measures to contribute to the site's sustainability, thereby reducing the development's impacts on the environment will be incorporated.

The Project Site will not be affected by 3.2 feet of SLR in accordance with the PACIOOS SLR-XA. However, the Project Site will be impacted by SLR in the 5 and 6 foot condition in accordance with NOAA's viewer. Sea level rise mitigation measures will not be required to address the 3.2 feet SLR scenario.

3.6.3 Tsunami

Tsunamis are a series of waves most commonly caused by large earthquakes below or near the ocean floor on thrust faults associated with subduction zones. Tsunamis can also be caused by undersea landslides. Tsunamis differ from ordinary ocean waves and storm surges in that the entire water column from the sea floor to the ocean surface is displaced, not just the upper few feet of the ocean surface as with ordinary ocean waves. As tsunamis enter shallower coastal waters, the speed of the wave slows down and the height increases. A wave that may be only 3 feet high or less in the ocean may climb to more than 60 feet when it hits the coastline.

Tsunamis can cause great loss of life and property damage where they come ashore. The first wave is almost never the largest; successive waves may be spaced tens of minutes apart and continue arriving for many hours. All low-lying areas along the Pacific Coast of the U. S. are subject to inundation by tsunamis.

The Pacific Rim is the name given to the land masses surrounding the Pacific Ocean. Very large earthquakes anywhere around the Pacific Rim may cause a distant source tsunami that could strike the coastline. The first waves would reach the coastline many hours after the earthquake occurred depending on the distance of the quake from the project site. Tsunami Warning Centers will alert local officials, who may order evacuation along the coastline. The effects of a distant-source tsunami may be negligible or severe, depending on the magnitude of the earthquake, the distance of the earthquake from the site, and the direction of approach.

If a large earthquake occurs within the major Hawaiian Islands, the first waves (a local source tsunami) may reach the coast within minutes after the ground shaking stops. There is no time for authorities to issue a warning. People on the beach or in low coastal areas need to move to higher ground as soon as the ground shaking stops and stay away from low-lying coastal areas until an official "all clear" is broadcast. Locally generated tsunamis constitute the most serious threat because they can strike suddenly, before a tsunami warning system has been activated and sometimes before ground shaking stops. Lack of information about how tsunamis behave is widely responsible for loss of human life in many situations.

According to the City Department of Emergency Management Tsunami Evacuation Zone maps, the subject property is within the Tsunami Evacuation Zone and Extreme Tsunami Evacuation Zone. The west portion of the site is within the Tsunami Evacuation Zone, while the east portion of the site is within the Extreme Tsunami Evacuation Zone. See **Figure 15**.

Project Impacts and Mitigation

The proposed project site is located in the tsunami evacuation zone and extreme tsunami evacuation zone as designated by the City. To mitigate against tsunami and storm surge impacts, engineering analyses will be performed to determine proper design criteria to be applied to structures associated with this project. During Tsunami Warnings, citizens evacuate out of the red zone. In the event of an Extreme Tsunami Warning, citizens evacuate out of both the tsunami evacuation zone (red zone) and the extreme tsunami evacuation zone (yellow zone). The project will not include any residential units. The employees and visitors on-site will evacuate off-site accordingly.

3.6.4 Hurricanes and High Winds

In Hawai'i, northeast trade winds predominate throughout most of the year and generally range in velocity between 10 and 20 mph with trade winds of 40-60 mph periodically occurring. When wind speeds exceed 70 mph, the storms are characterized as hurricanes. Hurricanes are strong tropical winds with wind speeds greater than 74 miles per hour.

They often come with heavy rains and, depending on the wind speeds, can damage onshore buildings and structures and vessels within the harbor. Hurricanes are classified according to "Category", where Category 1 hurricanes have wind speeds between 75-95 mph and Category 5 hurricanes have wind speeds exceeding 155 mph. Hurricanes occasionally approach the Hawaiian Islands, but rarely reach the islands with hurricane force wind speeds.

Hurricanes are more prone to affect the Hawaiian Islands from the late summer to early winter months. During hurricanes and storm conditions high winds cause strong uplifting forces on structures, particularly roofs. Wind-driven materials and debris can attain high velocity, causing devastating property damage and harm to life and limb.

It is difficult to predict when these natural occurrences may occur, but it is reasonable to expect that future events will occur. The project area is, however, no more or less vulnerable than the rest of O'ahu to the destructive winds and torrential rains associated with hurricanes.

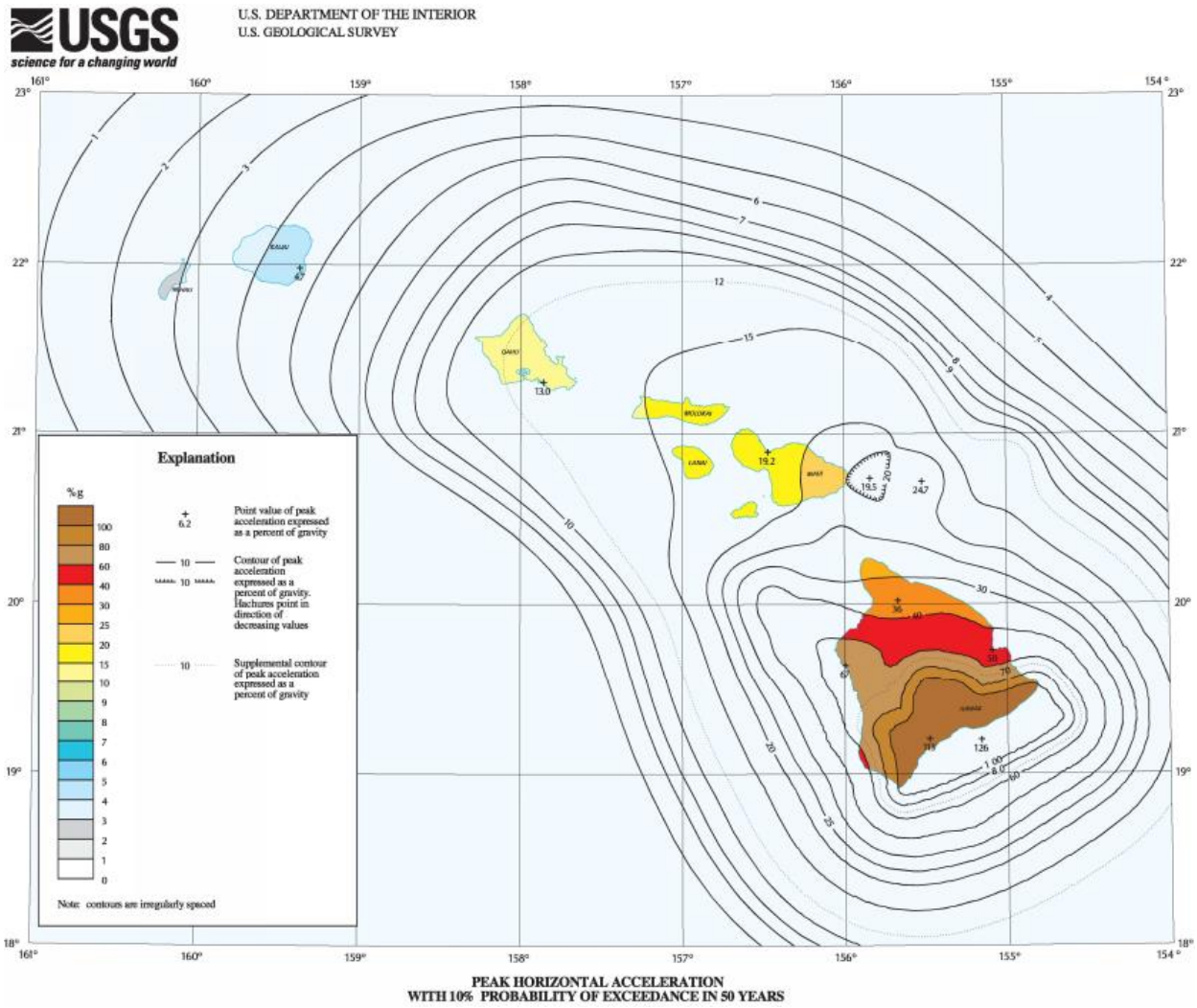
Project Impacts and Mitigation

To mitigate against potential impacts from high winds or hurricanes, the proposed project will ensure that improvements are designed to use current building codes which offer some protection from damage.

3.6.5 Seismic Hazards

Figure 14 illustrates the estimated risk of earthquakes using the measure of ground motion hazard in terms of peak horizontal acceleration (PHA) measured as a percent of Earth's gravitational acceleration (%g). The map depicts the PHA expected over the next 50 years with a 10% probability of exceedance. The southeast part of the Island of Hawai'i has the highest expected ground acceleration at over 100 %g. This amount of acceleration would make it difficult to stand and could topple structures. The color scale shows the island of O'ahu to have an expected ground acceleration of 15%, a reduced risk in which a moderate amount of shaking may be experienced (USGS, 2017).

Figure 14: State of Hawai'i Seismicity



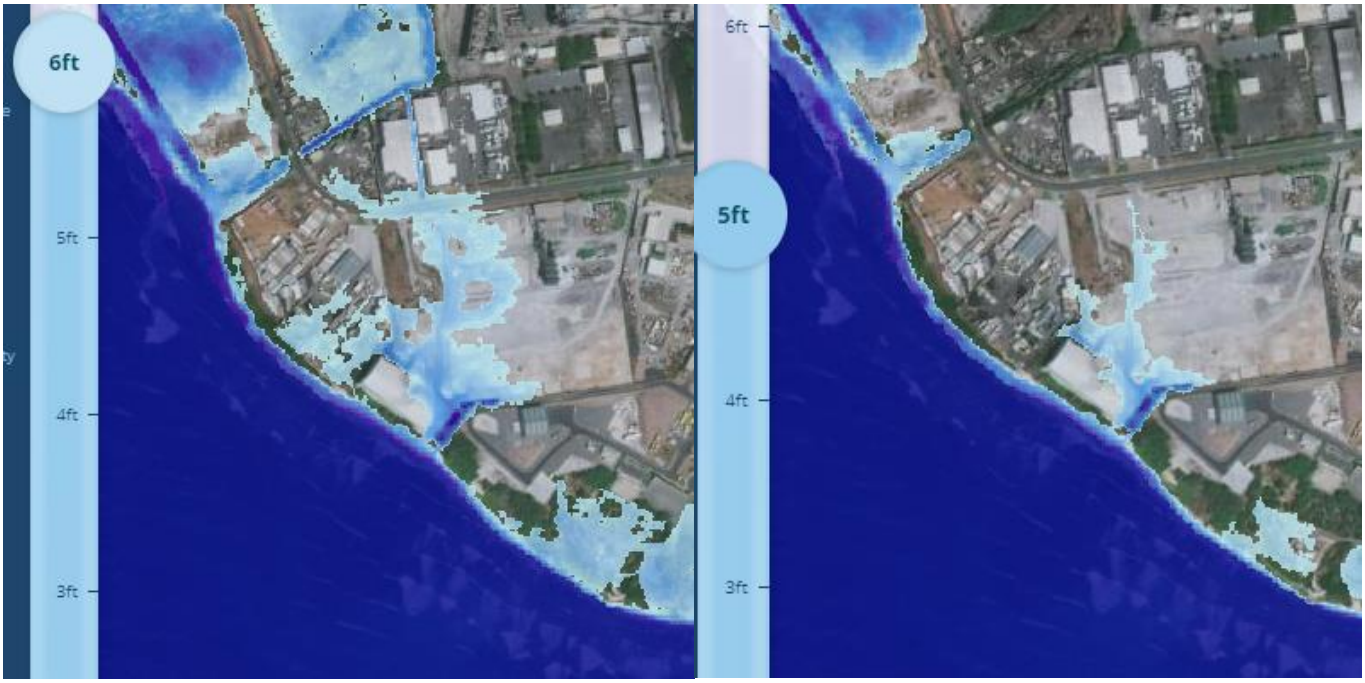
Project Impacts and Mitigation

Construction of the proposed project is not expected to be adversely affected by seismic activity. In the case of a seismic hazard, construction activities would cease for the period that the seismic hazard exists. Equipment would be secured in work and support areas. All project alternatives will comply with the International Building Code (IBC), which provides minimum design criteria to address potential for damage due to seismic disturbances. No direct, secondary, or cumulative impacts related to seismic hazards are expected.

Figure 15: Flood Zones

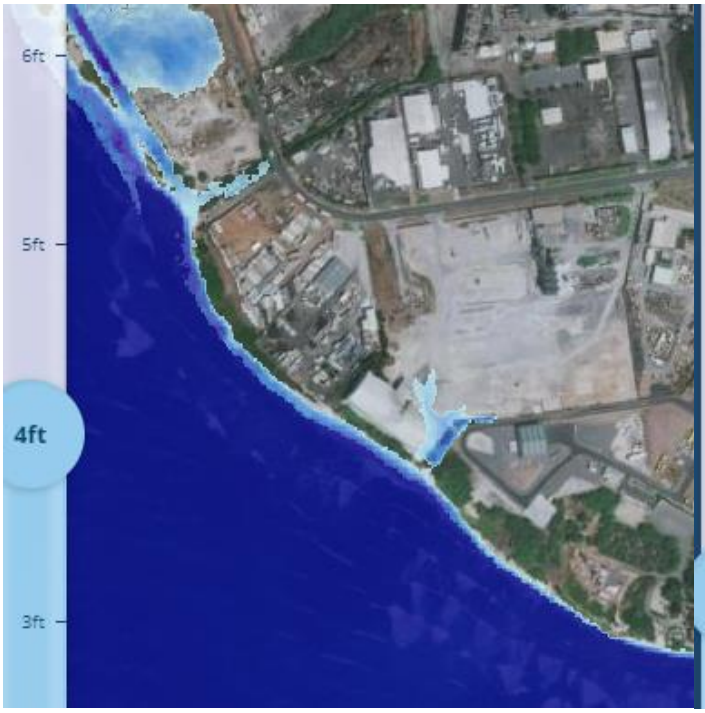
Figure 16: PACIOOS Sea Level Rise Exposure Area (SLR-XA) - 3.2 feet

Figure 17: NOAA Sea Level Rise - 3-6 Feet

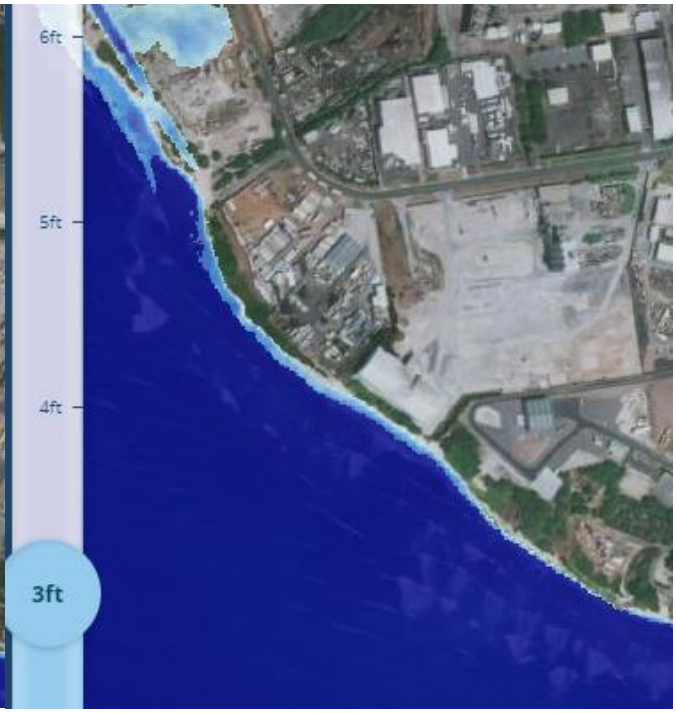


6-Ft. Sea Level Rise

5-Ft. Sea Level Rise



4-Ft. Sea Level Rise



3-Ft. Sea Level Rise

Figure 18: Tsunami Evacuation Zone

3.7 Noise

The regulation of noise is governed by HAR, Chapter 11-46, Community Noise Control. Allowable day and nighttime noise standards for sensitive receptors have been established for conservation, residential, apartment, hotel, business, agricultural and industrial districts. Current noise sources in the project vicinity include vehicular traffic, equipment use associated with industrial and commercial uses, and grounds and building maintenance.

Project Impacts and Mitigation

Short-term noise impacts are related primarily to construction activities. Construction of the proposed Project will involve excavating and grading. A majority of the noise will be generated during mobilization and operation of heavy construction equipment comprised of earth moving equipment, such as diesel engine powered bulldozers, trucks, backhoes, front-end loaders, graders, etc. The actual noise levels produced are dependent on the construction methods employed during each phase of the construction process. Construction equipment noise is expected to be in the range of 55 and 90 dB in close proximity to the site. The noise exposure is not expected to be continuous during the total construction period and noise related to construction is expected to cease upon completion of the proposed project.

Construction noise impacts will be in compliance with provisions of the State DOH Administrative Rules, Title 11, Chapter 46 *Community Noise Control*.

After construction is complete, noise generated from any stationary mechanical equipment on the project site will comply with the DOH property line noise regulations. Noise mitigation for stationary mechanical equipment will be considered during the design of the project.

After construction, any long-term impacts on noise related to this Project will likely be negligible. The sand shed operations will be comparable to current site operations. Furthermore, the proposed Project is not expected to have a significant impact on traffic operations in the project vicinity that could contribute to noise. The existing vehicle traffic that was accessing the neighboring parcel will now be loading at the new sand shed parcel and the existing sand shed will be decommissioned. Therefore, it is anticipated that noise in the project's vicinity to be similar to existing conditions and significant long-term noise impacts are not anticipated.

3.8 Historic, Archaeological, and Cultural Resources

A *Draft Cultural Impact Assessment Report (CIAR) for the Proposed Hawaiian Cement Sand Shed* was prepared by Honua Consulting and is provided in **Appendix E**. The document was designed to determine the cultural history of the Project area the modern history of the area, the biocultural environment and cultural landscape, and impact assessment.

An *Archaeological Literature Review and Field Inspection for the Hawaiian Cement Sand Shed*

Project at 91-055 Kaomi Loop, Honouliuli Ahupua'a, 'Ewa District, O'ahu Island, T.M.K. [1] 9-1-026: 056, was prepared by Honua Consulting in December 2020 and is provided in **Appendix F**.

Project Impacts and Mitigation

According to the CIAR, the Project's impacts to cultural and historic resources are as follows.

Impacts to Historic Sites

"Honua Consulting, LLC conducted a literature review and field investigation (LRFI) of the project area which assessed previous archaeology and included a 100% pedestrian survey of the project area. Based on this assessment, it is unlikely the project will impact to historic sites."

Furthermore, the LRFI indicates: *"This study found that the proposed project has an effect determination of "no historic properties affected". Due to significant historic properties documented in the vicinity, consisting of human burials and cultural deposits within sinkholes and semi-permanent traditional habitation sites, it is recommended that the proposed project proceed under an archaeological monitoring program to be conducted in accordance with Hawai'i Administrative Rules (HAR) 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports)."*

Impacts to Intangible Cultural Resources

"The APE has been largely disturbed due to previous agricultural use and extensive industrial use. Therefore, the project activities are unlikely to have any impact to intangible cultural resources in the area."

Impacts to Cultural Practices

"This project is unlikely to have any potential impact to the traditional and customary practices that take place in the surrounding region. In the event that historic resources or iwi kupuna are inadvertently discovered during project work, area cultural descendants should be engaged to care of the iwi."

3.9 Visual Resources

The Project proposes to construct a new approximately 50-feet tall sand shed. Current zoning allows building heights of up to 60 feet. The existing site is shown in **Figure 1-3**, and proposed structure section is shown in **Figure 8**. On the project site, there are 11 existing concrete silos capable of storing over 20,000 tons of cement, a warehouse, and a batch plant to the east of the proposed sand shed. The Ewa Development Plan calls for:

Retaining visual landmarks and significant public views and vistas, including:

- *Distant vistas of the shoreline from the H-1 Freeway above the Ewa Plain;*
- *Views of the ocean from Farrington Highway between Kahe Point and the boundary of the Waianae Development Plan Area*

The Project Site within the significant public view plane and vista of the H-1 Freeway and Farrington Highway towards the shoreline/ocean.

Project Impacts and Mitigation

The Project Site will be more visible than it is now due to the addition of the proposed 50-foot-tall sand shed. However, the Project is not anticipated to have a significant adverse impact on scenic view planes or scenic resources. The sand shed will follow City and County of Honolulu 60-feet height limit. The sand shed will be similar in height to nearby building structures in the vicinity of the project. Furthermore, there are no residential or dwelling units in the vicinity. No further mitigation is necessary.

3.10 Transportation Network and Traffic

3.10.1 Roads

The Applicant has an existing sand shed operation on a neighboring parcel, located makai of the Project Site. This proposed sand shed will replace that operation. The existing sand shed operation that is to be moved from the neighboring parcel to the Project Site includes the loading of construction trucks. The following table shows the average daily truckloads of sand over the past 5 years. There is an average of around 80-120 tons per day and 4-6 trucks per day.

Table 1: Average Daily Truck Loads

Year	Sales	Tons/ day	Trucks/day
2015	20,599	80	4
2016	22,180	85	4
2017	19,123	74	3.7
2018	21,337	82	4
2019	29,482	117	6

The operation of the proposed sand shed is anticipated to have similar truck loading activities.

There are 5 existing employees at the Project Site and a 6th employee will relocate from the neighboring parcels sand shed operations.

Project Impacts and Mitigation

Since the Applicant is replacing the existing sand shed operation on the neighboring parcel with the proposed sand shed on-site operations, traffic is anticipated to be similar to existing

conditions. The Project is not expected to have an impact on traffic operations in the project vicinity.

3.10.2 Bus Service, Pedestrian and Bicycle Access

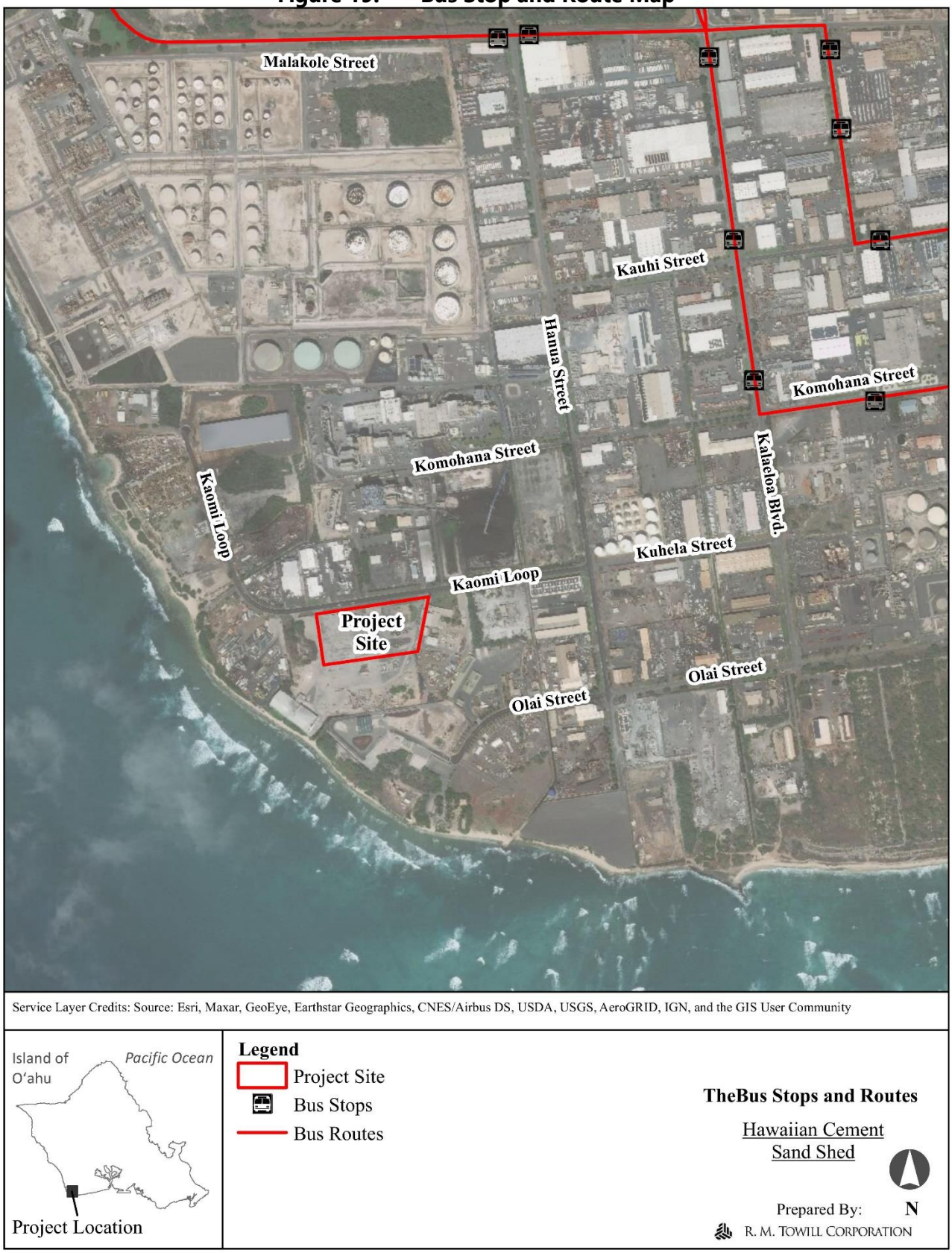
The Project Site is served by TheBus, operated by the City and County of Honolulu, Department of Transportation Services, O'ahu Transit Services through several bus routes along Malakole Street and Kalaeloa Boulevard. The nearest bus stops to the project site are located near Kalaeloa Boulevard and Komohana Street. See **Figure 16.**

There are no existing pedestrian and bicycle facilities along Kaomi Loop.

Project Impacts and Mitigation

The proposed sand shed operations will be utilized by construction vehicles loading and unloading operations and is not anticipated to have a significant impact on pedestrian and bicycle facilities, and bus stops and routes in the project vicinity.

Figure 19: Bus Stop and Route Map



3.11 Wastewater

The on-site wastewater system is limited to an existing cesspool adjacent to the bagging operations building. The cesspool directly infiltrates untreated wastewater into the coral outcrop fill below the Project Site. The sole source of wastewater generation for the cesspool is the bagging operations building employee bathroom.

Project Impacts and Mitigation

Since there are no sewer facilities within Kaomi Loop, the Project Site will not tie into the City sewer system. The project will replace this cesspool with a new packaged wastewater treatment plant (septic tank and leach field), or similar product sized for their limited needs. The proposed location of the wastewater improvements is shown in **Figure 7**.

The Project will install new facilities in accordance with the requirements of the City and County of Honolulu Wastewater Design Standards, and with HAR Chapter 11-62, DOH Wastewater Systems. The new system will have a significant improvement on effluent water quality and the Project will not impact regional wastewater collection systems in the area.

3.12 Potable Water

The James Campbell Industrial Park is served by a 12-inch Board of Water Supply Main in Kaomi Loop. The Project Site and the Copart Lot to the southwest currently receive water from the neighboring lot to the east (Frank Coluccio Construction, TMK: 9-1-260:057). This single BWS water meter fronting the neighboring lot was installed to serve all 3 lots, TMKs: 9-1-260: 056, 057 & 058, when they were all a single lot prior to being subdivided and sold to separate owners. The existing onsite water system consists of 6" and 3" piping that will be cut at capped at the eastern property line separating the site from the neighboring water meter. The Project will install a new water meter and onsite fire hydrant, as required, in accordance with BWS and NFPA rules.

Project Impacts and Mitigation

The new water meter will enable the Applicant to receive their own water bill instead of through agreement with the neighboring lot. Water service to the Project Site will be from

the same 12-inch Board of Water Supply Main in Kaomi Loop and the Project Site will have no change in water demand as a result of these improvements. Therefore, the proposed action is not anticipated to be a significant impact on water supply.

3.13 Storm Drainage and Storm Water Quality

3.13.1 Storm Drainage

Existing drainage infrastructure in the area consists of Catch basins and 18-inch to 24-inch drain pipes along Kaomi Loop which prevents off-site runoff from entering the Project Site. This City & County drainage system located in Kaomi Loop conveys water to overland ditches which eventually flows to the shoreline. Runoff generated onsite follows the topography and sheet flows through the downstream property. This existing flow condition was created when COPART purchased the flag lot from Hawaiian Cement to the south.

Project Impacts and Mitigation

The proposed sand shed structure will be placed over existing concrete pavement, so there is no significant increase in stormwater runoff generated by the proposed improvements. The proposed tent structure will not alter the existing flow pattern and the downstream property will not be affected. The storm drainage will continue to follow existing patterns and flow towards the southwest direction towards the downstream property.

3.13.2 Storm Water Quality

Existing runoff generated onsite sheet flows through the industrial lot over the existing concrete surface and receives no treatment in regard to storm water quality. The Project will seek to demolish a 15-foot-wide portion of the existing concrete surface along the southwestern property boundary to create a Vegetated Buffer Strip to treat the onsite sheet flow per City and County of Honolulu storm water quality requirements. Sometimes referred to as a vegetated filter strip or biofiltration strip, the Project's vegetated buffer strip will be a grassed boundary on the downstream end of the site that will remove pollutants by vegetative filtration.

Project Impacts and Mitigation

The Project will incorporate appropriate LID site design strategies and post construction treatment control BMPs to biofilter in order to comply with City and County of Honolulu Rules Relating to Water Quality. The Project's storm water quality improvements are not anticipated to have any negative impacts to storm water quality.

Hawaiian Cement will submit construction plans to the City, DPP for approval of compliance with the latest storm water quality rules.

3.14 Power and Communications Facilities

The HECO-owned Kahe Power Plant is the primary source of electricity to the project site. There

is an existing HECO overhead easement and powerline in the Kaomi Loop Right-of-Way, which serves the Project Site.

Project Impacts and Mitigation

The Project scope does not include any electrical work; therefore, the Project will have no impacts to the electrical and communications facilities.

3.15 Police, Fire, and Medical Facilities

3.15.1 Police

The Project Site is located within the Honolulu Police Department (HPD) District 8 which services the communities of Ewa, Ewa Beach, West Loch, Barbers Point, Kapolei, Makakilo, Campbell Industrial Park, Honokai Hale, Ko Olina, Nanakuli, Māʻili, Waianae, Makaha, Makua, and Kaʻena. The closest police station/substation, Kapolei Police Station, is located at 1100 Kamokila Boulevard and is approximately 3.9 miles to the northeast of the Project Site per vehicular travel route.

3.15.2 Fire

There are multiple Honolulu Fire Department (HFD) stations in the project vicinity including the Kapolei, East Kapolei, and Makakilo fire stations. The closest fire station, Kapolei Fire Station 40, is located at 2020 Lauwiliwili St. and is approximately 2.5 miles northeast of the Project Site. The East Kapolei Fire Station 43 is located at 91-1211 Kinoiki St. and is approximately 5.1 miles northeast of the Project Site. The Makakilo Fire Station 35 is located at 92-885 Makakilo Dr. and is approximately 5.5 miles northeast of the Project Site. Approximate distances are based on the estimated travel route.

The Developer shall ensure that a fire department access road is provided in accordance with the National Fire Protection Association (NFPA) guidelines. Kaomi Loop and the existing internal roads currently serve this purpose.

The Developer will further ensure that an approved water supply capable of supplying the required fire flow for fire protection shall be provided in accordance with the NFPA guidelines.

3.15.3 Medical Facilities

The closest medical facility with emergency services is the Queen's Medical Center - West Oahu. The Queen's Medical Center - West Oahu is located approximately 9.1 miles northeast of the Project Site on Fort Weaver Rd per vehicular travel route. The Queen's Medical Center – West Oahu's Emergency Department is available 24-hours a day, 365-days a year. In addition, there are multiple medical and dental clinics and offices in the project vicinity including Kaiser Kapolei Clinic, Queen's Health Care Center, and Straub Kapolei Family Health.

Project Impacts and Mitigation

In the short-term, the project may have adverse impacts such as temporary disturbance of traffic during construction, which could affect emergency vehicle access through the project

area. During the construction period, the contractor shall ensure to keep the roadways clear and allow accessibility of police, fire, and emergency vehicles.

In the long-term, the proposed project my require occasional police and fire protection, as well as medical services, however it would likely not represent a significant amount relative to the overall regional demand. No increase in demand for these services is expected since the use already exists on a neighboring parcel and is just being located to the Project Site owned by the Applicant.

The proposed project will be designed and built in compliance with the applicable County fire code requirements.

3.16 Education Facilities

The Project Site is located within the Campbell-Kapolei Complex Area within the Leeward Oahu District as indicated by the State of Hawai'i Department of Education (DOE). There are five public elementary schools, two public middle schools, and one public high school within the Kapolei Complex. Students from the project area attend Makakilo Elementary School, Kapolei Middle School, and Kapolei High School.

There are multiple public and private universities and colleges in the project vicinity including University of Hawai'i – West O'ahu, Hawai'i Tokai International College, and Wayland Baptist University - Hawai'i.

The closest public library is the Kapolei Public Library which is located at 1020 Manawai St. and is approximately 3.7 miles northeast of the Project Site per vehicular travel route.

Project Impacts and Mitigation

Since the proposed project will not add any dwelling units, and will be designed for industrial use, the education facilities will not be affected by the Project.

3.17 Community Parks and Recreational Resources

The City Department of Parks and Recreation (DPR) manages and maintains a system of parks on the island of O'ahu. The Project Site is located with DPR's District 3: Leeward/Central Oahu – Pearl City to Waianae & Ewa Beach to Whitmore. There are many community parks and beaches available in the vicinity of the subject project.

Project Impacts and Mitigation

The proposed project is not expected to have significant adverse impacts on recreational facilities in the vicinity of the project area.

3.18 Socio-economic Environment

US Census compiles demographic information on population, housing, and employment every 10 years, with the most recent data available from the year 2010. The Project Site is located within Census Tract 9803, Campbell Industrial Park and the Kalaeloa Census Designated Place.

An overview of 2017 demographic characteristics based on the U.S. Census Bureau American Community Survey for the census tract and for Honolulu County as a whole, is provided in the table below. As referenced below, the total resident population is zero as there are no residential housing units in the project vicinity (Census Tract 9803).

Table 2: Selected Population and Housing Characteristics

Subject	Census Tract 9803		City and County of Honolulu	
	Number	Percent	Number	Percent
Total Population	**0**	**0**	**990,060**	**100.0**
AGE				
Under 5 years	0	-	64,644	6.5
5-19 years	0	-	169,511	17.2
20-64 years	0	-	530,898	53.6
65 years and over	0	-	162,580	16.4
Median age (years)	0	-	37.6	-
RACE				
One race	0	-	760,701	76.8
White	0	-	209,222	21.1
Black or African American	0	-	23,248	2.3
American Indian and Alaskan Native	0	-	1,391	0.1
Asian	0	-	424,558	42.9
Native Hawaiian and other Pacific Islander	0	-	92,743	9.4
Other	0	-	9,539	1.0
Two or more races	0	-	229,359	23.2
HOUSEHOLD (BY TYPE)				
Total households	**0**	**0**	**311,451**	**100.0**
Family households (families)	0	-	219,859	70.6
Nonfamily household	0	-	91,592	29.4
Average household size	0	-	3.06	-
HOUSING OCCUPANCY AND TENURE				
Total housing Units	**0**	**0**	**346,374**	**100.0**
Occupied Units	0	-	311,451	89.9
Owner-occupied	0	-	173,242	55.6
Renter-occupied	0	-	138,209	44.4
Vacant Units	0	-	34,923	10.1
Misc.				
Median Gross Rent	$ -	-	$ 1,653	-
Median Household Income	$ -	-	$ 80,078	-
Mean Household Income	$ -	-	$ 101,194	-

*Source: U.S. Census Bureau, American Community Survey, 5-year Estimates (2017)

Project Impacts and Mitigation

The proposed Project will not provide any dwelling units to the area.

Development of the project will provide construction and indirect jobs. In addition to construction expenditures, construction activity will generate indirect sales associated with supplying goods and services to construction companies and to the families of construction workers. In turn, the companies supplying goods and services, and the families of their employees, will purchase goods and services from other companies, and so on. These indirect sales will include sales by companies that supply building materials (cement, steel, lumber, roofing materials, plumbing equipment, electrical equipment, hard-ware supplies, lighting, flooring, etc.); rent out construction equipment; repair equipment; provide warehousing services; provide shipping and trucking services; etc. Indirect sales also include sales by grocery stores, drugstores, restaurants, service stations, beauty salons, medical providers, accountants, attorneys, insurance agents, etc.

No new long-term jobs will be added since the sand warehouse is just moving to a new location on an adjacent parcel.

3.19 Potential Cumulative and Secondary Impacts

Cumulative impacts are impacts which result from the incremental effects of an activity when added to other past present, and reasonably foreseeable future actions, regardless of what agency or person undertake such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The Project is not anticipated to generate substantial cumulative impacts. Short-term impacts to adjacent buildings may occur during construction. These will be mitigated to the extent possible, as previously described. In the long-term, there will be no adverse cumulative impacts on existing environment as described previously.

Secondary effects are impacts that are associated with, but do not result directly from, an activity. The environmental analysis of the proposed Project addresses full development of the project in the context of known planned or approved land uses in the vicinity. Thus, secondary impacts are not anticipated.

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Section 4

Conformance with Land Use plans, Policies and Controls

Section 4 Conformance with Land Use Plans, Policies and Controls

4.1 Hawai'i State Plan

The Hawai'i State Plan, HRS, Chapter 226, adopted in 1978 and revised in 1986, serves as a guide for the future long-range development of the State by identifying goals, objectives, policies, and priorities. The Hawai'i State Plan consists of three major parts:

Part I, Overall Theme, Goals, Objectives, and Policies, describes the overall theme including Hawai'i's desired future and quality of life as expressed in goals, objectives, and policies.

Part II, Planning Coordination and Implementation, describing a statewide planning system designed to coordinate and guide all major state and county activities and to implement the goals, objectives, policies, and priority guidelines of the Hawai'i State Plan.

Part III, Priority Guidelines, which express the pursuit of desirable courses of action in major areas of statewide concern.

The proposed project is consistent with the objectives and policies of the Hawai'i State Plan. An analysis of the project's ability to meet the objectives, policies, and priority guidelines of the Hawai'i State Plan are provided in the **tables** below. Since the sand shed operations will replace an existing sand shed operation on a neighboring parcel and will be of similar scale, the project is not anticipated to have large impacts on the goals of the Hawaii State Plan.

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
§226-4: State Goals. In order to guarantee, for the present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve:			
(1) A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i's present and future generations.			
(2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.			
(3) Physical, social and economic well-being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring, and of participation in community life.			
§226-5: Objective and policies for population (a) It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic, and social objectives contained in this chapter; (b) To achieve the population objective, it shall be the policy of this State to:			
(1) Manage population growth statewide in a manner that provides increased opportunities for Hawai'i's people to pursue their physical, social and economic aspirations while recognizing the unique needs of each county.			**X**

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs-and desires.			**X**
(3) Promote increased opportunities for Hawai'i's people to pursue their socioeconomic aspirations throughout the islands.			**X**
(4) Encourage research activities and public awareness programs to foster and understanding of Hawai'i's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawai'i's population.			**X**
(5) Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among states, provided that such actions do not prevent the reunion of immediate family members.			**X**
(6) Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population			**X**
(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area			**X**
Discussion: The Project will not affect the objectives and policies for the State's population.			
§226-6 Objectives and policies for the economy in general. (a) Planning for the State's economy in general shall be directed toward achievement of the following objectives: (1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai'i's people. (2) A steadily growing and diversified economic base that is not overly dependent on a few industries and includes the development and expansion of industries on the neighbor islands. (b) To achieve the general economic objectives, it shall be the policy of this State to:			
(1) Promote and encourage entrepreneurship within Hawai'i by residents and nonresidents of the State.			**X**
(2) Expand Hawai'i's national and international marketing, communication, and organizational ties, to increase the State's capacity to adjust to and capitalize upon economic changes and opportunities occurring outside the State.			**X**
(3) Promote Hawai'i as an attractive market for environmentally and socially sound investment activities that benefit Hawai'i's people.			**X**
(4) Transform and maintain Hawai'i as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities.			**X**
(5) Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawai'i.			**X**
(6) Seek broader outlets for new or expanded Hawai'i business investments.			**X**
(7) Expand existing markets and penetrate new markets for Hawai'i's products and services.			**X**
(8) Assure that the basic economic needs of Hawai'i's people are maintained in the event of disruptions in overseas transportation.			**X**
(9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.			**X**
(10) Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawai'i's small-scale producers, manufacturers, and distributors.			**X**
(11) Encourage labor-intensive activities that are economically satisfying, and which offer opportunities for upward mobility.			**X**
(12) Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawai'i.			**X**

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(13) Foster greater cooperation and coordination between the government and private sectors in developing Hawai'i's employment and economic growth opportunities.			**X**
(14) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.			**X**
(15) Maintain acceptable working conditions and standards for Hawai'i's workers.	**X**		
(16) Provide equal employment opportunities for all segments of Hawai'i's population through affirmative action and nondiscrimination measures.	**X**		
(17) Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			**X**
(18) Encourage businesses that have favorable financial multiplier effects within Hawai'i's economy.			**X**
(19) Promote and protect intangible resources in Hawai'i, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.			**X**
(20) Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new, potential growth industries in particular.			**X**
(21) Foster a business climate in Hawai'i--including attitudes, tax and regulatory policies, and financial and technical assistance programs--that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.			**X**
Discussion: The Project will promote temporary jobs during construction and permanent jobs for the continual business operation of the site.			
§226-7 Objectives and policies for the economy - agriculture. (a) Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives: (1) Viability of Hawai'i's sugar and pineapple industries. (2) Growth and development of diversified agriculture throughout the State. (3) An agriculture industry that continues to constitute a dynamic and essential component of Hawai'i's strategic, economic, and social well-being. (b) To achieve the agriculture objectives, it shall be the policy of this State to:			
(1) Establish a clear direction for Hawai'i's agriculture through stakeholder commitment and advocacy.			**X**
(2) Encourage agriculture by making best use of natural resources.			**X**
(3) Provide the governor and the legislature with information and options needed for prudent decision making for the development of agriculture.			**X**
(4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.			**X**
(5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawai'i's economy.			**X**
(6) Seek the enactment and retention of federal and state legislation that benefits Hawai'i's agricultural industries.			**X**
(7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawai'i's producers and consumer markets locally, on the continental United States, and internationally.			**X**
(8) Support research and development activities that provide greater efficiency and economic productivity in agriculture.			**X**
(9) Enhance agricultural growth by providing public incentives and encouraging private initiatives.			**X**

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.			**X**
(11) Increase the attractiveness and opportunities for an agricultural education and livelihood.			**X**
(12) Expand Hawai'i's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.			**X**
(13) Promote economically competitive activities that increase Hawai'i's agricultural self-sufficiency.			**X**
(14) Promote and assist in the establishment of sound financial programs for diversified agriculture.			**X**
(15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.			**X**
(16) Facilitate the transition of agricultural lands in economically non-feasible agricultural production to economically viable agricultural uses.			**X**
(17) Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i'a, māla, and irrigated lo'i, and growth of traditional Hawaiian crops, such as kalo, 'uala, and 'ulu.			**X**
(18) Increase and develop small-scale farms.			**X**
Discussion: The Project will not affect the objectives and policies for the State's economy in regard to agriculture.			
§226-8 Objective and policies for the economy-visitor industry. (a) Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawai'i's economy. (b) To achieve the visitor industry objective, it shall be the policy of this State to:			
(1) Support and assist in the promotion of Hawai'i's visitor attractions and facilities.			**X**
(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people.			**X**
(3) Improve the quality of existing visitor destination areas.			**X**
(4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.			**X**
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawai'i's people.			**X**
(6) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the visitor industry.			**X**
(7) Foster a recognition of the contribution of the visitor industry to Hawai'i's economy and the need to perpetuate the aloha spirit.			**X**
(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai'i's cultures and values.			**X**
Discussion: The Project will not affect the objectives and policies for the State's economy in regard to visitor industry.			
§226-9 Objective and policies for the economy--federal expenditures. (a) Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawai'i's economy. (b) To achieve the federal expenditures objective, it shall be the policy of this State to:			
(1) Encourage the sustained flow of federal expenditures in Hawai'i that generates long-term government civilian employment.			**X**

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(2) Promote Hawai'i's supportive role in national defense.			**X**
(3) Promote the development of federally supported activities in Hawai'i that respect state-wide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawai'i's environment.			**X**
(4) Increase opportunities for entry and advancement of Hawai'i's people into federal government service.			**X**
(5) Promote federal use of local commodities, services, and facilities available in Hawai'i.			**X**
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawai'i.			**X**
(7) Pursue the return of federally controlled lands in Hawai'i that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.			**X**
Discussion: The Project will not affect the objectives and policies for the State's economy in regards to federal expenditures.			
§226-10 Objective and policies for the economy--potential growth and innovative activities. (a) Planning for the State's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversify Hawai'i's economic base. (b) To achieve the potential growth and innovative activity objective, it shall be the policy of this State to:			
(1) Facilitate investment and employment growth in economic activities that have the potential to expand and diversify Hawai'i's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors;			**X**
(2) Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawai'i through the export of services or products or substitution of imported services or products;			**X**
(3) Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements;			**X**
(4) Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity;			**X**
(5) Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus;			**X**
(6) Expand Hawai'i's capacity to attract and service international programs and activities that generate employment for Hawai'i's people;			**X**
(7) Enhance and promote Hawai'i's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts;			**X**
(8) Accelerate research and development of new energy-related industries based on wind, solar, ocean, underground resources, and solid waste;			**X**
(9) Promote Hawai'i's geographic, environmental, social, and technological advantages to attract new or innovative economic activities into the State;			**X**
(10) Provide public incentives and encourage private initiative to attract new or innovative industries that best support Hawai'i's social, economic, physical, and environmental objectives;			**X**
(11) Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research;			**X**

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(12) Develop, promote, and support research and educational and training programs that will enhance Hawai'i's ability to attract and develop economic activities of benefit to Hawai'i;			**X**
(13) Foster a broader public recognition and understanding of the potential benefits of new or innovative growth- oriented industry in Hawai'i;			**X**
(14) Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawai'i's social, economic, physical, and environmental objectives;			**X**
(15) Increase research and development of businesses and services in the telecommunications and information industries;			**X**
(16) Foster the research and development of nonfossil fuel and energy efficient modes of transportation; and			**X**
(17) Recognize and promote health care and health care information technology as growth industries.			**X**
Discussion: The Project will not affect the objectives and policies for the State's economy in regard to potential growth and innovative activities.			
§226-10.5 Objectives and policies for the economy--information industry. (a) Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawai'i as a leader in broadband and wireless communications and applications in the Pacific Region. (b) To achieve the information industry objective, it shall be the policy of this State to:			
(1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawai'i and between Hawai'i and the world, and make high speed communication available to all residents and businesses in Hawai'i;			**X**
(2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawai'i to accommodate future growth and innovation in Hawai'i's economy;			**X**
(3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawai'i;			**X**
(4) Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawai'i, using technology to communicate with their headquarters, offices, or customers located out-of-state;			**X**
(5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well- designed information industry;			**X**
(6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people;			**X**
(7) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the information industry;			**X**
(8) Foster a recognition of the contribution of the information industry to Hawai'i's economy; and			**X**
(9) Assist in the promotion of Hawai'i as a broker, creator, and processor of information in the Pacific.			**X**
Discussion: The Project will not affect the objectives and policies for the State's economy in regards to information industry.			
§226-11 Objectives and policies for the physical environment--land-based, shoreline, and marine resources. (a) Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:			

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(1) Prudent use of Hawai'i's land-based, shoreline, and marine resources. (2) Effective protection of Hawai'i's unique and fragile environmental resources. (b) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:			
(1) Exercise an overall conservation ethic in the use of Hawai'i's natural resources.			**X**
(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.			**X**
(3) Take into account the physical attributes of areas when planning and designing activities and facilities.	**X**		
(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage	**X**		
(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.			**X**
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i.			**X**
(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.			**X**
(8) Pursue compatible relationships among activities, facilities and natural resources.			**X**
(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational and scientific purposes.			**X**
Discussion: The Project will follow design standards set forth in the LUO. The Project will not result in utilization of land that would impact the natural resources or ecological systems of the Project Site.			
§226-12 Objective and policies for the physical environment--scenic, natural beauty, and historic resources. (a) Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawai'i's scenic assets, natural beauty, and multi-cultural/historical resources. (b) To achieve the scenic, natural beauty, and historic resources objectives, it shall be the policy of this State to:			
(1) Promote the preservation and restoration of significant natural and historic resources.			**X**
(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.			**X**
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.	**X**		
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage.			**X**
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.			**X**
Discussion: The Project is not anticipated to have a significant adverse impact on scenic view planes or scenic resources. The Project Site will be more visible than it is now due to the addition of the proposed building. According to the CIAR, cultural practices are not taking place and cultural/historic resources are not found at the Project Site. Furthermore, the purpose of the Project is not to specifically enhance scenic, natural beauty, and historic resources objectives.			
§226-13 Objectives and policies for the physical environment--land, air, and water quality. (a) Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives: (1) Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources. (2) Greater public awareness and appreciation of Hawai'i's environmental resources. (b) To achieve the land, air, and water quality objectives, it shall be the policy of this State to:			
(1) Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources.			**X**

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(2) Promote the proper management of Hawai'i's land and water resources.			**X**
(3) Promote effective measures to achieve desired quality in Hawai'i's surface, ground and coastal waters.			**X**
(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people.			**X**
(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.			**X**
(6) Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities.	**X**		
(7) Encourage urban developments in close proximity to existing services and facilities.			**X**
(8) Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors.			**X**
Discussion: The Project will incorporate BMPs during construction to mitigate impacts on air and water quality during construction. The Project is not within the PACIOOS Sea Level Rise Exposure Area of 3.2 feet but is within the NOAA Sea Level Rise Viewer's project of 5-6 feet. The project's purpose is not specifically targeting enhancing the State's land, air, and water quality. However, with the use of construction BMPs, the land, air, and water resources will be maintained.			
§226-14 Objective and policies for facility systems--in general. (a) Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives. (b) To achieve the general facility systems objective, it shall be the policy of this State to:			
(1) Accommodate the needs of Hawai'i's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.			**X**
(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.			**X**
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.			**X**
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.			**X**
Discussion: The Project will coordinate proposed facility system impacts and connections with the appropriate State, City, and private entities.			
§226-15 Objectives and policies for facility systems--solid and liquid wastes. (a) Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:			
(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.			**X**
(2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.			**X**
(b) To achieve solid and liquid waste objectives, it shall be the policy of this State to:			
(1) Encourage the adequate development of sewerage facilities that complement planned growth.			**X**
(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.			**X**
(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.			**X**
Discussion: The Applicant will work with the City and County of Honolulu to ensure that there are adequate solid waste facilities for the Project. There project will not include sewer lines and will not impact any existing sewer lines.			

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§226-16 Objective and policies for facility systems--water. (a) Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities. (b) To achieve the facility systems water objective, it shall be the policy of this State to:			
(1) Coordinate development of land use activities with existing and potential water supply.			**X**
(2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.			**X**
(3) Reclaim and encourage the productive use of runoff water and wastewater discharges.			**X**
(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.			**X**
(5) Support water supply services to areas experiencing critical water problems.			**X**
(6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.			**X**
Discussion: The Applicant will work with the Board of Water Supply to ensure that there are adequate water facilities to serve the Project. Post-construction LID measures may be used to improve the use and/or groundwater recharge of runoff water.			
§226-17 Objectives and policies for facility systems--transportation. (a) Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives: (1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods. (2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State. (b) To achieve the transportation objectives, it shall be the policy of this State to:			
(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter;			**X**
(2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives;			**X**
(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties;			**X**
(4) Provide for improved accessibility to shipping, docking, and storage facilities;			**X**
(5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs;			**X**
(6) Encourage transportation systems that serve to accommodate present and future development needs of communities;			**X**
(7) Encourage a variety of carriers to offer increased opportunities and advantages to inter-island movement of people and goods;			**X**
(8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs;			**X**
(9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification;			**X**
(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai'i's natural environment;			**X**

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(11) Encourage safe and convenient use of low-cost, energy- efficient, non-polluting means of transportation;			**X**
(12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; and			**X**
(13) Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.			**X**
Discussion: The traffic volumes in the vicinity are not anticipated to be impacted by the project.			
§226-18 Objectives and policies for facility systems--energy. (a) Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all: (1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people; (2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawai'i's dependence on imported fuels for electrical generation and ground transportation; (3) Greater diversification of energy generation in the face of threats to Hawai'i's energy supplies and systems; (4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and (5) Utility models that make the social and financial interests of Hawai'i's utility customers a priority. (b) To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably priced, and dependable energy services to accommodate demand. (c) To further achieve the energy objectives, it shall be the policy of this State to:			
(1) Support research and development as well as promote the use of renewable energy sources;			**X**
(2) Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth;			**X**
(3) Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits;			**X**
(4) Promote all cost-effective conservation of power and fuel supplies through measures, including: (A) Development of cost-effective demand-side management programs; (B) Education; (C) Adoption of energy-efficient practices and technologies; and (D) Increasing energy efficiency and decreasing energy use in public infrastructure;			**X**
(5) Ensure to the extent that new supply-side resources are needed, the development or expansion of energy systems utilizes the least-cost energy supply option and maximizes efficient technologies;			**X**
(6) Support research, development, and demonstration of energy efficiency, load management, and other demand-side management programs, practices, and technologies;			**X**
(7) Promote alternate fuels and energy efficiency by encouraging diversification of transportation modes and infrastructure;			**X**
(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications; and			**X**
(9) Support actions that reduce, avoid, or sequester Hawai'i's greenhouse gas emissions through agriculture and forestry initiatives.			**X**

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(10) Provide priority handling and processing for all state and county permits required for renewable energy projects;			**X**
(11) Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation and does not impede the development and use of other cost-effective renewable energy sources; and			**X**
(12) Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawai'i.			**X**
Discussion: The proposed sand shed will not include any electrical upgrades and will not affect the objectives and policies for the facility systems in regard to energy.			
§226-18.5 Objectives and policies for facility systems--telecommunications. (a) Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people. (b) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand. (c) To further achieve the telecommunications objective, it shall be the policy of this State to:			
(1) Facilitate research and development of telecommunications systems and resources;			**X**
(2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning;			**X**
(3) Promote efficient management and use of existing telecommunications systems and services; and			**X**
(4) Facilitate the development of education and training of telecommunications personnel.			**X**
Discussion: The proposed sand shed will not include any telecommunications upgrades and will not affect the objectives and policies for the facility systems in regard to telecommunications.			
§226-19 Objectives and policies for socio-cultural advancement--housing. (a) Planning for the State's socio- cultural advancement with regard to housing shall be directed toward the achievement of the following objectives: (1) Greater opportunities for Hawai'i's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more rental and for sale affordable housing is made available to extremely low-, very low-, lower-, moderate-, and above moderate-income segments of Hawai'i's population. (2) The orderly development of residential areas sensitive to community needs and other land uses. (3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawai'i's people. (b) To achieve the housing objectives, it shall be the policy of this State to:			
(1) Effectively accommodate the housing needs of Hawai'i's people.			**X**
(2) Stimulate and promote feasible approaches that increase affordable rental and for sale housing choices for extremely low-, very low-, lower-, moderate-, and above moderate-income households.			**X**
(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.			**X**
(4) Promote appropriate improvement, rehabilitation, and maintenance of existing rental and for sale housing units and residential areas.			**X**

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.			**X**
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.			**X**
(7) Foster a variety of lifestyles traditional to Hawai'i through the design and maintenance of neighborhoods that reflect the culture and values of the community.			**X**
(8) Promote research and development of methods to reduce the cost of housing construction in Hawai'i.			**X**
Discussion: The Project will not provide housing and will not affect the objectives and policies for the socio-cultural advancement in regard to housing.			
§226-20 Objectives and policies for socio-cultural advancement--health. (a) Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives: (1) Fulfillment of basic individual health needs of the general public. (2) Maintenance of sanitary and environmentally healthful conditions in Hawai'i's communities. (3) Elimination of health disparities by identifying and addressing social determinants of health. (b) To achieve the health objectives, it shall be the policy of this State to:			
(1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.			**X**
(2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.			**X**
(3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.			**X**
(4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.			**X**
(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.			**X**
(6) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement.			**X**
(7) Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data.			**X**
Discussion: The Project will not affect the objectives and policies for the State's socio-cultural advancement of health.			
§226-21 Objective and policies for socio-cultural advancement--education. (a) Planning for the State's socio- cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations. (b) To achieve the education objective, it shall be the policy of this State to:			
(1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.			**X**
(2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.			**X**

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(3) Provide appropriate educational opportunities for groups with special needs.			**X**
(4) Promote educational programs which enhance understanding of Hawai'i's cultural heritage.			**X**
(5) Provide higher educational opportunities that enable Hawai'i's people to adapt to changing employment demands.			**X**
(6) Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities.			**X**
(7) Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.			**X**
(8) Emphasize quality educational programs in Hawai'i's institutions to promote academic excellence.			**X**
(9) Support research programs and activities that enhance the education programs of the State.			**X**
Discussion: The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to education.			
§226-22 Objective and policies for socio-cultural advancement--social services. (a) Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being. (b) To achieve the social service objective, it shall be the policy of the State to:			
(1) Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities.			**X**
(2) Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and to enhance their participation in society.			**X**
(3) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawai'i's communities.			**X**
(4) Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations.			**X**
(5) Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect.			**X**
(6) Promote programs which assist people in need of family planning services to enable them to meet their needs.			**X**
Discussion: The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to social services.			
§226-23 Objective and policies for socio-cultural advancement--leisure. (a) Planning for the State's socio- cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations. (b) To achieve the leisure objective, it shall be the policy of this State to:			
(1) Foster and preserve Hawai'i's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.			**X**
(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.			**X**

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.			**X**
(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.			**X**
(5) Ensure opportunities for everyone to use and enjoy Hawai'i's recreational resources.			**X**
(6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.			**X**
(7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai'i's people.			**X**
(8) Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.			**X**
(9) Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawai'i's population to participate in the creative arts.			**X**
(10) Assure adequate access to significant natural and cultural resources in public ownership.			**X**
Discussion: The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to leisure.			
§226-24 Objective and policies for socio-cultural advancement--individual rights and personal well-being. (a) Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations. (b) To achieve the individual rights and personal well-being objective, it shall be the policy of this State to:			
(1) Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment.			**X**
(2) Uphold and protect the national and state constitutional rights of every individual.			**X**
(3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice.			**X**
(4) Ensure equal opportunities for individual participation in society.			**X**
Discussion: The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to individual rights and personal well-being.			
§226-25 Objective and policies for socio-cultural advancement--culture. (a) Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawai'i's people. (b) To achieve the culture objective, it shall be the policy of this State to:			
(1) Foster increased knowledge and understanding of Hawai'i's ethnic and cultural heritages and the history of Hawai'i.			**X**
(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawai'i's people and which are sensitive and responsive to family and community needs.			**X**
(3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawai'i.			**X**
(4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawai'i's people and visitors.			**X**
Discussion: The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to culture.			

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
§226-26 Objectives and policies for socio-cultural advancement--public safety. (a) Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives: (1) Assurance of public safety and adequate protection of life and property for all people. (2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances. (3) Promotion of a sense of community responsibility for the welfare and safety of Hawai'i's people. (b) To achieve the public safety objectives, it shall be the policy of this State to:			
(1) Ensure that public safety programs are effective and responsive to community needs.			**X**
(2) Encourage increased community awareness and participation in public safety programs.			**X**
(c) To further achieve public safety objectives related to criminal justice, it shall be the policy of this State to:			
(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.			**X**
(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.			**X**
(3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.			**X**
(d) To further achieve public safety objectives related to emergency management, it shall be the policy of this State to:			
(1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times.			**X**
(2) Enhance the coordination between emergency management programs throughout the State.			**X**
Discussion: The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to public safety.			
§226-27 Objectives and policies for socio-cultural advancement--government. (a) Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives: (1) Efficient, effective, and responsive government services at all levels in the State. (2) Fiscal integrity, responsibility, and efficiency in the state government and county governments. (b) To achieve the government objectives, it shall be the policy of this State to:			
(1) Provide for necessary public goods and services not assumed by the private sector.			**X**
(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.			**X**
(3) Minimize the size of government to that necessary to be effective.			**X**
(4) Stimulate the responsibility in citizens to productively participate in government for a better Hawai'i.			**X**
(5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.			**X**
(6) Provide for a balanced fiscal budget.			**X**
(7) Improve the fiscal budgeting and management system of the State.			**X**
(8) Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible.			**X**

Table 3: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
Discussion: The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to government.			

Table 4: Hawai'i State Plan Part 3. Priority Guidelines S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
§226-103 Economic priority guidelines. (a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawai'i's people and achieve a stable and diversified economy:			
(1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.			**X**
(2) Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements.			**X**
(3) Improve the quality, accessibility, and range of services provided by government to business, including data and reference services and assistance in complying with governmental regulations.			**X**
(4) Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable.			**X**
(5) Streamline the processes for building and development permit and review and telecommunication infrastructure installation approval and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where scientific evidence indicates that public health, safety, and welfare would not be adversely affected.			**X**
(6) Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawai'i's small-scale producers, manufacturers, and distributors.			**X**
(7) Continue to seek legislation to protect Hawai'i from transportation interruptions between Hawai'i and the continental United States.			**X**
(8) Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics: (A) An industry that can take advantage of Hawai'i's unique location and available physical and human resources. (B) A clean industry that would have minimal adverse effects on Hawai'i's environment. (C) An industry that is willing to hire and train Hawai'i's people to meet the industry's labor needs at all levels of employment. (D) An industry that would provide reasonable income and steady employment.			**X**
(9) Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawai'i business.			**X**
(10) Enhance the quality of Hawai'i's labor force and develop and maintain career opportunities for Hawai'i's people through the following actions: (A) Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible. (B) Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities.			**X**

Table 4: Hawai'i State Plan Part 3. Priority Guidelines S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(C) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired. (D) Promote career opportunities in all industries for Hawai'i's people by encouraging firms doing business in the State to hire residents. (E) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on- the-job training opportunities. (F) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.			
(b) Priority guidelines to promote the economic health and quality of the visitor industry:			
(1) Promote visitor satisfaction by fostering an environment which enhances the aloha spirit and minimizes inconveniences to Hawai'i's residents and visitors.			**X**
(2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.			**X**
(3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.			**X**
(4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawai'i's significant natural, scenic, historic, and cultural resources.			**X**
(5) Develop and maintain career opportunities in the visitor industry for Hawai'i's people, with emphasis on managerial positions.			**X**
(6) Support and coordinate tourism promotion abroad to enhance Hawai'i's share of existing and potential visitor markets.			**X**
(7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.			**X**
(8) Support law enforcement activities that provide a safer environment for both visitors and residents alike.			**X**
(9) Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques.			**X**
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:			
(1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.			**X**
(2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawai'i.			**X**
(3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.			**X**
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:			
(1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.			**X**
(2) Assist in providing adequate, reasonably priced water for agricultural activities.			**X**
(3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.			**X**
(4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.			**X**

Table 4: Hawai'i State Plan Part 3. Priority Guidelines S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(5) Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawai'i's agricultural community.			**X**
(6) Seek favorable freight rates for Hawai'i's agricultural products from interisland and overseas transportation operators.			**X**
(7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.			**X**
(8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.			**X**
(9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.			**X**
(10) Support the continuation of land currently in use for diversified agriculture.			**X**
(11) Encourage residents and visitors to support Hawai'i's farmers by purchasing locally grown food and food products.			**X**
(e) Priority guidelines for water use and development:			
(1) Maintain and improve water conservation programs to reduce the overall water consumption rate.			**X**
(2) Encourage the improvement of irrigation technology and promote the use of nonpotable water for agricultural and landscaping purposes.			**X**
(3) Increase the support for research and development of economically feasible alternative water sources.			**X**
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.			**X**
(f) Priority guidelines for energy use and development:			
(1) Encourage the development, demonstration, and commercialization of renewable energy sources.			**X**
(2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.			**X**
(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.			**X**
(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.			**X**
(g) Priority guidelines to promote the development of the information industry:			
(1) Establish an information network that will serve as the catalyst for establishing a viable information industry in Hawai'i.			**X**
(2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center.			**X**
(3) Encourage the development of small businesses in the information field such as software development, the development of new information systems and peripherals, data conversion and data entry services, and home or cottage services such as computer programming, secretarial, and accounting services.			**X**
(4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.			**X**
(5) Encourage research activities, including legal research in the information and telecommunications fields.			**X**
(6) Support promotional activities to market Hawai'i's information industry services.			**X**

Table 4: Hawai'i State Plan Part 3. Priority Guidelines S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where scientific evidence indicates that the public health, safety, and welfare would not be adversely affected.			**X**
Discussion: The Project will not affect the economic priority guidelines.			
§226-104 Population growth and land resources priority guidelines. (a) Priority guidelines to effect desired statewide growth and distribution:			
(1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawai'i's people.			**X**
(2) Manage a growth rate for Hawai'i's economy that will parallel future employment needs for Hawai'i's people.			**X**
(3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.			**X**
(4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.			**X**
(5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands.			**X**
(6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands.			**X**
(7) Support the development of high technology parks on the neighbor islands.			**X**
(b) Priority guidelines for regional growth distribution and land resource utilization:			
(1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.	X		
(2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.			**X**
(3) Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area.			**X**
(4) Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use.			**X**
(5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core.			**X**
(6) Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces.			**X**
(7) Pursue rehabilitation of appropriate urban areas.			**X**
(8) Support the redevelopment of Kaka'ako into a viable residential, industrial, and commercial community.			**X**
(9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.			**X**

Table 4: Hawai'i State Plan Part 3. Priority Guidelines S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(10) Identify critical environmental areas in Hawai'i to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.			**X**
(11) Identify all areas where priority should be given to preserving rural character and lifestyle.			**X**
(12) Utilize Hawai'i's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.			**X**
(13) Protect and enhance Hawai'i's shoreline, open spaces, and scenic resources.			**X**
Discussion: The Project will not affect the population growth and land resources priority guidelines.			
§226-105 Crime and criminal justice. Priority guidelines in the area of crime and criminal justice:			
(1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment.			**X**
(2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders.			**X**
(3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities.			**X**
(4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community.			**X**
(5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions.			**X**
(6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.			**X**
Discussion: The Project will not affect the crime and criminal justice priority guidelines.			
§226-106 Affordable housing. Priority guidelines for the provision of affordable housing:			
(1) Seek to use marginal or nonessential agricultural land, urban land, and public land to meet housing needs of extremely low-, very low-, lower-, moderate-, and above moderate-income households.			**X**
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.			**X**
(3) Improve information and analysis relative to land availability and suitability for housing.			**X**
(4) Create incentives for development which would increase home ownership and rental opportunities for Hawai'i's extremely low-, very low-, lower-, and moderate-income households and residents with special needs.			**X**
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawai'i's people for the purchase of initial owner-occupied housing.			**X**
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.			**X**

Table 4: Hawai'i State Plan Part 3. Priority Guidelines S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.			**X**
(8) Give higher priority to the provision of quality housing that is affordable for Hawai'i's residents and less priority to development of housing intended primarily for individuals outside of Hawai'i.			**X**
Discussion: The Project will not affect the affordable housing priority guidelines. The Project will not provide housing.			
§226-107 Quality education. Priority guidelines to promote quality education:			
(1) Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement;			**X**
(2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs;			**X**
(3) Initiate efforts to improve the quality of education by improving the capabilities of the education workforce;			**X**
(4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision- making responsibilities;			**X**
(5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for: (A) The electronic exchange of information; (B) Statewide electronic mail; and (C) Access to the Internet. Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives;			**X**
(6) Pursue the establishment of Hawai'i's public and private universities and colleges as research and training centers of the Pacific;			**X**
(7) Develop resources and programs for early childhood education;			**X**
(8) Explore alternatives for funding and delivery of educational services to improve the overall quality of education; and			**X**
(9) Strengthen and expand educational programs and services for students with special needs.			**X**
Discussion: The Project will not affect the quality education guidelines.			
§226-108 Sustainability. Priority guidelines and principles to promote sustainability shall include:			
(1) Encouraging balanced economic, social, community, and environmental priorities;			**X**
(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State;			**X**
(3) Promoting a diversified and dynamic economy;			**X**
(4) Encouraging respect for the host culture;			**X**
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations;			**X**
(6) Considering the principles of the ahupua'a system; and			**X**
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawai'i.			**X**
Discussion: The Project will not affect the sustainability guidelines.			

Table 4: Hawai'i State Plan Part 3. Priority Guidelines S = Supportive, N/S = Not Supportive, N/A = Not Applicable	**S**	**N/S**	**N/A**
§226-109 Climate change adaptation priority guidelines. Priority guidelines to prepare the State to address the impacts of climate change, including impacts to the areas of agriculture; conservation lands; coastal and nearshore marine areas; natural and cultural resources; education; energy; higher education; health; historic preservation; water resources; the built environment, such as housing, recreation, transportation; and the economy shall:			
(1) Ensure that Hawai'i's people are educated, informed, and aware of the impacts climate change may have on their communities;			**X**
(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;			**X**
(3) Invest in continued monitoring and research of Hawai'i's climate and the impacts of climate change on the State;			**X**
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;			**X**
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change;			**X**
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;			**X**
(7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;			**X**
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities;			**X**
(9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and			**X**
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.			**X**
Discussion: Sea level rise mitigation measures such as raising the finish floor elevation shall be considered during the Project's design phase to address sea level rise impacts at the Project Site.			

4.2 Hawai'i State Land Use Law

The Hawai'i State Land Use Law (HRS, Chapter 205), adopted in 1961, is intended to preserve and protect Hawai'i's lands and encourage the uses to which the lands are best suited. All land in Hawai'i is classified in one of the following four State Land Use Districts (SLUDs): Urban, Rural, Agricultural or Conservation.

The subject Project Site is located in the "Urban" district. See **Figure 17.**

HRS, Chapter 205-2, *Districting and classification of lands* states the following:

> (a) There shall be four major land use districts in which all lands in the State shall be placed: urban, rural, agricultural, and conservation. The land use commission shall group contiguous land areas suitable for inclusion in one of these four major districts. The commission shall set standards for determining the boundaries of each district, provided that:

(1) In the establishment of boundaries of urban districts those lands that are now in urban use and a sufficient reserve area for foreseeable urban growth shall be included.

In establishing the boundaries of the districts in each county, the commission shall give consideration to the master plan or general plan of the county.

(b) Urban districts shall include activities or uses as provided by ordinances or regulations of the county within which the urban district is situated.

Discussion:

The proposed project is located in the Urban district. A State Land Use District Boundary Amendment is not needed to redevelop the property as proposed. The proposed use of the subject property would be consistent with the Urban designation.

Figure 20: State Land Use Map

4.3 Hawai'i Coastal Zone Management Program

The Federal Coastal Zone Management Act (CZMA), enacted 1972, provides states with financial incentives for the development and implementation of Coastal Zone Management (CZM) practices, and limited review power over Federal actions affecting the State's Coastal Zone. As a response, HRS, Chapter 250(A), *Hawai'i Coastal Zone Law*, as amended, was enacted in 1977. The State of Hawai'i has designated the Coastal Zone Management Program (CZMP) to manage the intent, purpose and provisions of HRS, Chapter 250(A)-2 for the areas from the shoreline to the seaward limit of the State's jurisdiction, and any other area which a lead agency may designate for the purpose of administering the CZMP. All land and water use activities in the State must comply with HRS, Chapter 205(A). The CZMP is administered by the State of Hawai'i Office of Planning, DBEDT.

A discussion regarding the proposed project's compliance with the CZMA is as follows.

4.3.1 Recreational Resources

Objective:

Provide coastal recreational opportunities accessible to the public.

Policies:

A) Improve coordination and funding of coastal recreational planning and management; and
B) Provide adequate, accessible and diverse recreational opportunities in the coastal zone management area by:
  i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;
  ii) Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;
  iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;
  iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;
  v) Ensuring public recreational use of county, state and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;
  vi) Adopting water quality standards and regulating point and non-point sources of pollution to protect and where feasible, restore the recreational value of coastal waters;
  vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches and artificial reefs for surfing and fishing; and
  viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, county planning commissions; and crediting such dedication against the requirements of Section 46-6, HRS.

Discussion:

As indicated in **Section 3.5.2**, the closest water body to the Project Site is the Pacific Ocean which is approximately 650-feet to the southwest. The proposed project would have no effect on existing uses and access of public coastal recreational areas.

4.3.2 Historic Resources

Objective:

Protect, preserve, and where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:

A) Identify and analyze significant archaeological resources;
B) Maximize information retention through preservation of remains and artifacts or salvage operations; and
C) Support state goals for protection, restoration, interpretation, and display of historic resources.

Discussion:

According to the CIAR report prepared for the project, there are no archaeological or cultural resources known to be present within the immediate project site. However, in accordance with HRS, Chapter 6E, and the requirements of the SHPD, should any historic resources, including human skeletal and significant cultural remains be identified during the construction of the proposed project, the following shall be implemented:

1. Work will cease in the immediate vicinity of the find;
2. The find will be protected from any additional disturbance by the contractor; and,
3. SHPD will be contacted immediately at (808) 692-8015 (Main Office, O'ahu) for further instructions including the conditions under which work activities may resume.

See **Section 3.8** for further discussion and recommendations.

4.3.3 Scenic and Open Space Resources

Objective:

Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies:

A) Identify valued scenic resources in the coastal zone management area;
B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;
C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and

D) Encourage those developments that are not coastal dependent to locate in inland areas.

Discussion:

The project is not anticipated to have a significant negative impact on scenic view planes or scenic resources. See **Section 3.9** for further discussion and recommendations.

4.3.4 Coastal Ecosystems

Objective:

Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policies:

A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources
B) Improve the technical basis for natural resource management;
C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance
D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and
E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine water ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

Discussion:

The proposed project will not affect the coastal ecosystems. No use of the coastal ecosystems will be required. To minimize degradation to the water quality of near-shore waters, BMPs would be implemented during the construction phase of this project. Such measures would be developed during project design.

4.3.5 Economic Uses

Objective:

Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policies:

A) Concentrate in appropriate areas the location of coastal dependent development necessary to the State's economy;
B) Insure that coastal dependent development such as harbors and ports, visitor industry facilities, and energy generating facilities are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such development and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:
   i) Utilization of presently designated locations is not feasible;
   ii) Adverse environmental effects are minimized; and
   iii) Important to the State's economy.

Discussion:

The project will not affect nor proposes coastal dependent developments. The proposed project is in a suitable location within James Campbell Industrial Park, surrounded by other industrial uses.

4.3.6 Coastal Hazards

Objective:

Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, and subsidence.

Policies:

A) Develop and communicate adequate information on storm wave, tsunami, flood erosion, and subsidence hazard;
B) Control development in areas subject to storm wave, tsunami, flood, erosion, and subsidence hazard;
C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and
D) Prevent coastal flooding from inland projects.

Discussion:

The proposed project has been evaluated for potential impacts associated with coastal hazards. Natural hazards such as hurricanes, flooding, and tsunami are unavoidable for all coastal areas. Accordingly, all structures proposed for this project will be built, at a minimum, according to equivalent standards for the area's flood zone. To mitigate from hurricanes, the project will ensure that improvements are designed to present building codes which offer some protection from damage. See **Section 3.6** for further discussion on natural hazards.

4.3.7 Managing Development

Objective:

Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

Policies:

A) Effectively utilize and implement existing law to the maximum extent possible in managing present and future coastal zone development;

B) Facilitate timely processing of application for development permits and resolve overlapping or conflicting permit requirements; and
C) Communicate the potential short- and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the general public to facilitate public participation in the planning and review process.

Discussion:

The proposed Project will be consistent with these policies. The Project will comply with all existing laws in managing present and future coastal zone development. The EA process requires public notification and allowance for public comment.

4.3.8 Public Participation

Objective:

Stimulate public awareness, education, and participation in coastal management.

Policies:

A) Maintain a public advisory body to identify coastal management problems and to provide policy advice and assistance to the coastal zone management program;
B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal-related issues, developments, and government activities; and
C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Discussion:

The Project was presented to the Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34 at their October 28, 2020 meeting. The meeting meetings are discussed further in **Section 5.2**. The public will further have 30 days during the public comment period on this Draft EA to make comments on the Project.

4.3.9 Beach Protection

Objective:

Protect beaches for public use and recreation.

Policies:

A) Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion;
B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and
C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

Discussion:

Beaches will not be impacted by this proposed project. The project is inland from the shoreline setback and does not involve any construction seaward of the shoreline.

4.3.10 Marine Resources

Objective:

Implement the State's ocean resources management plan.

Policies:

A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;
B) Assure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;
C) Coordinate the management of marine and coastal resources and activities management to improve effectiveness and efficiency;
D) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;
E) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and
F) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Discussion:

The project will avoid any negative effects to marine and coastal resources and will incorporate appropriate LID measures to minimize impacts to affected streams and near-shore waters.

4.4 City and County of Honolulu General Plan

The General Plan for the City and County of Honolulu (GP) is a comprehensive statement of objectives and policies which sets forth the long-range aspirations of O'ahu residents, as well as strategies of action needed to achieve such goals. It is the focal point of a comprehensive planning process that addresses physical, social, economic, and environmental concerns affecting the City and County of Honolulu. This planning process serves as the coordinative means by which the City and County government provides for the future growth of the metropolitan area of Honolulu.

The latest Oahu GP was adopted by the Honolulu City Council on December 1, 2021 as Resolution 21-023 and signed by the Mayor on January 14, 2022. The policies and objectives of the GP were developed and organized into 11 key focus areas reflecting the needs of the people

and the functions of the government.

1. Population;
2. Balanced economy;
3. The natural environment and stewardship;
4. Housing and communities;
5. Transportation and utilities;
6. Energy systems;
7. Physical development and urban design;
8. Public safety and community resilience;
9. Health and education;
10. Culture and recreation; and
11. Government operations and fiscal management.

The following sections highlight excerpts of the GP that are particularly relevant to this Project (emphasis added).

4.4.1 Part VII: Physical Development and Urban Design

Objective A: *To coordinate changes in the physical environment of O'ahu to ensure that all new developments are timely, well-designed, and appropriate for the areas in which they will be located.*

Policies:

Policy 1- Provide infrastructure improvements to serve new growth areas, redevelopment areas, and areas with badly deteriorating infrastructure.

Policy 4- Facilitate and encourage compact, higher-density development in urban areas designated for such uses.

Policy 8- Locate new industries and new commercial areas so that they will be well-related to their markets and suppliers, and to residential areas and transportation facilities.

Objective B: *To plan and prepare for the long-term impacts of climate change.*

Policies:

Policy 3- Prepare for the anticipated impacts of sea level rise on existing communities and facilities through mitigation, adaptation, managed retreat, or other measures in exposed areas.

Objective D: *To develop a secondary urban center in 'Ewa with its nucleus in the Kapolei area.*

Policies:

Policy 3- Encourage the continuing development of the area encompassing Campbell Industrial Park, Kalaeloa Barbers Point Harbor, and West Kapolei as a major industrial center.

Discussion:

The Project Site is located within James Campbell Industrial Park, a major industrial hub on the west side of Oahu. As an industrial operation, the Proposed Action is consistent with the character of the surrounding area. Furthermore, the site operations support the construction industry by supplying construction material used throughout the island.

The Project Site will not be affected by 3.2 feet of SLR in accordance with the PACIOOS SLR-XA but will be impacted by SLR in the 5 and 6-foot condition in accordance with NOAA's viewer. Sea level rise mitigation measures such as raising the finish floor elevation will not be required since the Project is not affected by sea level rise impacts under the 3.2-foot condition.

4.5 City and County of Honolulu 'Ewa Development Plan

Supporting the GP are the sustainable communities plans (SCPs) and development plans (DPs) for various regions of O'ahu. Each plan explains the role of the particular region in O'ahu's overall development pattern; the vision statement for the area; land use policies, principles and guidelines; public facilities and infrastructure policies and principles; implementation strategies; and maps of Open Space, Land Use and Public Utilities. The project is located within the 'Ewa Development Plan. The July 2013 'Ewa Development Plan was amended in 2020 via Ordinance 20-46.

The following sections highlight excerpts of the 'Ewa DP that are particularly relevant to this Project (emphasis added).

4.5.1 <u>Chapter 3: Land Use Policies and Guidelines</u>

4.5.1.1 Chapter 3.12.1 Industrial Centers General Policies

- *"Maintain industrial activity at Barbers Point Industrial Area, Kalaeloa, Honouliuli Industrial Area, and Kahe Valley and permit industrial activity at other dispersed industrial areas, as noted below."*

Barbers Point Industrial Area/Kalaeloa

- *"Maintain the Barbers Point Industrial Area as one of O'ahu's and the State's most important industrial areas.*

4.5.1.2 Chapter 3.12.2 Industrial Centers Guidelines

Barbers Point Industrial Area

Building Height and Mass

- *"Limit building heights generally not to exceed 60 feet when they consist of large mass."*

4.5.1.3 Chapter 3.12.3 Industrial Centers Relation to Urban Land Use Map

Heavy industrial uses should be located at Campbell Industrial Park, transitioning to lighter industrial uses closer to the City of Kapolei.

Discussion:

The Project is located within Industrial area as designated in the 'Ewa Development Plan Urban Land Use Map. See **Figure 21**. By maintaining the site's usage as an industrial activity, the proposed improvements are in line with the 'Ewa Development Plan's vision for the Barbers Point Industrial area.

The proposed sand shed is an industrial activity and will not exceed a building height of 60 feet.

4.6 City and County of Honolulu Public Infrastructure Maps

The City and County of Honolulu provides Public Infrastructure Maps (PIM) that follow the boundaries of the eight Development Plan and Sustainable Community Plan areas on Oahu. However, the PIM is not part of the DP or SCP of that area but is adopted and revised as part of the Capital Improvement Program budgeting process.

There is no public infrastructure planned on the Project Site in either the 'Ewa Development Plan Public Infrastructure Map or the 'Ewa Development Supplemental Plan Public Infrastructure Map. See **Figures 22 and 23.**

Figure 21: 'Ewa Development Plan Urban Land Use Map

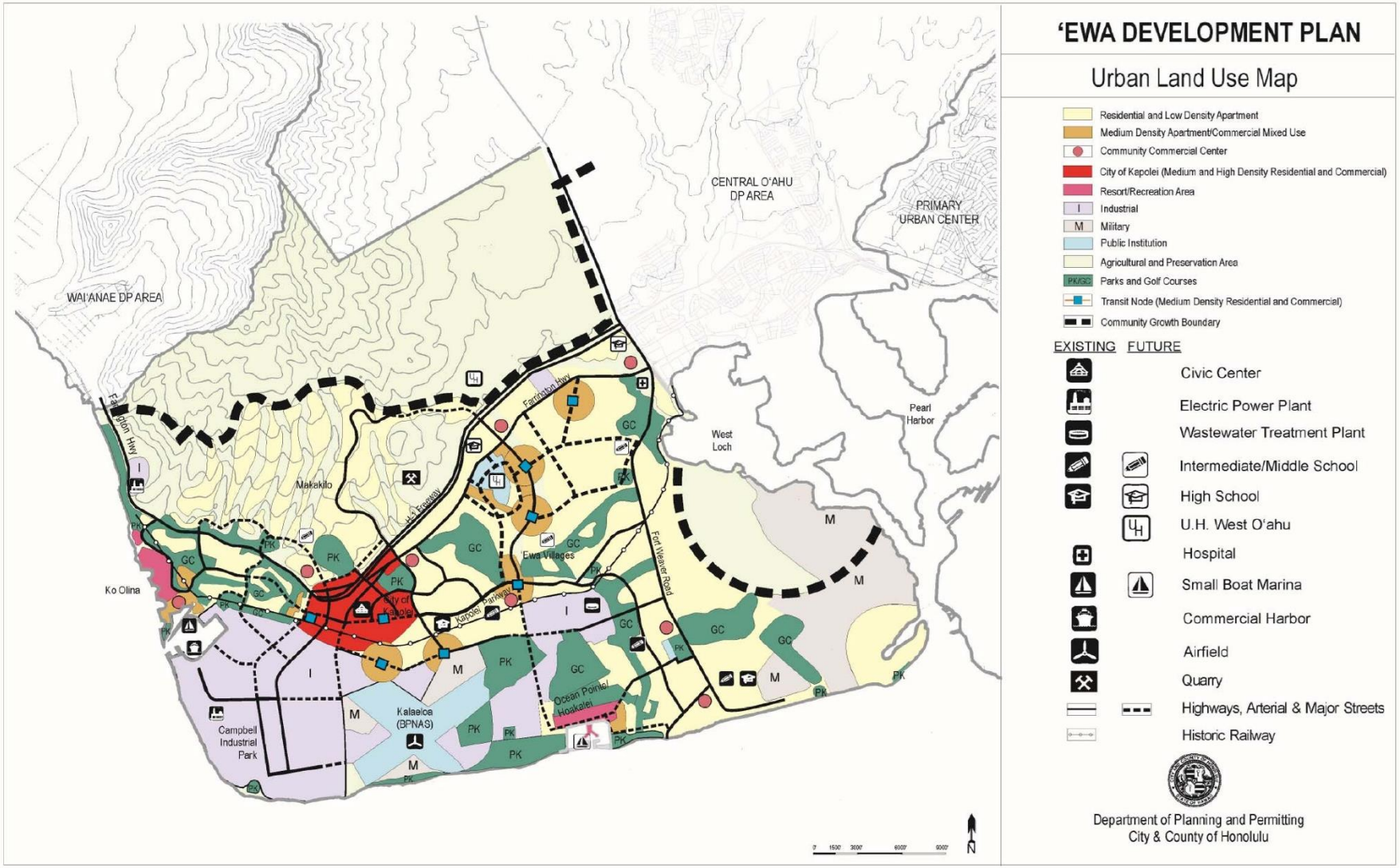


Figure 22: 'Ewa Public Infrastructure Map

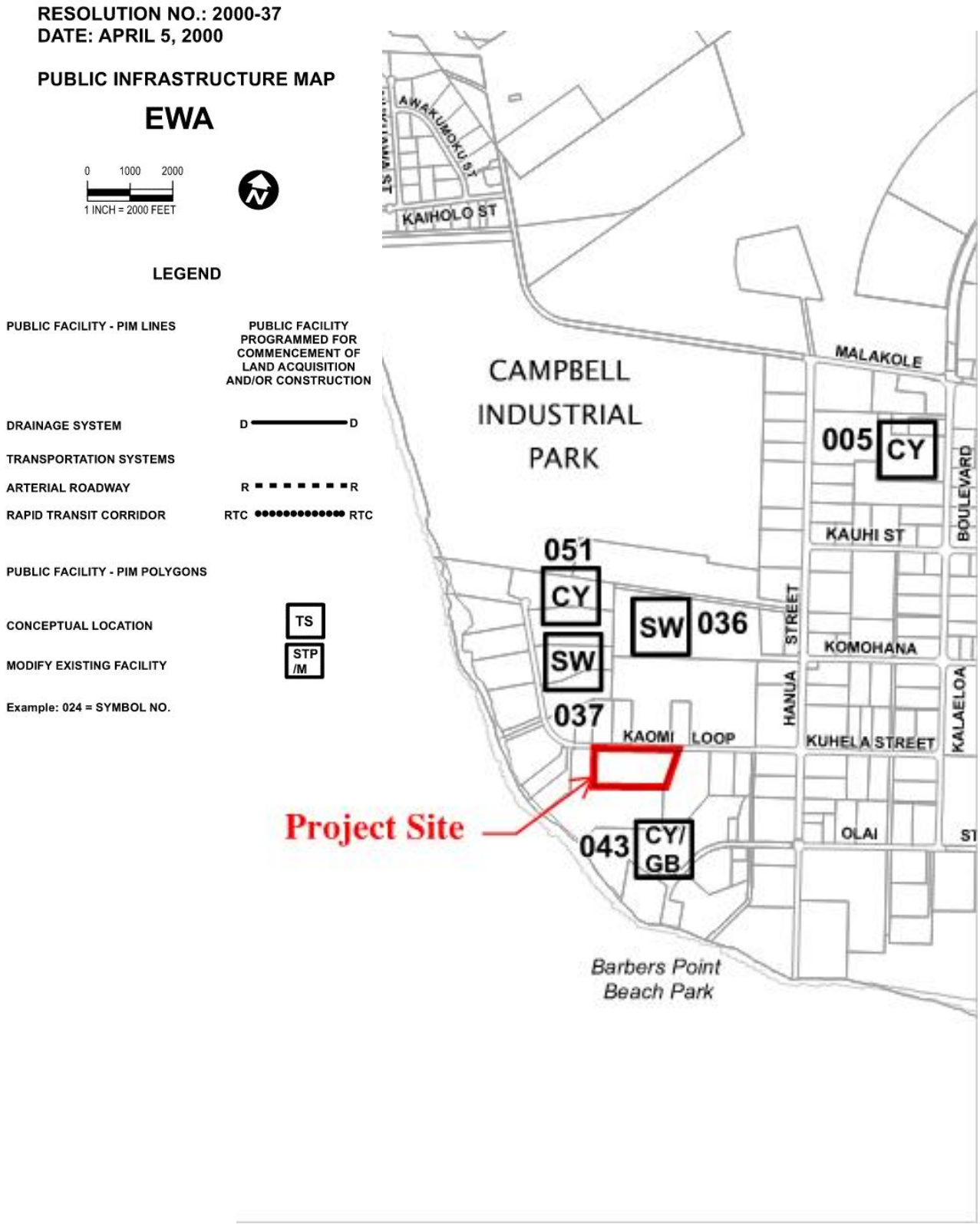
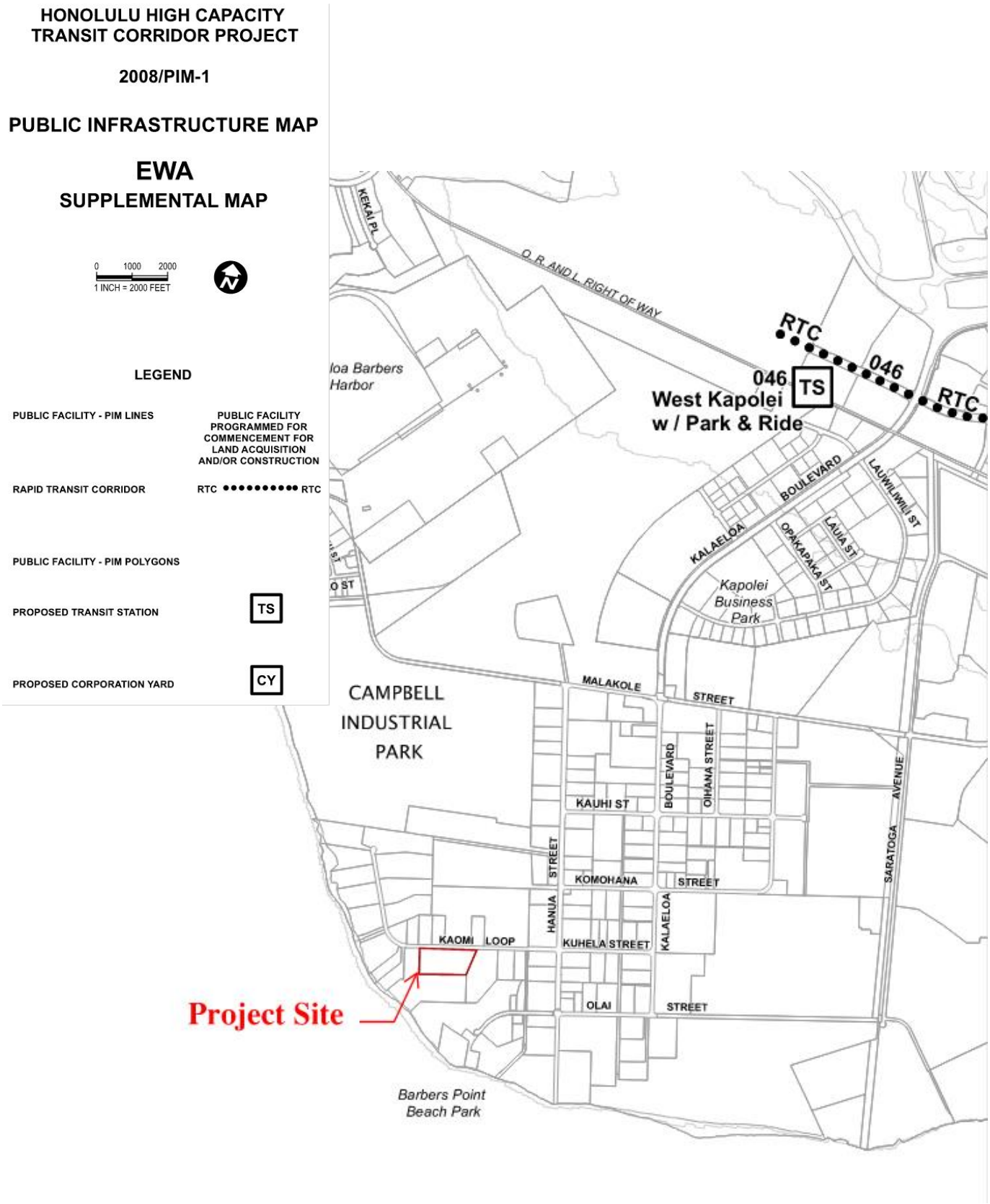


Figure 23: 'Ewa Supplemental Public Infrastructure Map



4.7 City and County of Honolulu Land Use Ordinance

The subject property is designated as I-2, Intensive Industrial District by ROH, Chapter 21, "Land Use Ordinance" (LUO). See **Figure 24**. The LUO regulates land use in a manner that encourages the orderly development in accordance with the General Plan and DPs.

The LUO describes the intent of the I-2 intensive industrial district as follows:

> *"to set aside areas for the full range of industrial uses necessary to support the city. It is intended for areas with necessary supporting public infrastructure, near major transportation systems and with other locational characteristics necessary to support industrial centers. It shall be located in areas away from residential communities where certain heavy industrial uses would be allowed."*

The proposed project is in alignment with the intent of I-2. The proposed improvements are in accordance with LUO Table 21-3 Master Use Table of the LUO. The table below compares the proposed sand shed with the I-2 development standards in accordance with the LUO.

Table 5: Industrial District Development Standards

Development Standard		Land Use Ordinance I-2	Proposed
Minimum Lot Area (sf)		7,500	7.652 acres
Minimum Lot Width and Depth (ft)		60	750 feet wide and 400 feet deep
Yards (feet)	Front	5	30
	Side and Rear	0[2]	20
Maximum Building Area (percent of zoning lot)		80 However, the building area may be increased to include all of the buildable area of the zoning lot provided all structures beyond the designated 80 percent building area shall: a. Provide a minimum clear interior height of 18 feet; b. Contain no interior walls, except for those between a permitted use and a special accessory office; and c. Provide a minimum distance of 40 feet between interior columns and other structural features	17.6
Maximum Density		2.5	0.17

Development Standard	Land Use Ordinance I-2	Proposed
(FAR)		
Maximum height (ft)	60	60
Height Setbacks	Per Sec. 21-3.130-1(c) No height setback since the lot does not adjoin a residential, apartment, apartment mixed use or resort district	--
[2]Where the side or rear property line of a zoning lot adjoins the side or rear yard of a zoning lot in a residential, apartment, apartment mixed use or resort district, there shall be a side or rear yard which conforms to the side or rear yard requirements for dwelling use of the adjoining district. In the I-3 district only, this yard shall be not less than 15 feet. In addition, see Section 21-4.70-1 for landscaping and buffering requirements.		

4.7.1 Off-Street Vehicle Parking

In accordance with LUO Section 21-6.20 Off-street parking requirements, "*No off-street parking is required in the Primary Urban Center Development Plan area and 'Ewa Development Plan area, except for those areas thereof located in the residential, agricultural, and preservation zoning districts*." The Project Site is zoned I-2 Intensive Industrial District and no parking is required.

4.7.2 Off-Street Loading Stalls

In accordance with LUO Section 21-6.110 Off-street Loading Requirements, the project site requires 4 loading stalls for a total site floor area of 53,580 square feet. The Project will provide the required loading stalls.

Table 6: Loading Stall LUO Requirement

Use or Use Category	Floor Area in Square Feet	Loading Space Requirements
A. Retail stores, eating and drinking establishments, shopping centers, wholesale operations, warehousing, business services, personal services, repair, manufacturing, self-storage facilities	2,000 - 10,000	1
	10,001 - 20,000	2
	20,001 - 40,000	3
	40,001 - 60,000	4
	Each additional 50,000 or major fraction thereof	1

4.7.3 Bicycle Parking

Bicycle parking is not required for I-2 districts.

Figure 24: City and County of Honolulu Zoning Map

4.8 City and County of Honolulu Special Management Area

HRS, Chapter 205A outlines control, policies, and guidelines for development within an area along the shoreline referred to as the Special Management Area (SMA). CZM policies are administered by each County. In the City and County of Honolulu, management of lands located within the SMA is regulated through ROH, Chapter 25, *Special Management Area*. HRS, Chapter 205A also establishes the Shoreline Setback Area (SSA) to further manage uses along the shoreline. The City is the delegated authority to regulate uses located within the established SSA for the island of O'ahu.

SSA for the island of O'ahu.

The proposed development is located within the SMA established by the City and County of Honolulu. See **Figure 25.** The following discussion describes how the Project satisfies the City's SMA Guidelines.

4.8.1 Terms And Conditions of Development

• Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas and natural reserves is provided to the extent consistent with sound conservation principles.

The proposed Project will not adversely impact access to any public recreation area or shoreline. The closest water body to the Project Site is the Pacific Ocean which is approximately 650-feet to the southwest. The proposed project would have no effect on existing uses and access of public coastal recreational areas.

• Adequate and properly located public recreation areas and wildlife preserves are reserved.

The Project's distance from the shoreline will ensure protection of existing public recreation and access areas along the shoreline. There are no wildlife preserves in close proximity to the Project Site.

• Provisions are made for solid and liquid waste treatment, disposition and management which will minimize adverse effects upon special management area resources.

The on-site wastewater system is limited to an existing cesspool adjacent to the bagging operations building. The cesspool directly infiltrates untreated wastewater into the coral outcrop fill below the Project Site. The sole source of wastewater generation for the cesspool is the bagging operations building employee bathroom.

Since there are no sewer facilities within Kaomi Loop, the Project Site will not tie into the City sewer system. The project will replace this cesspool with a new packaged wastewater treatment plant (septic tank and leach field), or similar product sized for their limited needs. The proposed location of the wastewater improvements is shown in Figure 7.

The Project will install new facilities in accordance with the requirements of the City and County of Honolulu Wastewater Design Standards, and with HAR Chapter 11-62, DOH Wastewater Systems. The new system will have a significant improvement on effluent water

quality and the Project will not impact regional wastewater collection systems in the area.

• Alterations to existing land forms and vegetation, except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation or failure in the event of earthquake.

The Project is in an urbanized area with no significant land forms, water resources or scenic and recreational amenities nearby that would be affected by the Project. The existing vegetation/landscaping is minimal for this Project. The renovation Project will not affect the current potential for or impact from floods, landslides, erosion, siltation or failure in the event of earthquake.

4.8.2 Required Council Findings

• The development will not have any substantial adverse environmental or ecological effect except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health and safety, or compelling public interest.

As discussed throughout this EA, this Sand Shed Project is not expected to have substantial environmental or ecological effects due to (i) the nature of the Project involving replacement of a similar Sand Shed owned and operated on an adjacent parcel, that will be decommissioned when this new Sand Shed is built and (ii) its location among existing industrial developments in Campbell Industrial Park, 650 feet from the shoreline.

• The development is consistent with the objectives and policies set forth in Section 25-3.1 and area guidelines contained in HRS Section 205A-26.

ROH Sec. 25-3.1 provides that the objectives and policies of ROH Chapter 25 shall be those contained in HRS Section 205A-2. The Project is consistent with policy HRS 205A-2(b)(5)(A), which states "*Provide public or facilities and improvements important to the State's economy in suitable locations.*" The Project will be important to the State and City's economy in many different respects. As noted elsewhere in this document, new construction jobs will be created, real property tax values (and hence tax revenues) will increase, and an ongoing

industry will continue to serve Honolulu.

- The development is consistent with the county general plan, development plans and zoning.

  The proposed project is consistent with the County General Plan, Development Plan and Zoning.

  General Plan

  The Project's compliance with the objectives and policies of the O'ahu General Plan are provided in Section 4.4 of this DEA.

  'Ewa Development Plan (EDP)

  The Project's compliance with the objectives and policies of the EDP and the EDP Land Use Map are provided in Section 4.5 of this DEA.

  Zoning

  The Project is within the I-2 Intensive Industrial District with a 60-foot height limit. The proposed sand shed is consistent with this zoning district, which allows warehouse establishments. Conceptual Plans of the Project, providing verification of compliance with the development standards of the I-2 Intensive Industrial District, are provided in **Appendix A**.

Figure 25: City and County of Honolulu Special Management Area Map

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Section 5

Agencies, Organization, and Individuals Consulted

Section 5 Agencies, Organizations, and Individuals Consulted

The agencies, organizations, and individuals listed below have been or will be contacted during the environmental review process to review and comment on the environmental conditions of the site, the proposed undertaking, and the potential impacts and mitigation measures that will be applied to ensure against adverse impacts. Stakeholders and the public will have an opportunity to review and comment on the proposed project and alternatives during the 30-day public review period.

State Agencies

- Department of Education
- Department of Health
  - Clean Water Branch
  - Safe Drinking Water Branch
  - Office of Environmental Quality Control
  - Wastewater Branch
- Department of Land and Natural Resources
  - Land Division
  - State Historic Preservation Division
- Office of Planning

City and County of Honolulu

- Board of Water Supply
- Department of Planning and Permitting
- Neighborhood Board (Makakilo No. 34)

Elected Officials

- State Senator
- State Representative
- City Councilmember

Utilities

- Hawaiian Electric Company
- Hawaiian Telcom
- Spectrum
- Hawaii Gas

5.1 Pre-Assessment Consultation

The following parties formally replied during the pre-assessment period and copies of the comments are provided in **Appendix B**.

State Agencies

- Office of Planning
- Department of Land and Natural Resources
  - Land Division
- Department of Education

City and County of Honolulu

- Board of Water Supply
- Department of Planning and Permitting

Other

- Hawaii Gas

5.2 Comments Received During the 30-Day Public Comment Period for the Draft Environmental Assessment.

The following parties formally provided written comments during the Draft EA 30-day public comment period. The comments and our responses are provided in **Appendix C**.

Federal Agencies

- U.S. Fish and Wildlife Service

State Agencies

- Office of Planning & Sustainable Development
- Department of Land and Natural Resources
  - Land Division
  - Division of Aquatic Resources
  - Division of Forestry and Wildlife
- Department of Education
- Department of Health, Clean Air Branch

City and County of Honolulu

- Honolulu Police Department
- Honolulu Fire Department
- Board of Water Supply
- Department of Planning and Permitting

5.3 Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34 Meeting

The project was presented to the Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34 at their October 28, 2020 meeting. The project was described during the meeting. The following concerns and questions were raised by the Board and the audience:

1. Whether an archaeological and cultural assessment has been done to detect any bones of extinct birds or people; Isaiah Sato answered that a cultural assessment is currently being prepared.
2. If there will be dismantling of the old sand shed; Keith Kurahashi answered that the old sand shed is owned by another developer and James Gomes said the new sand shed will be smaller than the old sand shed; and,
3. The kind of preparations that will be done to protect the shed from a tsunami; Keith Kurahashi said a civil engineer will look at this to determine an appropriate design but the sand shed would not be affected by the water rise.

A copy of the Makakilo/Kapolei/Honokai Hale Neighborhood Board's meeting minutes are provided in **Appendix D**.

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Section 6

Summary of Findings and Preliminary Determination

Section 6 Summary of Findings and Preliminary Determination

The proposed development of Hawaiian Cement Sand Shed is not anticipated to have a significant impact based on the criteria set forth in the HAR, Chapter 200, Title 11, Section 12. The objective of this Draft EA is to identify and consider the "significance" of potential environmental effects which includes the sum of effects on the quality of the environment along with cumulative long-term effects.

As set forth in HAR, Chapter 200, Title 11, a prescribed set of 13 Significance Criteria is used to determine the project's impact on the environment. The project's relationship to each criterion is discussed in this chapter and followed by the ensuing project determination.

6.1 Findings

To determine whether a proposed action may have a significant effect on the environment under Hawai'i Administrative Rules Title 11, Chapter 200, the Proposing Agency needs to consider every phase of the action, the expected primary and secondary consequences, cumulative effect, and the short- and long-term effects. The Proposing Agency's review and evaluation of the proposed action's effect on the environment would result in a determination whether: 1) the action would have a significant effect on the environment, and an Environmental Impact Statement Preparation Notice should be issued, or 2) the action would not have a significant effect warranting a Finding of No Significant Impact (FONSI).

1) *Irrevocable commit a natural, cultural, or historic resource;*

   Based on the findings of the Archaeological Literature Review and Field Inspection and the Cultural Impact Assessment Report, the project is unlikely to impact historic sites, historic properties, intangible cultural resources, and traditional and customary practices.

2) *Curtails the range of beneficial use of the environment;*

   The Proposed Action will not curtail the range of beneficial uses of the environment. The operations of the project are consistent with the surrounding uses within the James Campbell Industrial Park.

3) *Conflicts with the State's environmental policies or long-term environmental goals established by law;*

   The Proposed Action does not conflict with the State's environmental policies or long-term environmental goals established by law. As presented in **Section 4**, the project is aligned with the applicable State land use plans and policies.

4) *Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community or State;*

   The Proposed Action will provide positive benefits to the local economy through the

temporary construction activities. Development of the project will provide construction and indirect jobs. In addition to construction expenditures, construction activity will generate indirect sales associated with supplying goods and services to construction companies and to the families of construction workers. In the long-term, the proposed operations will be similar in nature to the existing operations on the adjacent site.

5) *Have a substantial adverse effect on public health;*

The Proposed Action does not have any substantial long-term adverse effects on public health. There are short-term noise and air quality impacts anticipated during construction that are temporary in nature and will comply with applicable City and State regulations.

6) *Involves substantial secondary impacts, such as population changes or effects on public facilities;*

The environmental analysis of the proposed Project addresses full development of the project in the context of known planned or approved land uses in the vicinity. Secondary impacts are not anticipated.

7) *Involves a substantial degradation of environmental quality;*

The Proposed Action is located within a previously developed site and is not anticipated to substantially degrade environmental quality. The Proposed Action does not have any substantial long-term adverse effects on public health. There are short-term noise and air quality impacts anticipated during construction that are temporary in nature and will comply with applicable City and State regulations.

8) *Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions;*

The Proposed Action encompasses all known planned projects for the site and there are no commitments for larger actions beyond this scope.

9) *Have a substantial adverse effect on rare, threatened, or endangered species, or its habitat;*

Based on the Cultural Impact Assessment Report, the Proposed Action is not anticipated to impact endangered flora or rare flora of cultural significance. The project is also not likely to impact any candidate, threatened, or endangered fauna. See **Section 3.3** for further discussion.

10) *Have a substantial adverse effect on air or water quality or ambient noise levels;*

The Proposed Action is not anticipated to have a substantial adverse effect on air or water quality or ambient noise levels.

Potential short-term direct and indirect impacts on air quality could occur during Project construction activities. Fugitive dust and exhaust emissions could directly result in short-term air quality impacts during Project demolition and construction phases. There are also indirect, short-term air quality impacts from the disruption of traffic on nearby roadways, from slow moving construction equipment traveling to and from the Project Site, and from a temporary increase in local traffic caused by commuting construction workers.

After construction, any long-term impacts on air quality from motor vehicle traffic related to this Project will likely be negligible. In the final conditions, traffic volumes in the vicinity are not expected to be impacted by the proposed project. The proposed Project is not expected to have a significant impact on traffic operations in the project vicinity; therefore, the Project should not cause any significant impacts to air quality. See **Section 3.2** for further discussion.

Short-term noise impacts are related primarily to construction activities. Construction of the proposed Project will involve excavating and grading. A majority of the noise will be generated during mobilization and operation of heavy construction equipment comprised of earth moving equipment, such as diesel engine powered bulldozers, trucks, backhoes, front-end loaders, graders, etc. The noise exposure is not expected to be continuous during the total construction period and noise related to construction is expected to cease upon completion of the proposed project.

After construction, any long-term impacts on noise related to this Project will likely be negligible. The sand shed operations will be transferred to the Project Site from the adjacent site. Furthermore, the proposed Project is not expected to have a significant impact on traffic operations in the project vicinity that could contribute to noise. Therefore, it is anticipated for noise in the vicinity to be similar to existing conditions and significant long-term noise impacts are not anticipated once the construction of the Project has been completed. See **Section 3.7** for further discussion.

The Project will incorporate appropriate LID site design strategies and post construction treatment control BMPs to biofilter in order to comply with City and County of Honolulu Rules Relating to Water Quality.

11) *Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;*

The Proposed Action is not anticipated to have an adverse effect on or be likely to suffer damage being located in an environmentally sensitive area. According to the FEMA Flood Insurance Rate Map, the subject property is located in Flood Zone "D". Zone "D" indicates unstudied areas where flood hazards are undetermined, but flooding is possible. See **Section 3.6.1**for further discussion.

The Project Site will not be affected by 3.2 feet of SLR in accordance with the PACIOOS SLR-XA but will be impacted by SLR in the 5 and 6 foot condition in accordance with NOAA's viewer. Sea level rise mitigation measures such as raising the finish floor elevation shall be considered during the Project's design phase to address sea level rise impacts under the 3.2-foot condition. See **Section 3.6.2** for further discussion.

The proposed project site is located in the tsunami evacuation zone and extreme tsunami evacuation zone as designated by the City. To mitigate against tsunami and storm surge impacts, engineering analyses will be performed to determine proper design criteria to be applied to structures associated with this project. During Tsunami Warnings or Extreme

Tsunami Warning, evacuation procedures maintained by the City will be followed. The project will not include any residential units and the employees and visitors on-site will evacuate off-site accordingly. See **Section 3.6.3** for further discussion.

12) *Have a substantial adverse effect on scenic vistas and view planes, during day or night, identified in county or state plans or studies.*

The Project Site will be more visible than it is now due to the addition of the proposed 50-feet tall sand shed. However, the Project is not anticipated to have a significant adverse impact on scenic view planes or scenic resources. The sand shed will follow City and County of Honolulu Zoning height regulations and be under the 60-feet height limit. It will be similar in height to nearby building structures in the vicinity of the project. Furthermore, there are no residential or dwelling units in the vicinity.

13) *Requires substantial energy consumption or emit substantial greenhouse gases*

The construction and operation are not anticipated to require a substantial energy consumption or emit substantial greenhouse gases. A negligible increase in exhaust emissions is anticipated in the short term during construction. After construction, any long-term impacts on air quality from motor vehicle traffic related to this Project will likely be negligible. In the final conditions, traffic volumes in the vicinity are not expected to be impacted by the proposed project; therefore, the Project should not cause any significant impacts to air quality. See **Section 3.2** for further discussion.

Based upon the information and results of the assessments conducted for the project site, a Finding of No Significant Impact (FONSI) determination is warranted for the proposed for the Project.

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Section 7

References

Section 7 References

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Hawaiian Cement

Oahu, Hawaii

Project: 20730

Issued for Permit

July 14, 2020

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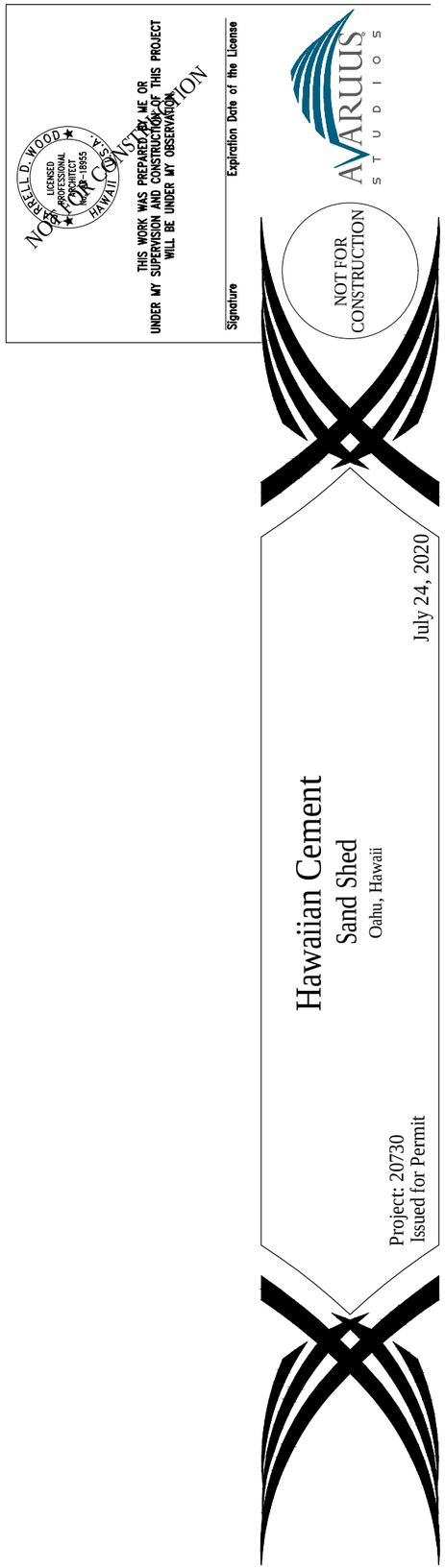

Code Analysis

ZONING	(S-2) STORAGE
JURISDICTION HAVING AUTHORITY	OAHU, HI
CODE EDITION:	2006 IBC
OCCUPANCY	S-2
TYPE OF CONSTRUCTION	II-B
ALLOWABLE FLOOR AREA	26,000 SF (per table 503)
(AREA INCREASE PER 506.1)	75% INCREASE DUE TO FRONTAGE 26,000 X 1.75 = 45,500 SF ALLOWABLE
FLOOR AREA (ACTUAL)	37,975 SF GROSS
HEIGHT (ALLOWABLE)	55'-0"
HEIGHT (ACTUAL)	53'-3"
NO. OF STORYS (ALLOWABLE)	1 STORY
NO. OF STORYS (ACTUAL)	1 STORY
FIRE SPRINKLERS	NOT REQUIRED PER 903.3.1.1
ROOF CLASS REQUIRED (B)	PROVIDED (B OR BETTER)
OCCUPANT LOAD	WAREHOUSE (S-2) 500 SF PER PERSON = 19
TOTAL OCCUPANTS	19
REQUIRED EXITS	1
EXITS PROVIDED	6

SPACES REQUIRING FIRE SEPERATION
NON REQUIRED (PER TABLE 508.4)

REQUIRED FIRE RESISTANCE FOR BLDG. ELEMENTS

PRIMARY STRUCTURAL FRAME:
TYPE II-B (0 HOURS REQUIRED) PER TABLE 601

EXTERIOR & INTERIOR BEARING WALLS:
TYPE II-B (0 HOURS REQUIRED) PER TABLE 601

EXTERIOR NONBEARING WALLS:
DISTANCE TO PROPERTY LINE (ACTUAL)
GREATER THAN 10'-0" LESS THAN 30'-0"
TYPE II-B (0 HOURS REQUIRED) PER TABLE 602

INTERIOR NONBEARING WALLS:
TYPE II-B (0 HOURS REQUIRED) PER TABLE 601

FLOOR CONSTRUCTION & SECONDARY MEMBERS:
TYPE II-B (0 HOURS REQUIRED) PER TABLE 601

ROOF CONSTRUCTION & SECONDARY MEMBERS:
TYPE II-B (0 HOURS REQUIRED) PER TABLE 601

Index of Sheets

SHEET	DESCRIPTION
COVER	COVER SHEET
G1.01	PROJECT DIRECTORY & INDEX OF SHEETS, IECC REPORT
	CIVIL
	REFER TO CIVIL DRAWING INDEX
	ARCHITECTURAL
A1.00	OVERALL SITE PLAN
A2.10	FLOOR PLAN
A4.01	EXTERIOR ELEVATIONS
A5.01	BUILDING SECTIONS
	STRUCTURAL
S1.01	GENERAL STRUCTURAL NOTES
S1.02	GENERAL STRUCTURAL NOTES
S2.01	FOUNDATION PLAN
S3.01	ROOF FRAMING PLAN
	MECHANICAL/PLUMBING
	N/A
	ELECTRICAL
	N/A

Project Directory

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Project Engineer
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TBD

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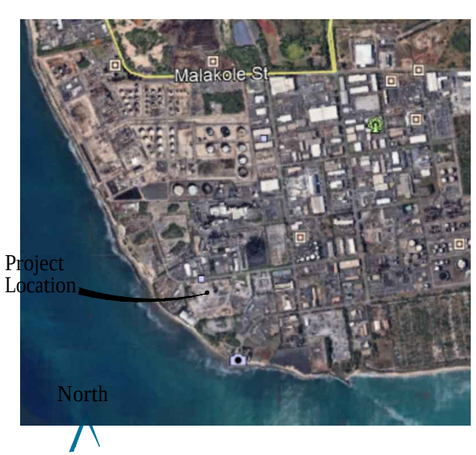
Richard L. Warren, P.E., S.E.
PRINCIPAL-IN-CHARGE

MPE CONSULTANT
N/A

Vicinity Map



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CONSULTANT:

PROJECT NAME:
Hawaiian Cement
Sand Shed
Oahu, Hawaii

SHEET TITLE:
Project Directory & Index of Sheets
IECC Report

REVISIONS:
*
*
*
*
*

Project No: 20730

Drawn By
AVARUUS

Date: March 23, 2020

Scale: as shown

Sheet No:
G1.01

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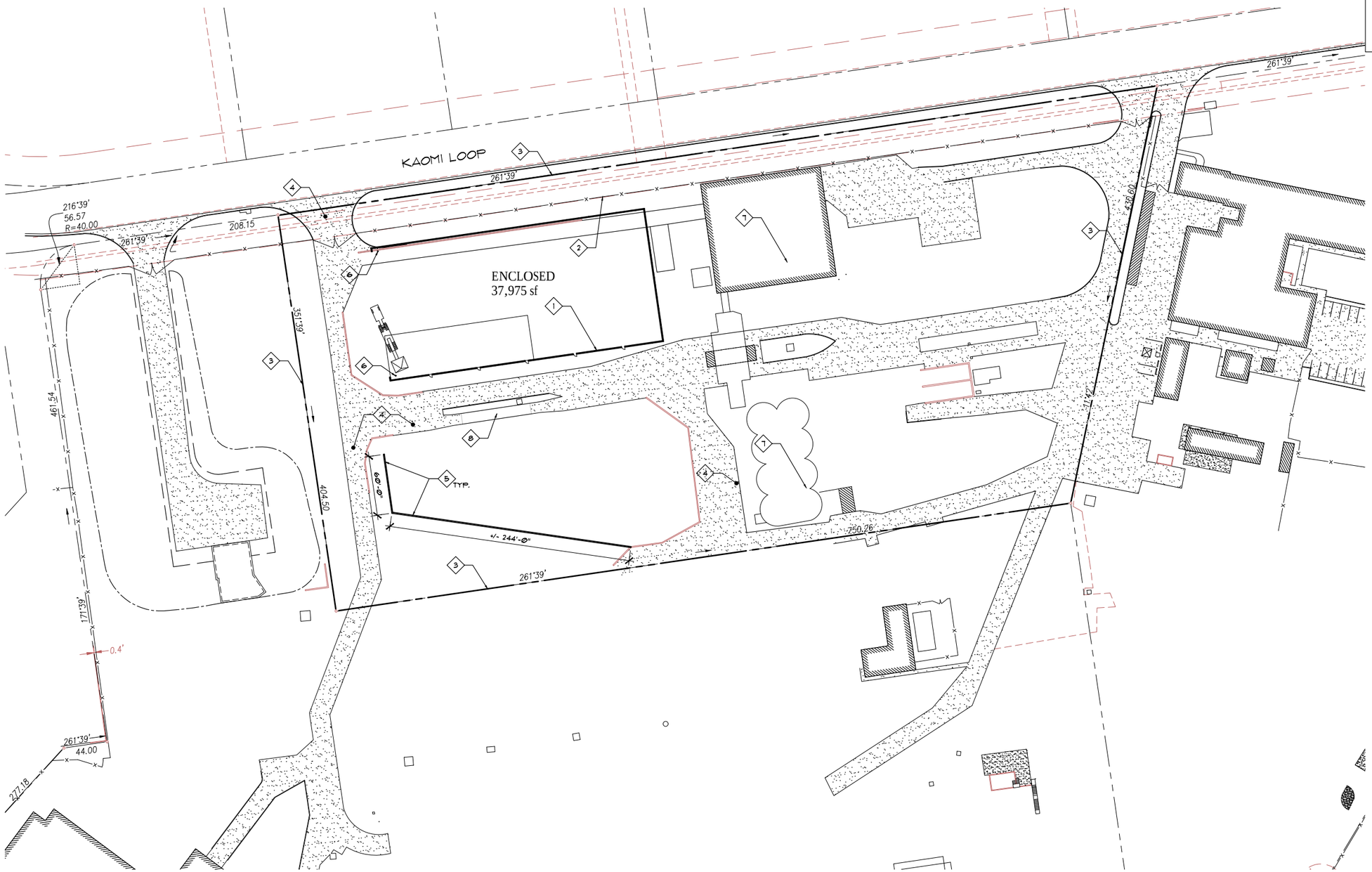

Site Plan
Scale: 1"=50'-0"

1
A1.00

North

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Keynotes

SHEET A1.01

1. NEW STRUCTURE, REFER TO FLOOR PLANS.
2. BUILDING SETBACK.
3. PROPERTY LINE.
4. EXISTING PAVING, REFER TO CIVIL DRAWINGS, TYP.
5. NEW CONCRETE RETAINING WALL, REFER TO STRUCTURAL DRAWINGS
6. PIPE BOLLARD, REFER TO DETAIL X/A1.0.
7. EXISTING BUILDING TO REMAIN
8. EXISTING TRUCK SCALES TO REMAIN

Site Data

ASSESSORS PARCEL NUMBER (APN) 163-32-801-022

General Notes

1. CONTRACTOR TO FIELD VERIFY ALL CONDITIONS PRIOR TO CONSTRUCTION
2. ANY DISCREPANCY BETWEEN CIVIL, LANDSCAPE, PLUMBING, ELECTRICAL AND ARCHITECTURAL SITE PLANS SHOULD BE BROUGHT TO THE ARCHTIECTS ATTENTION IMMEDIATELY.
3. REFER TO CIVIL FOR HORIZONTAL CONTROL.
4. REFER TO LANDSCAPE FOR PLANTING AND PAVING INFORMATION. PAVING PATTERNS ON LANDSCAPE DRAWINGS SHALL TAKE PRECEDENCE OVER ARCHITECTURAL SITE DRAWINGS IF DISCREPANCIES EXIST.
5. REFER TO CIVIL DRAWINGS FOR NEW AND EXISTING UTILITY LOCATIONS AND ADDITIONAL LINES TO BE INSTALLED.
6. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR ALL SITE IMPROVEMENTS WITHIN THE LIMIT OF WORK. ANY EXISTING SITE WORK DAMAGED OUTSIDE THE LIMIT OF WORK BY GENERAL CONTRACTOR SHALL BE REPLACED TO MATCH THE ORIGINAL CONDITIONS.

PROJECT NAME:
Hawaiian Cement
Sand Shed
Oahu, Hawaii

SHEET TITLE:
Site Plan

REVISIONS:
*
*
*
*

Project No: 20730

Drawn By
DW

Date: March 23, 2020

Scale: As Noted

Sheet No:
A1.00

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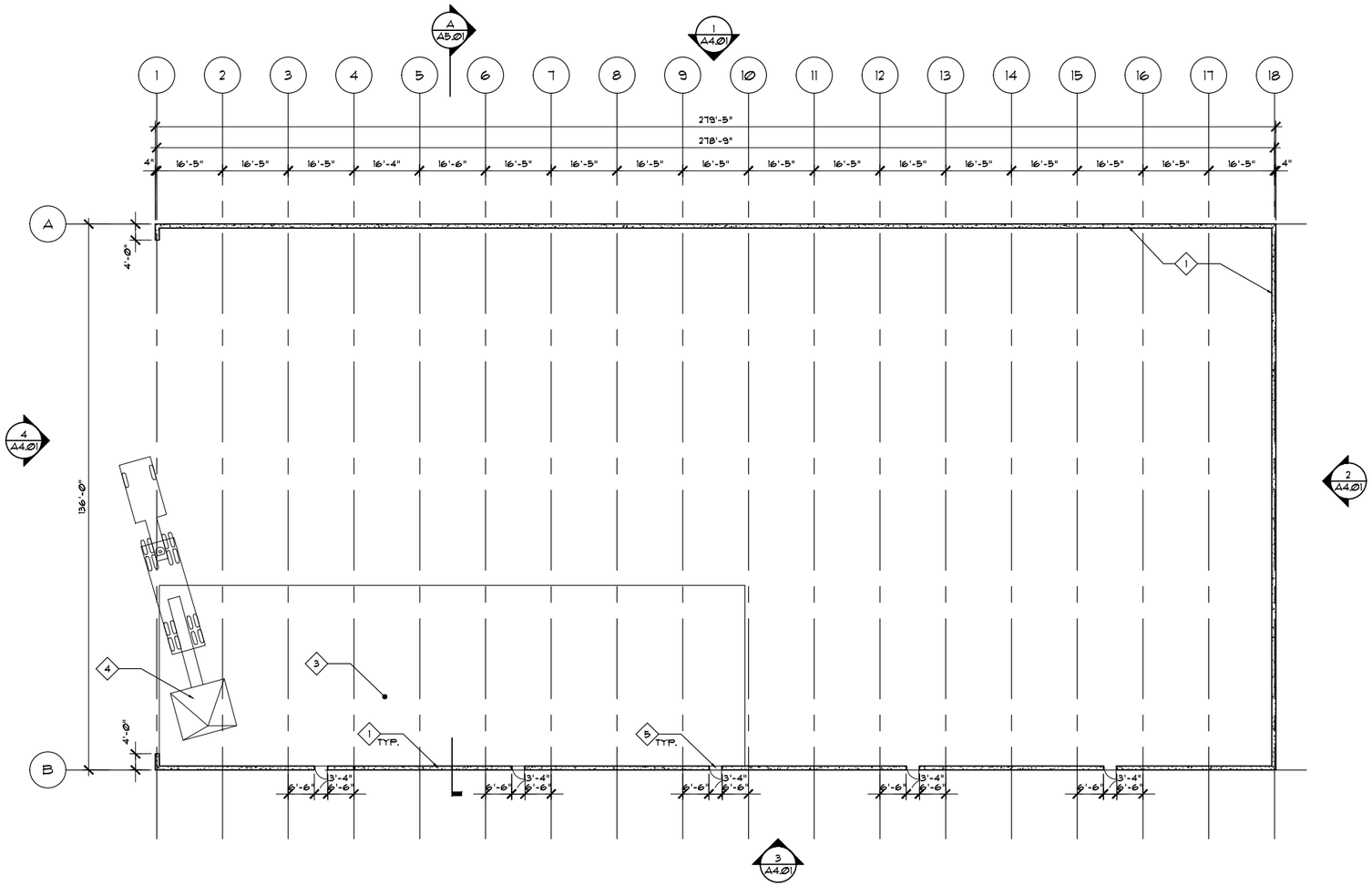

Floor Plan
Scale: 1/16" = 1'-0"

1
A2.10

North

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CONSULTANT:

Keynotes

SHEET A2.10

1. 12" THICK CONCRETE WALLS TO 10' ABOVE FINISH GRADE
2. STRUCTURAL COLUMN, REFER TO STRUCTURAL DRAWINGS
3. 6" CONCRETE SLAB OVER PREPARED BASE. REFER TO STRUCTURAL DRAWINGS FOR REINFORCING OF CONCRETE SLAB
4. HOPPER, OWNER PROVIDED.
5. HOLLOW METAL DOOR AND FRAME, 3070 STEEL DOOR WITH PASSAGE SETS ONLY, NO LOCKING DEVICES ALLOWED

Wall Legend

NEW WALL

1 HOUR RATED WALL

Symbols Legend

1. FOR DOOR SIZE SEE SCHEDULE ON A9 SERIES
2. FOR WINDOW SIZE SEE SCHEDULE ON A9 SERIES
3. FOR PARTITION TYPES SEE DETAILS ON G3 & A8 SERIES
4. INDICATES EXISTING PARTITION

General Notes

1. CONTRACTOR TO FIELD VERIFY ALL CONDITIONS.
2. ALL DIMENSIONS ARE TAKEN FROM FACE OF STUD, MASONRY, OR CONCRETE U.N.O.

PROJECT NAME:
Hawaiian Cement
Sand Shed
Oahu, Hawaii

SHEET TITLE:
Enlarged Site Plan

REVISIONS:
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Project No: 20730

Drawn By: DW

Date: March 23, 2020

Scale: As Noted

Sheet No:
A2.10

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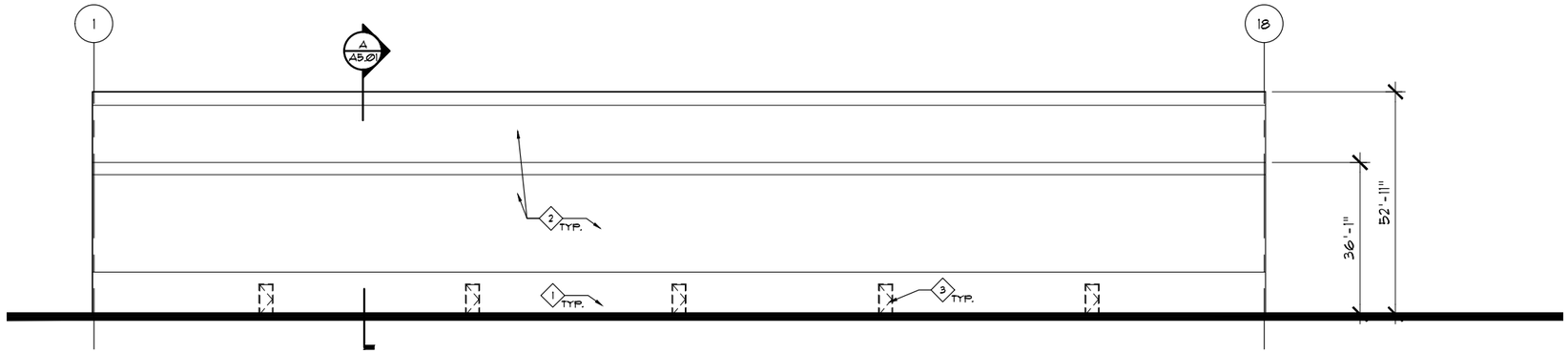

South Elevation
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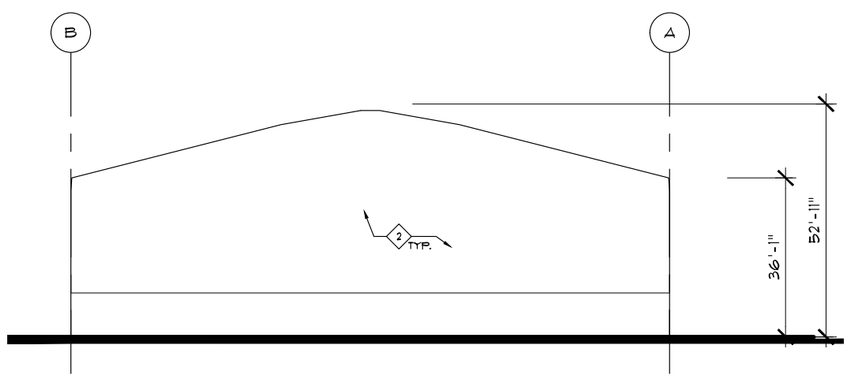
4 / A4.Ø1



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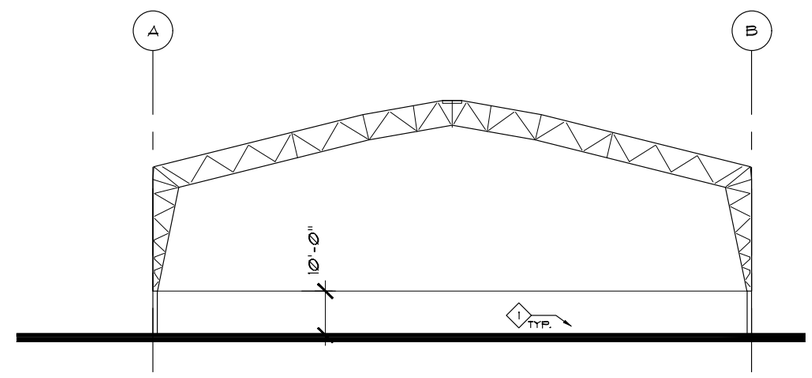
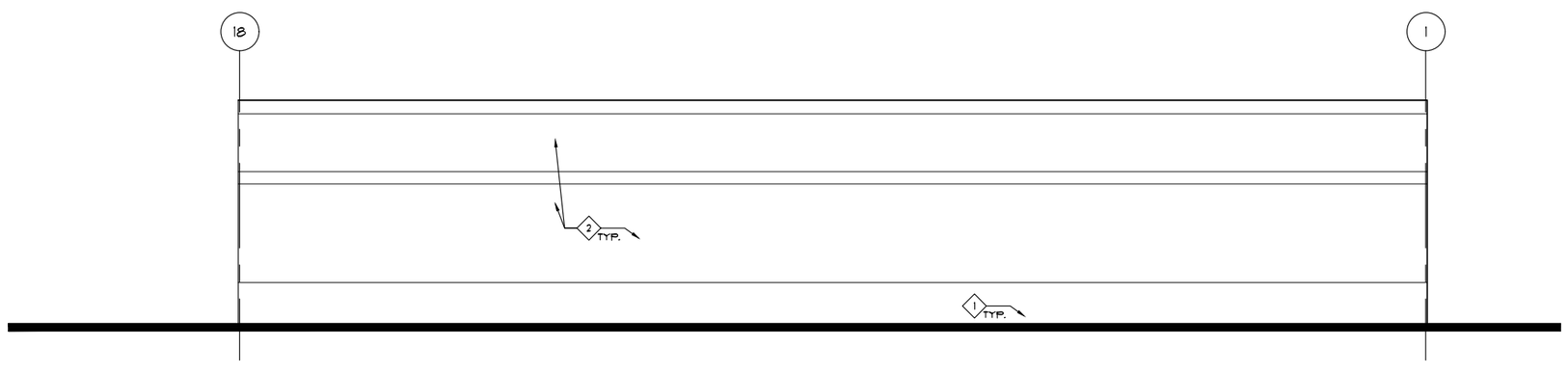
3 / A4.Ø1



West Elevation
Scale: 1/16" = 1'-0"
2 / A4.Ø1



North Elevation
Scale: 1/16" = 1'-0"
1 / A4.Ø1

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CONSULTANT:

Keynotes
A4.Ø1 & A4.Ø2

1. CONCRETE RETAINING WALL, REFER TO STRUCTURAL DRAWINGS FOR THICKNESS AND REINFORCING
2. FABRIC MEMBRANE, TYP.
3. HOLLOW METAL DOORS AND FRAMES, REFER TO FLOOR PLAN

Materials & Colors

DESIGNED IS BASED ON BUT NOT LIMITED TO BELOW ITEMS

CONTRACTOR TO PROVIDE MOCK-UP FOR ARCHITECT AND OWNER APPROVAL PRIOR TO PAINTING EACH ENTIRE BUILDING

ST-1, CREATIVE MINES CRAFT SPLIT MODULAR COLOR: GREYPEARL

WD-1 SIMULATED WOOD (FIBERON) COLOR: TUDOR BROWN

CMU-1 SPLIT FACE CEMEX - #3 BLACK W/WHITE

CMU-2 SMOOTH CEMEX - #5 BLACK

General Notes

1. CONTRACTOR TO FIELD VERIFY ALL CONDITIONS.
2. ALL DIMENSIONS ARE TAKEN FROM FACE OF STUD, MASONRY, OR CONCRETE U.N.O.

PROJECT NAME:
Hawaiian Cement
Sand Shed
Oahu, Hawaii

SHEET TITLE
Exterior Elevation

REVISIONS:
*
*
*
*

Project No: 20730

Drawn By
DW

Date: March 23, 2020

Scale: As Noted

Sheet No:
A4.01

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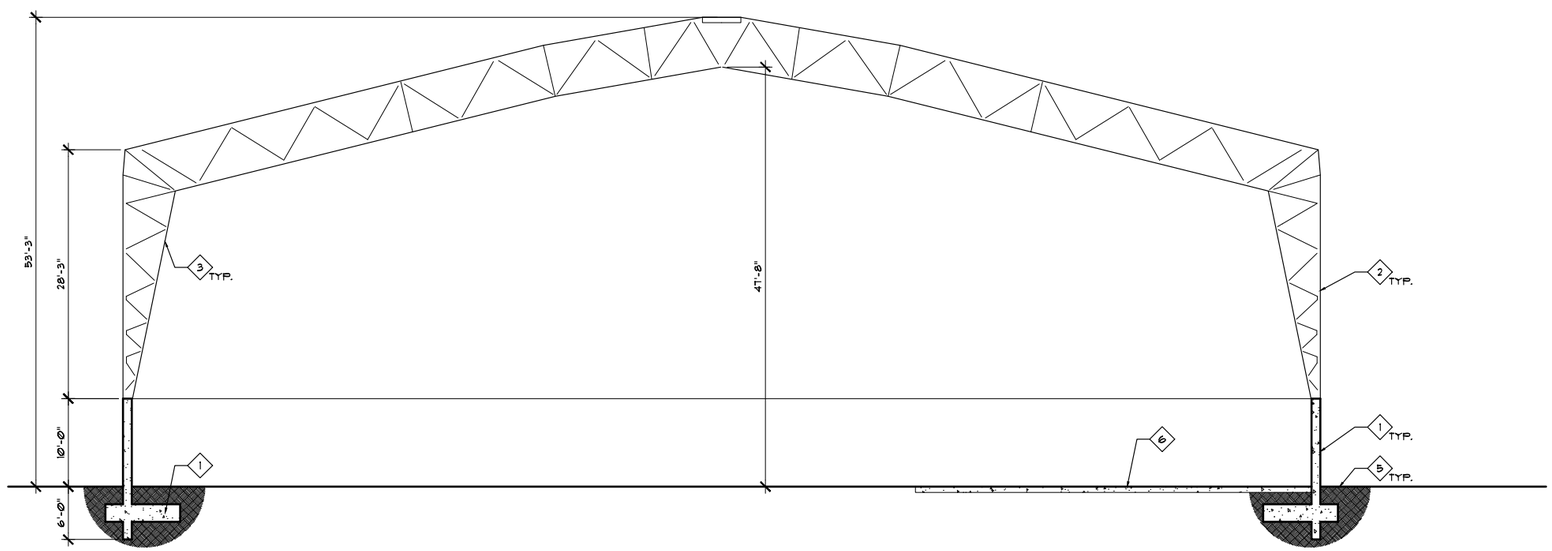

Building Section

Scale: 1/8" = 1'-0"

A
A5.01

General Notes

1. CONTRACTOR TO FIELD VERIFY ALL CONDITIONS.
2. ALL DIMENSIONS ARE TAKEN FROM FACE OF STUD, MASONRY, OR CONCRETE U.N.O.
3. PER IBC 718.2.2 FIRE BLOCKING SHALL BE PROVIDED IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS INCL. FURRED SPACES AND PARRALEL ROWS OF STUDS OR STAGGERED STUDS. FIRE BLOCKING SHALL BE INSTALLED VERT. AT THE CLG AND FLOOR LEVELS AT INTERVALS NOT TO EXCEED 10 FEET

Keynotes

A5.01 & A5.10 SERIES

1. CONTINUOUS CONCRETE FOOTING, REFER TO STRUCTURAL DRAWINGS
2. SEMI TRANSPARENT MEMBRANE STRUCTURE, REFER TO MEMBRANE SPECIFICATIONS.
3. TRUSS STRUCTURE TO SUPPORT MEMBRANE, REFER TO STRUCTURAL DRAWINGS.
4. CONCRETE RETAINING WALL, REFER TO STRUCTURAL DRAWINGS
5. EXISTING HARD-PACK NATIVE SOILS TO REMAIN. BACKFILL TO BE INSTALLED PER SOILS REPORT AND STRUCTURAL DRAWINGS.
6. CONCRETE SLAB FLUSH WITH FINISH GRADE, REFER TO STRUCTURAL DRAWINGS FOR THICKNESS AND REINFORCING.

SEAL:

NORRELL D. WOOD
LICENSED PROFESSIONAL ARCHITECT
No. CA-18955
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

Expiration Date of the License

AVARUUS STUDIOS
Ph: (702) 776-7774

CONSULTANT:

PROJECT NAME:
Hawaiian Cement
Sand Shed
Oahu, Hawaii

SHEET TITLE:
Building Sections

REVISIONS:
1 *
2 *
3 *
4 *

Project No: 20730

Drawn By: DW

Date: March 23, 2020

Scale: As Noted

Sheet No:
A5.01

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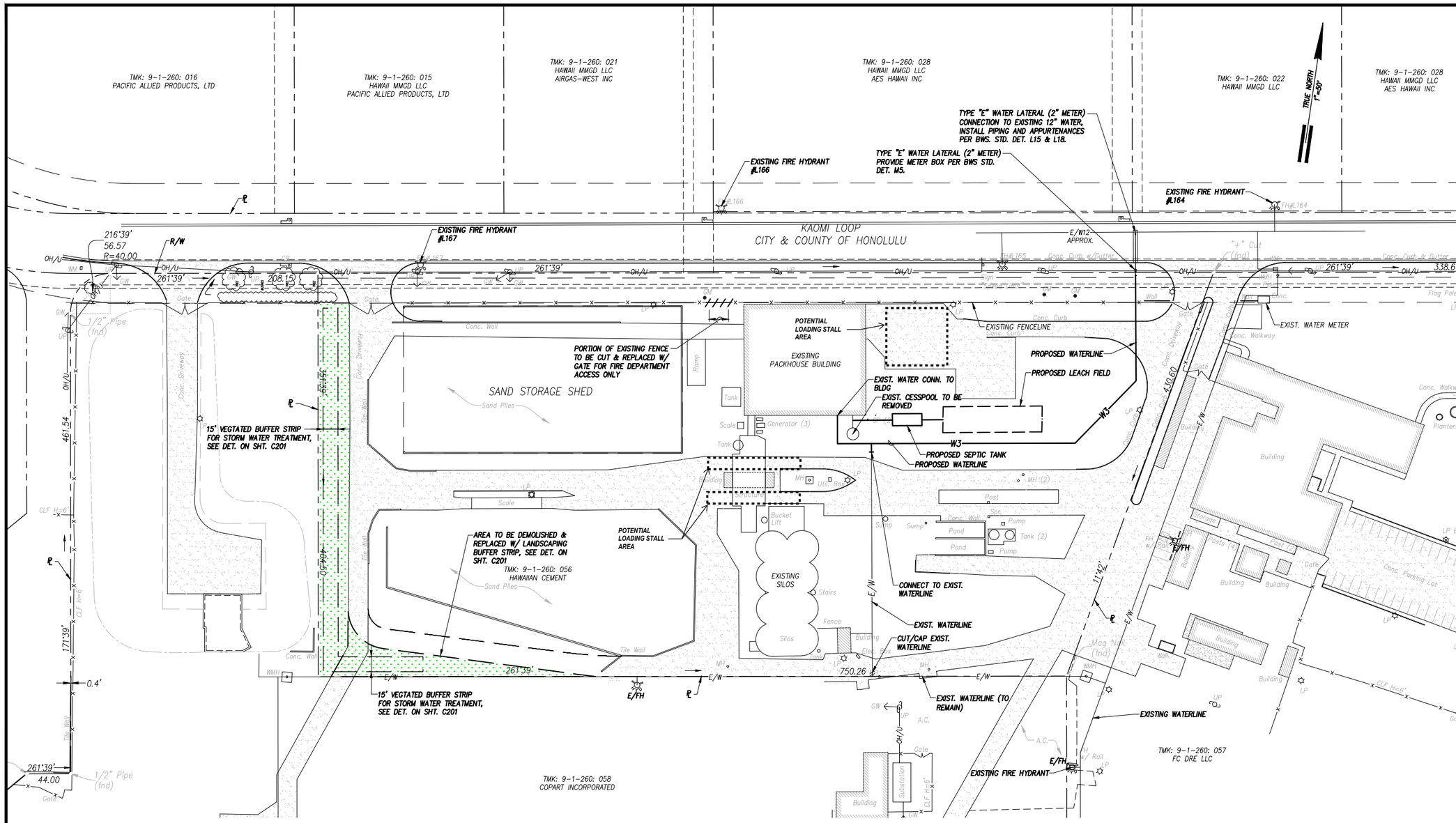

GENERAL SITE AND UTILITY PLAN

SCALE: 1" = 50'

GRAPHIC SCALE:
1" = 50' 50' 25' 0 50' 100'

APPROVED:

Manager and Chief Engineer, BWS DATE
(For work affecting BWS facilities in City/State R/W and BWS easements only)

HAWAIIAN CEMENT WATER LATERAL

KAPOLEI, HAWAII

R. M. TOWILL CORPORATION

KEVIN T. MENDES
LICENSED PROFESSIONAL ENGINEER
No. 8200-C
HAWAII, U.S.A.

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SIGNATURE 4/30/22 EXP. DATE

REVISION	DATE	BY	APPROVED

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP DATE

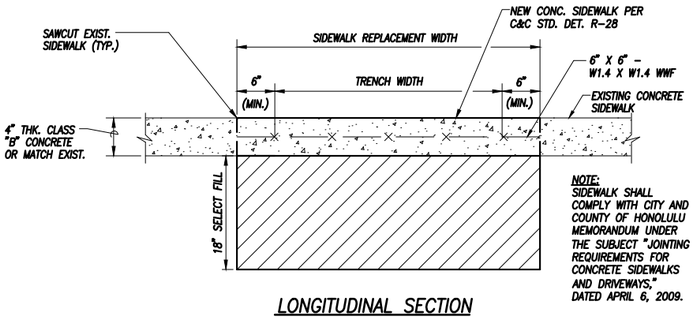
ENGINEER	DI
DRAFTSMAN	DI
CHECKED BY	KM
SCALE	AS SHOWN
DATE	APRIL 23, 2021
FILENAME	

GENERAL SITE AND UTILITY PLAN

C101 SHEET 5 OF 8 SHEETS

FILE	POCKET	FOLDER	NO.

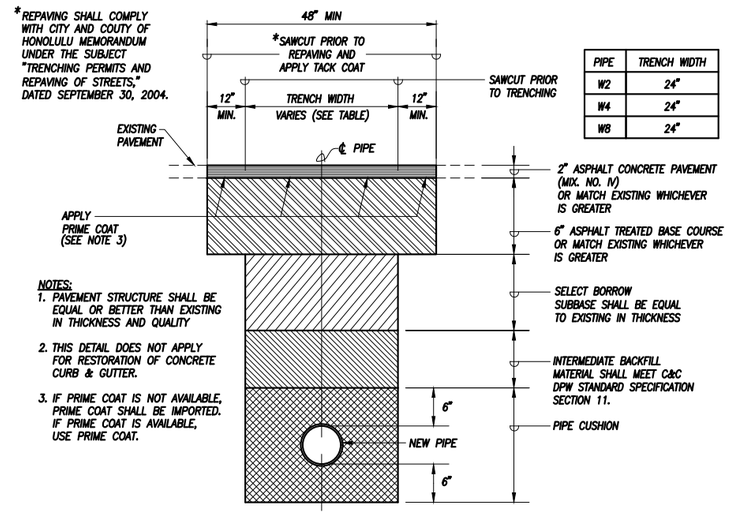
FILE: k:\cdh\53413-hawaiian cement\dwg\plans\waterline plans\c101 hawaiian cement w- general site and utility plan.dwg
SAVED BY: dzuzel ON May 2, 2022
WBS# JOB NO.: 1-02209-01C



LONGITUDINAL SECTION

CONCRETE SIDEWALK RESTORATION (CITY)

NOT TO SCALE



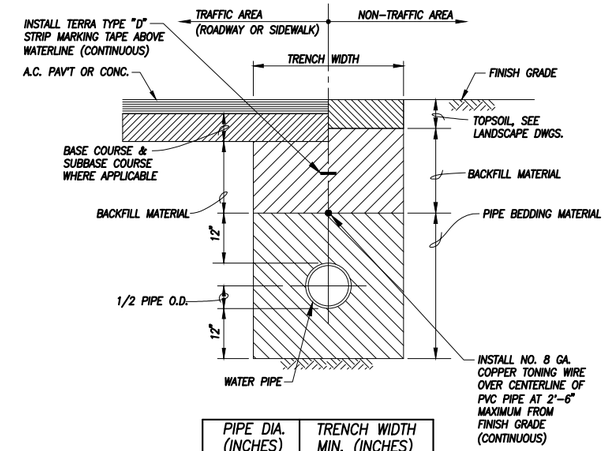
PIPE	TRENCH WIDTH
W2	24"
W4	24"
W8	24"

NOTES:

1. PAVEMENT STRUCTURE SHALL BE EQUAL OR BETTER THAN EXISTING IN THICKNESS AND QUALITY
2. THIS DETAIL DOES NOT APPLY FOR RESTORATION OF CONCRETE CURB & GUTTER.
3. IF PRIME COAT IS NOT AVAILABLE, PRIME COAT SHALL BE IMPORTED. IF PRIME COAT IS AVAILABLE, USE PRIME COAT.

TYPICAL TRENCH RESTORATION (CITY RIGHT-OF-WAY)

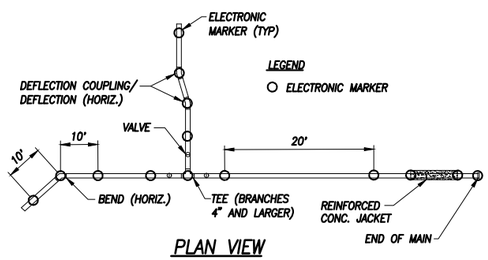
NOT TO SCALE



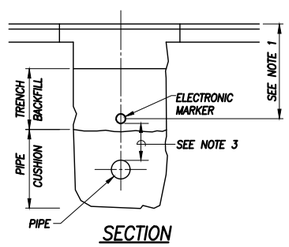
PIPE DIA. (INCHES)	TRENCH WIDTH MIN. (INCHES)
8	24
6	24
LESS THAN 4	12

TYPICAL SECTION - PVC WATER PIPE TRENCH (PRIVATE)

NOT TO SCALE



PLAN VIEW



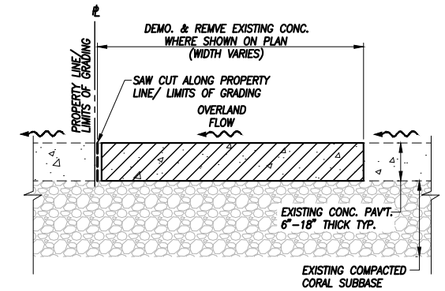
SECTION

NOTES:

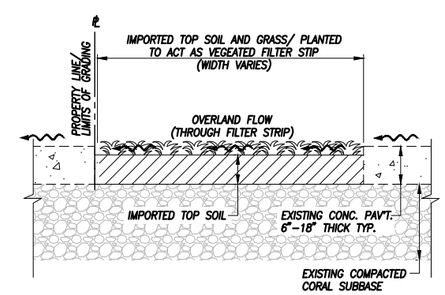
1. INSTALL ELECTRONIC MARKER OVER CENTER LINE OF PIPE AT A MINIMUM DEPTH OF 2 FEET AND A MAXIMUM DEPTH OF 3 FEET FROM FINISH GRADE.
2. INSTALL TRENCH BACKFILL AND PIPE CUSHION MATERIAL IN ACCORDANCE TO THE PLANS AND SPECIFICATIONS.
3. INSTALL ELECTRONIC MARKER AT A MINIMUM CLEARANCE OF 6-INCHES ABOVE THE PIPE OR CONCRETE JACKET.

TYPICAL ELECTRONIC MARKER INSTALLATION (CITY)

NOT TO SCALE



EXISTING CONDITION



PROPOSED CONDITION

VEGETATED BUFFER STRIP FOR STORM WATER QUALITY

NOT TO SCALE

HAWAIIAN CEMENT SAND SHED
KAPOLEI, HAWAII

R. M. TOWILL CORPORATION

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SIGNATURE — 4/30/20 EXP. DATE

REVISION	DATE	BRIEF	BY	APPROVED

ENGINEER	DI
DRAFTSMAN	DI
CHECKED BY	KM
SCALE	AS SHOWN
DATE	MARCH, 2020
FILENAME	

SMA APPLICATION: CIVIL DETAILS

FILE	POCKET	FOLDER	NO.

HAWAIIAN CEMENT CO. SAND SHED

91-055 KAOMI LOOP, KAPOLEI, HAWAII 96707

CODE ANALYSIS

1. BUILDING USE:	SAND STORAGE	
2. APPICABLE CODES:	HAWAII STATE BUILDING CODE & IBC, IEC, UMC, UPC, IFC	
3. OCCUPANCY CLASSIFICATION:	S-2	IBC CHAPTER 3
4. TYPE OF CONSTRUCTION:	TYPE II-B	IBC CHAPTER 6
5. FIRE SPRINKLER	NO – SAND STORAGE	IBC SECTION 903.3.1.1.1
6. FIRE ALARM	NO	IBC SECTION 907
7. HEIGHT	45 FT MAX 55 FT	IBC TABLE 504.3
8. STORIES:	ONE MAX THREE	IBC TABLE 504.4
9. AREA	43800 SF MAX 104,000 SF	IBC TABLE 506.2
10. OCCUPANT LOAD	43800/2000 = 22 OCCUPANTS	IBC TABLE 1004.5
11. NUMBER OF EXITS	ONE – < 29 OCCUPANTS	IBC TABLE 1006.2.1
12. FIRE RESISTANCE RATING:	0 HOURS	IBC TABLE 601
13. PROTECTION OF OPENINGS:	0 HOURS	IBC SECTION 705.8
14. REQUIRED PLUMBING FIXTURES:	0	IBC SECTION 2902.2
15. ENERGY CODE/INSULATION	UNHEATED NON-COOLED STRUCTURE	
16. SPECIAL INSPECTIONS	REFER TO STRUCTURAL DRAWINGS	
17. DEFERRED SUBMITTALS	NONE REQUIRED	

SHEET INDEX

1. ARCHITECTURAL:

COVER	COVER SHEET
A1.00	SITE PLAN
A1.10	SITE DETAILS
A2.10	FLOOR PLAN
A2.20	ROOF PLAN
A4.01	ELEVATIONS
A5.01	BUILDING SECTIONS
A6.01	DETAILS

2. FOUNDATION:

S1.0	COVER SHEET
S1.1	GENERAL STRUCTURAL NOTES
S1.2	GENERAL STRUCTURAL NOTES
S2.1	FOUNDATION PLAN
S3.1	FOUNDATION DETAILS
S3.2	CONCRETE STANDARD DETAILS

3. PRE-FABRICATED BUILDING:

1-15	BUILDING DRAWINGS – OB WIIK PROJ. NO. CA-20730

PROJECT TEAM

1. OWNER:
HAWAIIAN CEMENT CO.
91-055 KAOMI LOOP
KAPOLEI HAWAII 96707

2. ARCHITECT:
AVARUUS STUDIOS
9340 SO EASTERN SUITE 240
LAS VEGAS NEVADA 89123
(702) 776-7777

3. STRUCTURAL:
S3 ENGINEERS LLC
27 ANTERO DR.
HENDERSON NV 89074
(702) 882-5830

4. CIVIL ENGINEER:
RM TOWHILL CORP.
2024 NORTH KING St #200
HONOLULU, HAWAII 96819-3494
(808) 842-1133

5. BUILDING INSTALLER:
VISION BUILDING SYSTEMS
3150 W WIGWAM AVE.
LAS VEGAS NEVADA 89123

6. PRE-FABRICATED BUILDING:
OB WIIK LTD.
73 COLBORNE ST N
SIMCOE, ONTARIO ON N3Y 3V2 CANADA

LOCATION MAP

VISION BUILDING COMPANIES
3150 W WIGWAM AVE
LAS VEGAS NEVADA 89139
702-222-4012 www.visionbuildingsystems.net

S3 ENGINEERS LLC
27 ANTERO DR.
HENDERSON, NV 89074
702-882-5830
rlw@s3engineers.com

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HAWAII, USA
LICENSED PROFESSIONAL ENGINEER
PE 10704S
KEITH M. MURAR

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SIGNATURE EXPIRES: 4/30/2022

SEAL DATE 07/06/2020

HAWAIIAN CEMENT CO.
SAND SHED
91-055 KAOMI LOOP ROAD
KAPOLEI, HAWAII 96707

STRUCTURE TYPE: OB WIIK LTD.

STRUCTURE SIZE: 147' X 272'

PROJECT #	S3 20698
DATE	03/31/2020
DRAWN BY	RLW
CHECKED BY	RLW

REVISIONS

REV.	DATE	DESC.
0	05-30-20	PERMIT
1	07-06-20	PERMIT 2

SHEET TITLE
COVER SHEET

SHEET
S1.0

GENERAL

DESIGN

1. These drawings have been prepared by the Engineer of Record (EOR) primarily to safeguard against major structural damage and loss of life, not to limit damage or maintain function as per requirements of the current accepted building code as listed in the basis for design.

2. Professional standards of care normally exercised under similar circumstances by reputable structural engineers in this area or similar localities have been used or exceeded in these drawings.

3. Design of prefabricated structural steel trusses, purlins, cables, etc. are not included and must be provided by others unless specifically noted on these drawings.

4. Design of non-structural elements (such as overhead doors, man-doors, vents, veneers, curtain walls, etc...) and their attachments are not included and must be provided by others unless specially noted on these drawings.

5. Specification references (such as ASTM, ACI, AWS, etc...) shall be the latest accepted version where noted on these drawings.

CONSTRUCTION

6. An experienced Licensed Contractor with a working knowledge of applicable codes and industry accepted standard practices shall perform the work depicted in these drawings.

7. All work shall conform to the minimum standards of the current accepted Building Code found in the basis for design and other Codes. Industry specific specifications and standards listed herein. The Contractor shall comply with requirements of all regulatory agencies with authority over any portion of the work. Work not explicitly shown on these drawings shall conform to all applicable codes and accepted standard practices.

8. The Contractor shall verify all dimensions, elevations and conditions on these drawings with the architectural and all other discipline drawings prior to start of construction. Notify Architect or EOR in writing before start of construction regarding discrepancies, omissions or variations, or they shall become the sole responsibility of the Contractor. Notes and the specific details on these drawings take precedence over general structural notes and typical details.

9. Construction methods are not indicated on these Drawings. The Contractor shall be solely responsible for all methods, sequences and procedure of Construction. The Contractor shall provide adequate sharing, bracing, form works, etc. as required for the protection of life and property during construction.

10. Excavation procedures including shoring and protection of adjacent property structures, streets and utilities shall be performed in compliance with Local Building Codes, regulations and safety requirements and shall be the Contractor's responsibility.

11. Construction materials shall be spread out uniformly on structural systems such that design live loads are not exceeded.

BASIS FOR DESIGN

1. Governing Building Code: 2006 International Building Code

2. BASE REACTIONS: Maximum building forces at the foundation were received from OB Wiik for the V45(40) CA20730 project.

FOUNDATION

1. Foundations are designed per geotechnical recommendations by Walter Lum Associates dated February 7, 1992 and will be adjusted as required based on receipt of a current report proposed to be obtained thru Hirata & Associates. All recommendations included in the soils report shall be completed prior to the start of structural foundations. These include but are not limited to site preparation, grading, tests, inspections, field observations, approvals.

2. Footings & Foundations:
   - Embedment depth = 24 IN.
   - Allowable bearing capacity = 4000 PSF
   - 1/3 increase for transient loads
3. Cantilever retaining walls:
   - Active soil pressure (eq. fluid weight) = 45 PCF
   - Passive soil pressure (eq. fluid weight) = 250 PCF
   - Sliding resistance (friction) = 0.50

CONCRETE

MATERIALS

1. Geo-technical Engineer shall provide information regarding on-site soils exposures per current accepted code as listed in the basis for design or as follows:

w/c	28 day (f'c)	Air	Slump	Usage
0.50	4000 PSI	1-3%	4" +/- 1"	Walls
0.55	3000 PSI	1-3%	4" +/- 1"	Footings

Slump may be increased when superplasticing agents are used

2. Concrete mixes shall be designed by a certified concrete testing laboratory and approved by the EOR.

3. All concrete shall be normal weight 145 PCF with hardrock aggregates.

4. Water shall be from a municipal source and clean and potable.

5. Portland cement shall be ASTM C 150 type II-V for concrete in contact with soil. Type II-V plus pozzolan may be used where concrete is in contact with soil containing very severe sulfate exposure.

6. Fly ash shall comply with ASTM C 618, class F and shall be approved by the Architect in writing before being used on the job. When used, fly ash content shall be 15 percent to 25 percent. Wate-cementration shall be based on total cementitious material.

7. Aggregates shall comply with ASTM C 33, use ¾ " maximum aggregate size in structural concrete. 1½" maximum in slabs on grade and ⅜" pea gravel in grouts only unless specifically noted otherwise on the plans or by approval by the EOR in writing.

PLACEMENT

8. High early strength concrete may be used when requested by the Contractor. Mix design data using field cured specimens shall be submitted for review and approval.

9. No more than 30 minutes shall elapse between concrete batching and placement unless approved by the EOR in writing.

10. Concrete mixing, placement and quality shall be per the current accepted code as listed in the basis for design. Mechanically vibrate all concrete. Vibrate slabs on grade around and under floor ducts or similar elements.

11. Remove all debris from forms before placing concrete. Concrete shall be carefully placed in reinforced elements so as to avoid segregation of aggregates. Unconfined fall of concrete shall not exceed five feet unless approved by the EOR in writing.

12. Reinforcing dowels, belts, anchors,sleeves, embeds, etc.. shall be securely positioned in the forms prior to placement of concrete.

13. Control joints in slabs on grade shall be as noted on the standard details. Saw cut joints shall be cut to a minimum depth of ¼". Doweled joints shall be used where noted on the plans. Do not joint post-tensioned concrete slabs on grade U.N.O. Space control joints as listed therein.

Slab thickness (t)	Joint spacing (each way)
4"	10'
5"	12.5'
6"	15'

14. Protect concrete from damage or reduced strength due to cold of hot weather in accordance with ACI 305 and 306. Contractor shall take special curing precautions to minimize shrinkage cracking at concrete slabs.

15. Construction joints in structural elements (walls, beams, columns, elevated slabs,etc..) not detailed on the drawing requires prior written approval from the EOR. Contractor shall submit shop drawings showing the proposed joint layout.

REINFORCING STEEL

MATERIALS

1. Reinforcing steel shall meet ASTM A615 and shall be grade 60 deformed bars for all bars
   #5 and larger reinforcing may be grade 40 deformed bars for all bars #4 and smaller all reinforcing to be welded shall be ASTM A706, grade 60 low alloy weldable steel.

2. Welded wire fabric shall meet ASTM A185. Lap all welded wire fabric at least one row of wires plus 2 inches.

3. Pre-stressing steel shall meet ASTM A415, grade 270, seven-wire low relaxation strand, All materials shall be clean and free from loose rust. The nominal reinforcing diameter shallbe ½" and the area shall be 0.153 square inches.

PLACEMENT

4. All reinforcing steel dimensions are center to center of the steel unless noted as clear (CLR) cover. Minimum cover for reinforcing shall be as follows. (U.N.O. on these plan of plan details)

Exposure	Minimum Cover	Tolerances ±
Cost against and permanently exposed to earth	3"	3/8"
Exposed to earth or weather		
#5 and smaller	1 1/2"	3/8"
#6 and larger	2"	3/8"
Not exposed to earth and weather		
Slabs, walls and joists		
#11 and smaller	3/4"	3/8"
#14 - #18	1 1/2"	3/8"
Beams and Columns		
Primary reinforcing ties, stirrups, spirals	1 1/2"	3/8"
Slabs on grade	1 1/2"	3/8"

5. Lap splices in beams, slabs and footings shall be as per current governing code or lap schedule where present and stagger splices a minimum of one length. The tack welding of reinforcing bars shall no be allowed. Provide bent corner bars to match and lap with horizontal bars at all corners and intersections per typical details. Vertical wall bars shall be spliced at or near floor lines. Splice top bars at center line of span and bottom bars at the support in spandrels, beams, grade beams, etc. U.N.O. on the plans.

6. Mechanical splice couplers shall have current testing report accepted local building official and shall be capable of developing 125 percent of the strength of the bar.

7. All reinforcing shall be bent cold, one time only. Field bending of rebar shall not be allowed unless specifically noted on the plans.

8. Welding of reinforcing bars, metal inserts and connections shall conform to AWS D1.4 and shall be made only at locations shown on places or details.

9. All welds involving reinforcing bars shall be an E90 low hydrogen electrode.

10. Reinforcing bar spacing shown on plans represents the maximum on center spacing. All bars shall be detailed and placed per current governing code as listed in the basis of design.

11. Dowel all vertical reinforcing to foundation, as specified on plans or details. Secure all bars in location prior to placement of the concrete.

12. Minimum clear spacing between parallel reinforcement shall be 1 1/2 times diameter. 1 ½ times max aggregate size or 1 1/2" whichever is larger.

VISION BUILDING COMPANIES
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LAS VEGAS NEVADA 89139
702-222-4472 www.visionbuildingsystems.net

S3 ENGINEERS LLC
27 ANTERO DR.
HENDERSON, NV 89074
(702) 802-9930
rick@s3engineers.com

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HAWAII USA LICENSED PROFESSIONAL ENGINEER PE 10704S KEVIN M. MURPHY

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SIGNATURE EXPIRES: 4/30/2022

SEAL DATE 07/06/2020

HAWAIIAN CEMENT CO.
SAND SHED
91-055 KAOMI LOOP ROAD
KAPOLEI, HAWAII 96707

STRUCTURE TYPE: OB WIIK LTD.

STRUCTURE SIZE: 147' X 272'

PROJECT #	S3 20698
DATE	03/31/2020
DRAWN BY	RLW
CHECKED BY	RLW

REVISIONS

REV.	DATE	DESC.
0	05-30-20	PERMIT
1	07-06-20	PERMIT 2

SHEET TITLE
GENERAL STRUCTURAL NOTES

SHEET
S1.1

STRUCTURAL STEEL

MATERIALS

1. Structural steel members shall conform to the following standards and material properties U.N.O.

Shape	Standard	Yield (Fy)
Standard steel shapes	ASTM A36	36 KSI
Rolled wide flange sections	ASTM A572	50 KSI
Bars and Plates	ASTM A36	36 KSI
Pipes	ASTM A53	36 KSI
Tubes	ASTM A500 Grade b	46 KSI
High strength bolts	ASTM A325	---

2. Structural steel shall be fabricated and created in accordance with the AISC specifications for the design fabrication and erection of structural steel buildings.

INSTALLATION

3. Where a steel beam is used in connection to wood framing, a Jk-DF-L stud grade plate will be bolted to the top flange with a 1/2" diameter bolts at 24" o.c. staggered.

4. Welders shall be AWS certified. All welding shall use E70 series low hydrogen electrodes. All welding shall conform to the latest American Welding Society standards; welds on drawings are shown as shop welds. Contractor may shop weld or field weld at his discretion. All full penetration welds shall be tested and certified by an independent testing laboratory.

5. All bolts shall be installed as bearing-type connections with treads excluded from shear plane (type "x" connection). U.N.O. High-strength bolts shall be snug tightened using any AISC approved method and do not require special inspections unless noted otherwise. All bolts in slotted or oversize holes and all high-strength bolts shall be installed with washers.

6. All expansion or epoxy bolts shall have current ICBO/ICC rating for material info which installation occurs. Headed studs shall conform to all requirements of the latest edition of the "recommended practices for stud welding" and the "structural welding code" published by AWS. All bolts, anchor bolts, expansion bolts, etc. shall be installed with steel washers at face of wood.

7. Grout beneath column bases or bearing plates shall be 5000 PSI minimum non-shrink flow-able grout of dry-pack. Install grout under bearing plates before framing member is installed. At columns, install grout under base after column has been plumbed but prior to floor or roof installation. Grout depth should be sufficient to allow grout or dry pack to be placed beneath plate without voids.

8. All misc. welds not noted, including stiffeners, misc. poles, etc. shall be per ASC manual table J2.4.

POST INSTALLED ANCHORING SYSTEMS - CONCRETE

MATERIALS

1. Epoxy shall be Hilti HIT RE 500-V3 (ESR-3814), Simpson SET-XP (ESR-2508) or Dewalt PE1000+ (ESR-2583).
2. Threaded rod shall comply with minimum grade ASTM F1554, Grade 36 unless noted otherwise on these drawings.
3. Rebar shall comply with ASTM A615 Grade 60 U.N.O. on plans.
4. Mechanical anchors shall be Hilti Kwikbolt TZ (ESR-1917), Simpson Strongbolt (ESR-1771), Simpson TitenHD (ESR-2713) or Dewalt Screwbolt+ (ESR-3889).

INSTALLATION

5. Personnel: Anchors shall be installed by qualified personnel trained to install adhesive and mechanical anchors in accordance with the Manufacturer's ESR Report. The governing agency may require that installers be certified thru the ACI Adhesive Anchor Installer Certification Program for horizontal and overhead applicatons.
6. Compliance Documents: Installation shall be performed in accorance with ACI 318, Appendix D9 and the Manufacturer's ESR report.
7. Installation Temperature: shall be between 50 to 110 degrees F and base material shall be a minimum 50 degrees F.
8. Location: Locate anchors with minimum edge distance and spacing as specified on the drawings and/or manufacturer's ESR report.
9. Concrete Strength: Concrete compressive strength shall be a minimum of 2500 psi before anchor installation shall occur or as specified in the contract documents.
10. Special Inspection is required for all post installed anchor installations per ESR report and current IBC Building Code. See Special Inspection Notes for more information.

SHOP DRAWINGS - DEFERRED SUBMITTALS

1. Shop drawings shall be submitted for the following items:
   a. Pre-manufactured tensile fabric building

2. Shop Drawings shall show the layout, configuration and size of members, connections and related items required to install the components on this project. The location and magnitude of loads and compatibility of submittal items with the primary structural system shall also be shown. Any changes, substitutions or deviations from the contract drawings shall be noted on the shop drawings.

3. Contractor Review of shop drawings shall be performed prior to submittal to the Architect and EOR. The Contractor shall note any changes or deviations required for storage, handling and installation of the components required by specialty construction practices on this project.

4. EOR review of shop drawings shall be limited to general conformance with structural drawings and current accepted building codes including design loads, load eccentricites and general component layout and configuration.

5. Dimensions shall be verified by the Architect and/or Contractor or field verified as specified on the contract drawings or as dictated by standard accepted construction practices.

6. Subcontractor/Supplier shall be responsible for the adequacy of engineering designs and layout of submittal items shown on the shop drawings and performed by others.

7. Deferred submittals to the governing agency include prefabricated components, specialty items and design-build elements that require design by the supplier or manufacturer. Deferred submittals required by the Governing Agency include, but are not limited to the following:
   I. Pre-fabricated membrane steel truss building.

8. Please allow five (5) working days for the EOR's review. An electronic copy in PDF format of each submittal is required for the EOR's records.

STATEMENT OF SPECIAL INSPECTIONS

1. The owner shall employ a Special Inspection Agency who shall provide inspection according to the current building code for the types of work listed below.

2. Special Inspectors shall be qualified person(s) who shall demonstrate competence, to the satisfaction of the building official in the particular type of construction or operation requiring special inspection.

3. The Special Inspector shall inspect the work assigned for conformance with the approved contract drawings and specifications. The Special Inspector shall furnish inspection reports to the building official, the EOR and other designated persons required by the governing building official.

4. All discrepancies shall be brought to the immediate attention of the contractor for correction, and then if uncorrected in a reasonable period of time, the EOR and the building official shall be notified. The Special Inspector shall submit a final signed report stating that the work has been constructing in conformance with the approved plans and specifications and the applicable building code provisions.

5. Inspectors shall use an approved set of contract drawings. Shop drawings shall not be used in lieu of the approved contract drawings.

6. Certificates of approval regarding materials and inspection of prefabricated items shall be provided in accordance with the current accepted building code.

7. Types of work to be inspected by the Special Inspector are as follows:

	POST INSTALLED ANCHORS	Cont.	Periodic
1.	Epoxy Anchors: Verify steel materials, hole depth and diameter, hole cleanout, epoxy mixing and placement, installation temperature and embedment depth per mfgr's. ESR Report.		X
2.	Mechanical Anchors: Verify anchor type and size, hole depth and diameter, hole cleanout, placement procedures, embedment and tightening procedures per mfgr's. ESR Report.		X

STATEMENT OF SPECIAL INSPECTIONS (CONT.)

	SOILS	Cont.	Periodic
1.	Verify materials below shallow foundations are adequate to achieve the design bearing capacity.		X
2.	Verify excavations are extended to proper depth and have reached proper material.		X
3.	Perform classification and testing of compacted fill materials.		X
4.	Verify use of proper materials, densities and lift thicknesses during placement and compaction of fill.	X	
5.	Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.		X

	CONCRETE	Cont.	Periodic
1.	Inspection of reinforcing steel, including prestressing tendons and placement.		X
2.	Inspect formwork for shape, location and dimensions of the concrete member being formed.		X
3.	Inspection of bolts to be installed in concrete prior to and during placement.	X	
4.	Inspection of anchors installed in hardened concrete.		X
5.	Verify use of required design mix.		X
6.	Perform slump, air and temp. tests at the time concrete is sampled for strength tests: minimum (1) test per 70 cubic yards	X	
7.	Inspection of concrete placement for proper application techniques.	X	
8.	Inspection for maintenance of specified curing temperature and techniques.		X
9.	Verification of in-situ concrete strength, prior to removal of shores and forms.		X

	STEEL	Cont.	Periodic
1.	Material verification of high strength bolts, nuts and washers for identification markings and certificates of compliance.		X
2.	Inspection of high strength bolting for snug tight joints.		X
3.	Material verification of structural steel and cold formed steel deck including markings and certificates of compliance.		X
4.	Material verification of weld filler materials indluding identification markings and certificates of compliance.		X
5.	Inspection of welding for structural steel and cold formed steel deck including the following:		
	a. Complete and partial joint penetration groove welds, multipass fillet welds, welds >5/16" plug and slot welds.	X	
	b. Single pass welds <5/16", floor and roof deck welds.		X
6.	Inspection of steel frame joint details for compliance with the following:		
	a. Details such as bracing and stiffening, member locations and application of joint details at each connection.		X

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HAWAII, USA
LICENSED PROFESSIONAL ENGINEER
PE 10704S
KEVIN M. MURR

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SIGNATURE EXPIRES: 4/30/2022

SEAL
DATE 07/06/2020

HAWAIIAN CEMENT CO.
SAND SHED

91-055 KAOMI LOOP ROAD
KAPOLEI, HAWAII 96707

STRUCTURE TYPE:
OB WIIK LTD.

STRUCTURE SIZE:
147' X 272'

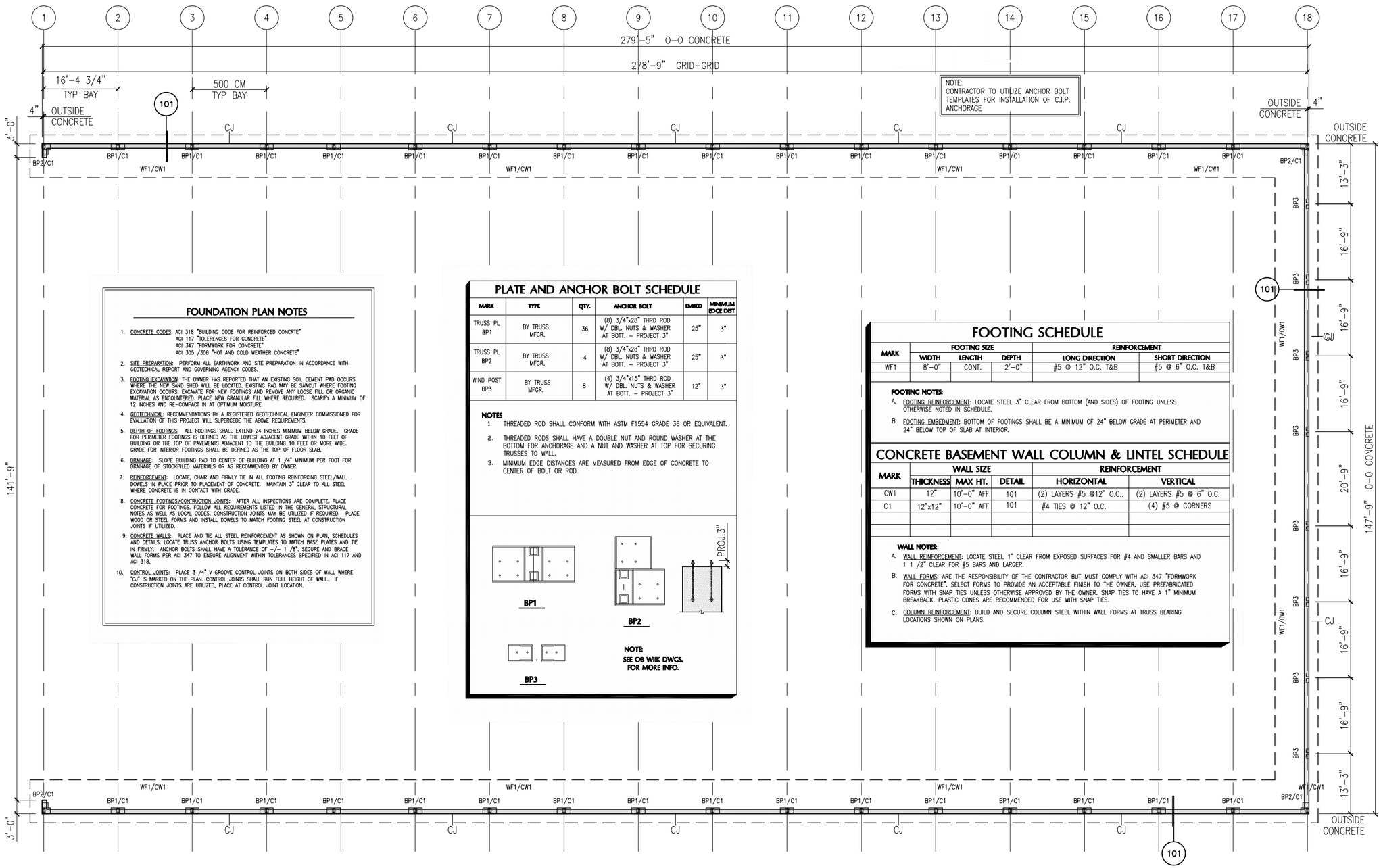
PROJECT #	S3 20698
DATE	03/31/2020
DRAWN BY	RLW
CHECKED BY	RLW

REVISIONS

REV.	DATE	DESC.
0	05-30-20	PERMIT
1	07-06-20	PERMIT 2

SHEET TITLE
GENERAL STRUCTURAL NOTES

SHEET
S1.2



FOUNDATION PLAN NOTES

1. CONCRETE CODES: ACI 318 "BUILDING CODE FOR REINFORCED CONCRTE"
   ACI 117 "TOLERENCES FOR CONCRETE"
   ACI 347 "FORMWORK FOR CONCRETE"
   ACI 305 /306 "HOT AND COLD WEATHER CONCRETE"
2. SITE PREPARATION: PERFORM ALL EARTHWORK AND SITE PREPARATION IN ACCORDANCE WITH GEOTECHICAL REPORT AND GOVERNING AGENCY CODES.
3. FOOTING EXCAVATION: THE OWNER HAS REPORTED THAT AN EXISTING SOIL CEMENT PAD OCCURS WHERE THE NEW SAND SHED WILL BE LOCATED. EXISTING PAD MAY BE SAWCUT WHERE FOOTING EXCAVATION OCCURS. EXCAVATE FOR NEW FOOTINGS AND REMOVE ANY LOOSE FILL OR ORGANIC MATERIAL AS ENCOUNTERED. PLACE NEW GRANULAR FILL WHERE REQUIRED. SCARIFY A MINIMUM OF 12 INCHES AND RE-COMPACT IN AT OPTIMUM MOISTURE.
4. GEOTECHNICAL: RECOMMENDATIONS BY A REGISTERED GEOTECHNICAL ENGINEER COMMISSIONED FOR EVALUATION OF THIS PROJECT WILL SUPERCEDE THE ABOVE REQUIREMENTS.
5. DEPTH OF FOOTINGS: ALL FOOTINGS SHALL EXTEND 24 INCHES MINIMUM BELOW GRADE. GRADE FOR PERIMETER FOOTINGS IS DEFINED AS THE LOWEST ADJACENT GRADE WITHIN 10 FEET OF BUILDING OR THE TOP OF PAVEMENTS ADJACENT TO THE BUILDING 10 FEET OR MORE WIDE. GRADE FOR INTERIOR FOOTINGS SHALL BE DEFINED AS THE TOP OF FLOOR SLAB.
6. DRAINAGE: SLOPE BUILDING PAD TO CENTER OF BUILDING AT 1 /4" MINIMUM PER FOOT FOR DRAINAGE OF STOCKPILED MATERIALS OR AS RECOMMENDED BY OWNER.
7. REINFORCEMENT: LOCATE, CHAIR AND FIRMLY TIE IN ALL FOOTING REINFORCING STEEL/WALL DOWELS IN PLACE PRIOR TO PLACEMENT OF CONCRETE. MAINTAIN 3" CLEAR TO ALL STEEL WHERE CONCRETE IS IN CONTACT WITH GRADE.
8. CONCRETE FOOTINGS/CONTRUCTION JOINTS: AFTER ALL INSPECTIONS ARE COMPLETE, PLACE CONCRETE FOR FOOTINGS. FOLLOW ALL REQUIREMENTS LISTED IN THE GENERAL STRUCTURAL NOTES AS WELL AS LOCAL CODES. CONSTRUCTION JOINTS MAY BE UTILIZED IF REQUIRED. PLACE WOOD OR STEEL FORMS AND INSTALL DOWELS TO MATCH FOOTING STEEL AT CONSTRUCTION JOINTS IF UTILIZED.
9. CONCRETE WALLS: PLACE AND TIE ALL STEEL REINFORCEMENT AS SHOWN ON PLAN, SCHEDULES AND DETAILS. LOCATE TRUSS ANCHOR BOLTS USING TEMPLATES TO MATCH BASE PLATES AND TIE IN FIRMLY. ANCHOR BOLTS SHALL HAVE A TOLERANCE OF +/- 1 /8". SECURE AND BRACE WALL FORMS PER ACI 347 TO ENSURE ALIGNMENT WITHIN TOLERANCES SPECIFIED IN ACI 117 AND ACI 318.
10. CONTROL JOINTS: PLACE 3 /4" V GROOVE CONTROL JOINTS ON BOTH SIDES OF WALL WHERE "CJ" IS MARKED ON THE PLAN. CONTROL JOINTS SHALL RUN FULL HEIGHT OF WALL. IF CONSTRUCTION JOINTS ARE UTILIZED, PLACE AT CONTROL JOINT LOCATION.

PLATE AND ANCHOR BOLT SCHEDULE

MARK	TYPE	QTY.	ANCHOR BOLT	EMBED	MINIMUM EDGE DIST
TRUSS PL BP1	BY TRUSS MFGR.	36	(8) 3/4"x28" THRD ROD W/ DBL. NUTS & WASHER AT BOTT. – PROJECT 3"	25"	3"
TRUSS PL BP2	BY TRUSS MFGR.	4	(8) 3/4"x28" THRD ROD W/ DBL. NUTS & WASHER AT BOTT. – PROJECT 3"	25"	3"
WIND POST BP3	BY TRUSS MFGR.	8	(4) 3/4"x15" THRD ROD W/ DBL. NUTS & WASHER AT BOTT. – PROJECT 3"	12"	3"

NOTES

1. THREADED ROD SHALL CONFORM WITH ASTM F1554 GRADE 36 OR EQUIVALENT.
2. THREADED RODS SHALL HAVE A DOUBLE NUT AND ROUND WASHER AT THE BOTTOM FOR ANCHORAGE AND A NUT AND WASHER AT TOP FOR SECURING TRUSSES TO WALL.
3. MINIMUM EDGE DISTANCES ARE MEASURED FROM EDGE OF CONCRETE TO CENTER OF BOLT OR ROD.

NOTE:
SEE OB WIIK DWGS. FOR MORE INFO.

FOOTING SCHEDULE

MARK	FOOTING SIZE			REINFORCEMENT	
	WIDTH	LENGTH	DEPTH	LONG DIRECTION	SHORT DIRECTION
WF1	8'-0"	CONT.	2'-0"	#5 @ 12" O.C. T&B	#5 @ 6" O.C. T&B

FOOTING NOTES:

A. FOOTING REINFORCEMENT: LOCATE STEEL 3" CLEAR FROM BOTTOM (AND SIDES) OF FOOTING UNLESS OTHERWISE NOTED IN SCHEDULE.

B. FOOTING EMBEDMENT: BOTTOM OF FOOTINGS SHALL BE A MINIMUM OF 24" BELOW GRADE AT PERIMETER AND 24" BELOW TOP OF SLAB AT INTERIOR.

CONCRETE BASEMENT WALL COLUMN & LINTEL SCHEDULE

MARK	WALL SIZE			REINFORCEMENT	
	THICKNESS	MAX HT.	DETAIL	HORIZONTAL	VERTICAL
CW1	12"	10'-0" AFF	101	(2) LAYERS #5 @12" O.C..	(2) LAYERS #5 @ 6" O.C.
C1	12"x12"	10'-0" AFF	101	#4 TIES @ 12" O.C.	(4) #5 @ CORNERS

WALL NOTES:

A. WALL REINFORCEMENT: LOCATE STEEL 1" CLEAR FROM EXPOSED SURFACES FOR #4 AND SMALLER BARS AND 1 1 /2" CLEAR FOR #5 BARS AND LARGER.

B. WALL FORMS: ARE THE RESPONSIBILITY OF THE CONTRACTOR BUT MUST COMPLY WITH ACI 347 "FORMWORK FOR CONCRETE". SELECT FORMS TO PROVIDE AN ACCEPTABLE FINISH TO THE OWNER. USE PREFABRICATED FORMS WITH SNAP TIES UNLESS OTHERWISE APPROVED BY THE OWNER. SNAP TIES TO HAVE A 1" MINIMUM BREAKBACK. PLASTIC CONES ARE RECOMMENDED FOR USE WITH SNAP TIES.

C. COLUMN REINFORCEMENT: BUILD AND SECURE COLUMN STEEL WITHIN WALL FORMS AT TRUSS BEARING LOCATIONS SHOWN ON PLANS.

1 FOUNDATION PLAN

SCALE: 1/16"=1'-0"

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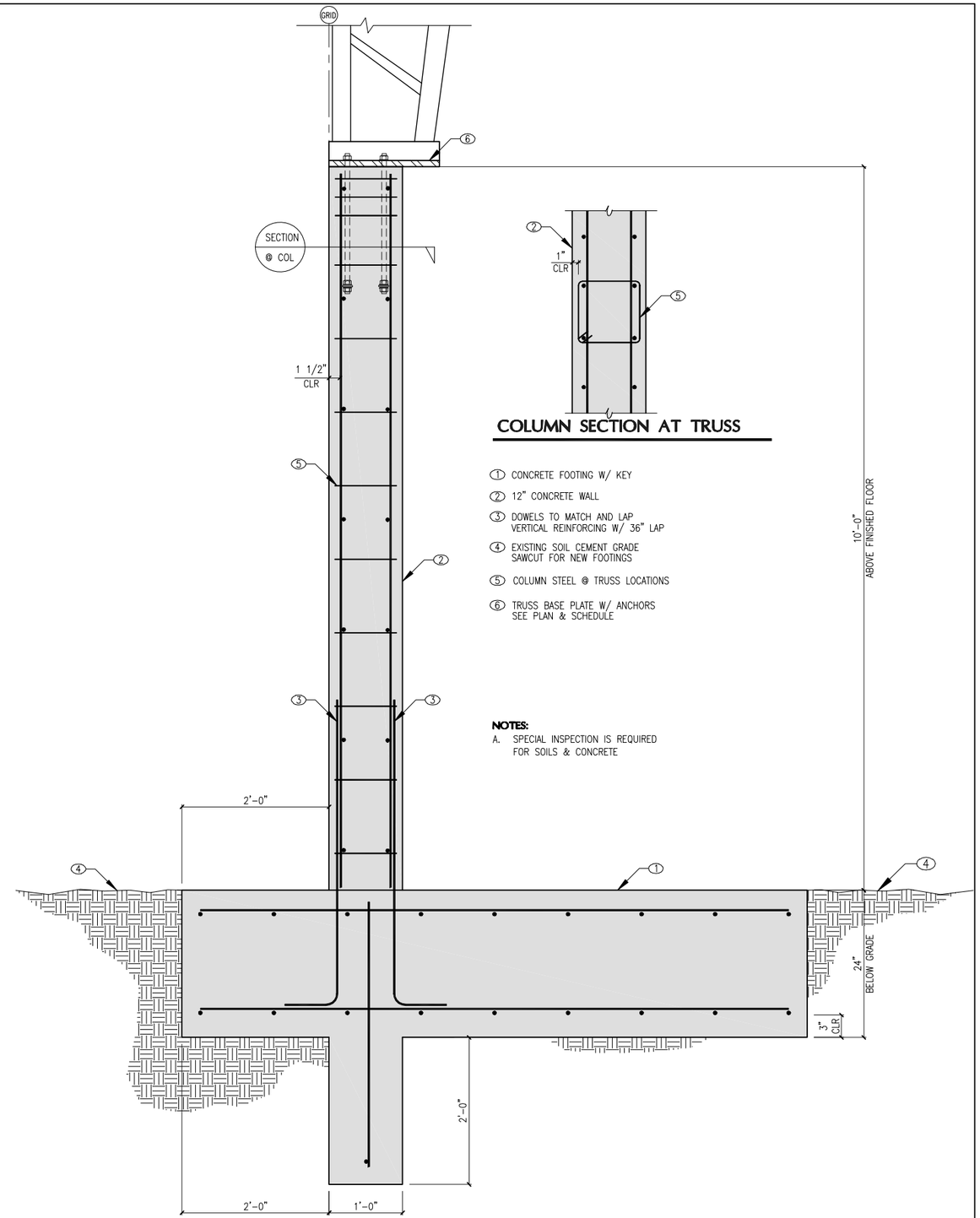
SHEET TITLE
FOUNDATION PLAN

SHEET
S2.1



101 STEEL TRUSSES AT CONCRETE WALL

20698-101

NO SCALE

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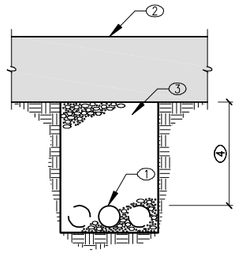
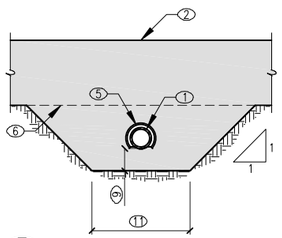
SHEET TITLE
FOUNDATION DETAILS

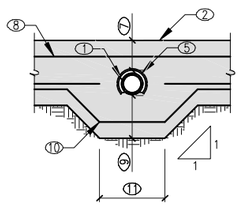
SHEET
S3.1



A TRENCH BELOW FOOTING



B PIPE DIRECTLY BELOW FOOTING



C PIPE SLEEVE IN FOOTING

1. UTILITY PIPE AS OCCURS
2. CONCRETE FOOTING PER PLAN
3. BACKFILL AND RECOMPACT TRENCH PER SOILS REPORT
4. 18" MINIMUM U.N.O. IN SOILS REPORT. FOR PIPES LOCATED LESS THAN 18" BELOW FOOTING, SEE DETAILS B AND C
5. SLEEVE EXISTING PIPE
6. OPTIONAL COLD JOINT
7. 6" MINIMUM ABOVE PIPE
8. TOP REINFORCEMENT AS REQD. OR (2) #4x4'-0" CENTERED OVER PIPE
9. THICKEN FOOTING AT SLEEVE 6" MINIMUM BELOW PIPE
10. PROVIDE BENT BARS AS REQD. TO MATCH BOTTOM REINF. WHERE BARS MUST BE CUT
11. 12" MINIMUM – OR 2 TIMES PIPE DIAMETER

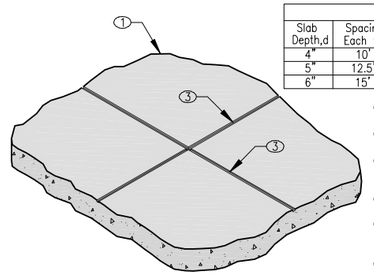
NOTES:

A. SPECIAL INSPECTION IS REQUIRED FOR TRENCH BACKFILLING

B. PIPE SLEEVES MAY UTILIZE LARGER SPLIT PIPE OR COMPRESSIBLE MATERIAL AS REQUIRED

05 UTILITY PIPE AT CONCRETE FOOTING

CS1006-01 NO SCALE



CONTROL JOINT

CONTROL JOINTS				
Slab Depth,d	Spacing Each way	Joint Depth		
		Tooled	Sawcut–early	Sawcut–Conv.
4"	10'	3/4"	3/4"	1/4 d
5"	12.5'	3/4"	1"	
6"	15'	1"	1"	

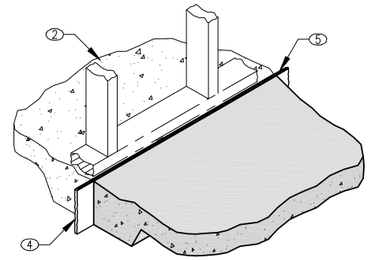
1. CONCRETE SLAB ON GRADE
2. EXISTING BUILDING OR OTHER OBJECT
3. CONTROL JOINTS– TOOLED OR SAWCUT
4. 1/2" ISOLATION JOINT MATERIAL
5. EXTERIOR JOINT CAULKING POLYSULFIDE OR POLYURETHANE
6. #4x18" SMOOTH DOWEL @ 24" O.C. CENTERED–TAPE OR GREASE ONE END

NOTES:

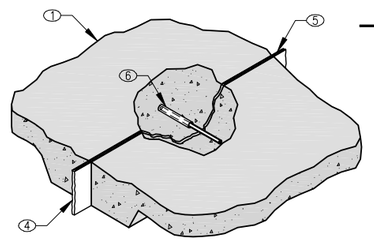
A. DOWELED JOINTS REQUIRED AT POUR STOP OR SLAB/SLOPE TRANSITION ONLY

B. JOINTS: PLACE IN SQUARES OR RECTANGLES N.T.E. 1 1/2 :1– L/W RATIO OR AS REQD. BY JOBSITE CONDITIONS

C. DELAY EARLY ENTRY SAWCUTTING IF RAVELING OCCURS



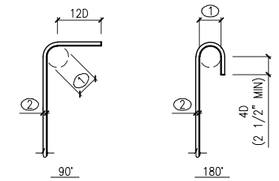
ISOLATION JOINT



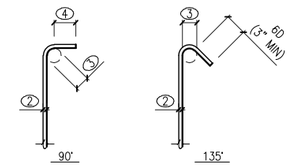
CONSTRUCTION JOINT

04 JOINTS IN CONCRETE SLAB ON GRADE

CF1007-01 NO SCALE



STANDARD REINFORCING



STIRRUPS AND TIE HOOKS

1. FINISHED BEND DIAMETER = 6D FOR #8 BAR AND SMALLER, 8D FOR #9, #10, AND #11 BARS, AND 10D FOR #14 AND #18 BARS
2. "D" INDICATES BAR DIAMETER
3. FINISHED BEND DIAMETER FOR STIRRUPS AND TIES = 4D FOR #5 AND SMALLER BARS AND 6D FOR #6 THRU #8 BARS
4. EXTENSION = 4D FOR #5 AND SMALLER BARS, 6D FOR #6 AND LARGER BARS

NOTES:

A. ALL DIMENSIONS PER CRSI MANUAL OF STANDARD PRACTICE AND ACI 318

B. ALL BARS TO BE BENT COLD

C. DO NOT BEND OR STRAIGHTEN BARS IN A MANNER THAT WILL DAMAGE THE MATERIAL

D. DO NOT FIELD BEND BARS PARTIALLY EMBEDDED IN CONCRETE OR MASONRY

01 STANDARD HOOKS AND BENDS FOR REINFORCING

CF1006-01 NO SCALE

CONCRETE REINFORCING LAP SPLICE SCHEDULE
CLASS A SPLICES, IN. (1) (3)

REBAR SIZE (2)	MIN. BAR SPACING, IN. (4)	CONCRETE STRENGTH, PSI (2)							
		2500		3000		4000		5000	
		TOP BARS (5)	OTHER BARS	TOP BARS (5)	OTHER BARS	TOP BARS (5)	OTHER BARS	TOP BARS (5)	OTHER BARS
#3	1	23	18	21	16	18	14	17	13
#4	1	31	24	28	22	25	19	22	17
#5	1 1/4	39	30	36	27	31	24	28	21
#6	1 1/2	47	36	43	33	37	28	33	25
#7	1 3/4	68	53	62	48	54	42	48	37
#8	2	78	60	71	55	62	47	55	42
#9	2 1/4	88	68	80	62	70	54	62	48
#10	2 1/2	99	76	90	70	78	60	70	54
#11	3	110	85	100	77	87	67	78	60
#14	3 1/2	132	102	121	93	104	80	93	72
#18	4 1/2	176	135	161	124	139	107	124	96

NOTES:
1. REFERENCES: ACI 318-14
2. NORMAL WEIGHT CONCRETE AND UNCOATED BARS = 60 ksi
3. CLASS A SPLICES ARE UTILIZED IN COMPRESSION ZONES. INCREASE LAP LENGTH BY 1.3 FOR CLASS B SPLICES IN TENSION ZONES.
4. CLEAR SPACING NOT LESS THAN 2db AND CLEAR COVER NOT LESS THAN db. INCREASE SPLICE BY 1.5 IF MINIMUM BAR SPACING IS NOT MET.
5. TOP BARS HAVE GREATER THAN 12" OF FRESH CONCRETE BELOW

02 CONCRETE REINFORCING CLASS A LAP SPLICE SCHEDULE

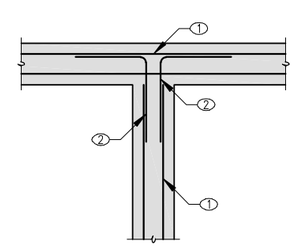
CONCRETE LAP SCHEDULE NO SCALE

1. HORIZONTAL REINFORCING PER PLAN
2. CORNER BARS TO MATCH AND LAP REINFORCING PER SCHEDULE OR G.S.N.

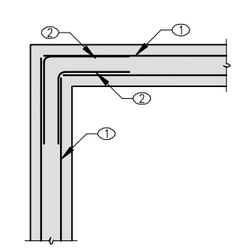
NOTES:

A. DETAIL APPLIES TO CONCRETE FOOTINGS AND WALLS

B. VERTICAL REINFORCING NOT SHOWN



INTERSECTION



CORNER

03 STANDARD CORNER REINFORCING

CS1001-01 NO SCALE

VISION BUILDING COMPANIES
3150 W WIGWAM AVE
LAS VEGAS NEVADA 89139
702-222-4472 www.visionbuildingsystems.net

S3 ENGINEERS LLC
27 ANTERO DR.
HENDERSON, NV 89074
(702) 802-8830
info@s3engineers.com

THIS DRAWING IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF S3 ENGINEERS LLC. USE OF THIS DRAWING AND ALL REPRODUCTIONS PREPARED FOR THIS PROJECT IS RESTRICTED TO THE SITE FOR WHICH IT WAS PREPARED AND SHALL NOT BE USED UNLESS PROPERLY SEALED AND SIGNED BY THE ENGINEER. ANY OTHER USE OF THIS DRAWING OR ANY PART IS PROHIBITED WITHOUT PERMISSION OF S3 ENGINEERS LLC. ALL PRINTS SUBMITTED TO AGENCIES FOR PERMITS OR FOR BIDDING SHALL BE COMPLETED BY S3 CONTRACTOR EXCEPT BY AGREEMENT WITH SAME CONTRACTOR.

HAWAII USA LICENSED PROFESSIONAL ENGINEER PE 10704S KEVIN M. MURR

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

SIGNATURE EXPIRES: 4/30/2022

SEAL DATE 07/06/2020

HAWAIIAN CEMENT CO.
SAND SHED

91-055 KAOMI LOOP ROAD
KAPOLEI, HAWAII 96707

STRUCTURE TYPE: OB WIIK LTD.

STRUCTURE SIZE: 147' X 272'

PROJECT #	S3 20698
DATE	03/31/2020
DRAWN BY	RLW
CHECKED BY	RLW

REVISIONS

REV.	DATE	DESC.
0	05-30-20	PERMIT
1	07-06-20	PERMIT 2

SHEET TITLE: **STANDARD DETAILS**

SHEET: **S3.2**

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

RICK BLANGIARDI
MAYOR

EUGENE H. TAKAHASHI
ACTING DIRECTOR

January 6, 2021

2020/ELOG-2503(JH)

Mr. Isaiah Sato
R.M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819-3494

Dear Mr. Sato:

SUBJECT: Pre-Assessment Consultation
New Sand Storage Shed at Hawaiian Cement Corporation - James Campbell Industrial Park
91-055 Kaomi Loop - Ewa
Tax Map Key (TMK) 9-1-026: 056

This is in response to your letter received, on December 21, 2020, requesting written comments in preparation of a Draft Environmental Assessment (EA).

The Applicant, Hawaiian Cement Corporation, proposes the construction of a new 37,975-square-foot sand storage shed approximately 50 feet in height, including a 300-foot long retaining wall and waterline improvements. The property has operated as a cement manufacturing plant since approximately 1959, and has since been subdivided into smaller parcels as the cement production operation became an import terminal operation at Kalaeloa Harbor. The new shed will allow the relocation of the sand storage from an adjacent subdivided parcel (TMK 9-1-026: 058) no longer owned by the Applicant, and will allow the continued use of the site, which includes the production of bagged cement products, golf course sand, a backup cement loading facility, and a concrete batch plant serving the Leeward coast.

The subject lot is approximately 333,321-square-feet (7.652 acres) in area and is in the I-2 Intensive Industrial District. The initial plant was developed prior to the establishment of the Special Management Area (SMA) in 1975. An SMA Permit was approved (No. 79/SMA-97) for new construction at the 27-acre facility on December 12, 1979. The lot is entirely within the SMA and the Project may require a new Major SMA Use permit, which requires an EA.

2020/ELOG-2503

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

2020 DEC 21 AM 8:51
DEPT OF PLANNING AND PERMITTING
CITY & COUNTY OF HONOLULU

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

December 17, 2020

Subject: **Hawaii Revised Statutes (HRS) Chapter 343 Draft Environmental Assessment and Special Management Area Use Permit for the Hawaiian Cement Sand Shed, Located at 91-055 Kaomi Loop, Kapolei, Hawaii**
Tax Map Key: (1) 9-1-026:056

Dear Stakeholder:

The Applicant, Hawaiian Cement Corporation, is planning to submit a Hawaii Revised Statutes (HRS) Chapter 343 Draft Environmental Assessment and Special Management Area Use Permit for the Hawaiian Cement Sand Shed to the Department of Planning and Permitting. The proposed development is described on the attached summary sheet and location map.

As a stakeholder in the community, we are requesting your input on the proposed action. Please submit feedback via email to isaiahs@rmtowill.com or mail to the following address.

Attn: Isaiah Sato
2024 North King Street, Suite 200
Honolulu, Hawaii 96819-3494

We would appreciate your response by **January 8, 2020**.

Should you have questions, please do not hesitate to call our office (808) 748-7431.

Very truly yours,
R.M. Towill Corporation

Isaiah Sato

cc: City and County of Honolulu, Department of Enterprise Services

Summary for the Draft Environmental Assessment and Special Management Area Use Permit for the Hawaiian Cement Sand Shed

Located at 91-055 Kaomi Loop, Kapolei, Hawaii
Tax Map Key: (1) 9-1-026:056

The Applicant, Hawaiian Cement Corporation, proposes the construction of a new sand shed for their operations in James Campbell Industrial Park (JCIP), Kapolei, on O`ahu (the "Project"). The Applicant plans to submit a Draft Environmental Assessment and Special Management Area Use Permit applications for the Hawaiian Cement Sand Shed Project to the Department of Planning and Permitting for processing. The Project will be located on a 7.652-acre site, Tax Map Key (TMK) parcel: 9-1-026: 056, at 91-055 Kaomi Loop ("Project Site") and will involve the construction of a new sand storage shed.

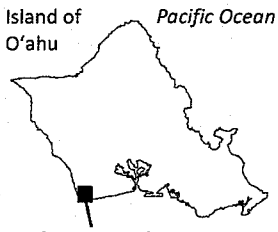
The Applicant proposes to construct a 37,975-square-foot sand shed over an existing concrete surface. The sand shed is will be approximately 50 feet tall. The Project will also include an approximately 300-foot long retaining wall and waterline improvements.

The Applicant has operated out of the Project Site since 1959 to manufacture cement for the State of Hawaii. In 1999, it ceased its cement production operation and became an import terminal operation at Kalaeloa Harbor. Over the years, the Applicant has parceled off its Kaomi loop property. Today, it operates out of 7.652 remaining acres primarily as a backup cement loading facility to its main Kalaeloa terminal as well as producing its bag products and warehouses its golf course sand. Remaining on existing property are a series of 11 concrete silos capable of storing over 20,000 tons of cement, two loading truck lanes, bagging operation and warehouse and a concrete batch plant able to service larger concrete projects along the leeward coast. These silos, loading truck lanes, bagging operations, and warehouse will not be impacted by the proposed project.

The Applicant has an existing sand shed operation on a neighboring parcel, located makai of the Project Site. This proposed sand shed will replace that operation. There are 5 existing employees at the Project Site and a 6th employee will relocate from the neighboring parcel.

Due to the sale of the last 14 acres in 2019, Hawaiian Cement proposes to relocate its sand warehouse over to the 7.652 remaining acres west of the existing site structures.

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Project Location

Legend

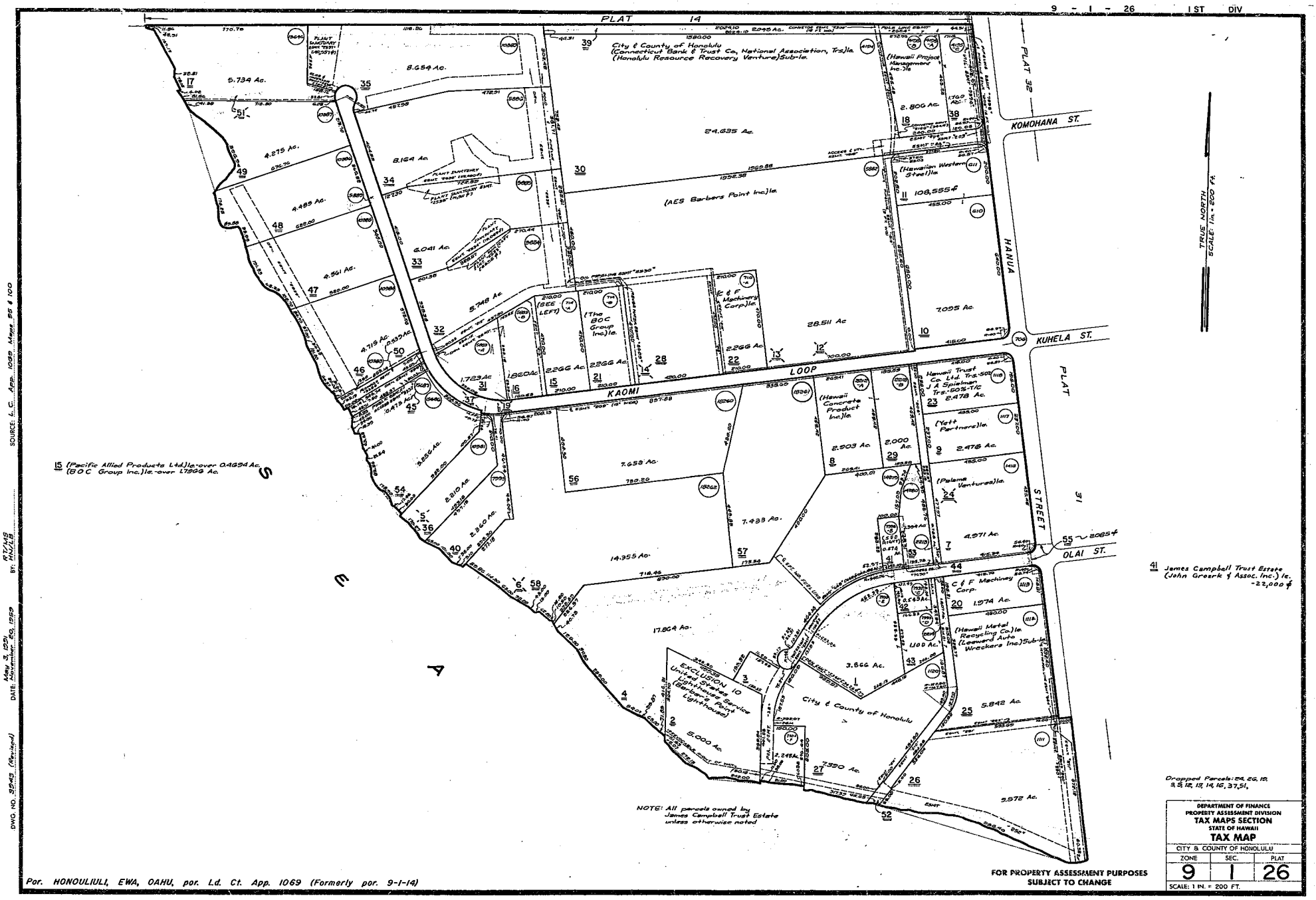
Project Site

Location Map

Hawaiian Cement Sand Shed

N

Prepared By:
R. M. TOWILL CORPORATION



Dropped Parcels: 24, 26, 10, 9, 5, 12, 13, 14, 16, 37, 51.

SOURCE: L.C. App. 1069 Maps 95 & 100

BY: R.T.M.S. H.N.L.B.

DATE: May 3, 1971 November 20, 1989

DWG. NO. 9243 (Revised)

Por. HONOULIULI, EWA, OAHU, por. L.d. Ct. App. 1069 (Formerly por. 9-1-14)

FOR PROPERTY ASSESSMENT PURPOSES SUBJECT TO CHANGE

DEPARTMENT OF FINANCE
PROPERTY ASSESSMENT DIVISION
TAX MAPS SECTION
STATE OF HAWAII

TAX MAP

CITY & COUNTY OF HONOLULU

ZONE	SEC.	PLAT
9	1	26

SCALE: 1 IN. = 200 FT.

BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU
BUILDING PERMIT APPLICATION

Permit No. 134925 ☐ F ☐ T ☐ I ☐ V

APPLICANT FILL IN AREA BELOW

Owner: CYPRUS HAWAIIAN CEMENT CORPORATION
Owner's Address: 91-055 KAOMI LOOP — Tel. No. 6825741
Construction Site Address: 91-055 KAOMI LOOP
Plan Maker: JAMES A. WILLIS — Prof. Reg. No. 2121
Address: 1909 McKEE ST. SAN DIEGO, CALIF — Tel. No.
Contractor: A.C. CHOCK Ltd — State Lic. No. AB-20
Address: 822 MAPUNAPUNA — Tel. No. 839 2731
Electrical Contractor: NONE — State Lic. No.
Address — Tel. No.
Plumbing Contractor: NO PLUMBING IN THIS PROJECT — State Lic. No.
Address — Tel. No.

DESCRIPTION OF WORK TO BE DONE

CONSTRUCT FOOTINGS FOR COAL STORAGE SHED AND FOR UNLOADING PIT

Proposed Use: COAL-FUEL CONVERSION AT CEMENT PLANT

Estimated Value of Work: $ 245,000.00

NATURE OF WORK

1 ☐ New Bldg. 2 ☒ Foundation Only 3 ☐ Shell Only 4 ☐ Addition 5 ☐ Alteration 6 ☐ Repair 7 ☐ Demolition 8 ☐ Fence 9 ☐ Retaining Wall 10 ☐ Electrical 11 ☐ Plumbing 12 ☐ Other

SIDEWALK, CURB, AND DROP DRIVEWAY NONE

☐ Construct ☐ Reconstruct LINEAL FEET of ☐ Conc. ☐ Lava Rock ☐ R.C. ☐ A.C. SIDEWALK ☐ Conc. CURBING ☐ A.C. DRIVEWAY

Please notify this office at least 24 hours before starting work. Phone 523-4276.

SEWAGE DISPOSAL

☐ Existing ☒ Not Applicable

METHOD: 1 ☐ Public Sewer 2 ☐ Aerobic Unit 3 ☐ Cesspool 4 ☐ Private Sewage Treatment Plant 5 ☐ Other (Specify)

I hereby acknowledge that I have read this application and state that the above is correct and agree to comply with all City and County ordinances and State laws regulating building construction. 15 JAN 1980

SIGNATURE (OWNER OR AGENT) — DATE
Peter W. Bark Jr
IF AGENT, PRINT NAME: PETER W. BARK, Jr — AGENT'S TEL. NO. 6825741
CHCC ENGINEER

FOR BUILDING DEPARTMENT USE

ZONE	SEC	PLAT	PARCEL	LOT NO.	LOT AREA
9	1	26	6	—	27+ Acres SQ. FT.

Occupancy Group: M (FOUNDATION) — Orig. Bldg. Permit No.: — — District: EWA
Accepted Value: $ 245,000.00 — Permit Fee: 636.00

TYPE OF CONSTRUCTION		NO. OF STORIES		Fire Zone
MINIMUM	ACTUAL	EXISTING	FINAL	3

FLOOR AREA (SQ. FT.) Existing — New — Total
Name of Project: CYPRESS HAWAIIAN CEMENT CORP
REMARKS: FOUNDATION ONLY

ZONING AND CZC DATA

STRUCTURE CODE: 04 — CENSUS TRACK—BLOCK NO.: 86.02
ZONE (Use District): I-2 — SET BACK: NONE
GP OR DLUM DESIGNATION: IND — SHORELINE S/B: YES
SLU DESIGNATION: URBAN — SMA S/B: YES
REMARKS: 79/SMA-97 conc. footing only

WORK WILL	ADD	DELETE
RESIDENTIAL UNITS	Total	Total
HOTEL ROOMS	Rooms	Rooms

APPROVAL OF OTHER AGENCIES (ROUTE AS INDICATED)

AGENCY	SIGNATURE	DATE
CITY AND COUNTY		
✓ LAND UTILIZATION	SMA/Caroline R. Cabasawan	2-7-80
✓ DIV. OF ENGINEERING		
LOT GRADING	E. Ogna	1-15-80
HIGHWAY	E. Ogna	1-15-80
DRAINAGE		
DIVISION OF SEWERS		
FIRE DEPT.		
TRANSPORTATION		
BD. OF WATER SUPPLY		
STATE OF HAWAII		
✓ HEALTH DEPT.	S. Ahu	1/15/80
HAWAIIAN HOME LANDS		
LAND & NATURAL RESOURCES		
HIGHWAYS DIVISION		
DIV. OF INDUSTRIAL SAFETY		

REMARKS

NOTES TO APPLICANT:
SEPARATE SIGN PERMIT SHALL BE OBTAINED AS NECESSARY.
ELECTRICAL AND PLUMBING WORK SHALL BE DONE BY DULY LICENSED PERSONS AS REQUIRED UNDER CHAPTER 448E, HAWAII REVISED STATUTES.
POST PERMIT PLACARD ON SITE OF WORK.
THIS PERMIT MAY BE REVOKED IF WORK IS NOT STARTED WITHIN 180 DAYS OF DATE OF ISSUANCE OR IF WORK IS SUSPENDED OR ABANDONED FOR 120 DAYS.
VIOLATING ANY OF THE PROVISIONS OF THE BUILDING, ELECTRICAL OR PLUMBING CODES IS PUNISHABLE BY FINE AND/OR IMPRISONMENT.

Permission is hereby given to do above work according to conditions hereon and according to approved plans and specifications pertaining thereto, subject to compliance with ordinances and laws of City and County of Honolulu and State of Hawaii.

☐ This building shall not be occupied until a certificate of occupancy has been issued.

OFFICE COPY

Roy Adamian — 2-12-80
FOR DIRECTOR AND BUILDING SUPERINTENDENT

RESOLUTION

WHEREAS, the Department of Land Utilization (DLU) on October 12, 1979 accepted the application of Cyprus Hawaiian Cement Corporation, herein referred to as the APPLICANT, for a Special Management Area Permit (SMP) to construct facilities to receive, store, and use coal for processing of cement clinker in the existing kiln. At the present time, the "kiln firing" of cement clinker is accomplished utilizing fuel oil. The facilities will be located at 91-055 Kaomi Loop, Campbell Industrial Park in Ewa Beach and identified as Tax Map Key 9-1-26: 6;

WHEREAS, on November 8, 1979 the DLU held a public hearing which was attended by the applicant; and

WHEREAS, on November 15, 1979, within ten (10) calendar days after the close of the public hearing, the DLU, having duly considered all evidence and reports of said public hearing and the review guidelines as established in Sections 3 and 4 of Ordinance No. 4529, as amended, completed its report and transmitted its findings and recommendations of approval to the Council; and

WHEREAS, the Council, having received the findings and recommendations of the DLU on November 20, 1979, and at its meeting on December 12, 1979, having duly considered all of the findings and reports on the matter, approved the subject application for SMP with the conditions enumerated below; now, therefore

BE IT RESOLVED by the Council of the City and County of Honolulu that a SMP be issued to the APPLICANT under the following conditions:

1. Prior to implementation of the project, the applicant must meet the requirements and obtain approval of all governmental agencies, normally required for such projects.

2. The application for 'Authority to Construct" and "Permit to Operate", under Public Health Regulations, Chapter 42 and 43 shall be approved by the DOH prior to the issuance of the building permit for the coal handling facility.

3. High sulfur content coal shall not be used without prior approval of the DOH.

4. The applicant shall meet all requirements of Environmental Protection Agency relating to "Prevention of Significant Deterioration (40 CFR Part 52) regulations and the "non-attainment area".

BE IT FINALLY RESOLVED by the Council of the City and County of Honolulu that the Clerk be, and he is, hereby directed to transmit copies of this resolution to Mr. Tyrone T. Kusao, Director of Land Utilization; Mr. Howard Shima, Director and Superintendent, Building Department; the Estate of James Campbell, Suite 500, 828 Fort Street Mall, Honolulu, Hawaii 96813; and Mr. Peter W. Burk, Jr., c/o Cyprus Hawaiian Cement Corporation, 91-055 Kaomi Loop, Ewa Beach, Hawaii 96706. Copies are also to be transmitted to Federal Environmental Protection Agency - Enforcement Division, 215 Market Street, San Francisco, California 94105; the Department of Health, Pollution Technical Review Branch and Pollution Investigation and Enforcement Branch, State of Hawaii, P.O. Box 3378, Honolulu, Hawaii 96801.

INTRODUCED BY:

George Ghikas

Councilmembers

DATE OF INTRODUCTION:

DEC 12 1979

Honolulu, Hawaii

CITY COUNCIL

CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

I hereby certify that the foregoing RESOLUTION was adopted by the COUNCIL of the City and County of Honolulu, by the vote and on the date indicated on the right margin hereof.

ATTEST:

Paul H. Maeda

PAUL H. MAEDA
CITY CLERK

Rudy Pacarro

RUDY PACARRO
CHAIRMAN & PRESIDING OFFICER

Dated DEC 12 1979

ADOPTED Meeting Held DEC 12 1979	AYE	NO	A/E
AKAHANE			
BORNHORST			E
CLEMENT			
FONG			
LOO			
MATSUMOTO			E
NEKOTA			
POEPOE			
PACARRO			

702

Reference D 1357

Report No. P&Z-1360

Resolution No.

79-336

Department of Land Utilization
79/SMA-97
November 15, 1979

DIRECTOR'S REPORT

I. Location

The proposed project would be located at the Campbell Industrial Park, Ewa Beach, Oahu. (Tax Map Key 9-1-26: 6)

II. Existing Land Use

The project site is a Portland cement plant on 27.275 acres of land zoned I-2 Heavy Industrial within the Special Management Area.

At the present time, the "kiln firing" of cement clinker is accomplished utilizing fuel oil. An existing fuel storage tank has a capacity of 420,000 gallons or approximately two weeks supply for the kiln.

III. Proposed Action

A recent shift in federal energy policy seeks to convert cement plants from burning fuel oil to the burning of coal. The proposed project would accommodate this policy, and includes the following:

A. An enclosure building of steel frame construction, for the storage of about 20,000 tons of coal. The building would have dimensions of 150 feet by 350 feet, for a total of approximately 52,500 square feet. Roof height of the structure would be 68 feet;

B. Other equipment, such as conveyor belts, bucket elevators, coal crusher, and pulverizer, which would be similar in appearance with the existing equipment for the cement plant and will require relatively small space;

C. A sloped coal-pile of about 39 feet in height, which represents approximately 100-130 days of kiln operation would be accommodated within the enclosure building; and

D. A chain-link fence located just mauka of the 40-foot shoreline setback line.

No structures are proposed within the shoreline setback area.

IV. Environmental Assessment

The Department of Land Utilization (DLU) assessed the environmental aspects of the proposed project, and issued a Negative Declaration for the cement plant coal conversion project, which appeared in the "EQC Bulletin" on October 23, 1979.

On October 11, 1979, Cyprus Hawaiian Cement Corporation submitted additional information regarding the coal conversion project, based upon a request from the DLU. Information presented in this transmittal included:

A. A brief description of the cement making process;

B. Discussion of air quality at the kiln system exhaust;

C. Pollutant emissions;

D. Coal quality and preparation; and

E. Mitigative measures.

This information was reviewed by the State Energy Office (Department of Planning and Economic Development), State Department of Health (DOH), and the American Lung Association of Hawaii. The major concern was that the use of high sulfur content coal (1.8%) would cause sulfur oxide (SO_x) emission increases. The potential problem with SO_x however, can be resolved by using a lower sulfur content coal. In a letter dated November 9, 1979, the applicant informed the department that the company does not intend to use the high sulfur content coal because the high sulfur coal does cause sulfur precipitation and plugging of the system.

The American Lung Association also stated that:

A. the project should not affect the "non-attainment area" around the Kahe Point generating station; and

B. the conversion to coal may require compliance with Environmental Protection Agency's "Prevention of Significant Deterioration" (PSD) regulations.

The Draft EA should:

1. Discuss how the Project complies with the development standards for the I-2 Intensive Industrial District Section 21-3.130 and Table 21-3.5 of the Land Use Ordinance. Chapter 21 of the Revised Ordinances of Honolulu, which can be accessed online at:

   http://www.honoluludpp.org/Portals/0/LandUsePermitsDivision/LUO%202019%20(10-1-2019).pdf

2. Discuss if any other new or modified land use permits approvals are anticipated prior to the Project implementation, and how the Project will comply with conditions of any previously-issued land use permits applicable to the site.

3. Describe how stormwater will be managed on site. It appears that the storm water structures previously utilized are now located on the adjacent subdivided parcel (TMK 9-1-026: 058). An SMA Permit was approved (No. 95/SMA-022) on April 24, 1995 for the construction of facilities that served the entirety of the unsubdivided lot.

4. Assess any impacts relating to ocean hazards and groundwater, including those that may arise due to sea level rise (SLR). The City's Climate Ready Oahu Web Explorer includes shoreline change rates, future erosion zones, and modeled SLR. The National Oceanic and Atmospheric Administration National Storm Surge Hazards map can help evaluate the risk of storm surge hazards.

We look forward to reviewing the Draft EA. Should you have any questions, please contact Joseph Hennerfeind, of our Land Use Approval Branch, at (808) 768-8022, or j.hennerfeind@honolulu.gov.

Very truly yours,

For Eugene H. Takahashi
Acting Director

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813 • (808) 523-4432

JEREMY HARRIS
MAYOR

PATRICK T. ONISHI
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

95/SMA-022(ASK)

April 24, 1995

Mr. Dane Wurlitzer, Plant Engineer
Hawaiian Cement
91-055 Kaomi Loop
Kapolei, Hawaii 96707

Dear Mr. Wurlitzer:

MINOR PERMIT--SPECIAL MANAGEMENT AREA
CHAPTER 25, REVISED ORDINANCES OF HONOLULU

Project	:	Grading to Construct a Stormwater Collection Basin ($24,000)
Applicant	:	Hawaiian Cement
Location	:	91-055 Kaomi Loop, Campbell Industrial Park, Oahu
Tax Map Key	:	9-1-26: 06

We have reviewed your proposal and find that it lies within the Special Management Area (SMA) established in Chapter 25. We find that your proposed development has a valuation of less than $125,000 and will have no significant effect on the SMA. Therefore, a Minor Permit is hereby **APPROVED.**

A copy of this letter should accompany your application(s) for construction permits. If the accepted valuation of the proposed work exceeds $125,000, the project will be returned to the Department of Land Utilization for further review under Chapter 25.

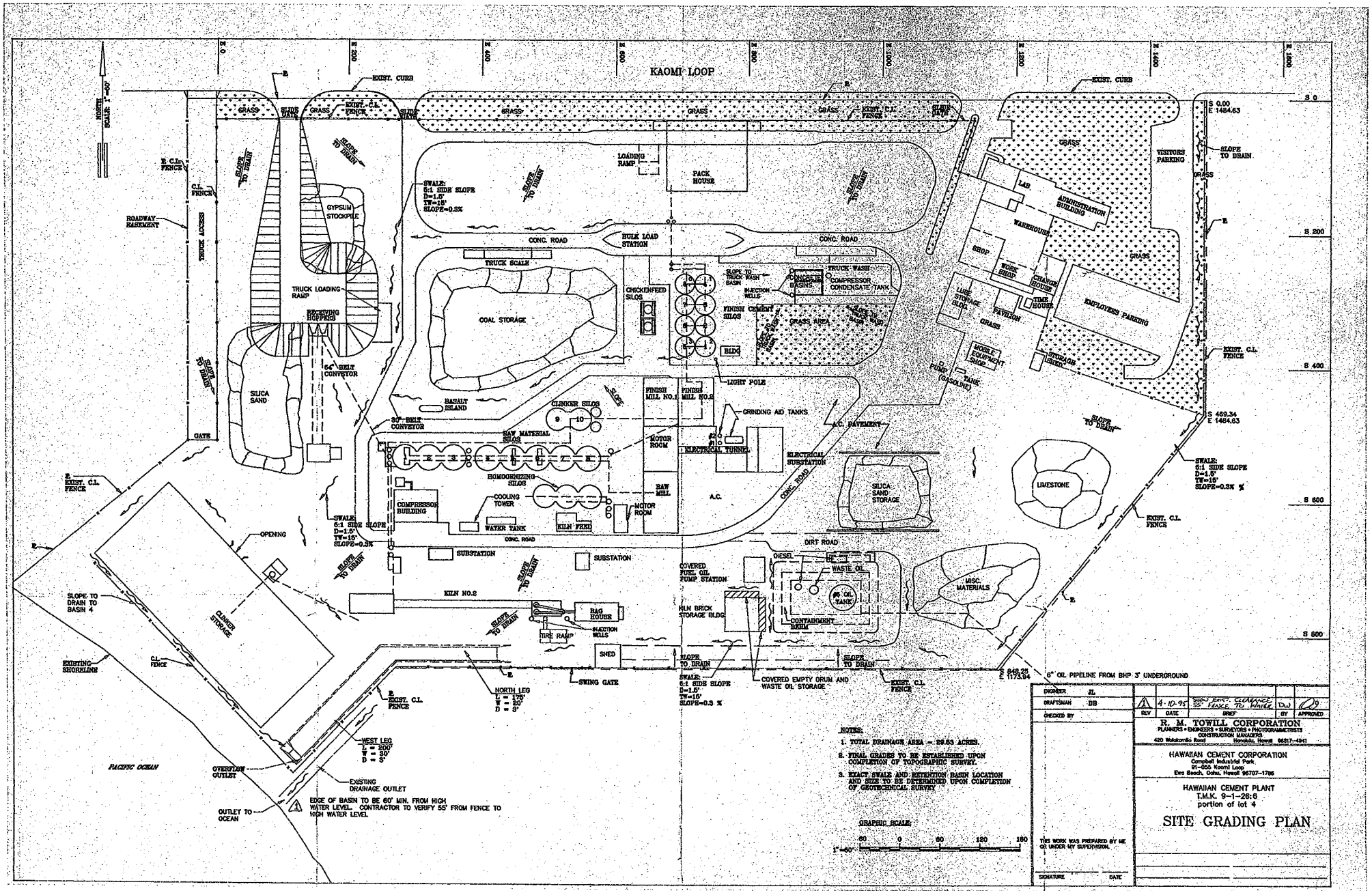
This approval shall not be construed as approval of a building permit application; such applications are reviewed separately and shall comply with applicable codes and regulations.

Please contact the Environmental Review Branch at 523-4077 if you have any questions.

Very truly yours,

PATRICK T. ONISHI
Director of Land Utilization

PTO:am
g:95sma22.ask



NOTES:

1. TOTAL DRAINAGE AREA = 29.53 ACRES.
2. FINAL GRADES TO BE ESTABLISHED UPON COMPLETION OF TOPOGRAPHIC SURVEY.
3. EXACT SWALE AND RETENTION BASIN LOCATION AND SIZE TO BE DETERMINED UPON COMPLETION OF GEOTECHNICAL SURVEY.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE DATE

ENGINEER	JL				
DRAFTSMAN	DB	1	4-10-95	SHOW EXIST. CLEARANCE 55' FENCE TO WATER	DW
CHECKED BY		REV	DATE	BRIEF	BY / APPROVED

R. M. TOWILL CORPORATION
PLANNERS • ENGINEERS • SURVEYORS • PHOTOGRAMMETRISTS
CONSTRUCTION MANAGERS
420 Waiakamilo Road Honolulu, Hawaii 96817-4941

HAWAIIAN CEMENT CORPORATION
Campbell Industrial Park
91-005 Kaomi Loop
Ewa Beach, Oahu, Hawaii 96707-1796

HAWAIIAN CEMENT PLANT
T.M.K. 9-1-26:6
portion of lot 4

SITE GRADING PLAN

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

May 13, 2022

Mr. Dean Uchida, Director
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Subject: Pre-consultation Draft Environmental Assessment for the Hawaiian Cement Sand Shed Located at 91-055 Kaomi Loop, Kapolei, HI
Tax Map Key: (1) 9-1-026: 056

Dear Mr. Uchida:

DPP provided feedback on the preliminary information provided for the forthcoming Draft Environmental Assessment (DEA) prepared for the subject project. Please see below for a copy of your comments in the letter dated January 6, 2021 (emphasis added) and our response

The Draft EA should:

1. *Discuss how the Project complies with the development standards for the I-2 Intensive Industrial District Section 21-3.130 and Table 21-3.5 of the Land Use Ordinance. Chapter 21 of the Revised Ordinances of Honolulu, which can be accessed online at..*
    - Response: The Project's compliance with the LUO will be discussed in the DEA **Section 4.7 City and County of Honolulu Land Use Ordinanc**e.
2. *Discus if any other new or modified land use permits approvals are anticipated prior to the Project implementation, and how the Project will comply with the conditions of any previously-issued land use permits applicable to the site.*
    - Response: The Project will be pursuing a SMA- Major following the EA for work that is valuated over $500,000. An SMA Permit was approved (No. 79/SMA-97). The SMA permit was approved via Resolution 79-336 on December 12, 1979. The SMA was issued under the following conditions:
        1. *Prior to implementation of the project, the applicant must meet the requirements and obtain approval of all governmental agencies, normally required for such projects.*
        2. *The application for "Authority to Construct" and "Permit to Operate", shall be approved by the DOH prior to the issuance of the building permit for the coal handling facility.*
        3. *High sulfur content coal shall not be used without prior approval of the DOH.*
        4. *The applicant shall meet all requirements of Environmental Protection agency relating to "Prevention of Significant Deterioration (40 CFR Part 52) regulations and the "non-attainment area".*
            - Response: The applicant obtained the necessary approvals prior to construction or usage of the facility.
3. *Describe how stormwater will be managed on site. It appears that the storm water structures previously utilized are now located on the adjacent subdivided parcel (TMK 9-1-026: 058). An SMA Permit was approved (No. 95/SMA-022) on April 24, 1995 for the construction of facilities that served the entirety of the unsubdivided lot.*

- Response: The Project obtained a SMA-Minor on April 24, 1995 for the project Grading to Construct a Stormwater Collection Basin. The SMA-Minor was approved with no conditions. The proposed sand shed structure will be placed over existing concrete pavement, so there is no significant increase in stormwater runoff generated by the proposed improvements. The proposed tent structure will not alter the existing flow pattern and the downstream property will not be affected. The storm drainage will continue to follow existing patterns and flow towards the southwest direction towards the downstream property. The storm drainage and storm water quality will be discussed in the DEA section 3.13 Storm Drainage and Storm Water Quality.

4. *Assess any impacts relating to ocean hazards and groundwater, including those that may arise due to sea level rise (SLR). The City's Climate Ready Oahu web Explorer includes shoreline change rates, future erosion zones, and modeled SLR. The National Oceanic and Atmospheric Administration National Storm Surge Hazards map can help evaluate the risk of storm surge hazards.*
    - Response: The impacts relating to ocean hazards and groundwater will be discussed in the DEA section 3.5 Water Resources and Hydrology and section 3.6 Natural Hazards (Floords, Climate Change and Sea Level Rise, Tsunamis, Seismic Hazards, Hurricanes and High Winds)

If you should have questions, please do not hesitate to email me at isaiahs@rmtowill.com or call our office (808) 842-1133.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843
www.boardofwatersupply.com

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JADE T. BUTAY, Ex-Officio

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

January 7, 2021

Mr. Isaiah Sato
R. M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819-3494

Dear Mr. Sato:

Subject: Your Letter Dated December 17, 2020 Requesting Comments on the Draft Environmental Assessment and Special Management Area Use Permit Pre-Consultation for the Hawaiian Cement Sand Shed off Kaomi Loop – Tax Map Key: 9-1-026: 056

Thank you for your letter regarding the proposed sand storage shed.

The existing water system is adequate to accommodate the proposed industrial development. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission, and daily storage.

Water conservation measures are required for all proposed developments. These measures include utilization of nonpotable water for irrigation using rain catchment, drought tolerant plants, xeriscape landscaping, efficient irrigation systems, such as a drip system and moisture sensors, and the use of Water Sense labeled ultra-low flow water fixtures and toilets.

The construction drawings should be submitted for our approval, and the construction schedule should be coordinated to minimize impact to the water system.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at 748-5443.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

August 10, 2021

Mr. Ernest Y. W. Lau
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843

Subject: Pre-consultation of Draft Environmental Assessment for the Hawaiian Cement Sand Shed Located at 91-055 Kaomi Loop, Kapolei, HI
Tax Map Key: (1) 9-1-026: 056

Dear Mr. Lau:

Thank you for reviewing and providing feedback on the preliminary information provided for the forthcoming Draft Environmental Assessment (DEA) prepared for the subject project. As noted in your letter dated January 7, 2021, we acknowledge your comments that the final decision on the availability of water will be confirmed when the building permit application is submitted for approval. We also acknowledge your comments suggesting when water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission, and daily storage. The construction drawings should be submitted for your department's approval. The on-site fire protection requirements will also be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

If you should have questions, please do not hesitate to email me at isaiahs@rmtowill.com or call our office (808) 842-1133.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

HAWAI'I GAS
THE CLEAN ENERGY COMPANY

Is —

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January 6, 2021

Mr. Isaiah Sato
R. M. Towill Corporation
2024 N. King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Sato:

Subject: Hawaii Revised Statutes (HRS) Chapter 343 Draft Environmental Assessment and Special Management Area Use Permit for the Hawaiian Cement Sand Shed, Located at 91-055 Kaomi Loop, Kapolei, Hawaii
Tax Map Key: (1) 9- 1- 026: 056
Plan Review and Comment

In response to your letter dated December 17, 2020, it has been determined that the area is currently clear of utility gas facilities.

Thank you for the opportunity to comment on the Draft Environmental Assessment and Special Management Area Use Permit for the Hawaiian Cement Sand Shed. Should there be any questions, or if additional information is desired, please call Kristen Asato 596-1425.

Sincerely,

Hawaii Gas

Keith K. Yamamoto
Manager, Engineering

KKY:krs

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
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August 10, 2021

Mr. Keith Yamamoto
Manager Engineering
Hawaii Gas
515 Kamakee Street
Honolulu, HI 96814

Subject: Pre-consultation of Draft Environmental Assessment for the Hawaiian Cement Sand Shed Located at 91-055 Kaomi Loop, Kapolei, HI
Tax Map Key: (1) 9-1-026: 056

Dear Mr. Yamamoto:

Thank you for reviewing and providing feedback on the preliminary information provided for the forthcoming Draft Environmental Assessment (DEA) prepared for the subject project. As noted in your letter dated January 6, 2021, we acknowledge that the department has no comments at this time.

If you should have questions, please do not hesitate to email me at isaiahs@rmtowill.com or call our office (808) 842-1133.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

DAVID Y. IGE
GOVERNOR

DR. CHRISTINA M. KISHIMOTO
SUPERINTENDENT

STATE OF HAWAI`I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI`I 96804

OFFICE OF FACILITIES AND OPERATIONS

December 28, 2020

Isaiah Sato
R.M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819-3494

Re: Early Consultation Comments for the Hawaiian Cement Sand Shed
Kapolei, Oahu, Hawaii, TMK (1) 9-1-026:056

Dear Mr. Sato:

The Hawaii State Department of Education (HIDOE) has the following comments for the preparation of an Environmental Assessment and Special Management Area Use Permit for the construction of a sand shed on approximately 7.652 acres of land located in Kapolei, Island of Oahu, TMK (1) 9-1-026:056.

The proposed action will not impact HIDOE schools or facilities.

Thank you for the opportunity to comment. Should you have questions, please contact Robyn Loudermilk, School Lands and Facilities Specialist of the Facilities Development Branch, Planning Section, at 784-5093 or via email at robyn.loudermilk@k12.hi.us.

Respectfully,

Roy Ikeda
Planning Section
Public Works Manager, TA

RI:rll

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

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Environmental Services
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Construction Management

August 10, 2021

Mr. Roy Ikeda
State of Hawaii
Department of Education
Planning Section
P.O. Box 2360
Honolulu, Hawaii 96804

Subject: Pre-consultation Draft Environmental Assessment for the Hawaiian Cement Sand Shed Located at 91-055 Kaomi Loop, Kapolei, HI
Tax Map Key: (1) 9-1-026: 056

Dear Mr. Ikeda:

Thank you for reviewing and providing feedback on the preliminary information provided for the forthcoming Draft Environmental Assessment (DEA) prepared for the subject project. As noted in your letter dated December 28, 2020, we acknowledge that the proposed action will not impact HIDOE schools or facilities.

If you should have questions, please do not hesitate to email me at isaiahs@rmtowill.com or call our office (808) 842-1133.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

February 01, 2021

LD 1328

Isaiah Sato
R.M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, HI 96819-3470

Via email: isaiahs@rmtowill.com

Dear Isaiah:

SUBJECT: **Draft Environmental Assessment and Special Management Area Use Permit for the Hawaiian Cement Sand Shed**
91-055 Kaomi Loop, Kapolei, Island of Oahu, Hawaii
TMK: (1) 9-1-026:056

Thank you for the opportunity to review and comment on the subject project. The Land Division of the Department of Land and Natural Resources (DLNR) distributed copies of your request to various DLNR divisions, as indicated on the attached, for their review and comment.

Attached are responses received from our (a) Engineering Division, and (b) Land Division, Oahu District. Should you have any questions, please feel free to contact Barbara Lee via email at barbara.j.lee@hawaii.gov. Thank you.

Sincerely,

Russell Tsuji

Russell Y. Tsuji
Land Administrator

Attachments

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

January 05, 2021

LD 1328

MEMORANDUM

FROM:

~~TO:~~ **DLNR Agencies:**

X Div. of Aquatic Resources *(via email: kendall.l.tucker@hawaii.gov)*
__Div. of Boating & Ocean Recreation
X Engineering Division *(via email: DLNR.Engr@hawaii.gov)*
X Div. of Forestry & Wildlife *(via email: Rubyrosa.T.Terrago@hawaii.gov)*
__Div. of State Parks
X Commission on Water Resource Management *(via email: DLNR.CWRM@hawaii.gov)*
__Office of Conservation & Coastal Lands
X Land Division – Oahu District *(via email: DLNR.Land@hawaii.gov)*

TO:

~~FROM:~~ Russell Y. Tsuji, Land Administrator *Russell Tsuji*

SUBJECT: **Planned Draft Environmental Assessment and Special Management Area Use Permit for Proposed Hawaiian Cement Sand Shed Project**

LOCATION: 91-055 Kaomi Loop, Kapolei, Island of Oahu, Hawaii
TMK: (1) 9-1-026:056

APPLICANT: **R.M. Towill Corporation on behalf of Hawaiian Cement Corporation**

Transmitted for your review and comment is information on the above-referenced project. (Some of you may have already submitted comments separately.) Please review the attached information and submit any comments by **January 22, 2021** to the Land Division at DLNR.Land@hawaii.gov, also copied to barbara.j.lee@hawaii.gov and darlene.k.nakamura@hawaii.gov.

If no response is received by the above due date, we will assume your agency has no comments at this time. If you have any questions, please contact Barbara Lee at barbara.j.lee@hawaii.gov. Thank you.

( ) We have no objections.
( ) We have no comments.
( ) We have no additional comments.
(✓) Comments are attached.

Signed: [signature]
Print Name: Carty S. Chang, Chief Engineer
Division: Engineering Division
Date: Jan 19, 2021

Attachments
Cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji
Ref: Planned Draft Environmental Assessment and Special Management Area Use Permit for Proposed Hawaiian Cement Sand Shed Project
Location: 91-055 Kaomi Loop, Kapolei, Island of Oahu, Hawaii
TMK(s): (1) 9-1-026:056
Applicant: R.M. Towill Corporation on behalf of Hawaiian Cement Corporation

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM), which can be viewed on our Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfip.org/FHAT).

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7253.
- Kauai: County of Kauai, Department of Public Works (808) 241-4896.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: Jan 19, 2021

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

January 05, 2021

LD 1328

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources *(via email: kendall.l.tucker@hawaii.gov)*
__Div. of Boating & Ocean Recreation
X Engineering Division *(via email: DLNR.Engr@hawaii.gov)*
X Div. of Forestry & Wildlife *(via email: Rubyrosa.T.Terrago@hawaii.gov)*
__Div. of State Parks
X Commission on Water Resource Management *(via email: DLNR.CWRM@hawaii.gov)*
__Office of Conservation & Coastal Lands
X Land Division – Oahu District *(via email: DLNR.Land@hawaii.gov)*

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: **Planned Draft Environmental Assessment and Special Management Area Use Permit for Proposed Hawaiian Cement Sand Shed Project**
LOCATION: 91-055 Kaomi Loop, Kapolei, Island of Oahu, Hawaii
TMK: (1) 9-1-026:056
APPLICANT: **R.M. Towill Corporation on behalf of Hawaiian Cement Corporation**

Transmitted for your review and comment is information on the above-referenced project. (Some of you may have already submitted comments separately.) Please review the attached information and submit any comments by **January 22, 2021** to the Land Division at DLNR.Land@hawaii.gov, also copied to barbara.j.lee@hawaii.gov and darlene.k.nakamura@hawaii.gov.

If no response is received by the above due date, we will assume your agency has no comments at this time. If you have any questions, please contact Barbara Lee at barbara.j.lee@hawaii.gov. Thank you.

( ) We have no objections.
(☑) We have no comments.
( ) We have no additional comments.
( ) Comments are attached.

Signed: [signature] BC
Print Name: Patti Miyashiro
Division: DLNR-LAND DIV-ODLO
Date: Jan 7, 2021

Attachments
Cc: Central Files

LD 1328

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

December 17, 2020

Subject: **Hawaii Revised Statutes (HRS) Chapter 343 Draft Environmental Assessment and Special Management Area Use Permit for the Hawaiian Cement Sand Shed, Located at 91-055 Kaomi Loop, Kapolei, Hawaii**
Tax Map Key: (1) 9-1-026:056

Dear Stakeholder:

The Applicant, Hawaiian Cement Corporation, is planning to submit a Hawaii Revised Statutes (HRS) Chapter 343 Draft Environmental Assessment and Special Management Area Use Permit for the Hawaiian Cement Sand Shed to the Department of Planning and Permitting. The proposed development is described on the attached summary sheet and location map.

As a stakeholder in the community, we are requesting your input on the proposed action. Please submit feedback via email to isaiahs@rmtowill.com or mail to the following address.

Attn: Isaiah Sato
2024 North King Street, Suite 200
Honolulu, Hawaii 96819-3494

Two-week extension granted to January 22, 2021.

We would appreciate your response by **January 8, 2020**.
(Year typo noted.)

Should you have questions, please do not hesitate to call our office (808) 748-7431.

Very truly yours,
R.M. Towill Corporation

Isaiah Sato

cc: City and County of Honolulu, Department of Enterprise Services

RECEIVED
LAND DIVISION
2020 DEC 21 AM 10:48
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

Summary for the Draft Environmental Assessment and Special Management Area Use Permit for the Hawaiian Cement Sand Shed

Located at 91-055 Kaomi Loop, Kapolei, Hawaii
Tax Map Key: (1) 9-1-026:056

The Applicant, Hawaiian Cement Corporation, proposes the construction of a new sand shed for their operations in James Campbell Industrial Park (JCIP), Kapolei, on O`ahu (the "Project"). The Applicant plans to submit a Draft Environmental Assessment and Special Management Area Use Permit applications for the Hawaiian Cement Sand Shed Project to the Department of Planning and Permitting for processing. The Project will be located on a 7.652-acre site, Tax Map Key (TMK) parcel: 9-1-026: 056, at 91-055 Kaomi Loop ("Project Site") and will involve the construction of a new sand storage shed.

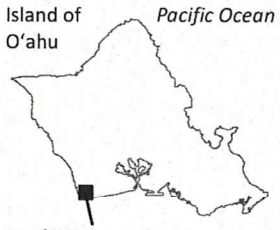
The Applicant proposes to construct a 37,975-square-foot sand shed over an existing concrete surface. The sand shed is will be approximately 50 feet tall. The Project will also include an approximately 300-foot long retaining wall and waterline improvements.

The Applicant has operated out of the Project Site since 1959 to manufacture cement for the State of Hawaii. In 1999, it ceased its cement production operation and became an import terminal operation at Kalaeloa Harbor. Over the years, the Applicant has parceled off its Kaomi loop property. Today, it operates out of 7.652 remaining acres primarily as a backup cement loading facility to its main Kalaeloa terminal as well as producing its bag products and warehouses its golf course sand. Remaining on existing property are a series of 11 concrete silos capable of storing over 20,000 tons of cement, two loading truck lanes, bagging operation and warehouse and a concrete batch plant able to service larger concrete projects along the leeward coast. These silos, loading truck lanes, bagging operations, and warehouse will not be impacted by the proposed project.

The Applicant has an existing sand shed operation on a neighboring parcel, located makai of the Project Site. This proposed sand shed will replace that operation. There are 5 existing employees at the Project Site and a 6th employee will relocate from the neighboring parcel.

Due to the sale of the last 14 acres in 2019, Hawaiian Cement proposes to relocate its sand warehouse over to the 7.652 remaining acres west of the existing site structures.

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

Project Site

Location Map

Hawaiian Cement
Sand Shed

N

Prepared By:
R. M. TOWILL CORPORATION

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
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Environmental Services
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Surveying
Construction Management

August 10, 2021

Mr. Russell Y. Tsuji
State of Hawaii
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawaii 96809

Subject: Pre-consultation of Draft Environmental Assessment for the Hawaiian Cement Sand Shed Located at 91-055 Kaomi Loop, Kapolei, HI
Tax Map Key: (1) 9-1-026: 056

Dear Mr. Tsuji:

Thank you for reviewing and providing feedback on the preliminary information provided for the forthcoming Draft Environmental Assessment (DEA) prepared for the subject project. As noted in your letter dated February 1, 2021, we acknowledge your comments from the Engineering Division to research the Flood Hazard Zone designation and address the applicable flood ordinances. The subject property is located in Flood Zone "D" as indicated by FEMA's Floor Rate Insurance Map (FIRM) map number 15003C0312G. Construction of the proposed Project would adhere to design standards as set forth in ROH, Chapter 21A, "Flood Hazards", as required.

We further acknowledge that the Land Division has no comments at this time.

If you should have questions, please do not hesitate to email me at isaiahs@rmtowill.com or call our office (808) 842-1133.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

OFFICE OF PLANNING
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

MARY ALICE EVANS
DIRECTOR
OFFICE OF PLANNING

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

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

DTS202101040850LI

January 5, 2021

Mr. Isaiah Sato
R.M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Sato:

Subject: Hawaii Revised Statutes Chapter 343 Draft Environmental Assessment and Special Management Area Use Permit for the Hawaiian Cement Sand Shed, Kapolei, Oahu, Hawaii;
Tax Map Key: (1) 9-1-026: 056

The Office of Planning (OP) is in receipt of your pre-consultation request, received December 22, 2020, for the proposed Hawaiian Cement Sand Shed, located at 91-055 Kaomi Loop, Kapolei, Oahu.

According to the summary for the Draft Environmental Assessment (Draft EA) and Special Management Area (SMA) Use Permit for the proposed project, Hawaiian Cement Corporation proposes to construct a 37,975-square-foot sand shed over an existing concrete surface. The sand shed will be approximately 50 feet tall, and include an approximately 300-foot long retaining wall and waterline improvements. The proposed sand shed will replace the existing sand shed operation on a neighboring parcel, located makai of the project site.

The Office of Planning (OP) has reviewed the pre-consultation request and has the following comments to offer:

1. The Draft EA should discuss the trigger(s) for the requirement of Hawaii Revised Statutes (HRS) Chapter 343. It is noted that an EA in accordance with procedural steps set forth in HRS Chapter 343 is required to meet assessment requirements for the SMA use permit application pursuant to Chapter 25, Revised Ordinances of Honolulu.

2. The Hawaii CZM Law, HRS Chapter 205A, requires all state and county agencies to enforce the CZM objectives and policies. The EA should include an assessment as to how the proposed development conforms to CZM objectives and supporting policies set forth in HRS § 205A-2, as amended.

3. To identify and assess any potential impacts of sea level rise on the subject property area, OP suggests the subject EA refer to the findings of the Hawaii Sea Level Rise Vulnerability and Adaptation Report 2017, accepted by the Hawaii Climate Change

Mitigation and Adaptation Commission. The Report, and Hawaii Sea Level Rise Viewer at https://www.pacioos.hawaii.edu/shoreline/slr-hawaii/ particularly identifies a 3.2-foot sea level rise exposure area across the main Hawaiian Islands, including Oahu, which may occur in the mid to latter half of the 21st century. The EA should provide a map of 3.2-foot sea level rise exposure area in relation to the property site.

4. If the subject EA will serve as the primary support document for the SMA use permit application, the Draft EA should specifically include a discussion for compliance with the requirements of SMA use by consulting with the Department of Planning and Permitting, City and County of Honolulu.

5. The EA should assess potential impacts of the proposed project on the existing drainage system and water quality, and discuss site-specific mitigation measures to prevent any runoff, sediment, soil and debris resulting from the proposed sand shed construction and operations, from adversely impacting the coastal ecosystem and the State waters as specified in Hawaii Administrative Rules Chapter 11-54.

If you have any questions regarding this comment letter, please contact Shichao Li of our office at (808) 587-2841.

Sincerely,

Mary Alice Evans

Mary Alice Evans
Director

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

August 10, 2021

Ms. Mary Alice Evans
State of Hawaii
Office of Planning
P.O. Box 2359
Honolulu, Hawaii 96804

Subject: Pre-consultation of Draft Environmental Assessment for the Hawaiian Cement Sand Shed Located at 91-055 Kaomi Loop, Kapolei, HI
Tax Map Key: (1) 9-1-026: 056

Dear Ms. Evans:

Thank you for reviewing and providing feedback on the preliminary information provided for the forthcoming Draft Environmental Assessment (DEA) prepared for the subject project. As noted in your letter dated January 5, 2021, we acknowledge your comments from the Office of Planning.

1. To discuss the trigger(s) for the requirement of Hawaii Revised Statutes (HRS) Chapter 343.
2. The EA should include an assessment as to how the proposed development conforms to CZM objectives and supporting policies set forth in HRS § 205A-2, as amended.
3. The subject EA refer to the findings of the Hawaii Sea Level Rise Vulnerability and Adaptation Report 2017, accepted by the Hawaii Climate Change Mitigation and Adaptation Commission.
4. The subject EA will include a discussion for compliance with the requirements of SMA use by consulting with the Department of Planning and Permitting, City and County of Honolulu.
5. The EA should assess potential impacts of the proposed project on the existing drainage system and water quality, and discuss site-specific mitigation measures to prevent any runoff, sediment, soil and debris resulting from the proposed sand shed construction and operations, from adversely impacting the coastal ecosystem and the State waters as specified in Hawaii Administrative Rules Chapter 11-54.

The comments will be addressed in the DEA.

If you should have questions, please do not hesitate to email me at isaiahs@rmtowill.com or call our office (808) 842-1133.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

United States Department of the Interior

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

July 29, 2022

In Reply Refer To:
2022-0059309-S7-001

Ms. Malynne Simeon
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawai‘i 96813

Subject: Technical Assistance for Hawaiian Cement Sand Shed Project, O‘ahu

Dear Ms. Simeon:

Thank you for your letter of June 23, 2022, requesting comments for the Draft Environmental Assessment Hawaiian Cement Sand Shed Project located at 91-055 Kaomi Loop in Kapolei, Hawai‘i. This project will be located on a 7.652-acre site at Tax Map Key (1) 9-1-026: 056. The applicant proposes construction of a new sand shed for their operations in James Campbell Industrial Park. The proposed shed will involve construction of a 37,975-square-foot sand shed over an existing concrete surface. The sand shed will be approximately 50 feet tall, and the project will also include an approximately 300-foot long retaining wall, septic tank and leach field, waterline and fire hydrant improvements.

This letter has been prepared under the authority of and in accordance with provisions of the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq*.), as amended (ESA). We have reviewed the information you provided and pertinent information in our files, as it pertains to federally listed species in accordance with section 7 of the ESA. Our data indicate the following federally listed species may occur or transit through the vicinity of the proposed project area: the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus);* and the endangered Hawaiian petrel (*Pterodroma sandwichensis*), threatened Newell's shearwater (*Puffinus auricularis newelli*), and endangered Hawai‘i Distinct Population Segment (DPS) of band-rumped storm-petrel (*Oceanodroma castro*) (hereafter collectively referred to as Hawaiian seabirds).

Hawaiian hoary bat
The Hawaiian hoary bat roosts in both exotic and native woody vegetation across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away.

To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you consider incorporating the following applicable measures into your project description:

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

Hawaiian seabirds

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

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

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

We appreciate your efforts to conserve protected species. If you have questions regarding this response, please contact Elyse Sachs, Fish and Wildlife Biologist (phone: 808-792-9400, email: Elyse_Sachs@fws.gov). When referring to this project, please include this reference number: 2022-0059309-S7-001.

Sincerely,

LEILA NAGATANI

Digitally signed by LEILA NAGATANI
Date: 2022.07.29 08:08:50 -10'00'

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

cc: R. M. Towill Corporation

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

September 15, 2022

Ms. Leila Nagatani, Acting Island Team Manager
U. S. Department of the Interior
Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850

Subject: Response to DEA Comments for the Hawaiian Cement Sand Shed
91-055 Kaomi Loop, Kapolei, Hawaii 96707
(1) 9-1-026: 056

Dear Ms. Nagatani

Mahalo for providing comments on the Draft Environmental Assessment prepared for the Hawaiian Cement Sand Shed in your letter dated July 29, 2022. We acknowledge your recommendations (copied below) and offer the following responses.

Recommendation regarding Hawaiian Hoary Bats:
To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you consider incorporating the following applicable measures into your project description:

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

Response: We will include the USFWS recommendations in the Final Environmental Assessment.

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

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

Response: We will include the USFWS recommendations in the Final Environmental Assessment.

Should you have questions, please do not hesitate to call me at (808) 748-7431 or email me at isaiahs@rmtowill.com.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

Isaiah T. K. Sato

STATE OF HAWAI'I
OFFICE OF PLANNING
& SUSTAINABLE DEVELOPMENT

DAVID Y. IGE
GOVERNOR

MARY ALICE EVANS
DIRECTOR

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

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

Coastal Zone Management Program

Environmental Review Program

Land Use Commission

Land Use Division

Special Plans Branch

State Transit-Oriented Development

Statewide Geographic Information System

Statewide Sustainability Branch

DTS 202206220915RE

July 20, 2022

Mr. Dean Uchida, Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Attn: Ms. Malynne Simeon

Dear Mr. Uchida:

Subject: Chapter 25, Revised Ordinance of Honolulu, Draft Environmental Assessment for Construction of a New 37,975-Square-Foot Sand Shed, 300-Foot Long Retaining Wall, Septic Tank and Leach Field, and Waterline and Fire Hydrant Improvements at 91-055 Kaomi Loop, Kapolei, Oahu; Tax Map Key: (1) 9-1-026: 056

The Office of Planning and Sustainable Development (OPSD) is in receipt of your review request, dated June 21, 2021, on the Draft Environmental Assessment (Draft EA), on the proposed Hawaiian cement sand shed project, located at 91-055 Kaomi Loop, Kapolei, Oahu.

According to the Draft EA, Hawaiian Cement Corporation proposes to construct an approximately 50-foot tall, 37,975- square- foot sand shed over an existing concrete surface in James Campbell Industrial Park, Kapolei. The proposed sand shed will replace the existing sand shed operation located makai of the proposed project site. The project will include a 300- foot long retaining wall, septic tank and leach field, and waterline and fire hydrant improvements.

On a 7.652-acre parcel, the project is located within State Land Use Urban District, county zoned I-2 Intensive Industrial District, and county designated special management area (SMA). The property is outside the 3.2-foot sea level rise exposure area. The project site is approximately 650 feet from the shoreline.

Construction is estimated to be completed in approximately 12 months. The total project costs are estimated to be $4 million.

The OPSD has reviewed the Draft EA, and has the following comments to offer:

1. The subject EA is triggered by Revised Ordinances of Honolulu (ROH) Chapter 25 that any proposed development requiring a SMA use permit shall be subject to an assessment by the agency in accordance with the procedural steps set forth in Hawaii Revised Statutes (HRS) Chapter 343. The Final EA shall correct the statement that the subject EA is triggered by "propose any use within a shoreline area as defined in section 205A-41."

2. Earthwork will consist of grubbing, grading, and excavation for the sand shed and retaining wall footings and the waterline entrenchment. Construction of the project could result in soil erosion if not contained. The OPSD concurs that site-specific best management practices with erosion and sediment control measures, including silt fences, berms and other erosion control devices, shall be implemented to confine the proposed excavation and construction activities, and prevent potential soil, construction debris and polluted runoff from adversely impacting the coastal ecosystem, and State waters as specified in Hawaii Administrative Rules Chapter 11-54.

3. In enacting Act 224, SLH 2005, the legislature found that light pollution in Hawaii's coastal areas and artificial lighting illuminating the shoreline and ocean waters can be disruptive to avian and marine life. The exterior lighting and lamp posts associated with the proposed residence project shall be cut-off luminaries to provide the necessary shielding to mitigate potential light pollution in the coastal areas, and lessen possible seabird strikes. No artificial light, except as provided in HRS §§ 205A-30.5(b) and 205A-71(b), shall be directed to travel across property boundaries toward the shoreline and ocean.

If you have any questions regarding this comment letter, please contact Shichao Li of our office at (808) 587-2841, or by email at shichao.li@hawaii.gov.

Sincerely,

Mary Alice Evans

Mary Alice Evans
Director

c: Mr. Isaiah Sato, R.M. Towill Corporation

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

September 15, 2022

Ms. Mary Alice Evans, Director
State of Hawaii, Office of Planning & Sustainable Development
P.O. Box 2359
Honolulu, Hawaii 96804

Subject: Response to DEA Comments for the Hawaiian Cement Sand Shed
91-055 Kaomi Loop, Kapolei, Hawaii 96707
(1) 9-1-026: 056

Dear Ms. Evans,

Mahalo for providing comments on the Draft Environmental Assessment prepared for the Hawaiian Cement Sand Shed in your letter dated July 20, 2022. We acknowledge your comments (copied below) and offer the following responses.

1. *The subject EA is triggered by Revised Ordinances of Honolulu (ROH) Chapter 25 that any proposed development requiring a SMA use permit shall be subject to an assessment by the agency in accordance with the procedural steps set forth in Hawaii Revised Statues (HRS) Chapter 343. The Final EA shall correct the statement that the subject EA is triggered by "propose any use within a shoreline area as defined in section 205A-41."*

Response: Acknowledged. This will be revised in the FEA publication.

2. *Earthwork will consist of grubbing, grading, and excavation for the sand shed and retaining wall footings and the waterline entrenchment. Construction of the project could result in soil erosion if not contained. The OPSD concurs that site-specific best management practices with erosion and sediment control measures, including silt fences, berms and other erosion control devices, shall be implemented to confine the proposed excavation and construction activities, and prevent potential soil, construction debris and polluted runoff from adversely impacting the coastal ecosystem, and State waters as specified in Hawaii Administrative Rules Chapter 11-54.*

Response: Acknowledged.

3. *In enacting Act 224, SLH 2005, the legislature found that light pollution in Hawaii's coastal areas and artificial lighting illuminating the shoreline and ocean waters can be disruptive to avian and marine life. The exterior lighting and lamp posts associated with the proposed residence project shall be cut-off luminaires to provide the necessary shielding to mitigate potential light pollution in the coastal areas, and lessen possible seabird strikes. No artificial light, except as provided in HRS § 205A-30.5(b) and 205A-71(b), shall be directed to travel across property boundaries toward the shoreline and ocean.*

Response: Hawaiian Cement will provide shielded exterior lighting and lamp posts at the project site.

Should you have questions, please do not hesitate to call me at (808) 748-7431 or email me at isaiahs@rmtowill.com.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

Isaiah T. K. Sato

From: Cab General
To: msimeon@honolulu.gov; Isaiah Sato
Subject: Hawaiian Cement Sand Shed -- Draft EA (AFNSI)
Date: Friday, July 8, 2022 2:23:01 PM

CAUTION: External Email

Aloha,

Thank you for the opportunity to provide comments on the subject project. Based on review of the *Hawaiian Cement Sand Shed Draft EA*, CAB has no further comments at this time.
Please see our standard comments at:

https://health.hawaii.gov/cab/files/2022/05/Standard-Comments-for-Land-Use-Reviews-Clean-Air-Branch-2022-1.pdf

Please feel free to contact me if you have any questions or concerns.

--
Kristen Caskey, EHS
Kristen.caskey@doh.hawaii.gov
Clean Air Branch
Hawaii State Department of Health

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Standard Comments for Land Use Reviews
Clean Air Branch
Hawaii State Department of Health

If your proposed project:

Requires an Air Pollution Control Permit

- You must obtain an air pollution control permit from the Clean Air Branch and comply with all applicable conditions and requirements. If you do not know if you need an air pollution control permit, please contact the Permitting Section of the Clean Air Branch.
- Permit application forms can be found here: https://health.hawaii.gov/cab/permit-application-forms/

Includes construction, demolition, or renovation activities that involve potential asbestos and lead containing materials:

- Asbestos may be present in any existing structure. Prior to demolition, you must contact the Indoor and Radiological Health Branch, Asbestos-Lead Section. Testing may be required to determine if building materials may contain asbestos, such as: drywall, vinyl floor tile, mastic, caulking, roofing materials, insulation, special coatings, etc.
- Structures built prior to 1980 may also contain lead paint. Prior to demolition, contact the Indoor and Radiological Health Branch, Asbestos-Lead Section. Testing may need to be conducted to determine if building materials contain lead.
- Some construction activities have the potential to create excessive noise and may require noise permits. For DOH Noise Permits and/or Variances and for more information on the Indoor and Radiological Health Branch, please visit: https://health.hawaii.gov/irhb/

Includes demolition of structures or land clearing

- Department of Health, Administrative Rule: Title 11, Chapter 26, Vector Control, Section 11-26-35, Rodents; Demolition of Structures and Clearing of Sites and Vacant Lots, requires that:
    - No person, firm or corporation shall demolish or clear any structure, site, or vacant lot without first ascertaining the presence or absence of rodents which may endanger the public health by dispersal from such premises.
    - Should such inspection reveal the presence of rodents, the person, firm, or corporation shall eradicate the rodents before demolishing or clearing the structure, site, or vacant lot.
    - The Department may conduct an independent inspection to monitor compliance, or request a written report.
- The purpose of this rule is to prevent rodents from dispersing into adjacent areas from infested buildings or vacant lands during demolition or land clearing.
- Contractors may either hire a pest control firm or do the job themselves with a qualified employee. Rodenticides must be inspected daily and replenished as necessary to provide a continuous supply for at least one week prior to the start of any work.

- To submit notifications or for more information, contract the Vector Control Branch: https://health.hawaii.gov/vcb/

Has the potential to generate fugitive dust

- You must reasonably control the generation of all airborne, visible fugitive dust. Note that construction activities that occur near to existing residences, businesses, public areas and major thoroughfares exacerbate potential dust concerns. It is recommended that a dust control management plan be developed which identifies and mitigates all activities that may generate airborne, visible fugitive dust. The plan, which does *not* require Department of Health approval, should help you recognize and minimize potential airborne, visible fugitive dust problems.
- Construction activities must comply with the provisions of Hawaii Administrative Rules, §11-60.1-33 on Fugitive Dust. In addition, for cases involving mixed land use, we strongly recommend that buffer zones be established, wherever possible, in order to alleviate potential nuisance complaints.
- You must provide reasonable measures to control airborne, visible fugitive dust from the road areas and during the various phases of construction. These measures include, but are not limited to, the following:
    - Planning the different phases of construction, focusing on minimizing the amount of airborne, visible fugitive dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;
    - Providing an adequate water source at the site prior to start-up of construction activities; Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase;
    - Minimizing airborne, visible fugitive dust from shoulders and access roads;
    - Providing reasonable dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
    - Controlling airborne, visible fugitive dust from debris being hauled away from the project site.
- If you have questions about fugitive dust, please contact the Enforcement Section of the Clean Air Branch

Increases the population and potential number of vehicles in an area:

- The creation of apartment buildings, complexes, and residential communities may increase the overall population in an area. Increasing the population in an area may inadvertently lead to more air pollution via vehicle exhaust. Vehicle exhaust releases molecules in the air that negatively impact human health and air quality, as they are known lung irritants, carcinogens, and greenhouse gases.
- Ensure that residents keep their vehicle idling time to three (3) minutes or less.
- Provide bike racks and/or electric vehicle charging stations for residents.
- Ensure that there are sufficient and safe pedestrian walkways and crosswalks throughout and around the development.
- Conduct a traffic study to ensure that the new development does not significantly impact traffic in the area.

Clean Air Branch (808) 586-4200 cab@doh.hawaii.gov	Indoor Radiological Health Branch (808) 586-4700	Vector Control Branch (808) 586-4400

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

September 15, 2022

Ms. Kristen Caskey
Clean Air Branch
Hawaii State Department of Health
2827 Waimano Home Road, Room 130
Pearl City, HI 96782

Subject: Response to DEA Comments for the Hawaiian Cement Sand Shed
91-055 Kaomi Loop, Kapolei, Hawaii 96707
(1) 9-1-026: 056

Dear Ms. Caskey,

Mahalo for reviewing the Draft Environmental Assessment prepared for the Hawaiian Cement Sand Shed as noted in your email dated July 8, 2022. We acknowledge that the Department of Health, Clean Air Branch has no comments at this time.

Should you have any questions, please do not hesitate to call me at (808) 748-7431 or email me at isaiahs@rmtowill.com.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

Isaiah T. K. Sato

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 27, 2022

LD 0678

Malynne Simeon
City & County of Honolulu
650 South King Street, 7th Floor
Honolulu, HI 96813

Via email: msimeon@honolulu.gov

Dear Malynne Simeon:

SUBJECT: Draft Environmental Assessment
Hawaiian Cement Sand Shed Project
91-055 Kaomi Loop, Kapolei, Island of Oahu
TMK: (1) 9-1-026:056

Thank you for the opportunity to review and comment on the subject project. The Land Division of the Department of Land and Natural Resources (DLNR) distributed copies of your request to DLNR's various divisions for their review and comment.

Enclosed are responses/comments received from our (a) Division of Aquatic Resources, (b) Engineering Division, and (c) Division of Forestry and Wildlife. Should you have any questions, please feel free to contact Barbara Lee via email at *barbara.j.lee@hawaii.gov*. Thank you.

Sincerely,

Russell Tsuji

Russell Y. Tsuji
Land Administrator

Attachments
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 29, 2022

LD 0678

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources *(via email: kendall.l.tucker@hawaii.gov)*
__Div. of Boating & Ocean Recreation
X Engineering Division *(via email: DLNR.Engr@hawaii.gov)*
X Div. of Forestry & Wildlife *(via email: rubyrosa.t.terrago@hawaii.gov)*
__Div. of State Parks
X Commission on Water Resource Management *(via email: DLNR.CWRM@hawaii.gov)*
__Office of Conservation & Coastal Lands
X Land Division – Oahu District *(via email: barry.w.cheung@hawaii.gov)*

FROM: Russell Y. Tsuji, Land Administrator
Russell Tsuji

SUBJECT: **Draft Environmental Assessment (DEA)**
Hawaiian Cement Sand Shed Project

LOCATION: 91-055 Kaomi Loop, Kapolei, Island of Oahu, Hawaii
TMK: (1) 9-1-026:056

APPLICANT: **R.M. TOWILL CORPORATION on behalf of the Hawaiian Cement Corporation**

Transmitted for your review and comment is information on the above-referenced subject. The DEA was published on June 23, 2022 by the State Environmental Review Program (formerly the Office of Environmental Quality Control) at the Office of Planning and Sustainable Development in the periodic bulletin, The Environmental Notice, available at the following link:

https://files.hawaii.gov/dbedt/erp/The_Environmental_Notice/2022-06-23-TEN.pdf

Please submit any comments by **July 21, 2022,** to *barbara.j.lee@hawaii.gov* at Land Division. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Barbara Lee directly at the above email address. Thank you.

BRIEF COMMENTS:

( ) We have no objections.
( ) We have no comments.
( ) We have no additional comments.
(☑) Comments are included/attached.

Signed: D K. Sakoda
Print Name: David Sakoda for Brian Neilson-Administrator
Division: Aquatic Resources
Date: Jun 29, 2022

Attachments
Cc: Central Files

DAVID Y. IGE
GOVERNOR OF
HAWAII

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

ROBERT K. MASUDA
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
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Date: June 29, 2022
DAR # AR0207

MEMORANDUM

TO: Brian J. Neilson
DAR Administrator

FROM: Paul Murakawa, Aquatic Biologist *Paul Y. Murakawa*

SUBJECT: Draft Environmental Assessment for Hawaiian Cement Sand Shed Project

Request Submitted by: Russell Y. Tsuji, Land Administrator

Location of Project: 91-055 Kaomi Loop, Kapolei, Hawaii 96706 Tax Map Key: (1) 9-1-026: 056

Brief Description of Project:

Hawaiian Cement Corporation proposes the construction of a new sand shed for their operations in James Campbell Industrial Park, Kapolei, on O'ahu. The Applicant proposes to construct a 37,975-square-foot sand shed over an existing concrete surface. The sand shed will be approximately 50 feet tall. The Project will also include an approximately 300-foot long retaining wall, septic tank and leach field, waterline and fire hydrant improvements. The Project will be located on a 7.652-acre site and is accessed off of Kaomi Loop. The Applicant previously had an existing sand shed operation on a neighboring parcel, located makai of the Project Site. This proposed sand shed will replace that operation.

Comments:

☐ No Comments ☒ Comments Attached

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plan, DAR requests the opportunity to review and comment on those changes.

Comments Approved: _____ Date: Jun 29, 2022
for Brian J. Neilson
DAR Administrator

DAR# AR0207

Comments

The Division of Aquatic Resources (DAR) has no major comments or concerns with this project. The draft Environmental Assessment contains Best Management Practices (BMPs) to address DAR's concerns (runoff/sedimentation and other land based sources of pollution) from reaching the nearest water (ocean).

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 29, 2022

LD 0678

MEMORANDUM

FROM: ~~TO:~~ **DLNR Agencies:**
X Div. of Aquatic Resources *(via email: kendall.l.tucker@hawaii.gov)*
__Div. of Boating & Ocean Recreation
X Engineering Division *(via email: DLNR.Engr@hawaii.gov)*
X Div. of Forestry & Wildlife *(via email: rubyrosa.t.terrago@hawaii.gov)*
__Div. of State Parks
X Commission on Water Resource Management *(via email: DLNR.CWRM@hawaii.gov)*
__Office of Conservation & Coastal Lands
X Land Division – Oahu District *(via email: barry.w.cheung@hawaii.gov)*

TO: ~~FROM:~~ Russell Y. Tsuji, Land Administrator
Russell Tsuji

SUBJECT: **Draft Environmental Assessment (DEA)**
Hawaiian Cement Sand Shed Project

LOCATION: 91-055 Kaomi Loop, Kapolei, Island of Oahu, Hawaii
TMK: (1) 9-1-026:056

APPLICANT: **R.M. TOWILL CORPORATION on behalf of the Hawaiian Cement Corporation**

Transmitted for your review and comment is information on the above-referenced subject. The DEA was published on June 23, 2022 by the State Environmental Review Program (formerly the Office of Environmental Quality Control) at the Office of Planning and Sustainable Development in the periodic bulletin, The Environmental Notice, available at the following link:

https://files.hawaii.gov/dbedt/erp/The_Environmental_Notice/2022-06-23-TEN.pdf

Please submit any comments by **July 21, 2022,** to *barbara.j.lee@hawaii.gov* at Land Division. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Barbara Lee directly at the above email address. Thank you.

BRIEF COMMENTS:

( ) We have no objections.
( ) We have no comments.
(✓) We have no additional comments.
( ) Comments are included/attached.

Signed:
Print Name: Carty S. Chang, Chief Engineer
Division: Engineering Division
Date: Jul 14, 2022

Attachments
Cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 29, 2022

LD 0678

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources *(via email: kendall.l.tucker@hawaii.gov)*
__Div. of Boating & Ocean Recreation
X Engineering Division *(via email: DLNR.Engr@hawaii.gov)*
X Div. of Forestry & Wildlife *(via email: rubyrosa.t.terrago@hawaii.gov)*
__Div. of State Parks
X Commission on Water Resource Management *(via email: DLNR.CWRM@hawaii.gov)*
__Office of Conservation & Coastal Lands
X Land Division – Oahu District *(via email: barry.w.cheung@hawaii.gov)*

Russell Tsuji

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: **Draft Environmental Assessment (DEA)**
Hawaiian Cement Sand Shed Project
LOCATION: 91-055 Kaomi Loop, Kapolei, Island of Oahu, Hawaii
TMK: (1) 9-1-026:056
APPLICANT: **R.M. TOWILL CORPORATION on behalf of the Hawaiian Cement Corporation**

Transmitted for your review and comment is information on the above-referenced subject. The DEA was published on June 23, 2022 by the State Environmental Review Program (formerly the Office of Environmental Quality Control) at the Office of Planning and Sustainable Development in the periodic bulletin, The Environmental Notice, available at the following link:

https://files.hawaii.gov/dbedt/erp/The_Environmental_Notice/2022-06-23-TEN.pdf

Please submit any comments by **July 21, 2022,** to *barbara.j.lee@hawaii.gov* at Land Division. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Barbara Lee directly at the above email address. Thank you.

BRIEF COMMENTS:

( ) We have no objections.
( ) We have no comments.
( ) We have no additional comments.
(☑) Comments are included/attached.

Signed: *Lainie Berry*
Print Name: LAINIE BERRY, Wildlife Program Mgr.
Division: Division of Forestry and Wildlife
Date: Jul 21, 2022

Attachments
Cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

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

ROBERT K. MASUDA
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
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

July 19, 2022

MEMORANDUM *Log no. 3730*

TO: RUSSELL Y. TSUJI, Land Administrator
Land Division

FROM: LAINIE BERRY, Wildlife Program Manager
Division of Forestry and Wildlife

SUBJECT: Division of Forestry and Wildlife Comments for a Draft Environmental Assessment (DEA) for the Hawaiian Cement Sand Shed Project in James Campbell Industrial Park on O‘ahu

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has received your request for comments for a DEA regarding the proposed Hawaiian Cement Corporation sand shed project located at 91-055 Kaomi Loop, Kapolei, on the island of O‘ahu; TMK: (1) 9-1-026:056. The proposed project consists of developing a 37,975-square-foot sand shed approximately 50 feet tall over an existing concrete surface. The project will also include an approximately 300-foot long retaining wall, a proposed septic tank and leach field, and waterline and fire hydrant improvements.

We concur with the measures outlined to use native plant species for landscaping. Please refer to www.plantpono.org for guidance on the selection and evaluation of landscaping plants. DOFAW provides the following additional comments regarding the potential for the proposed work to affect listed species in the vicinity of the project area.

The State listed Hawaiian Hoary Bat or ‘Ōpe‘ape‘a (*Lasiurus cinereus semotus*) could potentially occur at or in the vicinity of the project and may roost in nearby trees. Any required site clearing should be timed to avoid disturbance to bats during their birthing and pup rearing season (June 1 through September 15). During this period woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed. Barbed wire should also be avoided for any construction because bats can become ensnared and killed by such fencing material during flight.

Artificial lighting can adversely impact seabirds that may pass through the area at night by causing them to become disoriented. This disorientation can result in their collision with manmade structures or the grounding of birds. For nighttime work that might be required, DOFAW recommends that all lights used to be fully shielded to minimize the attraction of

seabirds. Nighttime work that requires outdoor lighting should be avoided during the seabird fledging season, from September 15 through December 15. This is the period when young seabirds take their maiden voyage to the open sea. Permanent lighting also poses a risk of seabird attraction, and as such should be minimized or eliminated to protect seabird flyways and preserve the night sky. For illustrations and guidance related to seabird-friendly light styles that also protect seabirds and the dark starry skies of Hawai'i please visit https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf.

The State endangered Hawaiian Short-eared owl or pueo (*Asio flammeus sandwichensis*) could potentially occur in the project vicinity. Pueo are most active during dawn and dusk twilights. Before clearing any vegetation, DOFAW recommends twilight pre-construction surveys by a qualified biologist. If pueo nests are present, DOFAW staff should be notified and a buffer zone should be established in which no clearing occurs until nesting is completed.

DOFAW recommends minimizing the movement of plant or soil material between worksites. Soil and plant material may contain pathogens, pests such as Little Fire ants and/or Coconut Rhinoceros beetles, or invasive plant parts that could harm our native species and ecosystems. We recommend consulting the O'ahu Invasive Species Committee (OISC) at (808) 266-7994 to help plan, design, and construct the project, learn of any high-risk invasive species in the area, and ways to mitigate their spread. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species.

Due to the arid climate and risks of wildfire to listed species, we recommend coordinating with the Hawai'i Wildfire Management Organization at (808) 850-900 or admin@hawaiiwildfire.org, on how wildfire prevention can be addressed in the project area.

We appreciate your efforts to work with our office for the conservation of our native species. These comments are general guidelines and should not be considered comprehensive for this site or project. It is the responsibility of the applicant to do their own due diligence to avoid any negative environmental impacts. Should the scope of the project change significantly, or should it become apparent that threatened or endangered species may be impacted, please contact our staff as soon as possible. If you have any questions, please contact Paul Radley, Protected Species Habitat Conservation Planning Coordinator at (808) 295-1123 or paul.m.radley@hawaii.gov.

Sincerely,

Lainie Berry

LAINIE BERRY
Wildlife Program Manager

LD 0678

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3470
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@hawaii.rr.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

June 23, 2022

RECEIVED
LAND DIVISION
2022 JUN 27 PM 1:47
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

Subject: **Draft Environmental Assessment**
Hawaiian Cement Sand Shed Project
91-055 Kaomi Loop, Kapolei, Hawaii 96706
Tax Map Key: (1) 9-1-026: 056

Dear Stakeholder:

On behalf of the Hawaiian Cement Corporation, we are providing notice that a DEA and Anticipated Finding of No Significant Impact (AFONSI) have been prepared in accordance with Hawai'i Revised Statutes, Chapter 343, and Hawai'i Administrative Rules, Title 11, Chapter 200.1 for the Hawaiian Cement Sand Shed.

The Applicant, Hawaiian Cement Corporation, proposes the construction of a new sand shed for their operations in James Campbell Industrial Park, Kapolei, on O`ahu. The Applicant proposes to construct a 37,975-square-foot sand shed over an existing concrete surface. The sand shed will be approximately 50 feet tall. The Project will also include an approximately 300-foot long retaining wall, septic tank and leach field, waterline and fire hydrant improvements.

The Project will be located on a 7.652-acre site, Tax Map Key parcel: 9-1-026: 056, at 91-055 Kaomi Loop, Kapolei, HI, 96707 on the island of O'ahu. The Project Site is accessed off of Kaomi Loop. The Applicant previously had an existing sand shed operation on a neighboring parcel, located makai of the Project Site. This proposed sand shed will replace that operation. There are 5 existing employees at the Project Site and a 6th employee will relocate from the neighboring parcel.

The DEA and AFONSI are available for download from the Environmental Review Program's website at: https://files.hawaii.gov/dbedt/erp/Other_TEN_Publications/2022-06-23-OA-Chapter-25-DEA-Hawaiian-Cement-Sand-Shed.pdf. Paper copies of the Draft EA and AFONSI are available upon request.

The DEA and AFONSI were posted in The Environmental Notice on June 23, 2022 and has a comment deadline by July 25, 2021. Please submit your comments by email or mail to:

Malynne Simeon
(808) 768-8023
650 South King Street, 7th Floor
Honolulu, Hawai'i 96813
msimeon@honolulu.gov

With a copy to:

Isaiah Sato
R. M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawai'i 96819.
isaiahs@rmtowill.com

Should you have any questions please contact the undersigned at isaiahs@rmtowill.com or (808) 748-7431.

Sincerely,

Isaiah T. K. Sato

Isaiah Sato

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

September 15, 2022

Mr. Russell Tsuji
Land Administrator
P.O. Box 621
Honolulu, Hawaii 96809

Subject: Response to DEA Comments for the Hawaiian Cement Sand Shed
91-055 Kaomi Loop, Kapolei, Hawaii 96707
(1) 9-1-026: 056

Dear Mr. Tsuji,

Mahalo for providing comments on the Draft Environmental Assessment prepared for the Hawaiian Cement Sand Shed in your letter dated July 27, 2022. We acknowledge the comments and offer the following responses.

Division of Aquatic Resources
We acknowledge that the Division of Aquatic Resources has no major comments or concerns at this time and that the Best Management Practices address DAR's concerns (runoff/sedimentation and other land based sources of pollution) from reaching the nearest ocean.

Engineering Division
We acknowledge that the Engineering Division has no additional comments at this time.

Division of Forestry and Wildlife

Questions/Comment: *We concur with the measures outlined to use native plant species for landscaping. Please refer to www.plantpono.org for guidance on the selection and evaluation of landscaping plants.*

Response: Hawaiian Cement will review the provided guidance for selection and evaluation of landscaping plants.

Questions/Comment: *The State listed Hawaiian Hoary Bat or 'Ōpe'ape'a (Lasiurus cinereus semotus) could potentially occur at or in the vicinity of the project and may roost in nearby trees. Any required site clearing should be timed to avoid disturbance to bats during their birthing and pup rearing season (June 1 through September 15). During this period woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed. Barbed wire should also be avoided for any construction because bats can become ensnared and killed by such fencing material during flight.*

Response: We will include DOFAW recommendations in the Final Environmental Assessment.

Questions/Comment: *Artificial lighting can adversely impact seabirds that may pass through the area at night by causing them to become disoriented. This disorientation can result in their collision with manmade structures or the grounding of birds. For nighttime work that might be required, DOFAW recommends that all lights used to be fully shielded to minimize the attraction of seabirds. Nighttime work that requires outdoor lighting should be avoided during the seabird fledging season, from September 15 through December 15. This is the period when young seabirds take their maiden voyage to the open sea. Permanent lighting also poses a risk of seabird attraction, and as such should be minimized or eliminated to protect seabird flyways and preserve the night sky. For illustrations and guidance related to seabird-friendly light styles that also protect seabirds and the dark starry skies of Hawai'i please visit https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf.*

Response: We will include DOFAW recommendations in the Final Environmental Assessment.

Questions/Comment: *The State endangered Hawaiian Short-eared owl or pueo (Asio flammeus sandwichensis) could potentially occur in the project vicinity. Pueo are most active during dawn and dusk twilights. Before clearing any vegetation, DOFAW recommends twilight pre-construction surveys by a qualified biologist. If pueo nests are present, DOFAW staff should be notified and a buffer zone should be established in which no clearing occurs until nesting is completed.*

Response: We will include DOFAW recommendations in the Final Environmental Assessment.

Questions/Comment: *DOFAW recommends minimizing the movement of plant or soil material between worksites. Soil and plant material may contain pathogens, pests such as Little Fire ants and/or Coconut Rhinoceros beetles, or invasive plant parts that could harm our native species and ecosystems. We recommend consulting the O'ahu Invasive Species Committee (OISC) at (808) 266-7994 to help plan, design, and construct the project, learn of any high-risk invasive species in the area, and ways to mitigate their spread. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species.*

Response: We will include DOFAW recommendations in the Final Environmental Assessment.

Questions/Comment: *Due to the arid climate and risks of wildfire to listed species, we recommend coordinating with the Hawai'i Wildfire Management Organization at (808) 850-900 or admin@hawaiiwildfire.org, on how wildfire prevention can be addressed in the project area.*

Response: We will coordinate with the Hawai'i Wildfire Management Organization at (808) 850-900 or admin@hawaiiwildfire.org on how wildfire preventation can be addressed in the project area.

Should you have questions, please do not hesitate to call me at (808) 748-7431 or email me at isaiahs@rmtowill.com.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

Isaiah T. K. Sato

DAVID Y. IGE
GOVERNOR

KEITH T. HAYASHI
SUPERINTENDENT

STATE OF HAWAI`I

DEPARTMENT OF EDUCATION

P.O. BOX 2360

HONOLULU, HAWAI`I 96804

OFFICE OF FACILITIES AND OPERATIONS

July 21, 2022

Isaiah Saito
R.M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819

Re: Draft Environmental Assessment for the Hawaiian Cement Sand Shed, Kapolei, Oahu, Hawaii, TMK (1)9-1-026:056

Dear Mr. Saito:

Thank you for your letter dated June 21, 2022. The Hawaii State Department of Education previously provided the enclosed comment letter, dated December 28, 2020, and has no additional comments.

Thank you for the opportunity to comment. Should you have any questions, please contact Cori China of the Facilities Development Branch, Planning Section, at (808) 784-5095.

Sincerely,

Roy Ikeda
Interim Public Works Manager
Planning Section

RI:ctc
Enclosure

c: Malynne Simeon, City and County of Honolulu, Department of Planning and Permitting, Land Use Approval Branch
Facilities Development Branch

DAVID Y. IGE
GOVERNOR

DR. CHRISTINA M. KISHIMOTO
SUPERINTENDENT

STATE OF HAWAI`I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI`I 96804

OFFICE OF FACILITIES AND OPERATIONS

December 28, 2020

Isaiah Sato
R.M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819-3494

Re: Early Consultation Comments for the Hawaiian Cement Sand Shed
Kapolei, Oahu, Hawaii, TMK (1) 9-1-026:056

Dear Mr. Sato:

The Hawaii State Department of Education (HIDOE) has the following comments for the preparation of an Environmental Assessment and Special Management Area Use Permit for the construction of a sand shed on approximately 7.652 acres of land located in Kapolei, Island of Oahu, TMK (1) 9-1-026:056.

The proposed action will not impact HIDOE schools or facilities.

Thank you for the opportunity to comment. Should you have questions, please contact Robyn Loudermilk, School Lands and Facilities Specialist of the Facilities Development Branch, Planning Section, at 784-5093 or via email at robyn.loudermilk@k12.hi.us.

Respectfully,

Roy Ikeda
Planning Section
Public Works Manager, TA

RI:rll

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

September 15, 2022

Mr. Roy Ikeda
Planning Section
Department of Education
P.O. Box 2360
Honolulu, Hawaii 96804

Subject: Response to DEA Comments for the Hawaiian Cement Sand Shed
91-055 Kaomi Loop, Kapolei, Hawaii 96707
(1) 9-1-026: 056

Dear Mr. Ikeda,

Mahalo for reviewing the Draft Environmental Assessment prepared for the Hawaiian Cement Sand Shed as noted in your letter dated July 21, 2022. We acknowledge that the Department of Education has no additional comments at this time.

Should you have questions, please do not hesitate to call me at (808) 748-7431 or email me at isaiahs@rmtowill.com.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

Isaiah T. K. Sato

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

RICK BLANGIARDI
MAYOR

DEAN UCHIDA
DIRECTOR

DAWN TAKEUCHI APUNA
DEPUTY DIRECTOR

July 15, 2022

2021/ED-13(MS)

Mr. Isaiah Sato
R.M. Towill
2024 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Sato:

SUBJECT: Draft Environmental Assessment (DEA)
Chapter 25, Revised Ordinances of Honolulu (ROH)
Hawaiian Cement Sand Shed (Project)
91-055 Kaomi Loop - Honouliuli
Tax Map Key 9-1-026: 056

This is in response to the submittal, received March 8, and May 17, 2022, of the above-referenced DEA as required under Chapter 25, ROH. The Project involves the construction of a new 37,975-square-foot sand shed, 300-foot long retaining wall, septic tank and leach field, and waterline and fire hydrant improvements within the I-2 Intensive Industrial District and Special Management Area in the James Campbell Industrial Park. Comments from the Department of Planning and Permitting (DPP) are:

1. Section 2.1 Description of Proposed Action: Provide more detail about the proposed sand shed structure and operation. Explain the purpose for the new retaining wall, septic tank and leach field.

2. Section 2.2 Existing and Surrounding Uses: Clearly explain all existing uses on the property.

3. Section 3.1 Climate: Under Project Impacts and Mitigation, explain how the Project will increase residents to the area and increase vehicles. There could be erroneous text regarding a residential development that should be removed and revised.

4. Section 3.13 Storm Drainage and Storm Water Quality: The Project must comply with the City's prevailing drainage standards and storm water quality rules. The Project's compliance with these standards and rules will be verified at the time that the grading/construction plans are submitted to DPP for review.

5. Section 4.4 City and County of Honolulu General Plan: The DEA references the older version and some objectives and policies have changed. Compliance with the new objectives and policies, as well as reference to the revised General Plan, approved January 14, 2022 (Resolution 21-23,CD1), must be discussed in the Final Environmental Assessment (FEA).

6. Section 4.5 City and County of Honolulu Ewa Development Plan: The FEA should reference the current Ewa Development plan that was adopted in 2013 and amended in 2020, and discuss the Project's consistency with the amended version.

7. Revise the site plan to show the proposed vegetated buffer strip.

Should you have any further questions on this matter, please contact Malynne Simeon, of our Land Use Approval Branch, at (808) 768-8023 or via email at msimeon@honolulu.gov.

Very truly yours,

for Dean Uchida
Director

Enclosure: Receipt Nos. 133077 and 133108

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
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Environmental Services
Photogrammetry
Surveying
Construction Management

September 15, 2022

Ms. Dawn Takeuchi-Apuna, Acting Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Subject: Response to DEA Comments for the Hawaiian Cement Sand Shed
91-055 Kaomi Loop, Kapolei, Hawaii 96707
(1) 9-1-026: 056

Dear Ms. Takeuchi-Apuna,

Mahalo for providing comments on the Draft Environmental Assessment prepared for the Hawaiian Cement Sand Shed in your letter dated July 15, 2022. We acknowledge your comments (copied below) and offer the following responses.

Questions/Comment- *Section 2.1 Description of Proposed Action: Provide more detail about the proposed sand shed structure and operation. Explain the purpose for the new retaining wall, septic tank and leach field.*

Response: Acknowledged. The information will be added to Section 2.1 in the forthcoming FEA.

Questions/Comment- *Section 2.2 Existing and Surrounding Uses: Clearly explain all existing uses on the property.*

Response: Acknowledged. The information will be added to Section 2.2 in the forthcoming FEA.

Questions/Comment- *Section 3.1 Climate: Under Project Impacts and Mitigation, explain how the Project will increase residents to the area and increase vehicles. There could be erroneous text regarding a residential development that should be removed and revised.*

Response: The erroneous text has been removed.

Questions/Comment- *Section 3.13 Storm Drainage and Storm Water Quality: The Project must comply with the City's prevailing drainage standards and storm water quality rules. The Project's compliance with these standards and rules will be verified at the time that the grading/construction plans are submitted to DPP for review.*

Response: Hawaiian Cement will submit construction plans to the City, DPP for approval of compliance with the latest storm water quality rules.

Questions/Comment- *Section 4.4 City and County of Honolulu General Plan: The DEA references the older version and some objectives and policies have changed. Compliance with the new objectives and*

policies, as well as reference to the revised General Plan, approved January 14, 2022 (Resolution 21-23,CD1), must be discussed in the Final Environmental Assessment (FEA).

Response: Acknowledged. The information will be added to Section 4.4 in the forthcoming FEA.

Questions/Comment- *Section 4.5 City and County of Honolulu Ewa Development Plan: The FEA should reference the current Ewa Development plan that was adopted in 2013 and amended in 2020, and discuss the Project's consistency with the amended version.*

Response: Acknowledged. The information will be added to Section 4.5 in the forthcoming FEA.

Questions/Comment- *Revise the site plan to show the proposed vegetated buffer strip.*

Response: Acknowledged. The site plan will be updated in the forthcoming FEA.

Should you have questions, please do not hesitate to call me at (808) 748-7431 or email me at isaiahs@rmtowill.com.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

Isaiah T. K. Sato

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulupd.org

RICK BLANGIARDI
MAYOR

ARTHUR J. LOGAN
CHIEF

KEITH K. HORIKAWA
RADE K. VANIC
DEPUTY CHIEFS

OUR REFERENCE EO-GK

July 7, 2022

SENT VIA E-MAIL

Mr. Isaiah Sato
IsaiahS@rmtowill.com

Dear Mr. Sato:

This is in response to a memorandum from the Department of Planning and Permitting (DPP), dated June 21, 2022, requesting input on the Draft Environmental Assessment for the Hawaiian Cement Sand Shed Project in Kapolei.

The Honolulu Police Department has reviewed the plans and does not have any comments at this time.

If there are any questions, please call Major Gail Beckley of District 8 (Kapolei, Waianae) at (808) 723-8400.

Thank you for the opportunity to review this project.

Sincerely,

GLENN HAYASHI
Acting Assistant Chief of Police
Support Services Bureau

cc: Ms. Malynne Simeon, DPP
msimeon@honolulu.gov

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

September 15, 2022

Chief Arthur Logan
Honolulu Police Department
801 South Beretania Street
Honolulu, Hawaii 96813

Subject: Response to DEA Comments for the Hawaiian Cement Sand Shed
91-055 Kaomi Loop, Kapolei, Hawaii 96707
(1) 9-1-026: 056

Dear Chief Logan,

Mahalo for reviewing the Draft Environmental Assessment prepared for the Hawaiian Cement Sand Shed as noted in your letter dated July 7, 2022. We acknowledge that the Honolulu Police Department has no comments at this time.

Should you have any questions, please do not hesitate to call me at (808) 748-7431 or email me at isaiahs@rmtowill.com.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

Isaiah T. K. Sato

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843
www.boardofwatersupply.com

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MAX J. SWORD
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DAWN B. SZEWCZYK, P.E., Ex-Officio

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

July 15, 2022

Mr. Isaiah Sato
R. M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Sato:

Subject: Comments on the Draft Environmental Assessment of the Hawaiian Cement Sand Shed Project at 91-055 Kaomi Loop Kapolei – Tax Map Key: 9-1-026: 056

Thank you for the opportunity to comment on the proposed new sand shed and various on-site improvements.

The existing water system is adequate to accommodate the proposed development. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply (BWS) reserves the right to change any position or information stated herein up until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission, and daily storage.

Water conservation measures are required for all proposed developments. These measures include utilization of nonpotable water for irrigation using rain catchment, drought tolerant plants, xeriscape landscaping, efficient irrigation systems, such as a drip system and moisture sensors, and the use of Water Sense labeled ultra-low flow water fixtures and toilets.

The proposed project is subject to BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

The construction drawings should be submitted for our approval, and the construction schedule should be coordinated to minimize impact to the water system.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at (808) 748-5443.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

cc: Malynne Simeon, Department of Planning and Permitting

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843
www.boardofwatersupply.com

RICK BLANGIARDI, MAYOR

BRYAN P. ANDAYA, Chair
KAPUA SPROAT, Vice Chair
RAY C. SOON
MAX J. SWORD
NA'ALEHU ANTHONY

JADE T. BUTAY, Ex-Officio
DAWN B. SZEWCZYK, P.E., Ex-Officio

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

July 15, 2022

TO: DEAN UCHIDA, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

ATTN: MALYNNE SIMEON
LAND USE APPROVAL BRANCH

FROM: ERNEST Y.W. LAU, P.E. MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

SUBJECT: COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT OF THE HAWAIIAN CEMENT SAND SHED PROJECT AT 91-055 KAOMI LOOP, KAPOLEI –TAX MAP KEY: 9-1-026:056

The existing water system is adequate to accommodate the proposed development. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply (BWS) reserves the right to change any position or information stated herein up until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission, and daily storage.

Water conservation measures are required for all proposed developments. These measures include utilization of nonpotable water for irrigation using rain catchment, drought tolerant plants, xeriscape landscaping, efficient irrigation systems, such as a drip system and moisture sensors, and the use of Water Sense labeled ultra-low flow water fixtures and toilets.

The proposed project is subject to BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

The construction drawings should be submitted for our approval, and the construction schedule should be coordinated to minimize impact to the water system.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at 748-5443.

cc: Isaiah Sato, R.M. Towill Corporation

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@rmtowill.com

R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

September 15, 2022

Mr. Ernest Lau
Manager and Chief Engineer
630 South Beretania Street
Honolulu, Hawaii 96843

Subject: Response to DEA Comments for the Hawaiian Cement Sand Shed
91-055 Kaomi Loop, Kapolei, Hawaii 96707
(1) 9-1-026: 056

Dear Mr. Lau,

Mahalo for reviewing the Draft Environmental Assessment prepared for the Hawaiian Cement Sand Shed as noted in your letter dated July 15, 2022. We acknowledge the Honolulu Board of Water Supply's comments. The Applicant will submit construction drawings for BWS approval and coordinate the construction schedule to mitigate impact to the water system.

Should you have questions, please do not hesitate to call me at (808) 748-7431 or email me at isaiahs@rmtowill.com.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

Isaiah T. K. Sato

HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

RICK BLANGIARDI
MAYOR

SHELDON K. HAO
FIRE CHIEF

JASON SAMALA
DEPUTY FIRE CHIEF

July 13, 2022

Mr. Isaiah Sato
R. M. Towill Corporation
2024 N. King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Sato:

Subject: Hawaiian Cement Sand Shed Project
91-055 Kaomi Loop
Kapolei, Hawaii 96707
Tax Map Key: 9-1-026: 056

In response to a letter from Mr. Dean Uchida of the Department of Planning and Permitting dated June 21, 2022, regarding the abovementioned subject, the Honolulu Fire Department (HFD) reviewed the submitted information and requires that the following be complied with:

1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 meters) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; 2018 Edition, Sections 18.2.3.2.2 and 18.2.3.2.2.1, as amended)

   A fire department access road shall extend to within 50 feet (15 meters) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1; 2018 Edition, Section 18.2.3.2.1)

2. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities, buildings, or portions of buildings are hereafter constructed or

moved into the jurisdiction. The approved water supply shall be in accordance with Section 18.4. (NFPA 1; 2018 Edition, Section 18.3.1)

3. The fire department access roads shall be in accordance with Section 18.2.3. (NFPA 1; 2018 Edition, Section 18.2)

4. Submit civil drawings to the HFD for review and approval.

Should you have questions, please contact Acting Battalion Chief Kendall Ching of our Fire Prevention Bureau at 808-723-7154 or kching3@honolulu.gov.

Sincerely,

CRAIG UCHIMURA
Acting Assistant Chief

CU/DM:bh

cc: Malynne Simeon, Department of Planning and Permitting, Land Use Approval Branch

2024 North King Street
Suite 200
Honolulu Hawaii 96819-3494
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R. M. TOWILL CORPORATION
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Planning
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Environmental Services
Photogrammetry
Surveying
Construction Management

September 15, 2022

Mr. Craig Uchimura
Honolulu Fire Department
636 South King Street
Honolulu, Hawaii 96813

Subject: Response to DEA Comments for the Hawaiian Cement Sand Shed
91-055 Kaomi Loop, Kapolei, Hawaii 96707
(1) 9-1-026: 056

Dear Mr. Uchimura,

Mahalo for providing comments on the Draft Environmental Assessment prepared for the Hawaiian Cement Sand Shed in your letter dated July 13, 2022. We acknowledge your comments (copied below) and offer the following responses.

1. *Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 meters) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; 2018 Edition, Sections 18.2.3.2.2 and 18.2.3.2.2.1, as amended)*

   A fire department access road shall extend to within 50 feet (15 meters) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1; 2018 Edition, Section 18.2.3.2.1)

Response: Hawaiian Cement shall ensure that a fire department access road is provided in accordance with the National Fire Protection Association guidelines. Kaomi Loop and the existing internal roads currently serve this purpose.

2. *An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities, buildings, or portions of buildings are hereafter constructed or moved into the jurisdiction. The approved water supply shall be in accordance with Section 18.4. (NFPA 1; 2018 Edition, Section 18.3.1)*

Response: Hawaiian Cement will ensure that an approved water supply capable of supplying the required fire flow for fire protection shall be provided in accordance with the NFPA guidelines.

3. *The fire department access roads shall be in accordance with Section 18.2.3. (NFPA 1; 2018 Edition, Section 18.2)*

Response: See response to comment 1.

4. *Submit civil drawings to the HFD for review and approval.*

Response: Hawaiian Cement will submit civil drawings to HFD for review and approval during the design phase.

Should you have questions, please do not hesitate to call me at (808) 748-7431 or email me at isaiahs@rmtowill.com.

Very truly yours,
R.M. Towill Corporation

Isaiah T. K. Sato

Isaiah T. K. Sato

MAKAKILO NEIGHBORHOOD BOARD NO. 34

c/o NEIGHBORHOOD COMMISSION • 925 DILLINGHAM BOULEVARD, SUITE 160, HONOLULU, HAWAII, 96817

PHONE (808) 768-3710 • FAX (808) 768-3711 • INTERNET http:///www.honolulu.gov/nco

REGULAR MEETING MINUTES
WEDNESDAY, OCTOBER 28, 2020
WEBEX

CALL TO ORDER – Chair Legal called the meeting to order at 7:00 p.m. Quorum was established with eight (8) members present. Note – This 9-member Board requires five (5) members to establish a quorum and to take official Board action.

Board Members Present – Jack Legal, Thad Spreg, Robert Helsham, Mick Ferreira, Kioni Dudley, Troy Cullen, Moon Kahele, Scott Strensrud.

Board Members Absent – Mike Frank.

Guests – HFD Representative, Louis Galdeira (Councilwoman Kymberly Pine's Representative), Rock Riggs (Senator Mike Gabbard's Representative), Tim Hiu (Mayor Kirk Caldwell's Representative), Ben Lee, Janine Clifford Johnny Reid (HART Representative), Jim Gomes (Senior Division, Hawaiian Cement Corporation), Keith Kurahashi (Principal Planner, R.M. Towill Corporation), Isaiah Sato (Agent for R.M. Towill Corporation), Patrice Tanna (Senator Maile Shimabukuro's Representative), Residents John Rogers, Dean Capelouto, Ulukoa Duhaylonsod, Crystal Robello, Brandy Clark (Neighborhood Commission Office).

CHAIR ANNOUNCEMENTS
Regarding Feedback via Webex: Chair Legal told the community that those who are joining the meeting need to mute themselves so it does not create feedback while the person is speaking.

RECESS IN NOVEMBER 2020: Chair Legal opened the floor for discussion, due to the Board meeting falling under the same day as Thanksgiving, the Board took it to a vote via roll call performed by Neighborhood Assistant. **The MOTION to recess in November and meet on the first Wednesday in December was MOVED by Helsham and SECONDED by Kahele, the MOTION was APPROVED with UNANIMOUS CONSENT (8-0-0)**, (**Aye:** Legal, Spreg, Helsham, Ferreira, Dudley, Cullen, Kahele, Strensrud; **Nay:** None; **Abstain:** None.)

CITY MONTHLY REPORTS
HONOLULU FIRE DEPARTMENT (HFD) – HFD representative was present, the following report was given:

- September 2020: There were six (6) wildfires, two (2) nuisance fires, 20 activated alarms, 124 medical emergencies, 12 motor vehicle collisions, one (1) hazardous materials incident.
- Safety Tip: Halloween Safety:
  - Stay away from long, trailing fabric
  - When making own costume: utilize material that will not come into contact with heat/flame
  - If child is wearing mask, ensure eyeholes are large enough and vision is not obstructed
  - Provide children with glow sticks as part of their costumes to create visibility
  - Make sure families have flashlights or battery-operated candles while trick-or-treating

Questions, comments and concerns followed: Restrictions: Ferreira asked and HFD representative responded if there were restrictions on trick or treating, there were no notifications but they encouraged trick or treating in smaller groups.

HONOLULU POLICE DEPARTMENT (HPD)—No representative was present, no report was given.

MAYOR'S REPRESENTATIVE REPORT: Tim Hiu was present and read the following report:

- Retirement: Hiu stated November will be his last month reporting to the Makakilo Board due to his retirement.
- Island-Wide Project: Mayor Caldwell would like community members to know of a new islandwide project and opportunities to support O'ahu becoming more climate ready. The Office of Climate Change, Sustainability and Resiliency has initiated a climate adaptation strategy project, which was identified as

Action 28 of the community-developed O'ahu Resilience Strategy. Board members have received a 1-page project sheet and are encouraged to visit the project website, www.climatechangereadyoahu.org, to participate in the intro survey and upcoming virtual community meetings. If the board is interested in a presentation on the project, please email climateready@honolulu.gov."

Councilmember Kymberly Pine's Representative Louis Galdeira: Galdeira sent over a report which addressed the following highlight:

- Bill 59: Offers residents a city-provided community garden where they can grow their own produce; exempts all 10 existing community gardens from any changes but creates opportunities for residents everywhere to grow their own food.

Board of Water Supply (BWS) – No representative was present, no report was given.

Vice Chair Spreg departed at 7:19p.m., seven (7) members present.

Johnny Reid–Honolulu Authority for Rapid Transit (HART) Representative: Reid was present but due to technical issues, no report was given.

Vice Chair Spreg arrived at 7:23 p.m., eight (8) members present.

Frank Genadio, Oahu Metropolitan Planning Organization (OMPO): Genadio gave the following report:

- Transudate Plan: Genadio explained there was a plan that incorporated safety performance and target requirements.
- Future Studies: Genadio noted there will be two (2) work program studies put forth, one will revolve around sea level rise and another will revolve around transportation.

APPROVAL OF THE AUGUST 26, 2020 MINUTES
Correction: On page 2, under section "City Monthly Reports" it should read "Councilmember Kymberly Pine's Representative Louis Galdeira"

The MOTION to APPROVE the August 26, 2020 minutes was MOVED by Helsham and SECONDED by Ferreira. Chair Legal took the minutes to a vote via roll call by Neighborhood Assistant, the August 26, 2020 minutes **were APPROVED (7-0-1)**, (**Aye:** Legal, Ferreira, Dudley, Kahele, Helsham, Strensrud, Cullen; **Nay:** None; **Abstain:** Spreg).

COMMUNITY/BOARD CONCERNS AND ANNOUNCEMENTS

- Sessions: Patrice Tanna responded to Dudley's question from the Wednesday, August 26th, 2020 meeting regarding session meetings, said the sessions started in the beginning of October and in November to confirm two (2) judges within the judicial court system. The four (4) sessions will begin on Wednesday, November 18th, 2020 at 10a.m. and on Thursday, November 19th, 2020 at 11:30 a.m. Tanna stated there is one (1) Supreme Court Justice nomination and one (1) district family court judge for the 5th Circuit Court.
- Water Quality: Resident Ulukoa Duhaylonsod asked about the water quality of the shoreline, if there was a method to check how the runoff affects the water. Resident Duhaylonsod also asked if there could be a semi-annual or quarterly reports on the effect the runoff has on the groundwater and on the health of the people that utilize said groundwater. Dudley clarified that Resident Duhaylonsod was talking about how the runoff from the landfill affects the ocean, commended Resident Duhaylonsod for asking those questions..
- Rail Project: Helsham asked and Hiu answered if the rail project will be abandoned, is unable to answer that but redirected the question to Johnny Reid. Reid responded that the plan executed by the second week of November will be to work on a resolution with the bidders for a recommendation that will be presented to the Board, to Mayor Caldwell and to City Council. Helsham asked and Reid answered if by Wednesday, December 2nd, 2020 meeting there will be a clearer answer, yes, there will be a report in December. Reid asked and Chair Legal answered if the report should be sent to the Makakilo Board or to collaborate with the Neighborhood Commission Office (NCO), will collaborate with the NCO for further information on distributing the report. Resident Dean Capelouto asked and Reid answered if the rail will be running at 100% speed, there will be three (3) eight (8)-hour shifts all day long, top speed will be at 55 miles per hour.

STATE MONTHLY REPORTS

Governor David Ige's Representative—No representative was present, no report was given.

Highways Division, State Department of Transportation (HDOT): No representative was present, no report was given.

Rock Riggs, State Senator Mike Gabbard Representative: Riggs spoke of the following topics:

- Bill 59 (Community Gardens Bill): Riggs mentioned Senator Mike Gabbard's submittal of testimony supporting this bill during a hearing on Tuesday, October 20th, 2020, commented that said bill will go in for a second reading.
- Committee Meeting: Riggs mentioned Senator Gabbard being on the Fuel Tank Advisory Committee, which will hold their meeting on Friday, October 30th, 2020 through Zoom from 1:15 p.m. to 4:15 p.m., where the Naval Fleet will give a presentation on preserving O'ahu's water supply. If interested in the Zoom link to join the meeting, Riggs asked the Community to contact Senator Gabbard's office.
- Groves of Kapolei: Riggs commented this project is a mixture of sustainable agriculture and housing, Senator Gabbard will continue to stay abreast regarding said project.
- Brownwater Advisory: Riggs responded to Resident Duhaylonsod's question regarding groundwater issues, stated the Department of Health (DOH) handles brownwater advisories.

Patrice Tanna, State Senator Maile Shimabukuro Representative:

- Unemployment: Tanna stated that Governor Ige and the Department of Labor and Industrial Relations (DLIR) have extended unemployment insurance by 13 weeks.
- Housing Relief: Tanna mentioned housing rental assistance with the City and County of Honolulu (up to $2000 per family each month), mentioned Aloha United Way (AUW)'s rental assistance of up to $1000 per month, and for more information to contact AUW hotline dialing 211.
- Job Assistance/Coursework: The University of Hawaii and the City and County of Honolulu are offering free coursework and job training utilizing money from the Coronavirus Aid Relief and Economic Security (CARES) Act from October 2020 to December 2020. To become eligible, one must live on O'ahu with a job affected by COVID-19. With the State, online coursework in a technological corporation will be offered to those jobless or affected by COVID-19, with the objective of obtaining an online certificate. If interested, one must register before Saturday, October 31, 2020.

Questions, comments and concerns followed: Moratorium: Chair Legal asked about the moratorium, Tanna mentioned there was a constituent who asked about that but if there was a specific question she could answer. Chair Legal asked if there was a proactive plan to mitigate the moratorium terminated at the end of 2020.

Representative for State Representative Sharon Har: No representative was present, no report was given.

State Representative Ty Cullen: No representative present, no report was given.

State Representative Stacelynn K.M. Eli: No representative present, no report was given.

Hawaii Community Development Authority (HCDA)—Francine Murray: Murray gave the following report:

- Board Meeting Date: Murray explained the next Board meeting will be on Wednesday, November 4th, 2020.
- Section 8 Applications: Murray mentioned Hawaii Public Housing Authority partnering up with Housing Urban Development (HUD) to open up a Section 8 waitlist from Thursday, October 29th, 2020, until Monday, November 2nd, 2020. Murray noted that applications are free, instructed those interested to check out the Hawaii Public Housing Authority's website to apply.

Questions, comments and concerns followed: Revenue: Chair Legal asked and Murray answered where the money is coming from, it is coming from HUD.

PRESENTATIONS

The Groves at Kapolei: Ben Lee and Janine Clifford (Clifford Planning and Architecture) gave the following presentation:

- Location/Objective of Project: It will be at the end of Kuhili Street, transforming 85 acres of dry and barren land into a community-supported working farm while serving as an agricultural model for farming in perpetuity. Orchards and crops included in this project will have avocados, mangoes, and various citrus fruits as well as turmeric and dragon fruit vine crops to start.
- Existing Site Conditions/Phases/Water: Lee noted the entire property is covered in guinea grass and remnants of haole koa trees; elevation from the bottom of Kuhili Street starts at 330 feet and rises to 700 feet with a mean annual rainfall average of about 30 inches. There will be four (4) phases to the project, totalling about 53.2 farming acres and about nine (9) residential acres. Lee noted there will be a new 60,000 gallon potable water tank at an elevation of 675 feet. There will also be a 100,000 gallon non-potable tank at an elevation of 550 feet, with a water demand estimated at 2,000 gallons per day.
- Schedule: The cluster application submission to the Department of Planning and Permitting (DPP) will be handed in on the second or third week of November 2020; the Cluster Review and Approval will take 90 days, with the Civil Engineering and Building Permit Submittal taking place in the first quarter of 2021. The building permit approval will take approximately six (6) months, with the construction of the first phase beginning in the fourth quarter of 2021.

Questions, comments and concerns followed:

1. Archaeological Study: Resident Duhaylonsod expressed support for this project; asked and Lee answered what kind of archaeological sites were found, there was an archaeological study performed in 2018 and no bones were discovered.
2. Clarification: Dudley asked and Janine Clifford responded where specifically this project would take place, a location map was shown and specific directions were given to get to the site.
3. Dwellings/Entity: Dudley asked and Clifford responded what type of dwellings would be there, residential housing that is within 5,000 square footage. Dudley asked and Clifford answered if the individual homeowners grow their own food or manage their own garden, there will be a separate entity to manage the farming and maintain the crops. Dudley asked and Clifford answered what will happen to the rest of the land, it will all be farmed in perpetuity by the agricultural entity and not by the homeowners.
4. Assurance: Dudley asked and Clifford answered what kind of assurance there is to make sure the project will stay true to its objectives, they are producing the permits for the agriculture and perpetuity as part of the application for DPP.
5. Alternative Route/Traffic: Kahele asked and Clifford answered if there was an alternative route out of Makakilo, no due to being bound on the quarry on the right-hand side, will make sure that question will be brought to the transportation engineers. Kahele noted it was concerning due to the addition of more people and more vehicles that will be utilizing the section, Clifford responded she will address this concern back to the transportation engineers. A resident noted in the chat there will be 70 cars added to the single access road, Clifford responded there is a preliminary report about the design of Makakilo and its design, noted the 70 vehicles being a cause for concern and is asking Austin, Tsutsumi and Associates (ATA) to review and include in said report.
6. Livestock: Cullen asked and Clifford answered will there be livestock on this property, no, interest is in contributing to the food hub and green produce but will provide a small space for horses.
7. Name of Project: Helsham asked and Clifford answered why it was not called the Groves of Makakilo to reflect the site location of this project, she will take this question back to the organization.

Blue Zones Project, Hawaii Bicycle League: Resident John Rogers presented the following to the Board:

- Contractor: The Hawaii Housing and Finance Development Corporation (HHFDC) has contracted Grace Pacific LLC to widen and restripe the roads and sidewalks in the Kapolei area.
- Timeline: Construction will begin in mid-October 2020 and will finish in February of 2022, between the hours of 8:30 a.m. and 3:30 p.m., excluding state holidays.
- Construction: It will be in two (2) phases so as to minimize noise around areas residential, businesses, and schools. The focus of construction will be to repair sidewalks, curbs, gutters, and catch basin decks.
- Summation of Resolution: Rogers explained the resolution is asking HHFDC to follow the 2019 updated rules of the plan, to create a buffered bike lane on the rebuilt portion of Kapolei Parkway.

Strensrud MOVED and Helsham SECONDED the MOTION to ADOPT resolution requesting HHFDC to Revise the Villages of Kapolei Roadway Rehabilitation Project to Conform to the Oahu Bike Plan 2019 Update, Neighborhood Assistant took a roll call, the MOTION was APPROVED by UNANIMOUS CONSENT (8-0-0), (**Aye:** Cullen, Strensrud, Helsham, Dudley, Legal, Spreg, Ferreira, Kahele; **Nay:** None; **Abstain:** None.)

Discussion ensued: Concerns: Strensrud noted it was "puzzling" why plans were being developed but not followed, this resolution would bring that to their attention. Strensrud noted this resolution does not mean the Department of Transportation Services (DTS) should slow down the project. Dudley commented that it should not be difficult to do what is being asked, supports passing this resolution and submitting it to DTS. Resident Crystal Robello thanked Resident Rogers for the resolution, noting that said resolution supports a walkable and bicycle-friendly community while promoting safety measures for bicyclists and pedestrians. Resident Robello noted the resolution encourages community input and cohesive communication between the City, State, community members and partners.

Secretary Helsham left at 8:45 p.m., seven (7) members remaining.

Hawaiian Sand Shed Draft Environmental Assessment and Special Management Area Use Permit: Jim Gomes (Senior Division, Hawaiian Cement Corporation), Keith Kurahashi (Principal Planner, R.M. Towill Corporation), and Isaiah Sato, (Agent for R.M. Towill Corporation). Sato presented the following:

- Proposal: The applicant Hawaiian Cement Corporation is requesting a sand shed for their operations in Campbell Industrial Park, Kapolei; said applicant plans to submit a draft environmental assessment and a special management use permit for the Department of Planning and Permitting (DPP) for processing.
- Location: The location of the sand shed will be at 91-055 Kaomi Loop in Kapolei, improvements will be within 7.652 acres, and is in a tsunami zone.
- Site Plan: Hawaiian Cement Corporation plans to construct 38,000-40,000 square footage of the sand shed over existing concrete surface, which will approximately be 50 feet tall. It will also include a 300 foot retaining wall.

Questions, comments and concerns followed:

1. Archaeological Assessment: Resident Duhaylonsod asked and Sato answered if there have been assessments done to detect any bones of extinct birds or people, currently working on cultural assessment for DPP submittal.
2. Dismantling of Old Sand Shed: A resident asked and Kurahashi responded if there will be dismantling of the old sand shed, it is owned by another developer. Gomes responded the footprint is smaller by 15,000 tonnes less than the other shed.
3. Preparations: Dudley asked and Kurahashi answered what kind of preparations are put in place to protect this shed from a tsunami, a civil engineer will look at this to determine an appropriate design but the sand shed would not be affected by the water rise.

Treasurer Ferreira left at 9:00p.m., six (6) members remaining.

AT&T Tower Height and Increase: Adrian Catalan, Site Acquisition Specialist, Crown Castle Telecommunications: Catalan presented the following:

- Location: Catalan explained in detail the location of the existing site, which is on Umena Road. It consists of a 35 foot monocle, approximation of a steel pole will be installed adjacent to the existing tower to replace the monocle.
- Objective: Catalan explained the objective would be to raise up the existing tower from 35 feet to 54 feet, bringing the tower up to modern standards and painted brown to match its surroundings.

Questions, comments and concerns followed:

1. Location: Resident Dean Capelouto asked and Catalan answered if this project was located in the same area that the Makakilo Drive Extension was headed, it will loop around Palehua Road and connect with Kikaha Street. Resident Capelouto asked and Catalan answered if the project will be on the west or east side, it will be extended because the residents on the east side do not get coverage due to coverage blocked by the water reservoir. Resident Capelouto asked and Dudley clarified the location of this project.
2. Clarification: Chair Legal clarified and Catalan answered if 19 feet will be added to the existing tower, yes, will be replaced with the steel tower due to the current tower not being suited for modern standards.

Board Resolution of the West O'ahu Solar Plus Project: Dudley explained the following:

- Location: It will be located a mile above the freeway on the property belonging to the University of Hawaii, West O'ahu campus
- Presentation: Dudley explained they gave a presentation on Wednesday, August 26, 2020 at Kapolei Hale.
- Resolution: Dudley read resolution, stated various reasons for opposing this battery project within the resolution, with the main reasoning being to preserve the designated land the project will be using for agricultural purposes.

Discussion ensued: Land Use: Strensrud asked and Dudley answered when the last time the land was farmed, has not been used since the days of sugar plantation. Strensrud commented on the timeline of the solar project, stating the condition of the project was to return the land to its original state after 25 years. Chair Legal commented to Dudley that the date to respond to this project would be on November 9th, 2020, which does not give enough time to submit a response, Dudley responded that once this resolution passes, we will send this resolution to them. Kahele expressed concern for fire safety and air quality should a fire happen in this area. Dudley stated it can be seen but the question is whether or not this project is going against nature and is considered a real concern.

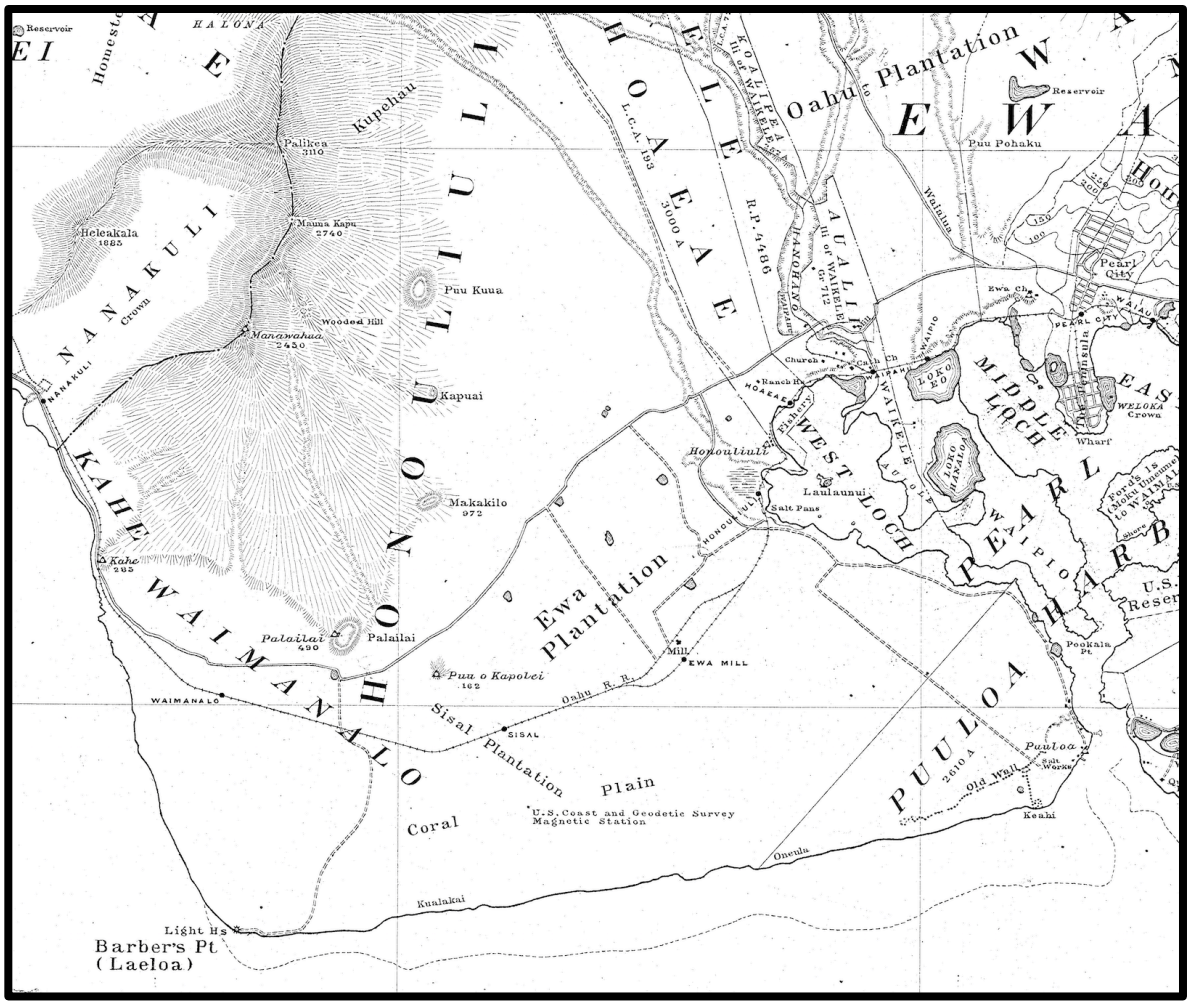
Dudley MOVED and Kahele SECONDED the MOTION to ADOPT the Resolution against the UH West Oahu Solar Plus Project, the MOTION FAILED (4-0-2) (**Aye**: Dudley, Spreg, Legal, Kahele; **Nay**: None; **Abstain**: Cullen, Strensrud).

TREASURER'S REPORT – Neighborhood Assistant reported for the month of October the total printing costs were $4.46 and postage costs $30.55. The total monthly expenditures for October 2020 were $35.01 with the remaining balance of $406.47.

ANNOUNCEMENTS – The next Makakilo Neighborhood Board No. 34 Regular Meeting is scheduled on Wednesday, December 2nd, 2020 at 7:00 p.m., using the WebEx Application.

ADJOURNMENT – The meeting was adjourned at 9:26 p.m.

Submitted by: Brandy Clark, Neighborhood Assistant
Reviewed by: Lindon Valenciano, Neighborhood Assistant
Reviewed by: Chris Naylon, Community Relations Specialist
Final approval by:


Reservoir
Oahu Plantation
Reservoir
Puu Pohaku
Palikea
310
Kupehau
Heleakala
1625
Mauna Kapu
2740
Puu Kuua
Wooded Hill
Manawahua
2450
Kapuai
Makakilo
972
Kahe
265
Palailai
490
Palailai
Puu o Kapolei
162
Ewa Plantation
Honouliuli
Laulaunui
Salt Pans
Mill
EWA MILL
Oahu R. R.
WAIMANALO
SISAL
Sisal Plantation
Plain
Coral
U.S. Coast and Geodetic Survey
Magnetic Station
Onemla
Kualakai
Light Hs
Barber's Pt
(Laeloa)
Pearl City
Ewa Ch
Church
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Wharf
WELOKA
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WAIMANALO
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Onaona Maly

Note on Hawaiian language usage

In keeping with other Hawaiian scholars, we do not italicize Hawaiian words. Hawaiian is both the native language of the pae‘āina of Hawai‘i and an official language of the State of Hawai‘i. Some authors will leave Hawaiian words italicized if part of a quote; we do not. In the narrative, we use diacritical markings to assist our readers, except in direct quotes, in which we keep the markings used in the original text. We provide translations contextually when appropriate.

Front Cover Credit

Portion of the Island of Oahu, W.E. Wall, Surveyor, 1902.

Summary

At the request of Hawaiian Cement and R.M. Towill, Honua Consulting, LLC prepared a Cultural Impact Assessment (CIA) for the proposed Hawaiian Cement Sand Shed project to support an Environmental Assessment completed by R.M. Towill. Hawaiian Cement owns the subject parcel. The area of potential effect is approximately one quarter (approximately 2 acres) of an 8 acre-parcel located at TMK: [1] 9-1-026:056. The subject parcel lies in the State Urban District and is proposed for a planned 3-walled warehouse structure and separate retaining wall. The City and County of Honolulu has zoned the area I-2, Intensive Industrial District.

Research in preparation of this report consisted of a thorough search of Hawaiian language documents, including but not limited to the Bishop Museum mele index and Bishop Museum archival documents, including the Hawaiian language archival caché. All Hawaiian language documents were reviewed by Hawaiian language experts to search for relevant information to include in the report. Documents considered relevant to this analysis are included herein, and translations are provided when appropriate to the discussion. Summaries of interviews and information on other oral testimonies are also provided herein.

Based on the information gathered and the assessment of the resources conducted, the project is not anticipated to have any adverse impacts on cultural resoures, traditions, customs, or practices.

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Abbreviations and Acronyms

AIS: Archaeological Inventory Survey
AMSL: Above Mean Sea Level
APE: Area of Potential Effect
BMP: Best Management Practice
CIA: Cultural Impact Assessment
CIZ: Change in Zoning
CPA: Community Plan Amendment
DEA: Draft Environmental Assessment
DLNR: Department of Land and Natural Resources
DOFAW: Division of Forestry and Wildlife
EA: Environmental Assessment
EIS: Environmental Impact Statement
HAR: Hawaii Administrative Rules
HC&S: Hawaiian Commercial & Sugar Company
HDOT: Hawaii Department of Transportation
HRS: Hawaii Revised Statutes
HSL: Hawaii State Legislature
NCSS: National Cooperative Soil Series
ROI: Range of Influence
SIHP: State Inventory of Historic Places
SMA: Special Management Area
TMK: Tax Map Key

I. Project Description

At the request of Hawaiian Cement, Honua Consulting prepared a Cultural Impact Assessment (CIA) for the proposed Hawaiian Cement Sand Shed project to support an Environmental Assessment completed by R.M. Towill. Hawaiian Cement owns the subject parcel. The area of potential effect is approximately one quarter (approximately 2 acres) of an 8 acre-parcel located at TMK: [1] 9-1-026:056. The subject parcel lies in the State Urban District and is proposed for a planned 3-walled warehouse structure and separate retaining wall. The City and County of Honolulu has zoned the area I-2, Intensive Industrial District.

The proposed project involves the design and construction of a three-walled warehouse at 52 feet in height. The structure will be located on the northwestern quadrant, approximately 10% of an 8 acre-parcel. The building footprint is approximately 37,975 square feet. In addition to the structure, a retaining wall is also propsed, located on the southwest quadrent. The proposed retaining wall is over 300 feet in length. The area of potential effect has been significantly impacted by previous ground disturbance, as a result, there are no identified environmentally unique characteristics, no known archaeological surface features, no anticipated effect on significant historic sites, is not located in an environmentally sensitive area such as the tsunami zone, and has no sentitive flora, fauna, or assicated habitat.

The project would include the erection of one structure for a total of approximately 37,975 gross square feet. The site is relatively flat and suitable for the design guidelines. Kamoi Loop flanks the north side of the site. The site is currently developed with I-2 zoning and two existing structures in the eastern quadrants will remain.

Figure 1. Aerial photo of project area

II. Need for a Cultural Impact Assessment

A. Regulatory Background

Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to protect and preserve cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups. To assist decision makers in the protection of cultural resources, Chapter 343, HRS and Hawaii Administrative Rules (HAR) § 11-200 rules for the environmental impact assessment process require project proponents to assess proposed actions for their potential impacts to cultural properties, practices, and beliefs.

This process was clarified by the Hawaii State Legislature (HSL) in Act 50, HSL 2000. Act 50 recognized the importance of protecting Native Hawaiian cultural resources and required that Environmental Impact Statements (EIS) include the disclosure of the effects of a proposed action on the cultural practices of the community and state, and the Native Hawaiian community in particular. Specifically, the Environmental Council suggested the CIAs should include information relating to practices and beliefs of a particular cultural or ethnic group or groups. Such information may be obtained through public scoping, community meetings, ethnographic interviews, and oral histories.

It is also important to note that while similar in their areas of studies, archaeological surveys and cultural impact assessments are concerned with distinct and different foci. Archaeological studies are primarily concerned with historic properties and tangible heritage, whereas cultural impact assessments look at cultural practices, and beliefs, which can be associated with a specific location, but as also often intangible in nature.

B. Compliance

The State and its agencies have an affirmative obligation to preserve and protect the reasonable exercise of customarily and traditionally exercised rights of Hawaiians to the extent feasible.[1] State law further recognizes that the cultural landscapes provide living and valuable cultural resources where Native Hawaiians have and continue to exercise traditional and customary practices, including but not limited to hunting, fishing, gathering, and religious practices. In *Ka Paʻakai*, the Hawaiʻi Supreme Court provided government agencies an analytical framework to ensure the protection and preservation of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development interests. This is accomplished through:

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1. Article XII, Section 7 of the Hawaiʻi State Constitution, Ka Paʻakai O Ka ʻĀina v. Land Use Commission, 94 Haw. 31 [2000](Ka Paʻakai), Act 50 HSL 2000.

1) The identification of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area.
2) The extent to which those resources—including traditional and customary Native Hawaiian rights—will be affected or impaired by the proposed action; and
3) The feasible action, if any, to be taken to reasonably protect Native Hawaiian rights if they are found to exist.

The CIA is presently being prepared under HRS Chapter 343 and Act 50 HSL 2000. The appropriate information has been collected concerning the ahupuaʻa of Honouliuli, focusing on areas near or adjacent to the project area, and a thorough analysis of this project and potential impacts to cultural resources, historical resources, and archaeological sites is included in this assessment.

The present analyses of archival documents, oral traditions [chants, mele (songs), and/or hula), and Hawaiian language sources including books, manuscripts, and newspaper articles, are focused on identifying recorded cultural and archaeological resources present on the landscape, including: Hawaiian and non-Hawaiian place names; landscape features (ridges, gulches, cinder cones); archaeological features (kuleana parcel walls, house platforms, shrines, heiau (places of worship), etc.); culturally significant areas (viewsheds, unmodified areas where gathering practices and/or rituals were performed); and significant biocultural resources. Oral histories, including interviews with cultural and lineal descendants, are instrumental in procuring information about the project area's transformation through time and changing uses. Oral histories from previous studies were researched and relevant information from these resources were integrated into the document.

The Range of Influence (ROI) for impacts to cultural resources and historic properties includes the project area and localized surroundings. This CIA also reviews some of the resources primarily covered by the EIS and SHPD Review. It primarily researches and reviews the range of biocultural resources identified through historical documents, traditional knowledge, information found in the Hawaiian language historical caché, and oral histories and knowledge collected from cultural practitioners and experts.

C. Methodology

The approach to developing the CIA is as follows:

I. Gather Best Information Available

A. Gather historic cultural information from stories and other oral histories about the affected area to provide cultural foundation for the report;
B. Inventory as much information as can be identified about as many known cultural, historic, and natural resources, including previous archaeological inventory surveys, CIAs, etc. that may have been completed for the possible range of areas;
C. Update the information with interviews with cultural or lineal descendants or other knowledgeable cultural practitioners.

II. Identification of Potential Impacts to Cultural Resources

III. Develop Reasonable Mitigation Measures to Reduce Potential Impacts

A. Involve the community and cultural experts in developing culturally appropriate mitigation measures;
B. Develop specific Best Management Practices (BMPs), if any are required, for conducting the project in a culturally appropriate and/or sensitive manner as to mitigation and/or reduce any impacts to cultural practices and/or resources.

While numerous studies have been conducted on this area, very few have effectively utilized Hawaiian language resources and Hawaiian knowledge.

III. Description of Project Area

The project is located in Campbell Industrial Park. The industrial park lies within the ahupuaʻa of Honouliuli, the western most ahupuaʻa (traditional land division) of the moku (district) of ʻEwa. The history of this modern industrial park begins when James Campbell, an Irish immigrant who arrived in Hawaiʻi via a whaling ship in 1850, began to purchase large tracts of land after the Māhele allowing foreigners to acquire land form native tenants. Campbell purchased lands on Oʻahu, Maui and Hawaiʻi Island. In 1877, he purchased approximately 41,000 acres of land for $95,000 in ʻEwa. It was here that he installed Hawaii's first artesian well, which allowed him to develop an extensive sugar plantation in the area. This would be the start of ʻEwa's vast history in sugar, which only ended in recent memory.

Upon his passing, Campbell left his large land-holding for the benefit of his heirs, which include the descendants of the Hawaiian monarchy, like H.R.H. Princess Abigail Kawananakoa. It would

be this Estate that envisioned and developed the area that would be come to known as Kapolei (James Campbell Company 2018). The James Campbell Industrial Park was first opened in 1958.

Table 1. History of the Timeline of Kapolei and James Campbell Lands

1955	Kapolei was first envisioned in the Estate of James Campbell's long-range "Ewa Master Plan" for its holdings on the 'Ewa plain. The plan described a balanced range of urban land use, including agricultural, commercial, industrial, and residential.
1958	James Campbell Industrial Park opens with its first tenant, Standard Oil Company (now known as Chevron, USA).
1977	The City & County of Honolulu designates the 'Ewa area as O'ahu's second city to accommodate O'ahu's future growth.
1985	The Barbers Point deep draft harbor is completed.
1986	West Beach Estates breaks ground for Ko Olina Resort on West O'ahu land acquired from the Estate.
1990	Campbell Estate breaks ground on the City of Kapolei.
1991	Ground is broken for Campbell Square, Kapolei's first office complex.
1993	Campbell Estate moves its headquarters to the new James Campbell Building in Kapolei. Kapolei Shopping Centers opens with 27 retail stores and services. Kapolei Elementary School opens and the

	University of Hawaii Board of Regents selects Kapolei as the site for a future campus for UH West O‘ahu. Ihilani Resort & Spa at Ko Olina opens.
1995	Campbell Estate dedicates the 73-acre Kapolei Regional Park to the City & County of Honolulu.
1998	The State of Hawaii dedicates the first government office building in the City of Kapolei.
1999	Hawaiian Waters Adventure Park, Hawaii’s first water park, opens in Kapolei (now Wet ‘n’ Wild Hawaii). Kapolei Middle School welcomes its first students.
2000	Kapolei Regional Police Station and the City & County of Honolulu’s Kapolei Hale open. Kapolei High School opens. Kapolei’s first big-box retailer Big Kmart opens. Kapolei Medical Park opens with Hawaii’s leading healthcare providers.
2001	Retail and commercial centers Kapolei Park Plaza, Shell Commercial Center, and Halekuai Center open.
2002	Marketplace at Kapolei, the city’s second shopping center, opens.
2003	Big box retailer Home Depot brings home improvement services to Kapolei residents.

2004	Island Pacific Academy, Kapolei's first private college preparatory school, opens. Honolulu Advertiser opens its printing and production facility in Kapolei.
2007	The Estate of James Campbell becomes the James Campbell Company LLC under the leadership of its first president and CEO, Stephen H. MacMillan.
2009	Costco Wholesale and Gas Station opens. Kapolei Commons opens with anchor tenant Target and other well known national retailers like OfficeMax, Petco, and Sports Authority.
2010	Kapolei Judiciary Complex opens. UH West O‘ahu breaks ground in East Kapolei. Stephen MacMillan, James Campbell Company LLC's president and CEO, retires after more than 28 years with the company; succeeded by Richard J. Dahl.
2011	The 20-mile Honolulu Rail Transit breaks ground in East Kapolei. It will connect Kapolei to Ala Moana Center. Disney's Aulani Resort & Spa at Ko Olina welcomes its first guests at its Hawaiian themed family resort. Kapolei Sustainable Energy Park is launched, providing clean electricity to homes. Cole Academy preschool and childcare center opens.
2012	University of Hawaii West O‘ahu opens in East Kapolei with 2,000 students.

	The Salvation Army's Kroc Center Hawaii opens in East Kapolei signing up more than 10,500 members. Walmart, the world's largest retailer, opens in Kapolei. Kapolei Village Center opens with anchor tenant Foodland. The Federal Bureau of Investigation completes its new Kalaeloa field office for the FBI's Honolulu division.
2013	The Queen's Health Systems acquires the former Hawaii Medical Center West from St. Francis Healthcare System of Hawaii with plans to reopen it as The Queen's Medical Center - West O'ahu in 2014. Restoring hospital and emergency services to the region.

Prior to 1990, the name Kapolei was not used in reference to the larger area, or the City, as the City did not yet exist. Most considered the area an extension of 'Ewa.

Honouliuli would have been the more proper name for the area, as it is the name of the traditional ahupua'a. The area may have also been known as Waimānalo.

Figure 2. Portion of Registered Map 618.

The name Waimānalo appears in traditional documents, including maps, moʻolelo (stories), and mele (song or chants). Pukui identified the area in West Oʻahu as a "land division, road, and gulch, Barber's Pt. qd., Oʻahu, and the site of the home of Chief Kākuhihewa (see Mauʻu-mae)." The name means "potable water". It's an interesting name for such an arid area.

There is another area known as Waimānalo, which is a ahupuaʻa in East Oʻahu, and is part of the Koʻolaupoko Moku. The area was more commonly known to people than the area in West Oʻahu, and widespread use of the name in two locations on Oʻahu would have likely caused extensive confusion. Therefore, the name Kapolei was choosen, inspired by the scared area Puʻukapolei, the small hill located in the middle of the area. The name Kapolei means "beloved Kapo." Kapo, as known as Kapoʻulakīnaʻu, is a sister of Pele, and she is described as: "More commonly known as Kapo, this unusual goddess was a sister of Pele and daughter of Haumea. She had a dual nature – as a benevolent hula goddess identified with Lana, and as a fierce goddess of sorcery. At Mauna-loa, Molokai, she entered an *ʻohe* tree and poisoned it (see *Kālai-pāhoa*). She saved Pele from being raped by Kama-puaʻa by sending her flying vagina (*kohe lele*) as a lure. Kama followed this to Koko Head, Oahu, where it left an imprint. Later Kapo hid it in Ka-lihi Valley. Kapo was also called Kapo-kohe-lele. As a hula goddess, one of her forms was the *hala-pepe* tree, branches of

which were therefore placed on hula alters. Lit., Kapo red dotted with dark." (Pukui 1973: 388). Composers also documented the area of Waimānalo in ʻEwa in chant.

Kuʻe Hao o ka Lanakila

Hanohano Lanakila i kaʻu ike,
Ka niniu poahi a na kue,
Ua kohu naia no ka moana,
Ka pakika, ka pahee i ke alahao,
Kilohi iho au ma ka aoao,
Moanalua ka i hai ke au,
A ke kula makou a o Puuloa,
Laulea pu ana me na hoa,
Kau aku ka manao no Aiea,
Ka pa a ka makani a he Moae,
Aia ka iini i Pualehua,
I ka hale hulahula malu ohai,
A hiki makou a i Manana,
Ano kaukaulua e ka Lanakila,
Ike i ka nani kai o Polea,
I ka hapa-Ilikini ili ulaula;
Hanohano Waikele i ka ulu niu,
I ke kai o ka Iʻa Hamauleo,
A Honouliuli ike i ka nani,
I ka luhe a na lau o ke kumu ko,
A ke kula wela a o **Waimanalo**,
Malu ana e ka lau a o ke kiawe,
Alawa ae au Puuohulu,
O ka puu kaulana o Waianae,
Kuupau Lanakila i ke oeoe,
E i mai ana o Waianae,
Ike i ka nani o ia wahi,
Me ke kai holu mai i ka pueone;
Haina ka puana no Waianae,
Ka makani aheahe he Kaiaulu.

Slipping and sliding along the iron track
I glance to the side
At Moanalua who broke the shaft
When we reach the plain of Puʻuloa
We enjoy the company of friends
The mind is fixed on ʻAiea
And the work of the Moaʻe wind
Desire is there at Pualehua
At the ʻohai sheltered dance hall
When we reach Mānana
The Lanakila hesitates somewhat
We see the beautiful one seaward of Polea
The red-skinned part-Indian
Waikele is honored for its coconut grove
And for its lagoon of silent fish
At Honouliuli we encounter the beauty
Of the down-turned leaves of kō
On the humid flatlands of **Waimānalo**
We are shaded by the leaves of kiawe
I glance out at Puʻuohulu
The famous hill of Waiʻanae
Lanakila forges ahead in response to the whistle
Waiʻanae is calling
We recognize the beauty of this place
With the sea playing over the sand dunes
The story is told of Waiʻanae
And its gentle breeze, the Kaiāulu.

The Lanakila, to me, is exalted
For the blurred spinning of its pistons
It resembles a porpoise of the deep

A. Background – Traditional Names of Honouliuli

In one tradition, Honouliuli is named for a chief of the same name, who was the husband of Kapālama. They were the parents of Lepeamoa and Kauilani, two heroes in ancient tradition. (Citation) Numerous claims cited in the Māhele, though the awarded claims were generally in the "taro lands" section of Honouliuli (see Register Map No. 630) in a watered area shoreward of the proposed rail alignment corridor. In traditional times, the land area known as Pu'uloa was an 'ili of Honouliuli, though it was sold as a separate land during the time of the Māhele. All native tenant claims made for kuleana at Pu'uloa were given up by the claimants.

"Large terrace areas are shown on the U. S. Geological survey map of Oahu (1917) bordering West Loch of Pearl Harbor, the indication being that these are still under cultivation. I am told that taro is still grown here. This is evidently what is referred to as 'Ewa taro lands.' Of the Honouliuli coral plains McAllister (44, site 146) says: '...It is probable that the holes and pits in the coral were formerly used by the Hawaiians. Frequently the soil on the floor of the larger pits was used for cultivation, and even today one comes upon bananas and Hawaiian sugar cane still growing in them'" (Handy, 1940:82).

B. Ahupua'a of Honouliuli: Boundary Commission Description

Following the Māhele 'Āina, there was a growing movement to fence off the land areas and control access to resources that native tenants had traditionally used. In the 1860s, foreign landowners and business interests petitioned the Crown to have the boundaries of their respective lands, which became the foundation for plantation and ranching interests, settled. In 1862, the King appointed a Commission of Boundaries (the Boundary Commission) and tasked them with collecting traditional knowledge of place, land boundaries, customary practices, and deciding the most equitable boundaries for each ahupua'a that had been awarded to Ali'i, Konohiki, and foreigners during the Māhele.

The commission proceedings were conducted under the courts and as formal actions under law. As the commissioners on the various islands undertook their work, the kingdom hired or contracted surveyors to begin the surveys. In 1874, the commissioners were authorized to certify the boundaries for lands brought before them (W.D. Alexander in Thrum, 1891:117-118).

Records from the 'Ewa District were recorded between 1868 and 1904, with the proceeding from Honouliuli being held between 1873 and 1874. The records include testimonies of elder kama'āina who were either recipients of kuleana in the Māhele or were the direct descendants of the original fee-simple title holders. The narratives that follow include several types of documentation such as the preliminary requests for establishing the boundaries, letters from the surveyors in the field,

excerpts from surveyor's field books (Register Books), the record of testimonies given by native residents of the lands, and the entire record of the Commission in certifying the boundaries of each ahupuaʻa. The resulting documentation offers descriptions of the land extending from ocean fisheries to the mountain peaks, traditional and customary practices, land use, changes in the landscape witnessed over the informants' lifetime, and various cultural features.

The native witnesses usually spoke in Hawaiian; in some instances, their testimony was translated into English and transcribed as the proceedings occurred. Other testimonies were transcribed in Hawaiian but have now been translated for inclusion in this study.

The Boundary Commission proceedings documented many traditional place names and features along the boundaries of the ahupuaʻa, with locations extending from the sea (including fishponds and fisheries) to the mountain peaks. These names demonstrate Hawaiian familiarity with the resources, topography, sites and features of the entire ahupuaʻa. Coulter observed that Hawaiians had place names for all manner of feature, ranging from "outstanding cliffs" to what he described as "trivial land marks" (1935:10). History tells us that named locations were significant in past times: "Names would not have been given to [or remembered if they were] mere worthless pieces of topography" (Handy and Handy with Pukui, 1972:412).

In ancient times, named localities signified that a variety of uses and functions occurred, including:

(1) Triangulation points such as koʻa (land markers for fishing grounds and specific offshore fishing localities);
(2) Residences; areas of planting;
(3) Water sources;
(4) Trails and trail-side resting places (oʻioʻina), such as a rock shelter or tree shaded spot;
(5) Heiau or other features of ceremonial importance;
(6) May have been the source of a particular natural resource or any number of other features; or
(7) The names may record a particular event or practice (e.g., use for burials, the making of koʻi or adzes, or designation as a fishery) that occurred in a given area.

Place names called out by witnesses before the commissioners have been compiled and are cited below. A number of the place names remain in use on maps or among some residents, while others are no longer in use. Of particular note are several place names and their associated narratives which document wahi pana (storied or sacred places) on the traditional landscape.

Place Names Cited in Honouliuli Boundary Proceedings

Apokaa

Lihue

Auiole Manawahua
Ekahanui Gulch
Hanohano
Homaikaia
Hoaeae Mookapu
Kahakai
Kahapapa
Kalanimua
Kapuna
Kauela (Keoneula)
Kaulu (Coneyville)
Keahi Pouhala
Koolina
Kualakai
Kupalii Waieli (Kawaieli)
Lae o Halakahi
Lae o Kahuka
Laeloa
Laeokane (Kalaeokane)
Manawaielelu
Mauna Kapu
Miki
Nanakuli
Panau
Papapuhi (Kapapapuhi)
Pili o Kahe (Pili o Kahi)
Pohaku Palahalaha
Pookela
Puu Kuua
Puuloa
Waikakalaua
Waimanalo

IV. Existing Resources

A. Cultural History of Honouliuli

The following narratives focus on some of the notable traditions and history of Honouliuli Ahupuaʻa. In following the history of the land from the period of early Hawaiian residency to the modern day, accounts from neighboring ahupuaʻa, larger regions, and even cross-island are cited as they connect people, storied places, and land use beyond the boundaries of Honouliuli.

1. He Māhelehele o Nā Moʻolelo (Excerpts of Traditional Accounts)

In Hawaiian moʻolelo (traditions and historical narratives) are found expressions of native beliefs, customs, practices and history. The Hawaiian landscape itself is storied; each place name is associated with a tradition ranging from the presence and interactions between gods and people, to documenting an event or characteristics of a given place. Unfortunately, today, many of those moʻolelo have been lost. Through the moʻolelo that have survived we are able to glimpse the history of the land and people of Honouliuli Ahupuaʻa (Figure 3).

Figure 3. Ahupua‘a of Honouliuli. Register Map No. 404 (W.D. Alexander, 1873), Boundary Commission Certificate No. 4. Hawai‘i State Survey Division

The following narratives are generally organized chronologically by time period or events, such as when the gods walked the land, touching the lives of the people, or when chiefs engaged in conflicts on the land. It will be noted that in a number of instances, wahi pana (storied and sacred landscapes) were named in the traditions as a means of commemorating notable events in history.

2. He Wahi Kaao a me Kekahi Mele Pu (A Little Story and Some Chants)
Traditions of Hiʻiaka-i-ka-poli-o-Pele

The epic tradition of the goddess Pele and her youngest sister, Hiʻiaka-i-ka-poli-o-Pele (Hiʻiaka), spans the entire Hawaiian Archipelago and beyond to Kahiki, the ancestral home of the gods. The tradition is the source of many descriptions of places, place names, beliefs, traditional knowledge and customary practices. As in the account below, "He Wahi Kaao a me kekahi Mele pu" (1860), portions of the tradition were also cited in excerpts to remind people of various facets of knowledge that was recorded in the larger account. Of particular interest in the narratives below are references to Hiʻiaka's travels on Oʻahu and descriptions of various places in the ʻEwa and Kona districts. There is also an important reference to the goddess "Kiha," a moʻo (water-spirit) whose mana was called upon in the making of chiefs and whose form was a part of the circuit gods who traveled around the island in the Makahiki celebrations. The name Kiha is commemorated in the place name Ka-puka-o-Kiha in Kalauao ahupuaʻa.

Ka Hae Hawaii
He wahi kaao a me kekahi mele pu.

Iulai 4, 1860 (aoao 60)

O Lohiau me Kaleiopaoa, he mau kanaka no Kauai, o Haena ko laua wahi noho; Ua launa kino wailua wale o Pele me Lohiau, ua ku a aloha loa o Pele ia Lohiau: no ka nui o kona makemake kenaʻku la oia ia Hiiaka e kii ia Lohiauipo i Haena a loaa. Eia ka laua Berita, "e kii oe ia Lohiau a loaa mai me oe a laa iaʻu, Oia ka aoao 1. Eia hoi ka ka aoao elua, e malama oe i kuu aikane ia Hopoe, a hoi mai au;" alaila, hele o Hiiaka i Kauai.

A hiki o Hiiaka me Wahineomao i Haena, ua make o Lohiau, lapaau oia a ola, hoi mai lakou a ekolu o Lohiau, me Wahineomao, a me Hiiaka, a hiki i Oahu, pae o Hiiaka mauka o Waianae, ma ka waa no o Lohiau a me Wahineomao, a hiki i Puuloa. Ia hele ana o Hiiaka mauka, a hiki oia maluna o Pohakea, i nanaʻku ka hana ua make o Hopoe, e ami mai ana i ke kai, alaila hu mai la ke aloha o Hiiaka no ke aikane ana.

A hiki ma Puuloa, kau hou lakou ma ka waa, a hiki i Mamala, halawai me Peleula ma e heenalu ana, hoi lakou i uka i ka hale, hookipa maikai ia po, lealea lakou ia po, he Kilu ka hana ilaila i ike ai o Hiiaka i ka lea o Lohiau.

Haalele ia Honolulu, hiki lakou i Molokai, noho i ke kaha o Palaau, a make i ka make a ka pololi, lohe mai lakou he hale komo ko Olepau ke alii o Maui, manao aku hoi e ola ka pololi ilaila, i ua la nei i komo ai ka hale o Olepau hiki lakou a ekolu ilaila. I ka ike ana mai o Waihinalo ka wahine a Olepau, ua maopopo iaʻku kona ano, he ano pi.

Hoohuli ae la, oia ia Olepau iluna ke alo, hukihuki i ka umiumi. Alaila hapai ae la o Hiiaka i keia mele, a pane aku ia Waihinalo.

Mehameha kanaka ole ka hoi Puuomoeawa--e,
O Kaupea i ka aina kanaka ole,

B. Kalaiohauola. Wailua, Kauai, Iulai 4, 1860.

Summary — A Little Story and some Chants

Hiʻiaka and her companion Wahineʻōmaʻo traveled to Hāʻena, Kauaʻi and returned Lohiʻauipo, Pele's mortal lover to life. Hiʻiaka, Wahineʻōmaʻo and Lohiʻau then departed from Kauaʻi on their journey to the island of Hawaiʻi where Lohiʻau would be reunited with Pele. Arriving at Waiʻanae, Hiʻiaka went overland, instructing Lohiʻau Wahineʻōmaʻo to continue by canoe, where she would later rejoin them at Puʻuloa.

Hiʻiaka walked inland and passed over the summit of Pōhākea, from where she looked to Hawaiʻi and saw her beloved friend, Hōpoe dancing on the shore. She then descended (across Honouliuli), and arrived at Puʻuloa where she boarded their canoe and traveled on to Māmala and then met with the chiefess Peleʻula (for whom the place in Honolulu is named). They then traveled by canoe on to Molokaʻi and then to Maui…

While on Maui, Hiʻiaka chanted a mele in which she described certain places where she had traveled. One of the lines returns to the plains of Honouliuli in which she said:

"O Kaupea i ka aina kanaka ole…"
(Kaupeʻa is a land without people…)

3. He Moolelo Kaao no Hiiakaikapoliopele…
(A Hawaiian Tradition of Hiʻiaka who is Held in the Bosom of Pele…)

Between 1860 and 1928, several important Hawaiian language publications provided readers with variations in the telling of Pele and Hiʻiaka epic tradition. The narratives cited below were published in the Hawaiian newspaper *Ka Hoku o Hawaii* from September 18, 1924 to July 17, 1928 through the partnership of Julia Keonaona, Steven L. Desha Sr., Isaac Kihe, and others. They artfully retold this tradition, embellishing it with descriptions of places and events in history, thus bringing the knowledge of place forward to later generations.

The following excerpts offer important details pertaining to wahi pana, traditional and customary practices and the naming of places visited by Hiʻiaka as she traveled into and across lands of the Honouliuli ahupuaʻa.

Ka Hoku o Hawaii
He Moolelo Kaao no Hiiakaikapoliopele…

January 18, 1927 (page 1).

Seeing the beauty of Kaʻala, Hiʻiaka chanted:

Beloved is the dew of Kaʻala,
That dew which bears the fragrance of the nene grasses,
[fragrant dew which] Kissed the natives of Puʻuloa,
One searches far for love...

January 25, 1927 (page 1).

…As Hiʻiaka and her companions prepared to depart from Pōkaʻī, she told Lohiʻau and Wahineʻōmaʻo, that they would travel by canoe, while she would travel for a while over land. They would meet again at Kou [Honolulu], and she instructed them "As you travel, you will arrive at a place where a point juts out into the sea. That will be Laeloa [Barbers Point]; do not land there. Continue your journey forward, and as you continue your journey, you will see a place where the ocean lies calmly within the land. That will be ʻEwa; do not land there. Continue your journey and you will reach a place where the mouth [of the land] opens to the sea (hamama ana ka waha i ke kai). That is Puʻuloa, do not land there either. That is the entry way to ʻEwa...The travelers then parted and began their journeys.

February 8, 1927 (page 1).

Hiʻiaka continued to the uplands along the trail which passes through Waiʻanae. Now the trail upon which Hiʻiaka chose to travel, is the trail which passes through the heights of Pōhākea. Hiʻiaka passed along the kula (plain) of Māʻili, and then turned to look at the uplands. She saw the dazzling light of the sun on the uplands of Lualualei and Hiʻiaka chanted:

The sun is hot!
The sun is hot!
The heat of the sun is on the plain of Lualualei
The sun chews it up entirely...

Hiʻiaka then continued her ascent on the trail in the stifling heat of the sun, and she chanted:

The path is at Waikonene,
Ascending at Kamoaʻula,
The heat of the sun is upon the breast,
ʻĪlio is born upon the back of Pūhāmaloʻo,
The nāulu winds rage,
Breaking the stream, but the breast of Pūhāwai is quiet,
The kaiaulu breeze seems to fight and rebel against the people,
Striking and causing the noses to rage,
The mucus flows freely,
In the hot sun of Lualualei.

From the heights of Pōhākea, Hiʻiaka looked to the shores of ʻEwa, where she saw a group of women making their way to the sea. The women were going down to gather pāpaʻi (crabs) and limu (seaweeds), and to gather the mahamoe, ʻōkupe (both edible bivalves), and such things as could be obtained along the shore of that land. Hiʻiaka then began to chant about those ladies:

The Kehau breeze is there below Waiʻōpua,
Bearing the fragrance of the kupukupu ferns across the plain,
The coolness is laid upon the grasses,
A coolness laid upon the sea of ʻEwa,
ʻEwa is made cold (unfriendly)
because of the fish which hushes voices,
Be silent in that breeze.

Hiʻiaka saw the women moving ahead to the shoreline, just like the cold Waikoloa wind that blew from the uplands of this place. And this was why Hiʻiaka had chanted to them. Hiʻiaka then turned towards the canoe on which her companion and the man [Lohiʻau] were traveling. They were paddling and were no longer talking, for Hiʻiaka had admonished them, warning—

ʻEwa is made cold because of the fish
that hushes voices,
Be silent!

Now, the famous fish of ʻEwa in those days when the wind blew because of conversations, was the pipi (pearl oyster). Only when it was very calm could one go to catch the pipi. If anyone spoke while going to get the pipi, the breeze would cause rippling on the water's

surface, and the pipi would be hidden from sight.[2] In this way, Hiʻiaka had instructed Wahineʻōmaʻo and Lohiʻau to be quiet like the women of ʻEwa who were going fishing. If one spoke, the angry winds would blow and bring misfortune...

February 15, 1927 (page 1).

...Turning her gaze towards the island of Hawaiʻi, she could see the flames of Pele in the lehua forest of Hōpoe, and she chanted out—

Beautiful is Pālailai, sacred assembly of the woman,
I set up the drum of the sacred voice,
The voice of the ocean is what I hear,
The natives hear it
The birds drink the water caught in the noni leaves,
The billowy clouds pass in the calm,
The fires of Hawaiʻi rise above me...

...Hiʻiaka then departed Pōhākea, descending to the plain of Keahumoa [in the uplands between Waipiʻo and Honouliuli]. It was at this place that she saw several women gathering the blossoms of the maʻo [Gossypium tomentosum, an endemic yellow-flowered hibiscus that grows on the dry land plains] with which to string garlands for themselves. She then saw them sit down and begin to string and complete the garlands for themselves, so that they could adorn their necks. These women adorned themselves in the mao garlands and were really quite beautiful. Hiʻiaka then felt her own neck, for she was without a lei. Hiʻiaka then thought about what to say to the women regarding the garlands with which they had adorned themselves. She then thought within herself, I am going to ask them for a lei that they had been burdened with making. If they have aloha for me, then there is no kindness which they shall not have, but if they deny me, so it will be. Hiʻiaka then offered a chant to the women who had strung their garlands upon the plain which is burned by the sun.

The plain of Keahumoa wears the maʻo blossoms as its lei
Adorning the women who string garlands in the wild
It is like the lehua blossoms of Hōpoe
Lehua blossoms upon which the sun beats down
On the nodding koaiʻa flowers of the cliff
On the rooftops of the houses at ʻĀpuku

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[2] It was believed that talking would cause a breeze to blow that would, in turn, frighten the pipi (see Pukui, 1983).

Rising in the presence of the cliff of Puʻukuʻua
The land is indeed a chief
Man is indeed a slave
I am indeed a slave to aloha—love
It is love which invites us two—come
I come–

Then one of the women answered her in a kindly manner, "Wait stranger, before you go on your way, here is your lei." It is true what you have said, "He kauwa ke kanaka na ke aloha, a na ke aloha no e kono, ao ka naue holookoa no ia o ke kino." (Man is a slave of love or compassion, and it is aloha which beckons to us and moves us to come forth). The woman then moved forward and placed her lei upon Hiʻiaka, and the other women did the same as well. The women then saw the true beauty of Hiʻiaka and they urged her to join them for a meal at their home on the shore of ʻEwa.

Hiʻiaka then spoke to them, "I am not hungry, for your kindness has satisfied me. Here are the words which I share with you—In your dwelling, if one of you should meet with trouble, or if one of the people for whom you have aloha is in need, offer the chant which I offered to you, asking without shame for garlands that you had made. The chant is a prayer for the passing of troubles from you or your loved ones. Now come and kiss me, and I will depart from this long open plain."

The women stepped forward to kiss Hiʻiaka, and as they rubbed noses each one of them remembered the chant which Hiʻiaka offered when she asked for their garlands of maʻo. Thus this chant became a prayer for those women in their days of trouble. Hiʻiaka then departed from those women who strung garlands of maʻo on the plain and traveled towards the shore of ʻEwa, towards Puʻuloa. Turning towards the ocean of Honouliuli, Hiʻiaka saw the expanse of Leinono[3] and she said within herself:

Say! I have not forgotten you Leinono, though perhaps you think I am no good because I don't know you. Therefore, I call to you Leinono with this chant:

Bright eye, the rising sun,
Companion that travels arm-in-arm with the expanse of ʻEwa,
The Amu wind that causes dust to mound up,
Is the first born of the Moaʻe wind,
A child that is embraced by the ʻEwa-loa [expanse of Ewa],
Hail Leinono,

[3] Leinono, also written as Leilono (Kamakau, 1968:47 & 49).

Our companion.

Finishing her chant, Hiʻiaka then turned and saw her companion and Lohiʻau paddling their canoe. And her love welled up for her traveling companions. It was also then, that Hiʻiaka came to understand that Lohiʻau would be killed by Pele when they reached Hawaiʻi. Hiʻiaka then turned and continued her journey along the path that crossed this unpeopled plain. While walking along, she saw two women who were busy stringing garlands of ʻilima [*Sida fallax*] blossoms. The women were sitting alongside the trail upon which Hiʻiaka was traveling. Now when these two women saw Hiʻiaka, one said to the other, "Say, this is Hiʻiaka who is descending along the path, we must depart with haste, lest she kill us."

The two women hastily departed, and reached a stone that was situated along the side of the trail which continued on to Waiʻanae. It was at this stone that the two women transformed themselves into their supernatural moʻo [lizard] forms.

One of the lizards then went and hid in a little space on the stone, and the other went nearby. One moʻo said to her companion moʻo...

February 22, 1927 (page 1).

…"It is fortunate that we have hidden ourselves at this place, so that we may escape being killed by Hiʻiaka." Now from ancient times till recently, the place at which this stone was situated, was called "Peʻe-kāua" [We two hidden]. Now that the road has been made, the stone at which these two moʻo wahine [lizard women] has been destroyed.

When Hiʻiaka saw that these two women had fled and taken their moʻo forms to hide on the stone along the trail, she chanted out to them:

> Greetings to you two women of the plain,
> It is a barren plain in the sun,
> Where the sun bears forcefully down,
> Having gone to hide,
> We two are hidden at Peʻe-kāua,
> Aloha to you two,
> Here I am traveling on.

Hiʻiaka then continued walking towards the shore. Hearing Hiʻiaka's chant of affection, these two moʻo women said to one another, "Say, this is truly remarkable, for we will not die, but have been saved by Hiʻiaka. She has given us her aloha as she descends in the heat of the sun, and so it is that we shall remain upon this plain."

Descending to the flat lands of Honouliuli, Hiʻiaka then turned and looked at Puʻuokapolei and Nāwahineokamaʻomaʻo who dwelt there in the shelter of the growth of the ʻōhai [Sesbania tomentosa], upon the hill, and where they were comfortably refreshed by the blowing breezes. Hiʻiaka then said, "Puʻuokapolei and Nāwahineokamaʻomaʻo, do not forget me, lest you two go and talk behind my back and without my knowing, so here is my chant of greeting to you:"

> Greetings to you two o Puʻuokapolei and companion
> O Nāwahineokamaʻomaʻo
> Set there, and dwelling
> In the shade of the ʻōhai
> Stringing garlands of kukui in the day,
> Adorning yourselves in the garlands of the maʻomaʻo
> Kaunaʻoa (Cuscuta sandwichiana) is the lei of the shores of Kaʻōlino[4]
> There is joy in traveling.

When Hiʻiaka finished her chant, Puʻuokapolei said, "Greetings. Love to you, o Hiʻiaka! So it is that you pass by without visiting the two of us. Lo, we have no food with which to host you. Indeed, the eyes roll dizzily with hunger. So you do not visit us two elderly women who have cultivated the barren and desolate plain. We have planted the ʻuwala [sweet potato] shoots, that have sprouted and grown, and have been dedicated to you, our lord. Thus as you travel by, pull the potatoes and make a fire in the imu, so there will be relief from the hunger. For we have no food, we have no fish, and no blanket to keep us warm. We have but one kapa [covering], it is the pilipiliʻula [the grass Chrysopogon aciculatus]. When it blossoms, we go and gather the grass and plait it into coverings for us. But in the time when the grasses dry, and none is left on the plain, we two are left to live without clothing. The cold breeze blows in the night, the Kehau and Waikōloa, the cold does not remain though, and when the grasses of the land which give us warmth, begin to grow again, our nakedness is covered, and we are a little better off than the flowers of the maʻo. It is because we are left without our covering of the pilipiliʻula grass, that many people have come to say, "Waiho wale iho ka mauu o Kaiona" [Kaiona is left exposed by the grasses; (Nothing is left to the imagination)]. Aloha to you, and aloha be with you in your travels o Hiʻiaka-i-ka-poli-o-Pele, our lord.

Hiʻiaka then turned and continued her walk in the stifling heat of the sun on the plain of **Puuokapolei**. Hiiaka saw a mao blossom as she descended, and she picked it in the heat

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[4] Kaolino (the brightness) appears to be a variation of Koolina (interpretively translated as: Joyous).

of the sun and chanted out:

Kona is made dizzy in the long days of Makali‘i [in the summer]:

The wiliwili [*Erythrina*] trees sway, then comes the calm,
The birds of Kānehili endure,
The sun is exceedingly hot on **Pu‘uokapolei**,
The ma‘o growth is stunted on the seaward plain,
The nohu [*Tribulus cistoides*] flowers
are like a halakea [kapa] covering
The pua‘ula [young kūmū] fish seem
to flash along the shores of Kaupe‘a
A companion [is the] Nāulu wind,
It is a traveling companion for me.

When Hi‘iaka finished her chant, she continued toward the shore, and looking to the ocean, she saw the canoe of her friend and Lohi‘au, and chanted:

My man on the many harbored sea of Pu‘uloa,
As seen from the plain of Pe‘ekāua,
Let us dwell upon the ‘ōhai covered shore,
Where the noni blossoms are twisted together,
Descending along Kānehili
I am winding along

Hi‘iaka then turned and looked back to Pu‘uku‘ua, Kānehoa, and Hale‘au‘au and said, “Do not forget me Pu‘uku‘ua mā [and companions]. And so you do not think that I will forget you, here is a chant of endearment for you:”

It is I who travel along the shore of Pu‘uloa,
Where the ‘ōhai is at Kaupe‘a,
In the awe-inspiring sun,
It is seen,
It has been seen by me,
At the mountain cliffs,
Pu‘uku‘ua at Hale‘au‘au,
The sprouting of the kukui growth,
Dancing in the sun of Kānehoa,
Love to you my companions.

...Upon finishing her chant, Hi‘iaka continued down the trail and arrived at Kualaka‘i. At

Kualakaʻi, the trail took her to a spring of cool water. Looking into the spring, she saw her reflection shining brightly upon the water's surface. Hiʻiaka also saw two lehua trees [*Metrosideros polymorpha*] growing on each side of the spring. Now these two lehua trees were completely covered with blossoms. She then picked the lehua blossoms of these two trees and made garlands for herself.

Hiʻiaka fashioned four strands to her lei, she then removed the garlands of maʻo which she had received when descending from Pōhākea, and set them aside.

She then took the garlands which she had made, and adorned herself with them. Hiʻiaka then heard the voice calling out from the area of Kānehili:

> Hiʻiaka is the woman
> Who picked the flowers of Hoʻākalei,
> And with a needle strung and made them into
> four garlands, the sectioned lei of the woman,
> O my younger sibling.
> My younger sibling who came from the place
> where the dusty wind rises from below
> Overturned in the sea of Hilo-one,
> The aloha is for Hilo,
> Love for the lei.

That place, Hilo-one, which is mentioned in the mele [chant], is situated on the northern side of Kualakaʻi, towards Kalaeloa. And the name of the spring in which Hiʻiaka looked and saw her reflection was Hoʻākalei [reflection of a lei]. It was at this place that Hiʻiaka saw the two lehua trees growing, from which she picked the blossoms too make her four garlands.

Hearing the chant, Hiʻiaka turned toward where it had come from, and saw her older sister Kapo looking at her. Kapo had arrived at Oʻahu from Maui, where she was teaching the practices of the hula. Seeing Kapo, Hiʻiaka cried out with affection for her older sister…

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> So, it is you o Waialua-iki,
> Of the sun darkened cliff of Uli,
> Liawahine has gone traveling,
> O woman that stands calling from the cliff,
> I am adorned with a lei,
> Yes, I am wearing garlands of the misty-centered lehua blossoms,

The lehua that grows along the water's edge at Hoʻākalei,
My lehua of Hilo-one,
On the shores of Kaʻōlina and Kaupeʻa,
I am adorned.

The reason that Hiʻiaka presented this chant to her elder sister Kapo, saying, "kui pua lei, o Hoakalei" [stringing flower garlands of Hoʻākalei] was because in her chant, Kapo had inquired about Hiʻiaka's picking the flowers from the spring of Hoʻākalei and making them into four garlands for herself…As it is seen in this mele [chant], Hilo-one is on Oʻahu, there at Kualakaʻi, near Kalaeloa.

Thus it is understood that through traditions like this, we are given direction in knowing about the names of various places of the ancient people, and which are no longer known in this time...Hiʻiaka then continued her journey toward the shore of Puʻuloa, and she thought about the words that she had earlier spoken to Wahineʻōmaʻo and Lohiʻau, and she chanted:

I will not travel to the shore of Kaupeʻa,
To Kaupeʻa where the ʻōhai of Kānehili are found,
I will turn away…

…Hiʻiaka then arrived at a place where many people were gathered together, and she overheard them talking about preparations for a journey to Kou, which is the old name for Honolulu. The people were preparing to go to the court of the chiefess Peleʻula, who was hosting kilu[5] games…

March 8, 1927 (page 1).

…Learning of the contest that was to be held at Kou, Hiʻiaka had reservations about having Lohiʻau stop at the court of the chiefess Peleʻula. So she chanted, calling to Lohiʻau, telling him to bring the canoe to shore at Puʻuloa. When Hiʻiaka chanted, everyone became quiet, because they were awed by the beauty of her chanting voice. One of the women in the group then called to Hiʻiaka, "You are a stranger to us in appearance, but your chant indicates that you are very familiar with this shore, how is that so?" Hiʻiaka confirmed that she was indeed a visitor, and yet familiar with the places of this land. She then said, "Ua maikai no kau noi e ke kamaaina maikai, aka, i Kou hoi e hui aku ai na maka" [You have asked a good question, kind native, but, it is at Kou, that all the faces (eyes) shall meet].

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[5] Kilu is a Hawaiian game in which a gourd or halved coconut shell is tossed at an opponent's pob (something like horseshoes). The individual who successfully hit the pob that he or she had selected was the winner and could claim a kiss or some other favor from the opponent (see Malo, 1951:216).

Thus it is seen that when Hiʻiaka responded to the woman of Puʻuloa, that this famous saying of the people of Oʻahu came about, "Hui aku na maka i Kou" [The faces shall meet at Kou]…Now, Lohiʻau had heard the chant of Hiʻiaka, and he drew the canoe to the shore. When Hiʻiaka boarded the canoe, she bid farewell to the people of Puʻuloa and said, "Hui aku o na maka i Kou" [We will meet again].

They then directed their canoe seaward, and went out of opening of Puʻuloa. Hiʻiaka turned and looked towards the land where she saw the dwelling places of Kinimakalehua, Leinono, and Keālia. She called out to them, "So you do not forget me, here is a chant for you" —

> Reddish yellow are the rains of Kinimakalehua,
> Leinono is the companion above, and Puʻuloa is shoreward,
> The journey across the expansive sands of ʻEwa has been made arm-in-arm,
> I am at ʻEwa, I greet you o Leinono, We are all companions

In this chant of Hiʻiaka, she spoke the famous saying that is the pride of the descendants of ʻEwa; "Ke one kui-lima laula o Ewa" [The sands of ʻEwa, across which everyone joined hand-in-hand]. These words of Hiʻiaka are a famous saying of this land to this day. As the canoe continued toward Kou, passing the land of Kalihi, Hiʻiaka looked again towards Leinono and Keālia, and she chanted:

> Hail to you o Leinono, o Kinimakalehua, o Keālia who is below, aloha,
> Here is the supplication, the offering, of the one who has traveled by.
> It is a voice or song, only a voice—

She then turned forward and the canoe arrived at Nuʻuanu…

4. He Moolelo no Kamapuaa (A Tradition of Kamapuaʻa)

S.W. Kahiolo contributed the tradition of Kamapuaʻa to the native newspaper *Ka Hae Hawaii* in 1861 (the original Hawaiian texts may be viewed in the Hawaiian digital library at www.ulukau.org). This is the earliest detailed account of Kamapuaʻa, a multi-formed deity of traditional significance on Oʻahu and all the major islands of the Hawaiian group. The Hawaiian deity Kamapuaʻa is a part of the Lono god-force and possessed many kinolau (body forms), representing both human and various facets of nature. He was born in pig-form to Hina (mother) and Kahikiʻula (father) at Kaluanui in the Koʻolau loa District of Oʻahu.

Excerpts from S.W. Kahiolo's "He Moolelo no Kamapuaa" in *Ka Hae Hawaii* provide readers with details on places of traditional cultural significance in the ʻEwa District. This moʻolelo offers traditions associated with the naming of, or traditional importance and uses of, localities from

Honouliuli to Moanalua. Waimānalo, Waikele, Waipiʻo, Waiawa, Waimano, Waimalu, **Puʻuokapolei**, Keanapuaʻa, Puʻuloa, Moanalua, Waipahu, and Kuolohele are named in the following excerpts.

Ka Hae Hawaii
He Moolelo no Kamapuaa.

July 10, 1861 (page 60).

…When the chief Olopana was killed, the island of Oʻahu became Kamapuaʻa's. He then fetched his people [who he had hidden] from above Kaliuwaʻa and brought them down, and they then returned to their lands. The priest (Lonoawohi) asked Kamapuaʻa if he could be given some lands for his own as well. He asked, "Perhaps the water lands might be mine." Kamapuaʻa agreed. This was something like a riddle that the lands which have the word "water" [wai] in their names would be his, like: Waialua, Waianae, **Waimanalo**, Waikele, Waipio, Waiawa, Waimano, Waimalu, Waikiki, Waialae, Wailupe, **Waimanalo** 2, Waiheʻe, Waiahole and etc.

The parents of Kamapuaʻa, (Hina and Kahikiʻula,) thought that this amount of land was too great, and they criticized Kamapuaʻa for agreeing to it. But his elder siblings and grandmother did not criticize him, agreeing to the priest's request. The remainder of the lands went to Kamapuaʻa's family…

[Following a journey to Hawaiʻi, where Kamapuaʻa fought with Pele, he returned to Oʻahu. Upon arriving at Oʻahu, Kamapuaʻa learned that the island was under the rule of another chief, and that his parents had been chased to Kauaʻi, and that his favorite brother Kekeleiaiku had been killed. The following excerpts include accounts describing sites and activities in ʻEwa.]

August 7, 1861 (page 76).

…Kamapuaʻa walked to Keanapuaʻa, on the shore at Hālawa, and he slept there. When he woke up from his sleep, he urinated in the sea, and that is why the fish of Puʻuloa have a strong smell to them, so say the uninformed.

From there, he went to Honouliuli and saw his grandmother, Kamauluaniho, sitting along the side of a taro pond field. She was looking with desire to the lands below, where some of the men of the king were working and wishing that they would leave even a little bit of taro behind for her to eat. Kamapuaʻa then went and stood next to her and greeted her. She replied, greeting him, but did not recognize him as her grandson. He then asked her why she was sitting there. She told him, "I am looking to the lowlands, where the men of the chief are working, and wishing that they would leave a little behind so that I may have some food." Kamapuaʻa then said to his grandmother, "How did you live before?"

She answered, “What is it to you? My grandchildren have died, one in a battle with Pele, another buried, and one on Kaua‘i.” This is how she spoke, not understanding that the one before here was her own grandson. Kamapua‘a then answered, “I am going to get some food for me.” She asked, “Where will you get your food?” He told her, “I will go and perhaps ask for some, and maybe they will give me some of their food.”

August 14, 1861 (page 80).

Kamapua‘a went and said to one of the men who was pulling taro, “Let the two of us pull taro for us.” The man agreed, and the two of them pulled taro, some for the man and some for Kamapua‘a. Kamapua‘a pulled a large quantity and then carried it up to his grandmother. Because of the large load that he carried, Kamauluaniho suspected that the man was indeed her own grandson, Kamapua‘a. She chanted a name song to Kamapua‘a and he chanted to her as well. Together, they carried the taro to the house she shared with another old woman, at **Pu‘uokapolei**. Setting down their bundles of taro, Kamauluaniho placed Kamapua‘a on her lap and wept over him. The two were joined by the other old woman and she was introduced to Kamapua‘a, who she thought had been lost. Preparations were made for a meal, and Kamapua‘a and the old woman went out to her garden to collect sweet potatoes. They then returned to the house and ate…

August 21, 1861 (page 84) -August 28, 1861 (page 88).

…Kamapua‘a went to Nu‘uanu and performed a ceremony, bringing his brother, Kekeleiaiku, back to life. He then traveled to Kou where he killed the chiefs and people who had killed his brother and forced his family into their lives of despair…Returning from Kou, Kamapua‘a met his friend Kuolohele and the two of them walked from Moanalua. They reached Waiawa and continued on to Waipahu. Standing on the edge of the stream there, Kuolohele went to bath in the stream. Kamapua‘a noticed that Kuolohele had a large lump [pu‘u] on his back. Picking up a stone, Kamapua‘a struck the lump on Kuolohele’s back.

Kuolohele cried out, thinking that he was about to be killed. Kamapua‘a reassured him that he was not going to die, but that instead, he would be healed. He then instructed Kuolohele to touch his back. In doing so, Kuolohele found that the lump was gone.

Kamapua‘a then picked up the stone and set it on the cliff-side. That stone remains there at this time, and it is a stone which many travelers visit [the stone is named Kuolohele]…Kuolohele and Kamapua‘a continued traveling together for a short distance, until Kuolohele reached his destination. Kamapua‘a continued to **Pu‘uokapolei**, where he met with his grandmother and brother. He told them what had transpired, and he then set off for Kaua‘i, to bring his parents back to O‘ahu…

5. He Kaao no Pikoiakaalala (The Tradition of Pīkoiaka‘alalā)

The tradition of Pīkoi-a-ka-ʻalalā (Pīkoi-son-of-the-crow) was printed in the Hawaiian language newspaper *Ka Nupepa Kuokoa* between December 16, 1865 and March 10, 1866 and was contributed by S.M. Kaui. The full tradition may now be found in the Hawaiian Digital Library at www.ulukau.com.

Pīkoi-a-ka-ʻalalā was born to ʻAlalā and Koukou on the island of Kauaʻi and his family were kūpua, beings with supernatural powers and multiple body-forms. Pīkoi-a-ka-ʻalalā possessed exceptional sight and excelled in the Hawaiian art of pana pua, shooting with bow and arrow. Through the tradition of Pīkoi-a-ka-ʻalalā, readers learn that many localities throughout the islands are named for places where he competed in matches with archers, shooting ʻiole (rats) and manu (birds) from great distances. The tradition is set in the late 1500s when Keawe-nui-a-ʻUmi is the king of Hawaiʻi Island.

Ka Nupepa Kuokoa
He Kaao no Pikoiakaalala.

December 23, 1865, page 1.

[While describing Pīkoiakaʻalalāʼ s travels around Oʻahu, readers are told]:

…The districts of Oʻahu are thus known…The land from Piliokahe to Kapukakī makes up the district of ʻEwa…

5. Moolelo no Puapualenalena (The Tradition of Puapualenalena)

Puapualenalena was a supernatural dog who lived during the time of Hakau, the half-brother of Hawaiʻiʼs ʻUmi-a-Līloa; ca. AD 1525. His primary residence and adventures occurred on Hawaiʻi, but he also traveled across the islands. While on Oʻahu, the heights of Pōhākea where the mountain trail descends into Honouliuli were mentioned. From there he traveled to the shore of Puʻuloa. The full tradition may now be found in the Hawaiian Digital Library at www.ulukau.com.

Ka Nupepa Kuokoa
He Kaao no Pikoiakaalala.

February 24, 1866 (page 1).

…While sailing from Kauaʻi, Puapualenalena and his companions reached the Waiʻanae coast. Puapualenalena leapt to shore and traveled across the land to Pōhākea from where he looked upon the lands of ʻEwa and Waialua…He then went down to the shore of Puʻuloa where the canoes had landed and joined the travelers to continue the journey to Hawaiʻi…

6. Tradition of the Mullet of Kaihuopalaʻai

One of the famous traditions of Honouliuli centers on the importance of the ahupuaʻa as the source of the ʻanae holo, the annual mullet migration around the island of Oʻahu. The tradition was originally published in 1866 under the title "Ka Amaama o Kaihuopalaai" (*Ke Au Okoa*, September 17, 1866, page 3). In 1896 it was published again under the title "He Moolelo Kaao no ka Puhi o Laumeki" in a major account that cited numerous locations, resources and residents of the Honouliuli ahupuaʻa. Both traditions are cited below; the earlier one is provided in the original Hawaiian language as it sets the foundation for the more detailed account of 1896.

Ke Au Okoa
Ka Amaama o Kaihuopalaai.

Kepakemapa 17, 1866 (aoao 3)

Ma ka auina la o ka Poalua o ka pule i hala iho nei, ua olioli makou i ka ike anaʻku i ka lehulehu e hoi ae ana me na puolo anae, he ewalu, a he umi o ka hapawalu. Ua hauoli nui no ko ke kulanakauhale nei i keia mea, ka hoea hou ana mai o ka anae holo, a ua iho nui ka lehulehu e kuai, a o ko makou Hale Pai holookoa nei no hoi kahi i iho pu i ka makeke e kuai ia ai. He wa no aia iloko o ka makahikiki e holo mau ai keia i-a. O Kapapaapuhi ma Ewa, a me Kaipapau ma Koolauloa, oia na wahi i oleloia e kahiko, na wahi hoolulu ia o ua i-a nei, he anae. O kona home mau nae o Kapapaapuhi.

Eia malalo nei he wahi kaao mai kekahi elemakule mai, e pili ana i ka ano o ke kaapuni ana o ka anae a puni keia mokupuni.

He Kaao no Kaanae.

Aia ma Kapapaapuhi, ma Ewa, kahi i noho ai kekahi ohana nui. Na ka makuakane o keia ohana kekahi kaikamahine maikai, a na makua i aloha nui ai. Ua oi ae paha ke aloha o na makua i keia kaikamahine mamua o na keiki e ae. Ua pii ae ua kaikamahine, a aneane paha he umikumamalima ona mau makahiki, hoohaumia ia iho la oia e kekahi mea. I ka ike ia ana o ke ano hoohaumia ia o ua kaikamahine nei e na makua, ninau aku la na makua ia ia me ke ano e hai mai la hoi ke keiki i ka hua o ka lokomaikai; aohe nae wahi mea a hai mai. Huna eleele loa nohoi ke kaikamahine.

Ninau pinepione aku la na makua e hai mai, aohe wahi mea a hai mai; a no keia mea, kipaku haalele aku la na makua me ka hoohuakaeo, a i aku i ke kaikamahine, "O hele e imi i kau loaa, a mai manao mai oe he hale!" Ku ae la ua kaikamahine nei o ka hupe o na waimaka, haalele iho la oia i ka ohana.

Hele aku la keia a hiki i Kaipapau, makemake ia mai la keia e kekahi kanaka, no ko ia nei ano wahine ui no hoi paha, a *hoao* ia ae la laua nei he kane a he wahine, a noho iho la ia he wahine no ka pali hauliuli. O ka hana nui a ua kane nei o ka mahiai i kela makahiki keia makahiki. Oi mahi

ai aku ua kanaka nei a piha ka aina i ka ai, ka uala, ka maia, ke ko, a me kela mea keia mea. I ka piha ana o ka aina i kela mea ai keia mea ai, a i kekahi la, olelo mai la ke kane i ka wahine, "Kanu aku nei kaua i ka aina a piha i ka ai, a me kela mea keia mea, a eia la auanei i hea ka inai e pono ai o keia ai!"

Kulou ka wahine ilalo, a pane mai la, "Ua i-a! Ina ke mau la no ke aloha o kuu mau makua iaʻu, alaila ka hoi loaa ka inai o ka ai a kaua i luhi ai. Hele no ka hoi oe la, a hala mai ke Ahupuaa mea la, o mea ia, a hele aku no oe. Pela no ka hoi oe e hele ai, a hiki oe i ka aina e kapa ia ana la o Ewa, alaila, ninau iho no oe ia Kapapaapuhi. Aia ka hoi ilaila koʻu nui kahi i noho ai. Hele no oe la, a ilaila, kolea iho oe i oʻu mau makua; a i ninau mai ia oe i kau huakai ea, alaila, hai aku oe he i-a kau huakai i hiki aku ai ilaila. I haawi ia mai anei oe i ka ia iloko o ka hale, mai lawe anei oe. Olelo aku oe i ka ia iloko o ke kai." Ae mai la ua kanaka nei.

He anahulu mahope iho, kaapuni iho la ua kanaka nei, e hele ana i ka hale pa leo he makuahonowai. Ninau hele aku la no hoi keia a hiki wale i ua aina hanau nei o ka wahine, a hai ia mai la no hoi keia i ka hale, kahi i noho ai o kona mau makuahonowai. Hele aku la no hoi keia a hiki ilaila, kolea iho la. Uwe mai la ka ohana holookoa, me he mea la o ke kaikamahine okoa no, ua hoi aku. Uwe iho la a pau, hiowai a luana iho la, ninau mai ka makuahonowai kane, "Kau huakai o ka hiki ana mai?" Olelo aku no hoi keia, "I hoouna ia mai nei au i i-a." "Ae," wahi a ka makuahonowai; "eia ae no ka i-a la, he umi halau i piha, a hoi [l]awe ia i elima." Hai aku la no hoi keia, e like me ka olelo a ka wahine, o ka ia iloko o ke kai. Kulou ihoʻla ka makuahonowai ilalo a pau, olelo mai la, "O ka i-a ia, lawe ia, aia a hoi oe lawe pu me ka ia!"

He mau la mahope mai, hoi mai la ua kanaka nei, a Kapuukolo i Honolulu nei moe, a i ala ae ka hana o ka hiamoe i kakahiaka ae, e kuu mai ana kanaka i ka anae. Manao iho la keia, he i-a no la no ia wahi, noho ilaila ai i-a. Pela aku ana a hiki i ka Luahole i Waikiki. Mai laila aku keia a Maunalua, o ka hana no ka na kanaka o ke kuu i ka i-a. Pela wale a hiki keia i Kaipapau i ke ahiahi o kekahi la, a i ala ae ka hana a ka wahine a nana aku i ke kai e ula mai ana ke kai i ka i-a, a i aku keia i ke kane, "Ai aka i-a au i hele aku nei." Akahi no keia a hoomanao ae, o ka ia no ka ia e kuu mau ia ana ma na wahi a pau ana e moe ai.

O keia iho la ka ke kumu i holo ai a puni keia moku, pela la ka olelo a kahiko, aka, pela paha, aole paha, he anoninoni loa ko makou mau manao ma ia mea, e like me ka kahiko e olelo nei.

7. He Moolelo Kaao Hawaii no ka Puhi o Laumeki (A Tradition of Pūhi Laumeki [A Deified Eel] and how the ʻAnae-holo came to Travel around Oʻahu)

"He Moolelo Kaao Hawaii no ka Puhi o Laumeki, Ka Mea I Like Me Ka Ilio Puaapualenalena" (The Hawaiian tradition of Pūhi Laumeki…) was published in the Hawaiian language newspaper, *Ka Oiaio,* between November 8, 1895 and February 14, 1896. The moʻolelo was submitted to the paper by native historian, Moses Manu. The moʻolelo primarily focuses on wahi pana and features

associated with the lands of ʻEwa, Oʻahu, recounting events associated with the birth and deification of an eel (pūhi) guardian of fisheries and his siblings, among whom was Mokumeha. The narratives include important descriptions of Honouliuli as the source of the ʻanae holo and fisheries around the island of Oʻahu.

Ka Oiaio

November 8, 1895 (page 4).[6]

... It is perhaps not unusual for the Hawaiian people to see this type of long fish, an eel, about all the shores and points, and in the rough seas, and shallow reefs and coral beds of the sea. There is not only one type of eel that is written about, but numerous ones that were named, describing their character and the type of skin which they had. In the ancient times of our ancestors, some of the people of old, worshipped eels as Gods, and restrictions were placed upon certain types of eels. There are many traditions pertaining to eels. It is for this fish that the famous saying "An eel of the sea caverns, whose chin sags."[7]

Indeed, this is the fish that was desired by Keinohoʻomanawanui, the eels of the fishpond of Hanaloa, when he was living with his friend, Kalelealuaka, above Kahalepōʻai at Waipiʻo uka, when Kākuhihewa was the king of Oʻahu. It was necessary for us to speak of the stories above, as we now begin our tradition.

It is said in this account of Laumeki, that his true form was that of an eel. His island was Oʻahu, the district was ʻEwa, Honouliuli was the land. Within this land division, in its sheltered bay, there is a place called Kaihuopalaai. It is the place of the ʻanae [mullet], which are known about Honolulu, and asked for by the people, with great desire.

Kaihuopalaʻai was human by birth, but he was also a kūpua [dual-formed being], who was born at Honouliuli. His youngest sister was known by the name of Kaihukuʻuna. In the days that her body matured and filled out, she and some of her elders left ʻEwa and went to dwell in the uplands of Lāʻiemaloʻo, at Koʻolauloa, where she met her husband. The place known by the name Kaihukuʻuna, at Lāʻiemaloʻo, is the boundary of the lands to which the ʻanae of Honouliuli travel.

At the time that Kaihukuʻuna was separated from her elder brother and parents, Kaihuopalaʻai had matured and was well known for his fine features, and his red-hued cheeks. He was known as the favorite of his parents and all the family. There was a young woman, who like Kaihuopalaʻai, was

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[6] It should be noted that the following installments are summaries are not direct translations of these primary resource documents.

[7] ʻŌ.N. # 1545, "Ka pūhi o ke ale, ahu ke ʻolo." According to Pukui this ʻōlelo noʻeau is an expression that was used to describe a prosperous person. (Pukui 1983,167).

also favored by her family. Her name was Kaʻōhai, and she lived at the place where the coconut grove which stands at the estuary of Waikele and Waipiʻo. Thus, these two fine children of the land of the fish that quiet voices [Ka ia hamau leo], that is ʻEwa, were married in the traditional manner.

In their youth, the two lived as husband and wife in peace. And after a time, Kaʻōhai showed signs of carrying a child. This brought great joy to the parents and elders of these two youth. When the time came for Kaʻōhai to give birth, her child was born, a beautiful daughter, who also had the same red-hued nature as her father. While Kaʻōhai was cleaning the child and caring for the afterbirth, she looked carefully at her daughter and saw a deep red-spotted mark that looked like an eel, encircling the infant. Everyone was looking at the mark, contemplating its meaning, and Kaʻōhai was once again taken with birth pains. It was then understood that perhaps there would be a twin born as well. But when the birth occurred, an eel was seen moving about in the blood, on the side of Kaʻōhai's thigh. This greatly frightened the family and attendants, they fled, taking the child who had been born in a human-form, with them. Kaihuopalaʻai also separated himself from his wife. Kaʻōhai remained with the blood stains upon her, and no one was left to help her.

It was the eel which had been born to her, that helped to clean Kaʻōhai. He worked like a human, and Kaʻōhai looked at the fish child which had been born to her, and she could find no reason to criticize or revile him. Kaʻōhai then called to her husband, Kaihuopalaʻai, telling not to be afraid, and he returned. They both realized the wondrous nature of this child and cared for him at a good place, in the calm bay of Honouliuli. The named this eel child, Laumeki, and his elder sister, born in human-form, was named Kapapūhi. This eel became a cherished child, and was cared for as a God. Laumeki, the one who had been consecrated, asked that the first-born, his sister, also be cared for in the same manner, and a great affection was shared between the children born from the loins of one mother.

November 15, 1895 (page 4).

Thus, it is told in this tradition, that this is the eel Laumeki. It is he who caused the ʻanae to remain at Honouliuli, and why they are known as "Ka Anae o Kaihuopalaai" [The mullet of Kaihuopalaʻa]. With the passing of time, the forms of this eel changed. At one time, he was red with spots, like the eel called pūhi Paka, at other times he was like the Laumilo eel.

A while after the birth of Laumeki, another child was born to Kaʻōhai, a son. He was named Mokumeha, and he was given to Wanue, an elder relative of Kaihuopalaʻai's, to be raised. There are at Honouliuli, Ewa, places named for all of these people. The natives of that land are familiar with these places. For this Wanue, it is recalled in a song:

The thoughts are set upon the sea at Wanue,
I am cold in the task done here…

... The eel-child Laumeki, followed the fish around in the expanse of the sea, and on the waves of this place. This was a work of love and care, done for his parents and family, that they would have no difficulties. In those days, this eel lived in the sea at a place where a stone islet is seen in the bay of Honouliuli, and he would not eat the fish which passed before him. He did these things for his parents and sister Kapapapūhi.

Laumeki was very watchful of his family, protecting them from sharks, barracudas, and the long billed marlin of the sea which entered into the sheltered bay of Honouliuli, the land of his birth. Because of his nature, Laumeki did many wondrous things. It was Laumeki who trapped the Pūhilala that had lived out in the sea, in the pond of Hanaloa. This Pūhilala was the one who bragged about his deeds, and when he was trapped his eyes glowed red like the flames of and earthen oven.

It is perhaps worthy here, my readers that we leave Laumeki and speak of Mokumeha and his journey around Oʻahu. At the time when the sun rested atop the head [describing Mokumeha's maturity], and his fine features developed. He was very distinguished looking. At that time, he determined to travel around the island of Oʻahu. He asked his parents and guardian permission, and it was agreed that he could make the journey.

Mokumeha departed from Honouliuli and traveled to Waiʻanae, and then went on to Lāʻiemaloʻo, at Koʻolauloa, the place where the youngest sister of his father dwelt. She [Kaihukuʻuna] was pounding kapa with her beater and thinking about her elder brother. She rose and went to the door of her house and saw a youth walking along the trail. Seeing the youth, her thoughts returned once again to her brother Kaihuopalaʻai and his wife Kaʻōhai. The features of this youth in every way, looked like those of his father, and upon seeing him, tears welled up in Kaihukuʻuna's eyes. She called to the youth inquiring about his journey, and he responded, answering each of the questions. The moment the youth said the name of his parents, and the land from which he came, Kaihukuʻuna wept and greeted her nephew in the custom of the people of old.

This greatly startled her husband who was out in the cultivated gardens tending to his crops. He thought that perhaps one of his own family members had arrived at the house. When he reached their house, he saw the strange youth and he quickly went to prepare food for their guest. In no time, everything was prepared, and he then went to his wife asking her to stop her crying, and invite the visitor to eat of the food that had been prepared. He told his wife, "Then, the talking and crying can resume." She agreed and they sat down together and ate, and had a pleasant time talking.

Kaihukuʻuna then asked Mokumeha about the nature of his trip, and he explained that he was traveling around Oʻahu on a sight-seeing trip. Kaihukuʻuna told him, "It is wonderful that we have met you and can host you here." She then asked him to consider staying with her and her husband

at Lāʻiemaloʻo, where all of his needs would be met. "We have plenty of food and if you desire a wife, we can arrange that as well." Mokumeha declined the invitation, explaining his desire to continue the journey and then return to Honouliuli.

November 22, 1895 (page 4).

Now it is true that at this place, Laiemaloo, there was grown great quantities of plant foods, but the one thing that it was lacking was fish. Mokumeha, his aunt, and her husband, Pueo, spoke about this, and it was determined that Pueo should go to Ewa. Mokumeha instructed him to seek out Kaihuopalaai, Kaohai, Kapapaapuhi, and Laumeki, and to ask for fish. He told them that "Laumeki will be able to lead the fish to you here at Laiemaloo."

Pueo departed for Honouliuli [various sites and features are described along the way]… and he met with Kaihuopalaʻai. Kaihuopalaʻai's love for his sister welled up within him, and it was agreed that fish would be given to her and her family. But rather than sending fish home with Pueo in a calabash—fish which would be quickly consumed, causing Pueo to continually need to make the journey between Lāʻiemaloʻo and Honouliuli—Kaihuopalaʻai said that he would "give the fish year round."

November 29, 1895 (page 4).

When Kaihuopalaai finished speaking, Pueo exclaimed, "This is just what your son said you would do!" Kaihuopalaai and Pueo then went to the house of Kapapapūhi, who, when she learned that Pueo was her uncle, leapt up and greeted him. They discussed the request for fish, and ate while speaking further. Kaihuopalaʻai then asked, "Where do you come from?" Pueo answered, "Lāʻiemaloʻo," and he described the land to her.

The next day, Kapapapūhi and Pueo went on a canoe out to the stone islet where Laumeki lived. They took with them food, and as they drew near the stone, the water turned choppy like the water of the stormy winter season. The head of Laumeki rose out of his pit and remained on the surface of the water. Kapapapūhi offered him the ʻawa and food she had brought with her. This eel was cared for just as a chief was cared for. When he had eaten his food and was satisfied, he rested on the surface. Kapapapūhi explained to Pueo that he too would need to care for and feed Laumeki, in order to obtain the fish he needed. Kapapapūhi then called out to Laumeki, "Here is an elder of ours, tomorrow you will go with him and take the fish of our parents with you."

December 6, 1895 (page 4).

...The next day, Pueo rose while it was still dark, and the stars, Aea, Kapawa and Kauopae were still in the heavens. He prepared the foods needed for Laumeki, and prepared the canoes. He and his wife's family and attendants then went towards Laumeki's house, where he was resting. When Laumeki saw the canoes coming toward him from Lae o Kahuka, he rose up before them. Together,

they passed Kapākule, the place where the sharks were placed in ancient times as play things of the natives of Puʻuloa. When the canoes and people aboard reached the place where the waves of Keaʻaliʻi break, Laumeki cared for them, to ensure that no harm would befall them. This place is right at the entrance of Puʻuloa.

As the rays of the sun scattered out upon the water's surface, the people on the canoes saw the red-hues upon the water and upon those who paddled the double-hulled canoes. Pueo then saw something reflecting red, beyond the paddlers, and below the water's surface. Pueo realized that it was Laumeki with the ʻanae fish. The ʻanae traveled with Laumeki outside of Kumumau, and past Āhua. They continued on past the Harbor of Kalihi at Kahakaʻaulana, with the fish being urged on, by the people back at Kalaekao, Puʻuloa, and Laumeki was at the front, leading the fish at Māmala…They continued on around Kawaihoa, Makapuʻu, and traveled passed Koʻolaupoko, and on past Laniloa at Lāʻiemaloʻo, Koʻolauloa…

December 27, 1895 (page 4).

…This is how the mullet came to regularly travel between the place called Kaihukuʻuna at Lāʻiemaloʻo and Honouliuli at ʻEwa…

January 10, 1896 (page 1) and January 17, 1896 (page 1).

…Mokumeha and Laumeki returned to Honouliuli, and Mokumeha offered a prayer chant to his elder brother:

> O eel,
> O Laumeki,
> Who passed before the point,
> Dwelling in the pit,
> Eel of the cavern,
> You of the kauila (body) form,
> That is the form of the Laumilo,
> Your wooden body,
> It is Laumeki.
> Amen, it is freed…

…While Laumeki was resting at Honouliuli, Mokumeha set off once again to visit various locations around the island of Oʻahu. He bid aloha to his family and walked across the broad plain of ʻEwa. He arrived at Kapūkakī, which is the boundary of the land of the streaked seas, that land in the calm, reddened by the dirt carried upon the wind. This is where ʻEwa ends and Kona begins…

8. He Kaao no Kauilani (A Tradition of Kauʻilani)

The tradition of Kauʻilani spans various islands of the Hawaiian Archipelago and follows the children of chiefly parents with a godly lineage. The parents of Kauʻilani and Lepeamoa were Keāhua and Kauhao, both of whose names are commemorated as places in the Mānana-Waimano vicinity of ʻEwa. Kauhao's parents were Honouliuli (k.) and Kapālama (w.); the lands which are known by those names honor them. The daughter, Lepeamoa, was born in a supernatural form possessed of both nature and human body-forms. She participated in histories of great importance during the reign of Kākuhihewa as king of Oʻahu. This account, published in *Ka Nupepa Kuokoa* between September 18, 1869 and October 30, 1869, was submitted by S. Kapohu and offers richer details to place, practices and history than those cited later by Westervelt (1915:204-245) and Beckwith (1970:428-429).

Ka Nupepa Kuokoa

September 18, 1869 (page 1).[8]

> Kauʻilani was the son of Keāhua (k) and Kauhao (w), and he was the younger brother of Lepeamoa (w). The family resided at Wailua Kauaʻi, where Keāhua was the high chief. Kauʻilani was descended from high chiefs of Kahiki and Hawaiʻi, and both Kauʻilani and his elder sister, Lepeamoa, were possessed of supernatural powers.
>
> The elders of Kauhao were Kapālama (w) and Honouliuli (k), and the lands on which they lived are now named for them. When Lepeamoa was born, she was born in the form of a hen's egg. Discerning the supernatural nature of her granddaughter, Kapālama and Honouliuli sailed to Kauaʻi on their canoe, Pōhakuokauaʻi, and retrieved the egg. With the egg, they then returned to Kapālama, where they cared for the egg until it hatched. While sailing from Kauaʻi to Oʻahu, the canoe passed by Pōkaʻī, Waiʻanae, and sailed along the fine shore of Kualakaʻi, ʻEwa. From there, they sailed to the many harbored bay of Puʻuloa, and entered into the opening of Puʻuloa where they landed their canoe on the side of the bay. From there, they traveled along the plain to Kapālama…
>
> [The story continues, describing the care given to the egg-grandchild, Lepeamoa. When she hatched, she was in the form of a beautiful bird with many brightly colored feathers.]

September 25, 1869 (page 1).

> After Lepeamoa was taken to Oahu, her younger brother, Kauilani was born. He was taken and reared by his paternal grandparents, Laukaʻieʻie [k] and Kaniaʻula [w], in the uplands of Wailua. Kauʻilani was bathed in a sacred pool, which caused him to mature quickly, and

[8] The following English text is a summary of events described in the traditional accounts taken from Hawaiian language resources. They are not direct translations.

his grandparents instructed him in various skills and forms of Hawaiian combat. During this time, a god Akua-pehu-ʻale rise up and fought against Keāhua and his people, capturing them and holding them prisoner. Following the instructions of his grandparents, Kauʻilani fought against the god, [October 2, 1869:1] and vanquished him, returning the rule of Kauaʻi to Keāhua…

October 9, 1869 (page 4)

After the battle, Kauʻilani and his father were reunited, and in this way, the youth learned that he had a sister who was being raised on Oʻahu, by the elders of Kauhao. Kauʻilani determined to go and seek out his sister, and Kauhao instructed him about the lands he would pass and how he would know his sister.

She told him that he must sail from Wailua and along the coast of Waiʻanae, and along the shore of Puʻuloa, where he would find a landing and the path to Kapālama. Before his departure, Kauhao also gave Kauʻilani a supernatural spear named Koawī Koawā, which would help him along his journey, and lead him to his elders on Oʻahu.

Departing from Wailua, Kauʻilani traveled to the shore at Nukoliʻi. He threw the spear, and then took off after it, across Kaʻieʻiewaho channel, sailing to Oʻahu. In his canoe, Kauʻilani passed the coast line of Waiʻanae, and he then drew near the shore of Kualakaʻi where the spear had landed. While Kauʻilani was traveling from Kauaʻi to Oʻahu, two sisters, Kamalulena and Keawalau, who had been surfing at Kualakaʻi, returned to the shore and found the spear. Seeing the spear, and recognizing its excellent quality, the sisters hid it, seeing no man who could claim it.

Shortly thereafter, Kauʻilani passed the coast of Waiʻanae and landed on the shore of Kualakaʻi to retrieve his spear. Upon landing, Kauʻilani saw the two sisters and noted that his spear was nowhere to be seen. Kauʻilani inquired of the sisters if they had seen the spear, which they denied. Kauʻilani discerned that they were lying, and told them so, and he then called out to his traveling companion, the spear, Koawī Koawā. The spear answered from where the sisters had hidden it, and Kauʻilani picked it up and threw it again. It landed near the entry way to Puʻuloa.

October 23, 1869 (page 4)

Arriving where the spear landed, the spear then told Kauʻilani to climb a wiliwili tree that was growing nearby. From there, he would see a rainbow at the shore, and a person picking limpets, octopus, and other things. That person would be Lepeamoa, Kauʻilani's sister. Kauʻilani climbed the wiliwili tree and saw a red patch of a rainbow upon the water near the shore. He asked Koawī Koawā about this, and learned that it was the rainbow shroud of his sister, who was in her bird form near the shore…

9. Ka Moolelo o Kalelealuaka (The Tradition of Kalelealuaka)

The tradition of Kalelealuakā touches on places throughout the Hawaiian Islands. Kalelealuakā and his father, Kaʻōpele, possessed supernatural attributes and their story describes several places in Honouliuli and the larger ʻEwa District. The tradition was published in *Ka Nupepa Kuokoa* and was submitted by J.W.K. Kaualilinoe between April 9, 1870 and June 4, 1870. The original account offers a richer narrative of places and practices than those cited Fornander (Vol. IV 1916:464-471) and Beckwith (1970:415-418). There are several wahi pana named in the tradition with descriptions of place and how the names were given.

Ka Nupepa Kuokoa

April 9, 1870 (page 1) and April 23, 1870 (page 1).

> Kaʻōpele (k) and Makalani (w) were the parents of Kalelealuaka (k). Kalelealuaka was born on Kauaʻi, the native land of his mother. His father had been born at Waipiʻo, Hawaiʻi, and possessed certain supernatural powers. Kaʻōpele was a great cultivator of the land, and he is credited with the planting of large fields on Hawaiʻi, Maui, Oʻahu, and Kauaʻi. On Oʻahu, it was at Kapapakōlea in Moanalua, and at Līhuʻe (Honouliuli), in the district of ʻEwa that Kaʻōpele had cultivated large tracts of land. While Kaʻōpele worked the land with great speed, he was also overcome by a deep sleep that lasted for six months at a time. On many occasions, it was thought that Kaʻōpele had died, and then he would reawaken and resume his tilling of the land. When Makalani became pregnant, Kaʻōpele gave her certain items to identify the child as his own, and shortly before giving birth, Kaʻōpele went to sleep.

April 30, 1870 (page 1).

> Kalelealuaka was born and grew quickly. When Kaʻōpele woke up from his sleep, he instructed his son in various techniques of fighting, and Kalelealuaka became known as an exceptional warrior, who moved so swiftly, that no one could even see him…One day, when looking out across the ocean, Kalelealuaka saw a land in the distance, and he inquired of Kaʻōpele, "What land is that?" Kaʻōpele told him that is was "Kaʻena on the island of Oʻahu. Kalelealuaka then asked, "What is the village that is there beyond the point?" Kaʻōpele answered, telling him that it was "Waiʻanae." When Kalelealuaka expressed a desire to travel and see that land more closely, Kaʻōpele made a canoe for his son to travel on.
>
> When preparations were being made for Kalelealuaka's departure, he befriended a youth named Kaluhe, and it was agreed that Kaluhe would travel with Kalelealuaka. When everything was made ready, Kaʻōpele told Kalelealuaka:

Sail until you reach the point outside of the village of Waiʻanae, then travel across the plain to a place where there is a pool of water. That will be the pool of Lualualei. They you will ascend the pass of Pōhākea, from where you will see the flat lands spread out before you. You may also see the expansive cultivated fields of Keahumoe which I planted before coming to Kauaʻi…

May 7, 1870 (page 4).

Kalelealuaka and Kaluhe sailed to Oʻahu and passed the heiau of Kānepūniu and landed on the shore. There Kalelealuaka was met by a group of youth who were surfing. One of the youth inquired about the journey of the two travelers, and one asked if he might accompany Kalelealuaka and his companion. Kalelealuaka agreed, and the group walked across the plain and found the pool of Lualualei. From there, they then ascended the mountain, to the pass at Pōhākea, from where they looked out across the broad flat lands of Keahumoe. Descending the slope, they found a large banana patch that had been planted by Kaʻōpele.

Kalelealuaka then shot his supernatural arrow, and it flew down slope, passing the plains of Puʻunahawele and Kekuaʻōlelo, and it landed at Kekuapōʻai, awaiting Kalelealuaka's arrival. This was at Waipiʻo, above ʻEwa. The people of the area saw the flight of the arrow, and cried out "Ka pua lele hoi e!" ["How the arrow flies!"] That is why the place is called "Lele-pua" [Flying-arrow], to this day…

Kalelealuaka stayed in the uplands above Lelepua, at Kahalepōʻai, and asked his companions to go and fetch the arrow. He also told them to gather some clumps of ʻawa and sedges for straining it. The two companions went and arrived at the edge of the stream called Kaniukūlou, where they saw some women bathing. They asked, "Have you perhaps seen our arrow?" The women denied having seen it, hoping that they might keep it for themselves. Because they had found it and greatly admired its beauty. Sensing that they were lying, Kaluhe called out to the arrow, and it leapt from the place at which it had been hidden, into his hands. The women were frightened by this, and fled away.

Kaluhe and his companion left the stream and arrived at a large house with clumps of ʻawa planted all about it. Looking around, they found no one in the house or in the surrounding lands, so they began to gather some of the ʻawa. While picking the ʻawa, they heard a voice call out to them, "Set aside that which you have taken, or I shall return." Startled by this command, they dropped the ʻawa and fled, returning to Kalelealuaka, and describing the house, its surroundings, and events to him. They noted that the house was an excellent one, and only lacked sleeping mats inside.

Kalelealuaka had them gather rolled sleeping mats and kapa and they then traveled to the

house. Entering the house, they found that all was in order, and they prepared food, ate, and drank ʻawa, with no other voices calling to them. The next day, Kalelealuaka arose, and he and his companions planted large fields with various crops. The field planted by Kalelealuaka extended from the uplands of Kahalepōʻai to the lowlands of Puʻunahawele. When the work was completed they returned to the house and prepared pōpolo, ʻāheahea, and ʻinamona as their food. These were the only things which presently grew around the house that could be eaten until their own gardens matured. While they were eating, The youth from Oʻahu, ate with great haste and ferocity, and Kalelealuaka called to him, urging him to eat with patience. Because of this, the youth from Oʻahu, came to be called "Keinohoomanawanui."

One of the problems in living in the uplands was that there were plenty of plant foods to be had, but there was no fish. One day, while preparing their food, Keinohoomanawanui was making ʻinamona (kukui nut relish). When he struck a broiled kukui nut, the shell flew up and struck him in the eye, blinding him in that eye. Kalelealuaka then took up the task of preparing the food…

May 14, 1870 (page 1).

Kalelealuaka told Keinohoʻomanawanui, "I will prepare that food which we two desire." Keinohoʻomanawanui said, "That which I desire are the sweet potatoes of the planted fields below, and the eels of the pond at Hanaloa." Kalelealuaka told Keinohoʻomanawanui, that "in time, you will have your desire." Now these foods were the property of the king Kākuhihewa, and they were kapu to all but him and his people. Kalelealuaka told Keinohoʻomanawanui, "Tomorrow, Kākuhihewa and his people will arrive here in the uplands of Waipiʻo, to gather wood with which to make new houses in the lowlands."

Now while Kalelealuaka and Keinohoʻomanawanui were discussing these things, Kākuhihewa himself had come to the uplands to gather some of the ʻawa that grew at Kahauone. Seeing the large house in which Kalelealuaka and his companions dwelled, he quietly drew near and overheard the conversation, curious about who these men were. He set a wooden image in the ground near the house to mark the area, and then departed, returning to Puʻuloa. Kākuhihewa thought about what he had heard, and the bold remarks that they would soon eat the favored eels of Hanaloa. Kākuhihewa spoke of this with his advisors and war leaders, some of whom suggested that a party go to the uplands to kill the impertinent youth.

Instead, Kākuhihewa sent to **Waimānalo** [ʻEwa] for his priest, Nāpuaikamao. Nāpuaikamao traveled to Koʻolina where Kākuhihewa was staying, and listened to the words of his chief, describing the youth and their conversation. Nāpuaikamao thought about their words, and the symbolism of the desire for the eels of Hanaloa, and discerned

that one of the youth was the great warrior, Kalelealuaka, of Kaua‘i. Now at this time, Kākuhihewa was at war with a chief named Kūali‘i, the two kings seeking to rule all of O‘ahu. Nāpuaikamao told Kākuhihewa, that it was Kalelealuaka who would bring victory to his side, and that he should prepare a house for the youth and allow them to fulfill their desires.

Kākuhihewa agreed, and ordered preparations to be made. He then had his counselor, Maliuha‘aino go to the uplands of Waipi‘o and invite Kalelealuaka and his companions to the shore…

May 21, 1870 (page 1).

Maliuha‘aino arrived before the youth, and following a discussion, it was agreed that they would meet with Kākuhihewa…Descending to the coast, they passed the plain of Pu‘unahawele. They then passed below Pu‘uku‘ua which is near the mountain ridge, and descended to the shore of Pu‘uloa. Kalelealuaka and his companions were shown the houses and foods that had been prepared for them, and they took up residence at Pu‘uloa…

[During this time, the identity of Kalelealuaka remained hidden from Kākuhihewa and his people. Because the king had heard Keinoho‘omanawanui speaking about his desire for the eels of Hanaloa, and because Keinoho‘omanawanui told people that he had been blinded in one eye by a spear, it was assumed that Keinoho‘omanawanui was the great warrior that they sought.]

With the passing of several periods of ten days [anahulu], a messenger from the king, Kūali‘i, arrived bearing the message that Kūali‘i challenged Kākuhihewa to a battle on the field at Kanalua [Kauālua], in Moanalua… The warriors met, and a great battle took place in which the champion of Kūali‘i was killed. It was thought that Keinoho‘omanawanui [mistaken as being Kalelealuaka] had secured the victory for Kākuhihewa…During this battle, Kalelealuaka had stayed behind at Pu‘uloa, and after the battle began, ran secretly with great speed to the battle ground, and killed Kūali‘i’s champion…

May 28, 1870 (page 1).

At each of the subsequent battles between the warriors of Kākuhihewa and Kūali‘i, Keinoho‘omanawanui was credited with, and accepted the honor of having defeated Kūali‘i’s champions. Because Kalelealuaka moved so swiftly, no one even saw him enter the battle field. Kalelealuaka had stayed behind at Pu‘uloa, and secretly entered into the battle, killing Kūali‘i’s champions, and taking their capes and feather helmets, with which he returned to Pu‘uloa, hiding the items in his house.

June 4, 1870 (page 4).

At the last battle between Kākuhihewa and Kūali‘i’s champions, the forces met near Waolani, and Kalelealuaka killed all of the warriors of Kūali‘i. Great honor was to be bestowed upon Keinoho‘omanawanui, but Kalelealuaka arrived before the assemblage and claimed the privilege. Kalelealuaka accused Keinoho‘omanawanui of deception, and challenged him to a fight to prove it. As quickly as the battle began, Keinoho‘omanawanui was killed, and Kalelealuaka took his head to Maliuha‘aino.

Seeing that all of his warriors had been killed, Kūali‘i, thought that his life too was forfeit, but Kalelealuaka invited him to live under Kākuhihewa, to which Kūali‘i agreed. The head of Keinoho‘omanawanui was taken to Pu‘uloa and then set atop an ‘a‘ā hillock above Kalauao…Kalelealuaka, Kākuhihewa and Kūali‘i, and their people lived out their days in peace…

10. Na Wahi Pana o Ewa i Hoonalowaleia i Keia Wa a Hiki Ole ke Ikeia
(Storied Places of ‘Ewa, That are now Lost and Cannot be Seen)

Between June 3, 1899 and January 13, 1900, the Hawaiian newspaper, *Ka Loea Kalaiaina,* published a series of articles titled “Na Wahi Pana o Ewa i Hoonalowaleia i Keia Wa a Hiki Ole ke Ikeia,” which can be translated to “The noted places of ‘Ewa that have been forgotten at this time and can no longer be seen.” The author of the series is not identified, but it is a rich resource of traditions, named places and history of the district. Excerpts pertaining to Honouliuli as published in various issues are presented below. A careful review of the original Hawaiian texts has been made and the translations compiled with reference to notes developed by Mary Kawena Pukui.

Ka Loea Kalaiaina
Na Wahi Pana o Ewa i Hoonalowaleia i Keia Wa a Hiki Ole ke Ikeia
The noted places of ‘Ewa that have been forgotten at this time and can no longer be seen

Ianuali 13, 1900 (aoao 1)	**January 13, 1900 (page 1)**
Aia no i keia aina kekahi puu kaulana o **Puuokapolei**, i keia wahi i noho ai o Kamauluaniho me kana moopuna me Kekeleaiku, kaikuaana o Kamapuaa. Mahope iho oko lakou haalele ana ia Kaliuwaa Kaluanui Koolauloa. Aole nae au e kamailio iki ae a e hoi au no **Puuokaplei**.	[Honouliuli] There is on the land a famous hill, **Puuokapolei**. It was at this place that Kamauluaniho lived with her grandson, Kekeleaiku, the older brother of Kamapuaa. This was after they left Kaliuwaa, Kaluanui at Koolauloa. I did not speak much earlier about it so I will return to **Puuokapolei**.
Ina e hele ana kamahele ma ke alanui	If a traveler should go along the

aupuni no Waianae, aia a haalele ia Honoulluli ke kulanakauhale o ke Gula, e loaa mua mai ana ia ia ke kula o Puuainako, a hala ia, hele mai o Keoneae, alaila, pii aku no i ka piina o ka **Puuokapolei**, a ilaila, haliu ae oe a nana makai o ke alanui aupuni e ku ana ua wahi puu ala ia, oia hoi o **Puuokapolei**, na keia wahi puu i alai ia Ewa, ke huliaku hoi oe ma kela aoao o **Waimanalo** pau kou ike ana ia hope nei, hele aku he mau hoalu liilii a holo aku oe he kula, o keia kula, oia ke kula o Pukaua [Pu‘ukaua], aia mauka io ke alanui e ike ai oe he pohaku nui e ku ana i ke kula. Eia kahi moolelo i kaulana ai kela kula.

He wahi luahine kupua, a i ole ia he mau luahine hooehaa, he mau wahi luahine hahapaiea paha, no laua o Puukaua; ia laua i kai o Kualakai i ka lawaia i ke ahiahl, i kai no laua a i ka lawaia a wanaao hoi mai. Eia ka laua mau wahi i‘a, he Aama ua i‘a, he Pipipl ua i‘a, a me na ano i‘a like ole apau e loaa aku ana i ko laua nei mau lima. Ia laua nei e hoi ana i ke kula mai kahakai mai, me ko laua manao ana la e hiki poeleele aku ana la laua i kauhale, aole nae pela. Ua halawai laua me ka maka paa, oiai, laua e hookokoke aku ana i ua kula ala, ua malamalama loa ae la,a ua hiki ke ike ia aku na kanaka ke hele ae, a eia no nae laua nei ma kai o ke alanui e hoi nei, a no ko laua nei makau o ike ia

government road to Waianae when he leaves Honouliuli, the city of Gold, he will first come to the plain of Puuainako (Mounds of cane debris), and passing from there, arrive at Keoneae (The fine soil or cinder), and then from there shall go straight the ascent to **Puuokapolei** (Hill of **Kapolei**). Then when you look around, towards the shore side of the government road, this is the hill. It is **Puuokapolei**. When you go to the side towards **Waimanalo**, you see no more of the sight back here. This hill shields/blocks Ewa from view. When you are done, you go down a little on the plain. This plain is the kula of Puukaua. It is there above the government road that you will see a large stone situated on the plain. Here is a famous story of this plain land.

There were some supernatural women, or peculiar women who possessed strange powers, they were of Puukaua; they would regularly go down to the shore of Kualakai to go fishing in the eveing. The would stay at the shore fishing until early morning. Here are the things they would catch, Aama crabs, pipipi shellfish, and all manner of fish, whatever they could catch with their hands. As they were returning to the plain from the shore and thinking of getting home before morning came, that it would still be dark. But it was not so. They met a blind person as they were getting close to the plain and it was getting light, and they could be seen by the people that were traveling

laua e na kanaka.

by. They were still on the shoreward side of the trail, and they were afraid of being seen by people.

Ia wa ua hoomaka mai la laua e holo, oia holo ko laua nei, oia lele, a hina a palaha eia no nae, ala no holo no, a helelei aku la ka Aama a me ka limu, aohe nae he nana ia iho. Aia ka pono o ke kaa aku mauka o ke alanui, eia nae ua pale pono, oiai, ua ao loa ae la. I kela wa olelo aku la kahi luahine i kahi luahine o laua:

They then started running, and as they ran, they lept, fell and sprawled out, and their Aama, and limu all scattered about, but they took no care. Then one old woman said to the other of them:

"E pee kaua, o ike ia mai auanei kaua e na kanaka?" a o ko laua nei pee iho la no ia. Lilo koke ae la ko laua kino i kino pohaku. A oia ke kaulana o keia kula i keia kino pohaku a hiki loa mai i keia wa.

"Let us hide, unless were be seen by the people." And so they hid. Their bodies were then turned into a stone body. Their stone body is one of the famous things on this plain to the present day.

O keia ka pau ana o ko laua moolelo. O ke kaahele malahini ana a hiki ia kula, aole no he hewa ke alawa ae mauka o ke alanui i ike ia laua i ke ku mai a i ke kula.

This is the end of their story. So when one visits the plain, there is nothing wrong with glancing above th etrail to see them standing there on the plain.

E nee mai kakou i **Puuokapolei**. O keia pu kekahi puu kaulana loa i ka wa kahiko. Mai keia puu mai i haku ia ai kekahi mele i kamaaina i ka poe lealea o ka wa kahiko, ua haku ia apuni Oahu nei, a ma ia mele e oli ai ka poe Pukaula a me ka poe Ukeke laau, ka poe kimo pohaku, hua Noni, hua kukui paha.

Let us go on to **Puu-o-Kapolei**. This was one of the most famous hills in ancient times. It is from this hill that chant was composed by the natives, and those who were skilled in the games of olden times. It was composed to go around the Oahu. It was with this chant that the people who played pukaula (a guessing game) and those who played the wooden ukeke (a native bow string instrument), and those who juggeled stones, noni fruit or kukui nuts.

This was a chant to recount land names,

Ua helu ia ka inoa o keia mele ma kainoa o ka aina, a oia ka‘u e panee aku nei imua o ka poe aole i loaa a paa naau i neia mele. E like me na mele kahiko i loaa ole i kekahi poe, a loaa hoi kahi i kekahi poe:

E Kawelo e, e Kawelo — e
E Kawelo mainui o **Puuokapolei**

O **Puuokapolei**—
Uliuli ka Poi a kaua e ai nei –
O Honouliuli
Aeae ono—a Paakai e hoaeae

O Hoaeaee
Pikele, Pikele ka i‘a e Waikele—

O Waikele
Ka Hale pio ka hua moa —
O Waipio
E ku a ai kaua i ka Ia loko awa —
O Waiawa
Mai hoomanana ia kua —
O Manana
Kini kahawi he lau he mano —

O Waimano
Ko ia kaua e ke au —
O Waiau
Kukui malumalu o kaaua [kaua] —

O Waimalu
E ala kaua ua ao —
O Kalauao
E kipa kaua e ai —

and I present it before the people, who may not have it memorized. It is like the old chants that are not known by some people, though it is familiar to other people [the chant is presented in a riddle stylem, stating a question and answering it by speaking the place name]:

O Kawelo, o Kawelo — e
Kawelo with the large genitals, of **Puu-oKapolei**,
It is **Puuokapolei**.
The poi that we eat dark —
It is Honouliuli
Fine and delicious is the salt of Hoaeae —
It is Hoaeae
Tiny and numerous are the fish of Waikele —
It is Waikele
A House arched like an egg —
It is Waipio
Stop and eat of the awa fish —
It is Waiawa
Let us not spread out the limbs —
It is Manana
Many streams, hundreds and thousands —
It is Waimano
We two are drawn in by the currents
It is Waiau
We two are in the shade of the kukui trees —
It is Waimalu
Let us get up for it is day —
It is Kalauao
Let be hosted to eat —
It is Aiea
We two were almost plundered —

O Aiea
Mai hao halawa ia kaua —
O Halawa
E hoi kaua e noho i ka lua —
O Moanalua
Hooipoipo hau kaua —
O Kahauiki
E pii kaua i ka lama —
O Kapalama
E nunu a haawe kaua —

O Honolulu
Kiki kuoha ilaila —
O Waikiki
Kike ka hua a kaalae —
O Waialae
He wahine hoolupe keia —
O Wailupe
Mauna kuu hoa i ka lua —
O Maunalua
He wahine heekoko keia —
O Koko
Puo ka lau o ka niu —

O Niu
Pauma na waa i ke kai —
O Hanauma
He wahine makapuu keia —
O Makapuu

E na hoa e kala mai oukou iaʻu. O keia ae la kahi i paa iaʻu o keia mele, a he mea nui no hoi i na hanaua hou, ka loaa ole ana o na mea kahiko…

E waiho kakou i na wahi pana o Honoluliuli i koe aku a hiki i ka kupono.

It is Halawa
Let us two go and dwell in a pit —
It is Moanalua
We make love in the hau —
It is Kahauiki
Let us go up to the lama trees —
It is Kapalama
Let us two make a bundle and carry it—
Honolulu
Spurting there —
It is Waikiki
Cracked is the egg of the mud hen
It is Waialae
This is a woman who flies a kite —
It is Wailupe
My companion bruised in a pit —
It is Maunalua
This is menstruating woman —
It is Koko
Gathered are the leaves of the coconut —
It is Niu
Plying the canoes in the sea —
It is Hanauma
A pop-eyed woman is she
It is Makapuu.

My friends, pardon me for this is. This is that is known to me of the chant. This may be an important thing for the new generation who may not receive the things of old.

Let us not leave the other storied places of Honouliuli until a time when it appropriate.

We are now moving to Hoaeae, Waihi is there. This place is found by looking

E nee mai ana kakou i Hoaeae, aia ilaila o Waihi a aia no ma ia wahi i ka huli e nana iho ana i ke alahao he wahi Owawa, ua pili loa i ke alahao. Oia kahi i make ai o ka Moi Oahu nei, oia o Kahahana.

Ua olelo ia o Kahahana he keiki hookama na Kahekili, ke alii o Maui, a i ole he keiki no paha na Kahekili. O ka nohoalii ana o Kahahana he nohoalii ino, he hookuli, a hoopale i na olelo ao a ke kahuna, na kakaolelo, a me na kuhikuhi puuone…

down towards the rail line, is it a gulch adjoining the railway track. It is the place where the King of Oahu, Kahahana, died.

It is said that Kahahana was an adopted son of Kahekili, the King of Maui, or perhaps the own son of Kahekili. The rule of Kahahana was an evil rule. He ignored and rebuked the advise of his priests, counselors, and those who interpreted the nature of the land…

11. Ka Moolelo Hawaii – O kekahi mau mea i manao nui ia o ke kupapau
(Hawaiian History – Some things which are of importance pertaining to the dead)

Care for the dead (kupapa‘u), respect of the graves (ilina) and traditions associated with the spirit after death are subjects of great significance to Hawaiians – past and present. In his history of the Hawaiian people, Samuel M. Kamakau shares with readers a collection of traditions and practices pertaining to the dead and identifies some of the places of importance in these practices. These narratives are of particular importance to lands and specific wahi pana of Honouliuli and are connected across the landscape to Moanalua.

Ke Au Okoa
O kekahi mau mea i manao nui ia o ke kupapau.

‘Okakopa 6, 1870 (aoao 1, Helu 43)

> …Hookahi anahuna kaulana ma Oahu. O Pohukaina ka inoa, aia ma ka pali o Kanehoalani mawaena of Kualoa a me Kaaawa, aia ka puka i manao ia ma ka pali o Kaoio e huli la i Kaaawa, a o ka lua o ka puka, aia ma ka punawai o Kaahuula-punawai. He anahuna alii keia, a he nui ka waiwai huna iloko a me na‘lii kahiko. O Hailikulamanu, oia kekahi puka, aia a kokoke makai o ke ana Koluana i Moanalua, aia ma Kalihi, ma Puiwa, oia na puka ekolu o Pohukaina ma Kona, a o Waipahu ma Ewa, aia ma Kahuku i Koolauloa kekahi puka, a o kauhuhu o kaupaku o keia hale anahuna, oia no ka mauna o Konahuanui a iho i Kahuku. Ua olelo ia ma ka moolelo a kanaka, ua nui ka poe i komo iloko me na ihoiho kukui, mai Kona aku nei a puka i Kahuku…

A maloko o keia anahuna, he mau halokowai, he mau muliwai a mau kahawai, ua hana kinohinohi ia, a ma kauwahi aku, he mau aina palahalaha...

Na uhane mahope o ka make ana o ke kino.

...O ke ao kuewa; a o ke ao auana kekahi inoa; I ka make ana o ke kanaka kuleana ole, ua auana kuewa hele kona uhane me ka lalau hele i ka nahelehele, a ua hele wale i [Kamaomao], a i ka wiliwili o Kaupea, a hiki kona uhane i Leilono, aia malaila ka Uluolaiowalo; a i loaa ole kona uhane aumakua i maa mau ia ia, a aumakua kokua hoi, alaila, e lele kona uhane ma ka lala ulu popopo a haule ilalo lilo i ka po pau ole i o Milu la…

O Leiolono; Oia kekahi wahi e make ai na uhane i ka po pau ole. Aia o Leiolono kokoke i ka pohaku o Kapukaki a ma nae aku, e kupono ana i puu hoilina kupapau o Aliamanu, a huli i ka aoao akau o Hokupaa, aia ma ke kapaluna o ke alanui kahiko, aia he hapapa pahoehoe pohaku, aia maluna he wahi ponaha, he alua paha kapuai ke anapuni, oia ka puka e iho ai ilalo, o ka nuu ia o Papa-ia-Leka he ao aumakua ia wahi, aia ma ka puka e iho ai o ka puka o Leiolono, he ulu o Leiwalo, elua lala ma ka hikna kekahi a ma ke komohana kekahi, he mau lala ulu hoopunipuni keia, a o kekahi lala niu, he lala e lele ai i ka po pauole, a o ka lua o ka lala ulu, aia a kokua ia mai e ka uhane aumakua kokua, alaila, e ike auanie maia ao aumakua, i na kupuna i olelo ia o Wakea a me ka huina kupuna a pau, a me ko ke ao holookoa e hele nei, i ka lakou huakai; a o kekahi hapa, aia ma kela lala ulu hoopunipuni i ka po pauole. O ka palena o Leilono, o Kapapa-kolea ka palena hikina, he peelua nui launa ke kiai hikina o Koleana; a o Napeha ka palena komohana, a he moo ke kiai malaila, a i makai i keia mau kiai, alaila hoi hou i hope, a i kokua hou ia e na uhane aumakua, alaila, ua hou, a ua alakai ia i ke ao aumakua.

A i makau i ka peelua e alai ana i ke alanui mai kela aoao mai o Alia, kiei ke poo ma ka pali o Kapakolea, alaila makau ke uhane a auwana, a pili aoao ma ke kahawai ma ka hale hana ili, aole he alanui aupuni mamua, aka, he alanui kamaaina no Kauhilaele, a ua oleloia aia a komo ka auwana maloko o na palena, he make wale no kona uhane, a o ke lele i ka po pau ole; aka, ua oleloia ua ola mai no kekahi poe uhane auwana ke loaa i na uhane aumakua kokua, a o ka poe kokuaole, e make no i ka po pauole, a i o Milu la. Aia ma ke kula o Kaupea, ma ke kaha o Puuloa, e hele ai na uhane auwana e poipoi pulelehua, a e poipoi nanana, oiai aole e hele loa na uhane auwana i na wahi i olelo ia mamua, a i loaa paha i na uhane aumakua e poipoi nanana ana, a ua hoopakeleia, a o ka poe uhane kokua ole, he poe uhane haukae lakou, a mai ka wiliwili i Kaupea, i Kanehili, he nui no na wahi i oleloia ma keia inoa. O Kaleia-a-kauhane [Ka-leina-a-ka-uhane], a me ka Ulu o Leiwalo, aia ma Hawaii, ma Maui, ma Molokai, ma Lanai, ma Kauai a me Niihau, hookahi no moolelo like no keia mau wahi…

Translation — Hawaiian History:
Some things which are of importance pertaining to the dead.

There is only one famous hiding cave [ana huna] on Oahu. It is Pohukaina. The opening on Kalaeokaʻoʻio that faces toward Kaʻaʻawa is believed to be in the pali of Kanehoalani, between Kualoa and Kaʻaʻawa, and the second opening is at the spring Kaʻahuʻula-punawai. This is a burial cave for chiefs, and much wealth was hidden away there with the chiefs of old. On the Kona side of the island the cave had three openings, one at Hailikulamanu—near the lower side of the cave of Keleana in Moanalua—another in Kalihi, and another in Puʻiwa. There was an opening at Waipahu, in Ewa, and another at Kahuku in Koʻolauloa. The mountain peak of Konahuanui was the highest point of the ridgepole of this burial cave house, which sloped down toward Kahuku. Many stories tell of people going into it with kukui-nut torches in Kona and coming out at Kahuku. Within this cave are pools of water, streams, creeks, and decorations by the hand of man (hana kinohinohiʻia), and in some places there is level land (Kamakau, 1964:38).

The leina a ka ʻuhane on Oahu was close to the cape of Kaʻena, on its right (or north, ʻakau) side, as it turns toward Waialua, and near the cutoff (alanui ʻoki) that goes down to Keaokuʻukuʻu. The boundaries of this leina a ka ʻuhane, it is said, were Kahoʻihoʻina-Wakea, a little below Kakaheʻe, and the leaping place (kawa-kai) of Kilauea at Keawaʻula. At these places would be found helpful ʻaumakua souls who might bring back the spirit and restore life to the body, or if not, might welcome it to the realm of the ʻaumakua. Places within the boundaries mentioned were where souls went to death in the po pau ʻole, endless night.

Leilono at Moanalua, Oahu, was close to the rock Kapukaki and easterly of it (a ma ka naʻe aku), directly in line with the burial mound of Aliamanu and facing toward the right side of the North Star (a huli i ka ʻaoʻao ʻakau o ka Hokupaʻa). On the bank above the old trail there was a flat bed of pahoehoe lava, and on it there was a circular place about two feet in circumference. This was the entrance to go down; this was the topmost height (nuʻu) of Kapapaialaka, a place in the ʻaumakua realm. Here at the entrance, ka puka o Leilono, was a breadfruit tree of Leiwalo, he ʻulu o Leiwalo. It had two branches, one on the east side and one on the west.

These branches were deceiving. From one of them, the soul leaped into the po pau ʻole; if he climbed the other, it would bring aid from helpful ʻaumakua (ʻaumakua kokua). From that branch the soul would see the ʻaumakua realm and the ancestors spoken of, Wakea and all the rest, and those of the entire world who had traveled on this same journey.

The boundaries of Leilono were, Kapapakolea on the east, [with] a huge caterpillar (peʻelua nui) called Koleana as its eastern watchman, and the pool Napeha on the west, with a moʻo the watchman there. If the soul was afraid of these watchmen and retreated, it was urged on by the ʻaumakua spirits, then it would go forward again and be guided to the ʻaumakua realm. If a soul coming from the Alia (Aliapaʻakai) side was afraid of the caterpillar, whose head peered over the hill Kapapakolea, and who blocked the way, it would wander about close to the stream by the harness shop. This was not the government road (alanui aupuni) of former times, but was a trail customarily used by "those of Kauhilaʻele" [figuratively, the common people; the laʻele, old taro leaves, as contrasted with the liko, the new and choicer leaves—that is, the chiefs]. It was said that if a [page 48] wandering soul entered within these boundaries it would die by leaping into the po pau ʻole; but if they were found by helpful ʻaumakua souls, some wandering souls were saved. Those who had no such help perished in the po pau ʻole of Milu.

On the plain of Kaupeʻa beside Puʻuloa, wandering souls could go to catch moths (pulelehua) and spiders (nanana). However, wandering souls would not go far in the places mentioned earlier before they would be found catching spiders by ʻaumakua souls, and be helped to escape. Those souls who had no such help were indeed friendless (he poʻe ʻuhane haukaʻe lakou), and there were many who were called by this name, poʻe ʻuhane haukaʻe.

There were Leina-a-ka-ʻuhane and ʻUlu-o-Leiwalo on Hawaii, Maui, Molokai, Lanai, Kauai, and Niihau as well as on Oahu. The traditions about these places were the same. They were where spirits were divided (mahele ana) to go into the realm of wandering spirits, the ao kuewa or ao ʻauwana; or to the ancestral spirit realm, the ao ʻaumakua; or to the realm of endless night, the po pau ʻole.

The places said to be for wandering spirits were: Kamaʻomaʻo for Maui; Uhana [Mahana] at Kahokunui for Lanai; Maʻohelaia for Molokai; Mana for Kauai; Halaliʻi for Niihau; in addition to Kaupeʻa for Oahu. In these places the friendless souls (ʻuhane makamaka ʻole) wandered (Kamakau, 1964:49. M.K. Pukui, translator).

12. Alahula Puʻuloa, he Alahele na Kaʻahupāhau (The Swimming Trails of Puʻuloa [Pearl Harbor], are the Trails Traveled by Kaʻahupāhau)

In 1870, native historian S.M. Kamakau wrote about several practices and beliefs pertaining to manō (sharks) in ancient life. One practice of note in the Puʻuloa region was the practice of transforming deceased family members into manō as ʻaumākua (family gods/guardians). These family ʻaumākua would help their relatives when in danger on the sea—if a canoe capsized or a man-eating shark was threatening attack. Hawaiians also worked with and tamed manō so that one

could ride them like a horse, steering them to where one wished to go (S.M. Kamakau, January 6, 1870; Pukui, translator, 1976). Kupuna Mary Kawena Pukui shared that there were two basic classes of sharks — manō kānaka (sharks with human affiliations) and manō iʻa (wild sharks of the sea–man eaters). The manō kānaka were revered and cared for, while the manō iʻa were at times hunted and killed following ceremonial observances (M.K. Pukui, pers. comm., 1976). The practice of chiefs hunting sharks using the flesh of defeated enemies or sacrificial victims as kūpalu manō (shark fishing chum) and of commoners using rotted fish as kūpalu manō are further described in several historical narratives.

Ke Awalau o Puʻuloa (the many bays of Puʻuloa) are famed in traditional and historical accounts of manō. The traditions center around the several deified sharks, foremost of whom is the goddess, Kaʻahupāhau, then followed several others, including but not limited to Kahiʻukā, Kūhaimoana, Komoawa, Kaʻehuikimanōopuʻuloa, Keliʻikau-o-Kaʻū (Kealiikauaokaʻū) and Mikololou. With the exception of Mikololou, all these shark gods were friendly to people, and dedicated to keeping manō iʻa (wild sharks of the sea), man eaters out of the Puʻuloa-ʻEwa waters, and protecting people.

Traditions of Ke Awalau o Puʻuloa tell us that one of the most important kānāwai (laws) governing manō was that they would not attack humans. This kānāwai was created by the shark gods themselves. Kamakau (1870) wrote about the establishment of this kānāwai stating that:

> Oahu was made a kapu land by this kanawai placed by [the shark gods] Kanehunamoku and Kamohoaliʻi. But their sister Kaʻahupahau broke the law and devoured the chiefess Papio. She was taken and "tried" (hoʻokolokolo) at Ulukaʻa [the realm of these gods], but she escaped the punishment of death. It was her woman kahu who paid the penalty of the law because it was her fault—she reviled Papio. The trouble arose over a papahi lei of ʻilima flowers which belonged to Kaʻahupahau that her kahu was wearing. [The kahu refused to give it to Papio, and] Papio said, "I am going bathing, but when I come back you shall be burned with fire." But Kaʻahupahau devoured Papio before she could carry out her threat, and she was punished for this. That is how Puʻuloa became a [safe] thoroughfare (alahula). After her confinement ended several years later, Kaʻahupahau was very weak. She went on a sightseeing trip, got into trouble, and was almost killed. But she received great help from Kupiapia and Laukahiʻu, sons of Kuhaimoana, and when their enemies were all slain, the kanawai was firmly established. This law—that no shark must bite or attempt to eat a person in Oahu waters—is well known from Puʻuloa to the Ewas. Anyone who doubts my words must be a malihini there. Only in recent times have sharks been known to bite people in Oahu waters or to have devoured them; it was not so in old times (S.M. Kamakau – Pukui, translator, 1968:73).

Several place names commemorate the shark gods of Puʻuloa. Among them are three recorded in the *Saturday Press* of December 29, 1883 (page 6):

> **Keaalii.** A cave in the sea at the entrance to Puuloa harbor, and known by the natives to have been formerly the home of a large shark called Komoawa, who has been generally credited as the watchman on guard at the entrance of Kaaahupahau's waters. The latter's royal cave-dwelling was in the Honouliuli lagoon.
>
> **Kuhia loko Waiawa.** Named for one of the attendants/purveyors of the shark goddess, Kaahupahau.
>
> **Kuhia waho Waiawa.** Named for one of the attendants/purveyors of the shark goddess, Kaahupahau.
>
> **Nahu-Papio or Ka-nahuna-Papio** [The biting or shredding of Papio] (Na wahi Pana o Ewa, 1899-1900), is found along the shore of the Waipiʻo Peninsula, south east of Hōmaikaiʻa or Walker Bay (Register Map No. 322) (Figure 2). This place name identifies the location where Kaʻahupāhau killed Papio.

The role of Kaʻahupāhau as a goddess and guardian in the waters of the Puʻuloa bays remains alive in the minds of natives in the ʻEwa Distrct. Her brother Kahiʻukā (The smiting tail) is also remembered and it is said that with his great tail, Kahiʻukā was responsible for destroying any foreign sharks "that offended his sister" Kaʻahupāhau (Pukui 1943:57-58). His cave is reported in several locations, including Drydock No. 1, between Mokuʻumeʻume and Keanapuaʻa, and another in the Waiawa Estuary (Manu 1895). The cave, destroyed in the construction of Drydock No. 1, was once his home.

Another locational reference to a cave, and the home of Kaʻahupāhau, is found in the cartographic records of the Kingdom, cited on Register Map No. 322 (J. Lidgate/Lydgate, surveyor, 1873). On the map, the cave is dentified as "Shark's Den" along the Honouliuli shoreline of the West Loch, a short distance inland from the old boundary wall between the ʻili of Puʻuloa and the larger ahupuaʻa of Honouliuli. These storied places are a part of the fabric of Hawaiian history and breathe life into the traditions of old.

In addition to the traditions of Kaʻahupāhau, two other accounts center around the nature of sharks in the ʻEwa District and battles that were fought to kill offending sharks. In the early 1820s, members of the Protestant mission station traveled to the ʻEwa District and learned something about the shark gods of Puʻuloa.

Hiram Bingham accompanied King Kamehameha II (Liholiho), the royal family and attendants to ‘Ewa in 1823, where they stayed near the shore of Pu‘uloa. During the visit, the King and party, along with Bingham, visited the dwelling place of a noted shark god. The name of the god was not recorded in Bingham’s journal, though one must infer that it was either the goddess Ka‘ahupāhau or her brother, Kahi‘ukā. Bingham wrote:

> I one day accompanied the King [Liholiho] and others by boat to see the reputed habitation of a Hawaiian deity, on the bank of the lagoon of Ewa. It was a cavern or fissure in a rock, chiefly under water, where, as some then affirmed, a god, once in human form, taking the form of a shark, had his subterraqueous abode. Sharks were regarded by the Hawaiians as gods capable of being influenced by prayers and sacrifices, either to kill those who hate and despise them or to spare those who respect and worship them. It had been held that, when a mother gave her offspring to a shark, the spirit of the child dwelt in it, and the shark becoming an akua, would afterwards recognize and befriend the mother on meeting her, though ready to devour others…(Bingham, 1969:177)

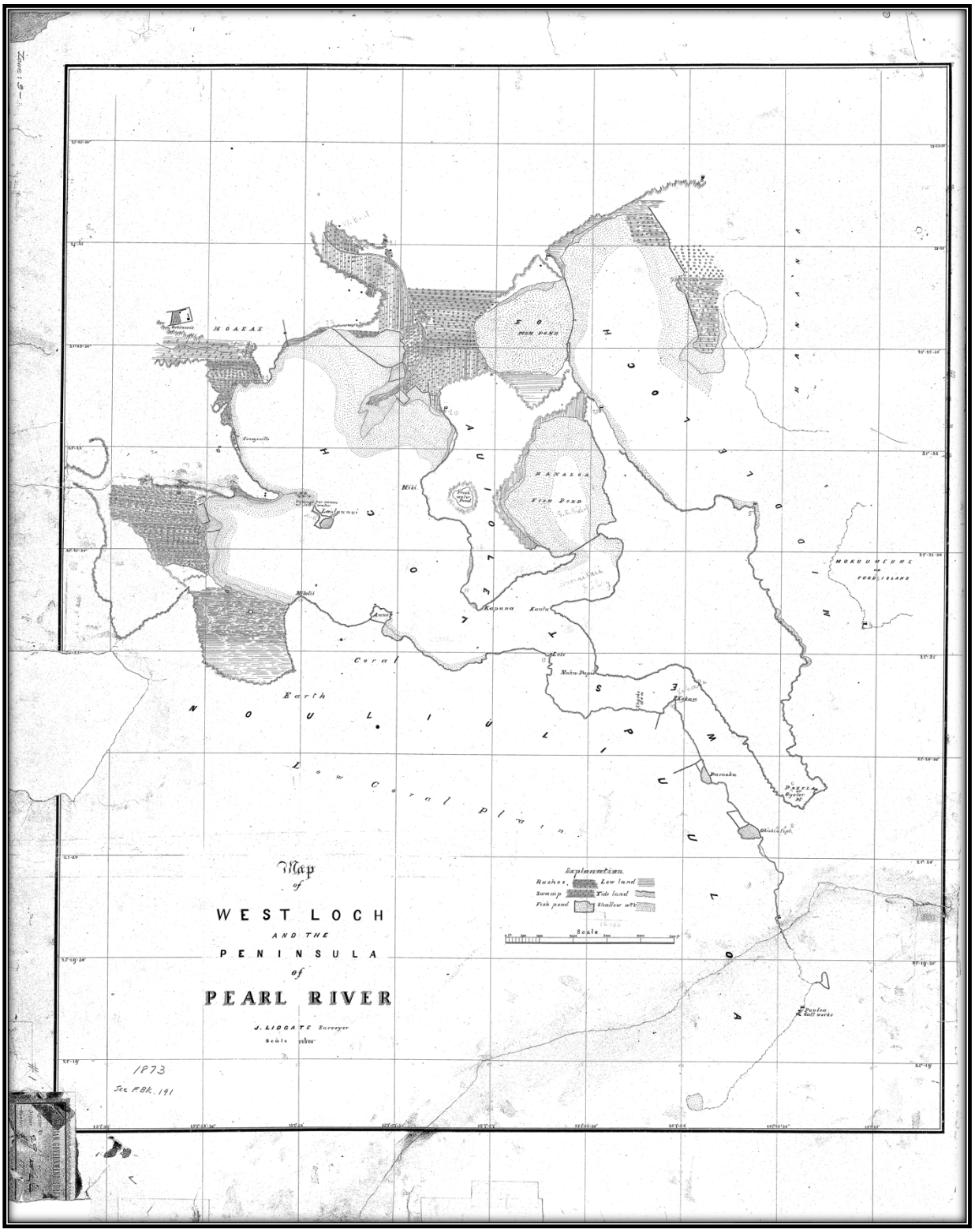

Figure 4. Registered Map No. 322. The West Loch and the Pennisula of Pearl River (k. Lidgate / ludgate, Surveyor), Hawai‘i State Survey Division.

Later in January 1825, Elisha Loomis also traveled to ‘Ewa and stayed along the Pu‘uloa shore (Loomis Journals, Jan. 18, 1823, in Westervelt, 1937). During his visit, Loomis learned the name of the shark goddess who protected the waters of the Pearl Harbor region and also reported hearing about a war between the good sharks and those who sought to eat human flesh. It will be noted that due to his limited Hawaiian language skills, Loomis apparently transposed she for “he” in his journal.

> After supper I conversed with them a long time on the subject of religion…. during the conversation one of them mentioned that in former times there dwelt at Puuloa a famous shark named Ahupahau. He had a house in the hole of a rock. He was one their gods. On one occasion a strong shark 3 or 4 fathoms long came into the channel to make war upon the sharks and upon the natives that dwelt there. Ahupahau immediately communicated to the natives information advising them to get a net out and secure him. They took the hint and spread their nets, and in a little time the stranger was captured.

Loomis’s reference to a “war” between an invading shark coincides with the traditions of Ka-‘ehu-iki-manō-o-Pu‘uloa (1870), Mikololou and Keali‘ikauaoka‘ū (1902), in which battles between sharks are fought in order to protect the people of the ‘Ewa region from attacks by manō i‘a.

J.S. Emerson presented a paper titled “The Lesser Hawaiian Gods” before the Hawaiian Historical Society on April 7, 1892. In this report are details of Ka‘ahupāhau, Kahi‘ukā and Mikololou in the history of ‘Ewa and the waters of Pu‘uloa:

> One reason for the affection shown to the shark aumakua was the fact that so many of them claimed human parentage, and were related by ties of kinship to their kahus. Such was the case with Kaahupahau and her brother Kahi‘uka, the two famous shark-gods of the Ewa Lagoon on this island. Their birth and childhood differed in no essential features from that of other Hawaiian children up to the time when, leaving the home of their parents, they wandered away one day and mysteriously disappeared. After a fruitless search, their parents were informed that they had been transformed into sharks. As such, they became special objects of worship for the people of the districts of Ewa and Waianae, with whom they maintained pleasant relations, and were henceforth regarded as their friends and benefactors. After a time the man-eating shark, Mikololou, from the coast of the island of Maui, paid them a visit and enjoyed their hospitality until he reproached them for not providing him with his favorite human flesh. This they indignantly refused to give, whereupon, in spite of their protest, he made a raid [page 10] on his own account upon the natives, and secured one or more of their number to satisfy his appetite. Kaahupahau and her brother promptly gave warning to their friends on shore of the character of this monster that had invaded their waters. To ensure his destruction

> they invited their unsuspecting guest to a feast made in his honor at their favorite resort up the Waipahu river. Here they fed him sumptuously, and at length stupefied him with the unusual amount of awa which they supplied him. While he was in this condition, their friends, who had come in great numbers from the surrounding country, were directed to close up the Waipahu river, which empties into the Ewa Lagoon, with their fish nets, brought for the purpose, while they attacked him in the rear. In his attempt to escape to the open sea he broke through one net after another, but was finally entangled and secured. His body was then dragged by the victorious people on shore and burned to ashes, but a certain dog got hold of his tongue, and, after eating a portion, dropped the remainder into the river. The spirit of the man-eater revived again, and, as a tongue, now restored and alive, made his way to the coasts of Maui and Hawaii, pleading with the sharks of those waters for vengeance upon the sharks of the Ewa Lagoon. They meantime secured the aid of Kuhaimoana and other notable sharks from the islands of Kaula, Niihau, Kauai, and Oahu. A grand sight it was to the numerous spectators on the shore when these mighty hosts joined in combat and began the great shark-war. It was a contest of gods and heroes whose exploits and deeds of valor have long been the theme of the bards of the Hawaiian Islands…[I]n the first great battle the friends and allies of the cruel man-eater were touted by the superior force of their opponents, which the good Kaahupahau and her brother long continued to enjoy the affectionate worship of their grateful people. It is said that she is now dead, while her brother Kahiʻuka still lived in his old cave in the sea, where he was visited from time to time by his faithful kahu, Kimona, now deceased. Sometimes Kimona missed his fish nets, when he was pretty sure to find that Kahiʻuka had carried them to a place of safety, to preserve them from destruction by hostile sharks (Emerson, 1892:11).

Noted Hawaiian scholar Mary Kawena Pukui wrote about visits she made to ʻEwa and the Puʻuloa region in 1907. She observed that the name "Kaʻahupāhau" could be translated as "Cloak well cared for;" her place in the history of the land is commemorated in the saying, "Alahula Puʻuloa he alahele na Kaʻahupahau, Everywhere in Puʻuloa is the trail of Kaʻahupahau" (Pukui, 1943:57).

13. He Moolelo Hawaii – No na Aumakua Moo
(Hawaiian History – About the Moʻo Guardians/Ancestral Gods)

In this excerpt from "A History of Hawaiʻi," readers learn of the moʻo (water spirit) goddess, Kānekuaʻana. It was to her that the heiau waihau (heiau specifically for moʻo spirits) were established along the Puʻuloa lochs to ensure the abundance of various fisheries, particularly the pipi, nahawele, mahamoe and other bivalve species for which ʻEwa's inland fisheries were famed. Among the kapu (restrictions) of Kānekuaʻana was that fisher-people needed to be very quiet when going to sea to gather the pipi (pearl oysters) and bivalves. The slightest voice would cause the wind to blow, thus making the pipi and other bivalves sink deep into the sands where they would

be difficult to find.

It is because of this kapu associated with Kānekuaʻana that the famous saying of ʻEwa, "ka i-a hamau leo o Ewa," came into being.

Mei 20, 1893 (aoao 1)
He Moolelo Hawaii (Mokuna VII.)
"No Na Aumanua Moo"
Ka Nupepa Kuokoa

…Kanekuaana ko Ewa moo kiai, hilinai nui ko Ewa poe kamaaina iaia, mai Halawa a Honouliuli. Ina e pilikia i ka ia, hoeu like na kanaka i na waihau e pili ana iaia, a o ka ho-a no ia o ke ahi e hoala i ka pomaikai o ka aiona. O ka Pipi ka ia kaulana o Ewa. Aole e hala na mahina eono e ku ai ka lala hau ua piha ka aina i ka Pipi, mai Namakaohalawa a na pali o Honouliuli, mai na kua-pa o uka a na pa akule [Pākule]; mai ka hohonu a ka papa nahawele o kula; mai kaliawa a ka pohaku ona loko a pela aku.

Aia maloko o ka io o ka Pipi momi nani, e like ka nunui me ka onohi ia; he onohinohi keokeo kekahi, ua kapaia he muhee kea; onohinohi ulaula kekahi me he anuenue la, he muhee makoko ia. He liilii a nunui kekahi; a he waiwai kumukuai nui ko ia mea.

O ka Opaehuna a Opaekala kekahi ia; paapu mailoko o ke kai a na loko kua-pa a no loko puuone.

May 20, 1893 (page 1)
Hawaiian History (Chapter VII) "About the Moo Guardians/Ancestral Gods"

Ka Nupepa Kuokoa

…Kānekuaʻana is the moʻo [water spirit] guardian of ʻEwa; many of the natives of ʻEwa, from Hālawa to Honouliuli followed [believed] in her. If there was trouble with the fishing, the people dedicated her temple [Waihau] with the lighting of a fire to bring about blessings upon the land. The pipi [pearl oyster] is the famous fish of ʻEwa. Before six months would pass the hau branches would take hold, and the land would be filled with the pipi, from Nā-maka-o-Hālawa to Honouliuli, from the inland pond walls to the Pā-akule. From the depths to the nahawele reefs and flats. From the channel inlet to the stone-lined ponds, and so forth.

There is within the flesh of the pipi a beautiful pearl, its size is similar to the eyeball of a fish. Some are like the shiny white of an eye, and are called mūheʻe kea. Others are shiny red, like a rainbow, and are called mūheʻe mākoko. Some are small and others are larger, and they are highly valued.

The ʻōpae huna and ʻōpae kala [types of shrimps] are other fish, that are in the sea, the walled ponds, and dune banked ponds.

The nehu pala is another fish which fills the

O ka nehu pala kekahi ia; piha mai ka nuku o Puuloa a uka o na Ewa, pela me na nuku awalau a pau; no laila ka olelo ia ana:

waters from the entrance of Puʻuloa to the coastal flats of ʻEwa. It is the same with all of the lochs (awalau). This is why the saying is told:

"He kai puhi nehu puhi lala
Ke kai o Ewa—e.
E noho i ka lai o Ewanui—
A Laakona—a."

"Nehu appear to be blown upon the sea,
causing the water to shine
It is the sea of ʻEwa,
Dwelling in the calm of great ʻEwa, of Laʻakona"

He Mahamoe kekahi ia kaulana, a he Okupe a mau ia e ae no kekahi. A ina i ike ia keia mau ia a pau alaila, eia ka olelo a na pulapula:

The mahamoe is another famous fish, and the ʻōkupe, another, and there are others. And if all these fish are seen there, here are the words of the natives of the land:

"Hoi mai nei ua luahine nei mai na kukulu mai o Kahiki; noho mai la paha a aloha i na moomoo ana."
O lakou no kekahi i hai mai i ke ano o na pae aina o Kahiki a me na aina e ae i ike ole ia…

"The old woman (Kānekuaʻana) has returned from the foundations of Kahiki; she dwells here perhaps for the love of her descendants…"
They are the ones spoken of coming from the Kahiki and the other lands which have not been seen…

…O Hauwahine, he kiai ia no na loko o Kawainui a me Kaelepulu. O Laukupu ko Moanalua; he malama lakou i ka pomaikaʻi, e pale ana i na pilikia maluna o ke kina a me ka ohana…

…Hauwahine is the guardian of the ponds of Kawainui and Kaelepulu. Laukupu is of Moanalua; it is they who tend to the blessings, protecting the lands and people from trouble…

14. He Moolelo Kaao Hawaii no Laukaieie… (A Hawaiian Tradition of Laukaʻieʻie…)

Hawaiian historian Moses (Mose) Manu penned several lengthy traditions for the native newspaper *Ka Oiaio*, in which he included detailed accounts of a wide range of practices, including those associated with fisheries and deified guardians of the ocean and freshwater fisheries. This account, "He Moolelo Kaao Hawaii no Laukaieie…," was published between January 5, 1894 and September 13, 1895. The tradition is a rich and complex account with island-wide place name references and details for Honouliuli and the larger ʻEwa District. The tradition also includes descriptions of fisheries and aquatic resources, history, and mele, interspersed with accounts from

other traditions and references to nineteenth century events.

The following excerpts of Manu's account were translated by Maly, and include an overview of the moʻolelo and reference narratives which recount the travels of Makanikeʻoe, one of the main figures in the account. During his travels, Makanikeʻoe sought out caves and tunnels that served as underground trails. Through the description of his travels, we learn about some of the wahi pana and resources of the lands through which he traveled.

The following accounts, describing places of the ʻEwa District and neighboring lands, are excerpted from the longer narratives which describe the travels of Laukaʻieʻie, her younger brother Makanikeʻoe, and their companions. The lei momi (pearl garlands) of ʻEwa were described while Laukaʻieʻie and her companions were at Kaʻana, Molokaʻi:

March 9, 1894 (page 4)

> Leiomanu (a youth of Kaʻala, Oʻahu) gave Kaʻana of Molokaʻi, and Kawelonaakalāilehua, the prized lei momi of ʻEwa as gifts. The characteristics of these pearls (momi) included those with a fine yellowish tint, others had bumps like diamonds, and some were bluish-yellow. There were many types of pearls, and they were once regularly seen in the sheltered bays of ʻEwa at Oʻahu. They came from the Pipi (oysters), and the pearls were found near the edges of the Pipi shell. They were a thing greatly cherished by the chiefs of old and worn in lei (necklaces). This is why it is said:
>
> My fish which quiets the voices,
> You mustn't speak or the wind will blow.
>
> This is the famous thing of ʻEwa, where the fish quiet the voices, to these new times.[9] This is the type of lei which had been given to the aliʻi of Lehua, the island which snatches the sun…

April 19, 1895 (page 1)

> …Laukaʻieʻie and her companions, Hinahelelani and Koʻiahi arrived at Honouliuli and were greeted by the natives of that land. Koʻiahi, a chiefess from Mākua, Waiʻanae, was related to Kahoʻonani (w), ʻUlalena (w), and Kauakiʻowao (k), the aliʻi of Honouliuli. It is for these aliʻi that the chant is sung:

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[9] Tradition has it that the pipi (mother of pearl oysters) were very sensitive to any sounds and those who were noisy would scare the shellfish into hiding. Thus, when going to catch pipi and other similar oysters, no one spoke (see Pukui 1983, No.'s 493, 1357 & 1377).

Kahoʻonani resides upon the plain,
ʻUlalena is completely surrounded by the Kauakiʻowao rains…

While they were being hosted at the house of these natives, they saw the beginnings of a red-hued rainbow form near the shore and knew that Kauakiʻowao, the elder brother of the two beautiful sisters, was crossing the flat lands, drawing near to house. When he arrived, Hinahelelani asked Koʻiahi to invite Kauakiʻowao to accompany them on their journey to Kauaʻi…The party departed from the residence at Honouliuli and traveled to Puʻuokapolei, where the met the young maidens Nāwahineokamaʻo and Peʻekāua, the beauties who dwelt upon the lowlands of Puʻuloa. These two maidens accompanied the travelers to Waimānalo and Kaiona, for which the song writer of the late chiefess Bernice Pauahi Bishop wrote:

Respond o woman,
Who travels the plain of Kaiona,
Pursuing the mirages,
On the plain covered with ʻōhai blossoms.

Thus, all these beautiful residents of the land of Honouliuli were gathered together, by the famous beauty of Waiʻanae (Koʻiahi), who is there on the resonating and fine sands of Mākua…

April 26, 1895 (page 1)

…While Laukaʻieʻie and her companions were traveling through Waiʻanae, Makanikeʻoe was following behind. Having landed on the shores of Māmala, he then traveled to Kahakaʻaulana and the landing at Kalihi. He then looked down along the glistening sands and waters where the mullet are found, outside of Keāhua, at the place called Keawakalai. There he saw a crevasse open in the sea. In this place, were sleeping many sharks and turtles, almost as if under the sand. Makanikeʻoe quickly entered into the cave with the turtles and sharks, to see them more closely. Because of his great speed, they didn't know that he had entered their house. Makanikeʻoe crawled along one of the crevasses in the sea, and going beneath the land, he exited out at Āliapaʻakai, at the place called Manawainuikeoʻo. That is the entrance of the sea into that great salt water pond of Moanalua…

Let the author explain here, that this channel was first made when Pele traveled along the islands making craters here and there. This crater is something like the crater of Kauhakō, at Kalaupapa, Molokaʻi.

By this little explanation my readers, you may also know that the remaining crater

is there above Āliamanu, the hiding cave of the chief Kahahana, his companion, Alapaʻi, and his beautiful wife, Kekuapoʻi. He (Kahahana) is the one who killed the priest Kaʻōpulupulu and his son Kahulupue, at Waiʻanae. This is how the famous words of the priest came to be spoken:

Strive for the sea my son,
for from the sea shall come (others of) another land.

And this cave has been given the name "Pililua" from the time of the death of the chief Kahahana.

Pililua, the two of you shall go to ʻEwa,
You are like a canoe,
Pulled by the rope,
To the cliff of Keālia,
At Kamaʻomaʻo,
There at Kinimakalehua.

After seeing these places, Makanikeʻoe then went to the top of Leilono, one of the deity of ancient times. There is a pit dug there in which the foul smelling bodies of the dead and the defiled matter of the dead are thrown.

Makanikeʻoe left that place and went to a place that was covered with something like a rough pahoehoe surface, below the present-day 5 mile marker on the road at Kapūkakī. There he saw the spirit of a woman moving swiftly over a portion of the pāhoehoe. Makanikeʻoe recognized that this was a spirit form rather than that of a living woman, and he felt compassion for her. He then saw that there was a deep pit there, filled with the spirits of dead people, swaying back and forth, and crying out, with moaning and wailing. This is the pit which in ancient traditions is called Kaleinaakaʻuhane. The spirits of the dead go there and can only be freed if their ʻaumakua (ancestral family god) fetches them. They might even be returned back to life again…

Now you may be wondering my readers, what was the name of this woman that Makanikeʻoe took up in his hands. Well the writer will tell you the name of this beautiful young woman of Kaiʻahāmauleo o ʻEwa-nui-a-Laʻakona [The fish that quiets the voice of Great-ʻEwa-of-Laʻakona], it was Kawailiʻulā. She was a native of two lands of ʻEwa, Waiau and Waimano. And it is for this woman that Kawailiʻulā, between the 9 and 10 mile markers from Waiau and Mānana 2nd is named; it is near the present-day court house of ʻEwa…

At this place, Kaleinaakaʻuhane, hundreds and thousands of spirits have been lost…

May 3, 1895 (page 1)

…Makanikeʻoe then went to the uplands, atop the cliffs and ridges of Koʻolau, where he looked down and chanted:

Beautiful is Hālawa in the Waʻahila rains,
Which visits also, the heights of Aiea,
The heat and warmth travels across the plain of Kalauao.

It is true, that he then went to Kalauao, where he saw the pool of Kahuawai. He turned to the uplands and saw the source of the water coming out of the earth, near the top of the cliff of Waimalu. The source of this water, from where it flows, cannot be easily seen because it comes out from the ground in an area where there are many deep holes hidden on the side of the cliff of Waimano. It is from one of these pits that the water flows. It is also at one of these places that the body of David Malo[10] was laid to rest.

This place, between Waiau and Waimano, called Waipuhia, is the place of Kawailiʻulā, who was brought back to life at Kaleinaakaʻuhane, at Kapūkakī…

Kawailiʻulā invited Makanikeʻoe to her home where food was prepared, the ʻanae (mullet) from the pond of Welokā and the famous foods of the land. Kawailiʻulā invited Makanikeʻoe to stay with her, but he declined, explaining that his elder sister and her companions were waiting for him at Waiʻanae…Kawailiʻulā bid farewell to Makanikeʻoe and he disappeared from sight, born by the wind, Moaʻekū of ʻEwa.

Makanikeʻoe then traveled to Mānana, now the 10 mile marked, and the place where the court house of ʻEwa stands. This is the place where ʻOulu, the famous warrior of Kahekili, king of Maui, was surrounded by warriors who thought to take him prisoner. It is there that ʻOulu fought like the eel, Palahūwana, and with great strength and skill, overcame those who fought against him. The place where this fight occurred is called Kaoinaomakaiʻoulu to this day.

[10] This is not David Malo of Lahaina Luna, but a namesake, who was also a historian and active church member.

Makanikeʻoe then followed the trail to a place where he saw a large gathering of youth along the trail, at the place called Nāpōhakuhelu. The activity of the children at this place was the shooting of arrows, something that was always done by the youth of those times.

There was among this gathering of youth from Waiawa, a handsome boy named Kanukuokamanu (not to be confused with a place of the same name in Hilo, Hawaii). His place of residence was on the shoreward side of the government road, a place something like a hillock from where one can look to the estuary of Waiawa. It is about at the ten and a half mile point, and the place is known by the name of this youth today.

When Makanikeʻoe arrived at the place where the youth were playing, he was saddened at seeing the young boy crying. This was because the older children had taken all the arrows, and left none for the younger child to play with. Makanikeʻoe took the young boy away from the group to a place off to the side. He told the boy "Stop crying and I will give you an arrow of your own. This arrow will fly farther than any of the arrow of your friends." Makanikeʻoe then gave the boy an arrow like none other he'd seen.

Now Kanukuokamanu was the son of the chief of Waiawa…When he returned to the group of other children who were still playing, he prepared to compete as well. He chanted first to his arrow:

Kaʻailehua flies,
Kaʻiniki flies,
Ahuahu flies…

May 8, 1895 (page 1)

Kanukuokamanu shot his arrow and it flew beyond all the other arrows of the competitors. It flew all the way to "the end of the nose of the pig" at Waimano, and then returned to the youth who had shot it…

Makanikeʻoe then departed and was lost from sight. Looking seaward, Makanikeʻoe saw the fin of a shark passing by, in front of a stone in the estuary of Waiawa, on the west side of Kanukuokamanu, next to Piliaumoa. Seeing the shark, Makanikeʻoe drew nearer and he saw that it was Kahiʻukā, a native of this estuary. His cave was comfortably situated on the side of the stone. Kahiʻukā was a good shark, and in his story, he is the guardian of Mānana and Waiawa.

The author has met a man at Mānana who was known by the name, Kahiʻukā. He learned the traditions of this shark in his youth, and was taken by this shark for a period of time, and returned again to the land in good health. The man has since died, but his daughter is still alive, and his story is an amazing one.

After seeing the house of this hero of the sea [Kahiʻukā], Makanikeʻoe turned and walked along the place where the waters flow from the land at Piliaumoa, Mokaʻalina, Pānaio, Kapuaihalulu, Kapāpaʻu, and Manuea. The trail then turned and went to the top of Hāʻupu, where the foundation of the Luakini [Church] of ʻEwa was later situated. Near there, was a large pond in which awa [milkfish], ʻanae [mullet], and āholehole [Kuhlia sanvicensis] fish were found.

Oh readers, let the author explain something here. At the time Lūʻau came from Maui to dwell on Oʻahu, he arrived at Waiawa, ʻEwa. He saw some men thatching dried ti leaves on the Luakini [church] that was being built there. Lūʻau asked some people, "Who is the one that is having this important house built?" They answered, "Kānepāiki." Lūʻau then stated, "The house shall not be finished to its ridge pole before the one who is having it built dies." The people asked, "Why?" Lūʻau answered, "The house is atop the Heiau [temple] and the fishpond is below, it is because the waters [life and wealth] are flowing out from this place. [So too shall the life flow out.]" These words of Lūʻau were true, the Luakini of Waiawa was not completed before Kānepāiki died. His body was buried in the uplands of Waimalu.

These were the words of Lūʻau. The one who discerned the nature of the land [kuhikuhi puʻuone], in the time of the King Kauikeaouli K. III. And his descendants are still living at Kanaio, Honuaʻula, Maui…

From this place, Makanikeʻoe then turned and looked to the calm waters of Kuhia Loko and Kuhia Waho. He went to the ponds and saw water bubbling out, and in the pond were many fish of the sea. It was of this pond, that Kāne and Kanaloa spoke, while in Kahiki, as heard by the prophet Makuakaumana, who crossed the sea and traveled to Hawaiʻi:

The mullet are at Kuhia-loko,
The seaweed is at Kuhia-waho,
The salt is at Nīnauele,
The nehu pala are at Muliwai
The lone coconut tree stands at Hape,
The taro leaves are at Mokaʻalika,
The water is at Kaʻaimalu,

The ‘awa is gathered at Kalāhikiola.
Behold the land.

All of these places named by the gods can be seen, extending from the sea of Waiawa, to Halalena at Waiawa uka.

From this place, Makanike‘oe then went to a large deep spring which flows from waters beneath Waipi‘o and Waiawa. At a place where the priests discard their offerings. He then came upon another spring at the entrance of the estuary of Waiawa. The trail then turned towards Palea and Pipiloa, where there grew groves of kou and hau in ancient times, and it was the residence of the rulers of O‘ahu. This is the place where the king of O‘ahu, Kūali‘i-a-Kauakahiakaho‘owaha, found his first wife, Kawelaokauhuki, who was of the uplands of Waimano. It is this Kūali‘i who built the long house called Makana‘ole, on the inland plains of Mānana 2nd. It is near the place now called Kūlanakauhale Momi [Pearl City].

Makanike‘oe then traveled to the fishponds of Hanaloa and ‘Eo, the great ponds of ‘Ewa. It is for these ponds that the lines of the song say:

The water of ‘Eo is not fetched,
It is the sea of Hanaloa that ripples forth.

At this pond, Makanike‘oe saw a deep crevasse and inside, there was a giant eel sleeping. The name Hanaloa was given because of the great amount of work that was done by the chief and the people in carrying the stones with which to surround the crevasse and build the pond wall. Thus the pond was built. And it is a famous pond for it is rich with fish, and for the eels which Keinoho‘omanawanui desired to eat.

From the pond, Makanike‘oe then walked to a place where there were several small points of land, near where Pāpio was bitten and where the sea enters Honouliuli. He noticed how very calm the surface of the water was here, but he also saw that it was agitated in its depths. Looking more closely, he saw in the depths some very large fish, as if guarding the entrance to the harbor. One of these two large fish was like a marlin with a long bill and rows of teeth. The other one was a barracuda whose teeth protruded out of both side of its mouth. These two fish of the bays of ‘Ewa, had ears with which to hear. They leapt in the ocean like flying fish, and are spoken of in some of the traditions of Hawaii.

The marlin is the one, who with his sharp bill, divided the waters that enter into

‘Ewa. Thus, Makanike‘oe understood the nature of these fish, and what their work was. They were the guardians of the place. It is true also, that in a short while Makanike‘oe saw a procession of many sharks arrive. There was in this group, the famous chiefess, Ka‘ahupāhau, of Pu‘uloa, and the messengers of the king shark [Kamohoali‘i] of Kaho‘olawe. She was taking them on a tour and to drink the waters of Waipahu and Wai‘āhualele, and to drink the awa from Kahauone, in Waipi‘o uka…

Makanike‘oe then turned again to the place where Pāpio had been bitten as a result of her asking for the ‘ilima [Sida fallax] garlands of the old woman, Koihala. This is what the old woman told Pāpio:

The beautiful girl asks,
That the garlands of the old woman be given to her.
Heed my words dirt of the dog, dirt of the pig,
String your own garland and let it wilt.

Makanike‘oe then departed from this place, turning to the plain of Pu‘uloa. He passed many pits in this place where the bones of men have been left. He then followed the trail to the of the breadfruit tree, Leiwalo, at Honouliuli. This is the breadfruit tree of the expert sailor, Kaha‘i (Ka‘uluakaha‘i), so told in his story.

There are also many pits in which were planted sugarcane and bananas, and planting mounds. He also saw manu ‘ō‘ō (honey creepers) sipping the nectar of noni blossoms. There were also two ducks that had gone into a pit, and with a great strength, they were trying to push a stone over, to hide the pit. This Makanike‘oe knew what the ducks were trying to do. They wanted to hide a spring of water which flowed underground there. It is this spring which in calm times could be heard, but not found by the people who passed through this area. It was a secret spring, known only to certain native residents of the area, and its name is recorded in the last line of the song:

The ‘ō‘ū is the joyful bird of Kaupe‘a,
The joyful voiced ‘ō‘ō is of Pu‘uloa,
Softening the blossoms of the wiliwili,
Drinking the drops of nectar from the noni,
The birds drink and pass time,
The eyes cast about seeking,
The water of the natives,
The eyes seek the water of Kaiona.

This hidden spring, known only to the natives, was not hidden to Makanikeʻoe. From there, Makanikeʻoe then turned back towards Honouliuli and saw the pit of the native eel, Kapapaʻapuhi, the elder of Laumeki, whose stone-form body is there at the base of Kaʻuiki, Hāna, Maui. He was an eel of Oʻahu who traveled to Hāna where he stayed and was turned into stone.

There is also at this place, Kaihuopalaʻai, where the ʻanae (mullet) begin their journey from Honouliuli to Kaihukuʻuna at Lāʻiemaloʻo, Koʻolauloa.

Seeing this pit, Makanikeʻoe swiftly ran back to Waipahu, where he looked at the source of the water, where it came out of the earth, and flowed to the estuary of Waikele. Makanikeʻoe dove into the water to determine its hidden source. He swam underground, and first arrived at Kahuaiki, at Waipiʻo, for which the song is sung:

Return to the coolness of Waipiʻo,
The cold water of Kahuaiki…

He then dove under and came out on the plain of Puʻunahawele, that barren and peopleless plain. There he saw the source of the water of Kahuaiki. It is near a hidden stone [shaped like a hook pendant] and close to Kekuaʻōlelo, along the trail which ascends straight up to Waipiʻo uka. Makanikeʻoe then turned and followed the water path, and with great strength, he arrived at Kawaipūʻolo, at Waialua. There, he saw the pool of Laniwahine in the famous pond of ʻUkoʻa. He then quickly went from Waialua to Kawela, and from there, to Punahoʻolapa, a deep spring on the plain of Kahuku. There he found the water source that the kapa anvil fell into and was carried to Waipahu, at ʻEwa. Makanikeʻoe the crawled along another path and arrived at Punamano, also at Kahuku…

[Makanikeʻoe continued his journey through the various springs of Oʻahu, until he rejoined his sister and companions at Waiʻanae. The group then continued on their journey to Kauaʻi…]

15. He Moolelo Kaao Hawaii no Keliikau o Kau (A Hawaiian Tradition of Keliikau o Kau)

Keliʻikau-o-Kaʻū was a shark god who traveled to Puʻuloa, ʻEwa from the island of Hawaiʻi. The tradition appears only in the short-run Hawaiian language newspaper *Home Rula Repubalika* and is incomplete. The following narratives are different in relation to the events and their outcome than those found in more widely reported narratives. There is no specific reference to the source of the account, and only two articles in the series are available. These narratives offer some details on named localities and events that are of significance in the history of Puʻuloa at Honouliuli.

Home Rula Repubalika
He Moolelo Kaao Hawaii no Keliikau o Kau.

January 6, 1902 (page 7-8) & March 15, 1902 (page 7)

Summary — A Hawaiian Tradition of Keli‘ikau-o-Ka‘ū

Keli‘ikau-o-Ka‘ū was born to his mother as the result of her relationship with the spirit form of Kalani, a king of the sharks. He was a favorite of Kalani, and transformed into a shark, whose body was almost three fathoms long.

At this point in our story, we now look to another mysterious formed shark, and his death at the entrance of Pu‘uloa at ‘Ewa. His name was Mikololou, it was him who was killed at Pu‘uloa, and this is why Keli‘ikau-o-Ka‘ū went there. The background of this shark, Mikololou is given in the traditions Kāneialehia, and Pāpa‘i and Paukūpahu of Puna, Hawai‘i. Kāneialehia, protected the lands from Leleiwi and Makaokū, near the low islet of Mokuola, and all the way to Makahanaloa of Hilo Palikū. Under the law of Kāneialehia, it was forbidden to kill any human. Kāneialehia saw swimming past the cliffs, and discerned Mikololou’s nature as an spirit-transformed shark, he also recognized that Mikololou was a man-eater.

Kāneialehia decided to take Mikololou as an attendant, perhaps even as a foster-son, and to teach him how to live under the law of not killing humans…

[We know from various accounts, as cited earlier in this section of the study, that Mikololou departed from Hawai‘i, in the company of other man-eaters, and traveled to Pu‘uloa, where he was eventually killed by Ka‘ahupāhau, Kahi‘ukā and the people of ‘Ewa. Based on other accounts, Mikololou was restored to life, and returned to Hawai‘i, where he enlisted the aid of Keli‘ikau-o-Ka‘ū and other sharks to avenge his treatment by the sharks and people of Pu‘uloa. [The issues of the paper with this portion of the tradition are missing, and the account is picked up again on March 15, 1902.]

Keli‘ikau-o-Ka‘ū fought with and killed Ka‘ahupāhau, and it is because of this event, that the famous saying, “Mehameha Pu‘uloa, ua make o Ka‘ahupāhau” (Pu‘uloa is alone, for Ka‘ahupāhau is dead), came about. Keli‘ikau-o-Ka‘ū assumed various body forms he possessed and attacked Ka‘ahupāhau from within, and outside her body. Ka‘ahupāhau went in spirit form to her attendant, Koihala, calling to her, saying that she was dying. Upon her death, Keli‘ikau-o-Ka‘ū called out to Kamoana and Kahi‘ukā, taunting them. He then proceeded to swim through Pu‘uloa, biting and tearing at the native sharks of the region, throwing their bodies

> up onto the dry land from Kalaekao, Kapuaʻikāula, Keanapuaʻa, Kamokuʻumeʻume, Aiea, Kalauao, Waimalu, Waiau, Waimano, the two lands of Mānana, Waiawa, Hanapōuli, Waipiʻo, Waikele, Hōʻaeʻae, Honouliuli, Kalaeokahuka, Kanahunaopāpio, Kepoʻokala and Puʻuloa.
>
> Keliʻikau-o-Kaʻū destroyed all the sharks of ʻEwa, and the stench rose upon the land. Thus came about the saying, "Puʻuloa is alone, for Kaʻahupāhau is dead." Upon her death, Kaʻahupāhau's body became a coral formation near the place called Pāpio, and that place is still seen on the side of Honouliuli to this day.
>
> Following the death of Kaʻahupāhau in this war between the sharks, the shark chiefs of both sides met in council and agreed to no further wars should be fought between them…
>
> It should be noted here, the elder kamaʻāina of the ʻEwa District still claim that Kaʻahupāhau was seen and cared for during their lifetime.

Kaao no Namakaokapaoo (Tradition of Nāmakaokapāoʻo [Eyes of the goby fish])

There are several traditions pertaining to a youth named Nāmakaokapāoʻo that have been published in the Hawaiian language newspapers, with lengthy accounts in print between the 1877 to 1917. The March 1877 account, published in the newspaper, *Ka Lahui Hawaii*, references the sweet potato fields of Nāmakaokapāoʻo, observing that Nāmakaokapāoʻo was the skilled fighter of the cliffs of Līhuʻe.

Later accounts of the tradition provide detailed narratives of events on Maui and Kauaʻi, with passing, poetic references to Oʻahu, Hawaiʻi, Niʻihau, and other locations. It is in Abraham Fornander's "Collection of Hawaiian Antiquities" (Vol. V, 1918:274-283) that we find events in the life and deeds of Nāmakaokapāoʻo taking place on Oʻahu. A summary of the Oʻahu version of the tradition of Nāmakaokapāoʻo follows below and cites several names and features of the ʻEwa District:

> Nāmakaokapāoʻo was born at Hōʻaeʻae. His father was named Kaʻuluakāhaʻi (descended from gods of Kahiki) and his mother was Pōkaʻī. After Pōkaʻī became pregnant, Kaʻuluakāhaʻi traveled to Kahiki. Thus, when Pōkaʻī gave birth to Nāmakaokapāoʻo, the two of them lived with little to sustain them. One day, Pūaliʻi, a man who lived in the uplands at Keahumoa, situated just below Kīpapa, went to the shore of Līhuʻe to fish. While on his way, he passed the place where Pōkaʻī and Nāmakaokapāoʻo lived. Seeing Pōkaʻī, Pūaliʻi fell in love with her, and asked her to be his wife. Agreeing, Pōkaʻī and Nāmakaokapāoʻo went to live at Keahumoa. There, Pūaliʻi tended two large māla ʻuala [fields of sweet potatoes].

> In his work, Pūali‘i had made an oath that none of the potatoes would be eaten until he had made an offering of an ulua fish, and then eaten of the produce first, himself. When the māla were ready to harvest, Pūali‘i went down to Līhu‘e to catch his ulua. While Pūali‘i was on the shore fishing, Nāmakaokapāo‘o and a group of his friends went to the māla ‘uala and pulled up all the potatoes and began to cook them. Pūali‘i returned, saw what had been done, and went with a large ko‘ilipi [stone adze] to kill the boy. As the ko‘ilipi fell, Nāmakaokapāo‘o offered a prayer to his deified ancestors, and the adze turned and cut off Pūali‘i’s head.
>
> “Nāmakaokapāo‘o picked up Pūali‘i’s head and threw it towards Waipōuli, a cave situated on the beach at Honouliuli [a distance of about five miles]” (Fornander, 1918:278).[11]

The māla ‘uala [sweet potato fields] where this occurred have been called “Nāmakaokapāo‘o” since that time, and are found on the plains of Keahumoa.

Word of this event reached Amau, king of O‘ahu, who was dwelling at Waikīkī. The king wanted to challenge the youth, and proceeded to Keahumoa for the contest. Learning of this Nāmakaokapāo‘o went to his mother and took her down to a cave situated at Waipōuli, where he hid her for a while. He then returned to Keahumoa and met with Amau and his warriors and killed them all. Nāmakaokapāo‘o then established his mother, Pōka‘ī, as ruler over O‘ahu.

16. Ka‘uluakāha‘i (The Breadfruit Tree of Kāha‘i) at Kūalaka‘i

As cited in the tradition of Nāmakaokapāo‘o, Ka‘uluakāha‘i was the true father of Nāmakaokapāo‘o. In Fornander’s account, following his victory over the king of O‘ahu, Nāmakaokapāo‘o traveled to Kūalaka‘i where a supernatural breadfruit tree grew in a sink hole-cave, in which had been hidden the royal gifts left to him by his father. Retrieving the items from Kūalaka‘i, Nāmakaokapāo‘o then traveled to Hawai‘i:

> After the complete possession of Oahu by Namakaokapaoo, he was desirous of visiting Hawaii for observation. He then went and got a small gourd wherein to

---

[11] While the exact location of the cave named Waipōuli is not known in the present-day, the narrative provides readers with several reference points that help us determine that it is not in the area of the rail corridor. The location being five miles makai and on the shore from the Keahumoa-Kīpapa vicinity would place Waipōuli near the Honouliuli-Hō‘ae‘ae boundary, and likely near the shoreward ‘ili of Līhu‘e (cf. oral history interview with Shad Kāne dated August 26, 2011).

place his garments which his father had left him. This gourd was deposited at Kualakai, where a breadfruit tree is standing to this day. This is the breadfruit impersonation of his father, Kahaiulu. When the real person went home the breadfruit tree remained, being in the supernatural state.

Inside of the gourd was a garment, a girdle and a royal cloak (feather cloak). After he had obtained the gourd he journeyed on till he reached Hanauma, in Maunalua. There he found a canoe which was preparing to sail for Hawaii…(Fornander, Vol. V, 1918:278)

17. He Wānana — A Prophecy and the Death of Kahanana

Puʻuloa at Honouliuli has a significant place in the traditions of Oʻahu, based on events which took place between 1825 to 1785. As a part of his plan to take control of Oʻahu, Kahekili, then king of the Maui group of islands, tricked his nephew, Kahahana, King of Oʻahu, into killing his high priest, Kaʻōpulupulu. Kahekili had raised Kahahana and he desired to make Oʻahu a part of his kingdom. It was the priest Kaʻōpulupulu who instructed Kahahana and warned him against certain actions proposed by Kahekili. In January 1862, J.H. Kanepuu, a frequent contributer of island history to native newspapers, penned one of the earliest native accounts pertaining to the death of Kaʻōpulupulu and his son Kahulupuʻe and the prophecy uttered at their deaths.

Ka Hoku o ka Pakipika

Ianuari 23, 1862 (aoao 2)

…ua hooko mai ke Akua ia wanana ma o Kaopulupulu la, kekahi kaula mana Oahu nei, e haawi mua ana no i ka aina no na mamo a Sapeta, penei kana olelo i kana keiki, i nui ke aho a make i ke kai, no ke kai ka hoi ua aina, aia la, lilo ka aina ia kai. Mai kai mai no o Kahekili maluna mai o ka waa, a pae ana i Oahu nei, kaua me Kahahana, a holo o Kahahana i ka nahelehele, lilo ka aina ia kai. Mai kai mai no o Kamehameha, a kaua me Kalanikupule ma Nuuanu nei, a hee o Kalanikupule, lilo ka aina ia kai.

January 23, 1862 (page 2)

God has fulfilled the prophecy of Kaʻōpulupulu, one of the powerful prophets of Oʻahu—giving the land to the descendants of Japheth [cf. Genesis 9:27]—who spoke thus to his son, "Strive to die in the sea, for those of another land shall come from across sea, and the land shall belong to them from across the ocean." Kahekili came from across the sea on a canoe and landed on Oʻahu. He then engaged in war with Kahahana, who fled to the forests. Thus the land was taken by the sea. Kamehameha then came from across the sea and engaged in war with

Mai kai mai nei no ka haole maluna mai nei o ka moku a noho ana i uka nei, he oluolu wale no ka lakou la hana ana mai i na'lii o kakou, aohe i eha ka ili, lilo no ia lakou la na hooponopono aupuni, na aina, na kuleana ma ka hoolimalima, ma ke kuai, ma ka hoaie i kahi awelu lole, i ka rama, ia mea ae ia mea ae, ua lilo ia lakou la, o kau no ia o ka hoaa aku ma ka palekai.	Kalanikūpule at Nuʻuanu. Kalanikūpule was defeated, and the land was taken by the sea. Then the foreigners came from the across the sea on ships and now reside on the land. Their deeds for our chiefs were kindly, and they took on the work of setting the nations right, the land, the properties and leasing, selling, creating debt for new clothing, rum, this thing and that, it is all thiers now. And built up on a breakwater… [Maly, translator]

S.M. Kamakau (*Ka Nupepa Kuokoa*, March 23, 1867) elaborated that about eight years into Kahahana's reign as king of Oʻahu, Kahekili succeeded in tricking Kahahana into killing Kaʻōpulupulu.

Kahahana ordered that Kaʻōpulupulu and his son, Kahulupuʻe to be brought before him at Waiʻanae. The call was made from Puʻukāhea [Hill of calling]. Upon the summons, Kaʻōpulupulu prayed to his gods and discerned that he and his son would be killed once in the presence of the chief. Arriving at the place now called Nānākuli, Kaʻōpulupulu called out to Kahahana who looked at him, but made as if he didn't hear the call [nānā kuli]. Kaʻopulupulu then knew for certain that he and his son were to be killed, and he told Kahulupuʻe:

> "I nui ke aho a moe i ke kai! No ke kai ka hoi ua aina!"
> Strive to lie down in the ocean! For our revenge will come from other lands across the sea (*Ka Nupepa Kuokoa*, March 23, 1867).

> Kahulupuʻe ran into the water near Puʻuohulu where he was killed. Kaʻōpulupulu continued his flight across the Honouliuli plain to the shore of Puʻuloa, where he was then killed (*Ka Nupepa Kuokoa*, March 23, 1867). Kamakau (*Ka Nupepa Kuokoa*, March 30, 1867) also wrote about the last years of Kahahana's life and his death at the command of Kahekili, placed by some native writers at Hōʻaeʻae:

> For two years and six months Ka-hahana and his wife and Ka- hahana's friend, Alapaʻi, hid in the mountains and were fed and clothed by the commoners, who had compassion upon them. Thus, were the misdeeds of Ka-hahana justly repaid. They were finally betrayed by Ke-ku-manoha', father of Ka-lani-moku and half brother of Ke-kua-poʻi, Haʻaloʻu being the mother of both. Their last place of hiding was near Wailele at Waikele in 'Ewa. Alapaʻi said to Ka-hahana, "Let us kill our wife and then we shall be able to escape." Ka-hahana was more merciful, perhaps

> because he could not endure to lose Ke-kua-poʻi, who was an incomparable beauty. He said, "Why kill our wife who has been so faithful a companion to us while we have dodged death in cold and wet, wandering here in the mountains, in the thickets of Wahiawa, in this ocean of Kaʻieʻiea? Perhaps she can persuade her kinsmen to help us some day." Learning that Ke-ku-manohaʻ was at Waikele and Ka-lani-ku-pule and Koa-lau-kani at Kapapapuhi [on the Hōʻaeʻae-Waikele boundary], Ke-kua-poʻi made herself known to her brother, hoping that he would save them all three for her sake. "Where are Ka-hahana and his friend?" asked her brother. "Will you spare us three?" asked the woman. "Why should you die? are we not all chiefs?" he answered; but his words were false; he intended to give up his brother-in-law to Ka-hekili. Alapaʻi urged, "O heavenly one! let us flee. We shall die if we stay here; only Ke-kua-poʻi will be saved." "If Kekua-poʻi is saved, we shall be also." "You will not be saved; you are a chief, a ruler by descent." Then Ke-ku-manohaʻ sent men to Ka-hekili at Waikiki to tell him that Ka-hahana was at Waikele. Ka-hekili ordered him to be killed and brought to Waikiki and he sent double canoes to Halaulani at Waipiʻo in ʻEwa. Ke-ku-manohaʻ killed Ka-hahana and his friend Alapaʻi, wrapped them in coconut leaves, placed them on the platform of the canoes, and took them to Kahekili at Waikiki…(Kamakau, 1961:136-137)

The words of Kaʻōpulupulu's prophecy remained fresh in the minds of elder kamaʻāina through time and was often the subject of writings. As noted above in the account of Kānepuʻu (1862), many considered that the priest's words were fulfilled a short time later with the arrival of Kahekili and his forces on the shores of Oʻahu. This was followed by the arrival of foreigners, Hawaiians' loss of their land and kingdom, and military control over a large area of the ʻEwa District.

In 1900, the native leadership of the Independent Hawaiian party conducted a tour of Oʻahu to advocate for restoration of Queen Liliʻuokalani to the throne. David Kaluokalani, president of Hui Kalaiʻāina, spoke to district residents while in Waiʻanae, recalling the power of the prophecy. His talk was described in the *Pacific Commercial Advertiser* of June 25, 1900. While some facts differ from the earlier account, the connection between events is significant:

> Kalauokalani waxes reminiscent in his speech at Waianae and referred to an incident of the early days of Oahu which he said was applicable to the present situation of affairs as the natives were concerned with relation to their political status. He referred to the time when Kahanana was chief of the island of Oahu. There was then living in Waianae a famous kahuna named Kaopulupulu whose son Kahulupue had committed a crime for which he fled the district. When he was being closely pursued the old kahuna called after his son, saying: "My child, bear up until you reach the water, for when you touch the water, then the land shall belong to

those who come over the sea."

The speaker said this prophecy had been fulfilled, and had culminated in the overthrow of the monarchy. He appealed to the people to rectify the evil which the old kahuna had brought upon them.

Similar recollections of the meaning and fulfillment of Ka‘ōpulupulu's prophecy were shared with the author by Samuel Hoapili Lono (1973) and Sister Thelma Genevieve (Dowsett) Parish (1997).

Native historian Moke Manu wrote further on these events in 1907. Following his defeat at the hands of Kahekili in ca. 1783, Kahahana went into hiding in the ‘Ewa District. In 1785, while Kahahana was at Honouliuli, Kahekili sent his warriors to kill him and they landed their canoes at Kūpahu at the estuary of Hanapouli. The warriors killed the O‘ahu chief on the plains of Hō‘ae‘ae (west of Waipi‘o) and brought his body back to Hālaulani at Waipi‘o. From there the body was taken to be offered on a temple in Waikīkī (Manu, 1907b:213-14).

B. A History of Modern Kapolei: Historical Accounts of the Changing Landscape of Honouliuli and ‘Ewa

There are thousands of historical accounts in both Hawaiian and English language that describe the region of Honouliuli. The narratives in this section of the manuscript were penned by native Hawaiians, foreign visitors and residents, and include some of the earliest accounts describing the Honouliuli vicinity following western contact. The narratives provide an overview of: (1) changes in the landscape; (2) the decreasing Hawaiian presence; (3) loss of wahi pana and noted places; (4) development of ranching and plantation business interests in the region; (5) concerns about United States control over Pearl Harbor and "Reciprocity;" (6) the changing make-up of the communities; and (7) travel on the land. The narratives are generally cited chronologically, by period or activities being described.

1. Sites and Trails of the ‘Ewa District (1800-1811)

a. John Papa Ii: Trails from Honolulu to ‘Ewa

John Papa ‘Ī‘ī, one of the preeminent native Hawaiian historians, was born at Kūmelewai, Waipi‘o in ‘Ewa in 1800. Raised as an attendant to the Kamehameha heirs, he was privy to many facets of early history, practices and events during his life. In the 1860s, ‘Ī‘ī published a history under the title, "Na Hunahuna o ka Moolelo Hawaii," translated by Mary Kawena Pukui under the title of "Fragments of Hawaiian History" (1959). Based on the translations, Paul Rockwood produced a map of the trail routes and several locations identified by ‘Ī‘ī in his narratives (Figure 3).

Trails from Honolulu to ‘Ewa

…Let us turn to look at the trail going to Ewa from Kikihale, up to Leleo, to Koiuiu and on to Keoneula. There were no houses there, only a plain. It was there that the boy Ii and his attendants, coming from Ewa, met with the god Kaili and its attendants who were going to Hoaeae…[page 95].

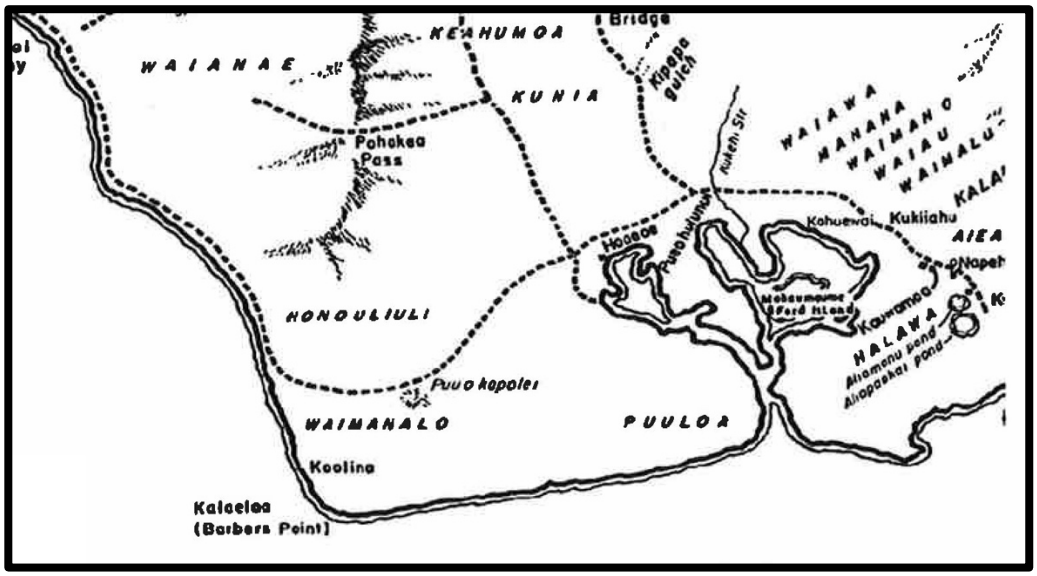

Figure 5. Por. of Map of Trails of Leeward O‘ahu (Paul Rockwood, based on description by Papa Ii 1959: 96).

The trail went down to the stream and up again, then went above the taro patches of Waiau, up to a maika field, to Waimano, to Manana, and to Waiawa; then to the stream of Kukehi and up to two other maika fields, Pueohulunui and Haupuu. At Pueohulunui was the place where a trail branched off to go to Waialua and down to Honouliuli and on to Waianae. As mentioned before, there were three trails to Waianae, one by way of **Puu o Kapolei**, another by way of Pohakea, and the third by way of Kolekole.

From Kunia the trail went to the plain of Keahumoa, on to Maunauna, and along Paupauwela, which met with the trails from Wahiawa and Waialua. The trail continued to the west of Mahu, to Malamanui, and up to Kolekole, from where one can look down to Pokai and Waianaeuka. There was a long cliff trail called Elou from Kalena and Haleauau on the east side of Kaala coming down to Waianae. There was also a trail called Kumaipo which went up and then down Makahauka…[page 97]

b. Entering the ‘Ewa District from Wai‘anae uka

There the trail met with the one from Kolekole and continued on to the stream of Waikakalaua, Piliamoʻo, the plain of Punaluʻu, to a rise, then down to Kīpapa and to Kekualele [Kekuaolelo]. A trail ran from this main trail to Kalakoa, Oʻahunui, and other places much visited, such as Kūkaniloko. From there it extended to the digging place of Kahalo, then went below to Paʻūpalai, thence to Lelepua, and to Kahalepōʻai, where the legendary characters Kalelealuaka and Keinohoʻomanawanui lived. Then it reached Kekuaolelo, the stone in which the niho palaoa was hidden, then went on to Puʻunahawele and Pueohulunui, where it met with the Waialua trail.

All of these places mentioned had large populations. The land was rich, and there were many trees in olden times. Who has "closed" these places today? We do not know enough to say, "It was so-and-so." But there would be commercial wealth in the trees of these mountains if they were fenced off from animals. So it is with the planting places of every poor person. The person who manages these mountains and valleys could become prosperous. [page 99]

c. Honouliuli Trails Cited on Malden's Map of 1825 (Visit of 1794)

As a part of the Vancouver expedition, cartographer, Lt. C.R. Malden, prepared a map of a portion of Oʻahu, which also covered the Honouliuli – Puʻuloa region (Figure 4). Malden's map was published in 1825 (Register Map No's 437 & 640) and provides the earliest cartographic record of the Honouliuli region. The map depicts several clusters of houses, fish weirs, and fishponds in the Honouliuli/Puʻuloa area. Being recorded during the early period of western contact, the map is believed to represent the basic pre-contact coastal settlement pattern of Honouliuli and vicinity. Even though the map and visit is of an early date, given the rapid decline of the native population just after western contact, it is likely that the pre-contact population would have been higher and settlement denser than indicated by Malden.

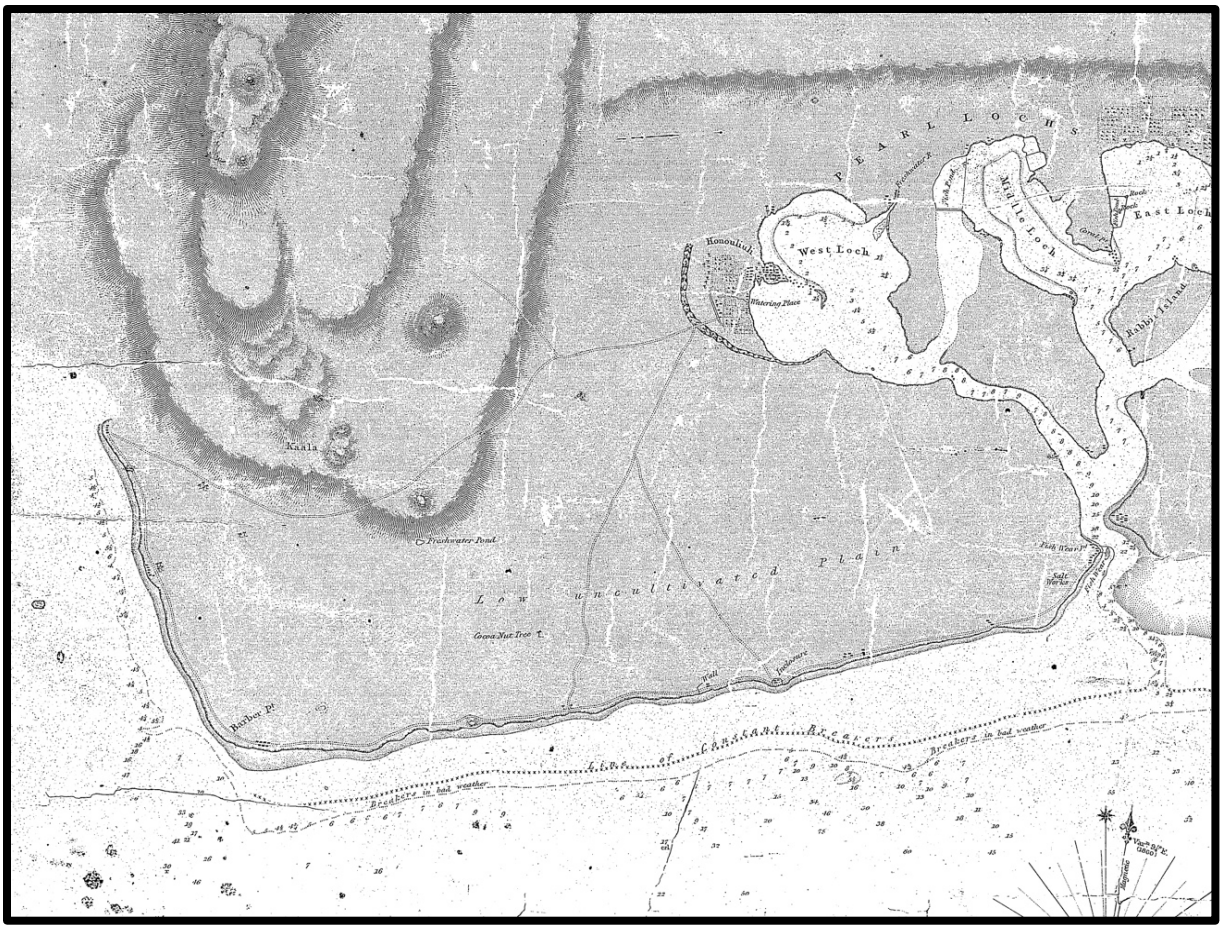

Figure 6. Por. of Map of Trails and Landscape of the Honouliuli Region ca. 1793 (Malden 1825). Hawai‘i State Survey Division, Map No. 437.

d. Tours Made around O‘ahu in 1826 & 1828

In 1820, the first contingent of Protestant missionaries associated with the American Board of Christian Foreign Missions (A.B.C.F.M.) arrived in the Hawaiian Islands. The Honolulu station became the focal point of the missionary's operations, with sub-stations on the major islands in the largest population centers. Periodically, the Honolulu station managers travelled around O‘ahu to inspect the work progress in the outlying stations, including church work, educational endeavors, and facilities to support the foreign missionaries' living situation. Levi Chamberlain (1828) toured O‘ahu in 1826 and 1828, writing fairly detailed descriptions of the districts he visited, including lands of the Honouliuli-Moanalua region. Excerpts of Chamberlain's original handwritten notes are provided below (digitized from the A.B.C.F.M. archives at Harvard, by Kumu Pono Associates LLC in 2004).

September 12, 1828
Levi Chamberlain to Rufus Anderson
A description of two trips made around the island of O‘ahu, one in 1826, the other in early 1828 to examine the schools on O‘ahu, and determine progress in education of the natives.

> (Typed from a copy of the original handwritten letter in the collection of the A.B.C.F.M., Houghton Library, Harvard – Reel 794)
>
> About two years ago I performed a tour around this island, and I have recently made another. It was my intention to give you a brief account of my first tour, but I could not find time to do it while the scenes that passed under my observation and the events that transpired were fresh to my mind & retained their hold upon my feelings.
>
> I propose now to give you a history of my last tour, and in doing it I may refer to my minutes of the former tour…[page 1]

[Departing from the Wai‘anae District, Chamberlain wrote]:

> …The food by which the inhabitants are supplied, is cultivated in the vallies, which open among the mountains two or three miles from the shore.
>
> It was quite dark when were reached Waimanalo [western Honouliuli], and our arriving at the school house in which we expected to put up, we were disappointed to find it deserted; and [page 28] it was infested with fleas that we feared we could not make ourselves comfortable in it. Some of the people of the place gathered

around us, & we besought them to afford us accommodations in some of their houses. One man whose house stood nearest us and who was, I believe, the head man of the place, readily offered us his, and immediately began to put things in order for our accommodations; he did what he could to make us comfortable, and, as the house was small, vacated it entirely for our use.

Saturday Feb. 9th. I enjoyed comfortable repose during the night and awaked refreshed. I arose and united with my attendants in singing a hymn, and offering a tribute of thanksgiving to God for his care & unfailing kindness. After breakfast a few scholars assembled in front of the house. I examined them and to one of them I gave a catechism and a Sermon on the mount.

Their teacher was absent, and I exhorted them not, on that account, to neglect instructions, but to give more attention to it, to assemble on the Sabbath, and learn the catechism, and repeat passages from the word of God. At 10 minutes before 8 o'clock, after thanking our kind host for his attention to us, we set out for the next district. In consequence of the recent heavy rains the roads were very muddy, & the travelling very bad. We had met with nothing like it in any part of our previous journey travelling. After walking three hours & most of the time in mud, we reached Honouliuli in the district of Ewa. A school of 22 scholars had assembled which I examined. The head man, Kawaa, very kindly entertained me, caused a fowl to be cooked and some kalo to be nicely prepared, and furnished the native with a liberal supply of fish and poi. He invited [page 29] me to stop and spend the Sabbath with him; but as his house was small, and our company had now become large by the accession of the teachers & their attendants who separated from us at Waialua and had crossed the inland and had put up at this place, I thought it best to decline his offer. But feeling desirous that religious worship should be conducted here on the morrow, I recommended that the party who had crossed the island should spend the Sabbath here, while we who had travelled round the shore, should proceed to the next considerable settlement, and make arrangements for spending the Sabbath.

Having expressed to Kawaa my thanks for his kindness, I set forwards with my attendants, and between the hours for three & four o'ck P.M. arrived at Waikele. Towards evening I attended to the examination of two schools, which met in front of the house where I had put up, At the close of the examination I gave information that religious worship would be conducted in the same place on the morrow & requested that all the people of the place should be informed & invited to attend. [page 30]

e. Notes of a Tour Around Oahu (1839)

In 1839, E.O. Hall and a group from the mission in Honolulu, traversed the island of O‘ahu, visiting various localities. His notes from the journey were published in Volume II, No. I of *The Hawaiian Spectator* under the title “Notes of a Tour around Oahu” (1839). Hall’s narratives include descriptions of places visited, changes in agricultural endeavors and living conditions, with notes from Honouliuli Ahupua‘a and neighboring lands.

> …The objects of the tour were, principally, to become better acquainted with the people, by seeing them at their own houses; and, by being cut off from the English language for a time, to acquire of the people among whom I expect to spend the remainder of my days…
>
> As the journey from Honolulu to Ewa, or Pearl River, is so frequently made, it will be unnecessary to dwell on that part of the route… [page 95] The rest of the way to Ewa presents little of interest to the traveler. There are however several beautiful spots, where the eye will rest with delight, when the blessing of civilization and Christianity shall have through around them the comforts of other lands; and systematic agricultural pursuits have covered the field with golden harvests, and filled the lap of the cultivator with the prolific bounties of a beneficent Providence. Ewa is a place of little interest to the tourist except in a moral point of view. In this respect, however; its inhabitants, about 3,500 in number, may be regarded with peculiar pleasure by the philanthropist and Christian; for their improvement in morals, and consequently civilization, during the past four years is very striking. And the attention they are beginning to bestow upon their persons, children, houses, yards, etc., in the immediate vicinity of the missionary establishment is far better evidence on the subject of missionary influence, than any other that can be obtained. [page 97]
>
> Rising before the dawn, we left the low ground of the river, just as the natives were assembling in great numbers to spend their accustomed hour in the worship of Jehovah; and as we wound slowly up the hill which we have to ascend on leaving the quiet and secluded residence of the missionary, and cast our eyes around on the many interesting objects immediately about us; and looked still farther back on the distant city of Honolulu on which the sun was just shining as he rose in all his majesty above the high range of Konahuanui, the beauty of the scene and the quiet and peace of the hour, called up in the mind meditations of the most pleasing character. Lifeless, indeed, must by the heart that does not vibrate in unison with nature at such hours, and whose better sympathies are not called out in moments like these.
>
> Passing all the villages, at one or two of which we stopped, we crossed the barren,

> desolate plain, at the termination of what is Barber's point; and after passing round the south-east termination of the mountain range of Kaala, and traversing a barren tract of ten or twelve miles, we arrived at the most considerable settlement in Waianae, called Pukahea [Puukahea]…(*Hawaiian Spectator*, 1839:98)

f. 1840-1841: Commander Charles Wilkes –
United States Exploring Expedition Trip Through the 'Ewa District

In the period between 1840 and 1841, Commander Charles Wilkes of the United States Exploring Expedition toured the Hawaiian Islands (Wilkes, Vol. IV, 1845; reprint 1970). During the month of July 1840, Wilkes and other members of his party toured the Kona and 'Ewa Districts on O'ahu. Notes complied by Wilkes from the various exploration trips provide descriptions of the 'Ewa-Honouliuli region. Through these narratives, we learn about cultivation of the land, the abundant flow of water from springs and streams, use of fishponds, various marine and forest resources, the making of salt, and the continued decline of the native Hawaiian population. In 1835, the population of the 'Ewa District was given as 3,423, while in 1841, Wilkes provided the number at 2,792 (Wilkes, 1970:82), a decline of 631 people in a five- year period.

> [Traveling in the company of Reverend J. Emerson, Wilkes reported that his men departed from Waialua, crossed Wai'anae uka and]…proceeded on their way to Honolulu, across the plain between the two ranges of mountains. This plain, in the rainy season, affords abundance of food for cattle in three or four kinds of grasses, and is, as I have before remarked, susceptible of extensive cultivation by irrigation from the several streams that traverse it. The largest of the streams is the Ewa. Scraggy bushes of sandalwood and other shrubs are now scattered over a soil fit for the cultivation of sugar-cane and indigo. [page 79]
>
> At Ewa they were kindly received by the Reverend Mr. Bishop and lady, who have charge of the station. The district of Ewa commences about seven miles to the west of Honolulu, and extends twenty miles along the south shore, or from the hill in the vicinity of the Salt Lake to beyond Laeloa or Barber's Point. There are no chiefs or any persons of distinction residing in the district; the people are labourers or Kanakas, and the landholders reside near the king at Lahaina, or at Honolulu. The taxes and occasional levies without any outlay have hitherto kept them poor.
>
> In this district is a large inlet of the sea, into which the river Ewa empties; at the entrance of this inlet is the village of Laeloa: the whole is known by the name of Pearl River or harbor, from the circumstance that the pearl oyster is found here; and it is the only place in these islands where it occurs.
>
> The inlet has somewhat the appearance of a lagoon that has been partly filled up by

alluvial deposits. At the request of the king, we made a survey of it: the depth of water at its mouth was found to be only fifteen feet; but after passing this coral bar, which is four hundred feet wide, the depth of water becomes ample for large ships, and the basin is sufficiently extensive to accommodate any number of vessels. If the water upon the bar should be deepened, which I doubt not can be effected, it would afford the best and most capacious harbor in the Pacific. As yet there is no necessity for such an operation, for the port of Honolulu is sufficient for all the present wants of the islands, and the trade that frequents them.

Pearl-River Harbour affords an abundant supply of fine fish. Two species of clams are procured here, called by the natives okupe and olepe. Mr. Drayton, who went to Pearl River for the purpose of examining its shores, and obtaining shells, reported that he found a large bed of fossil oyster-shells, extending into the bank in a bed from one to four feet wide, and half a mile in length: they were found cemented together with soft limestone and a reddish sand, and were so numerous that there was scarcely enough of the cement between to hold them together. The dredging was unsuccessful, a small spotted Venus being the only shell that was obtained, although it was the general belief, among both the foreign and native inhabitants, that it would have produced an abundant reward for the trouble… [page 80]

This district, unlike others of the island, is watered by copious and excellent springs, that gush out at the foot of the mountains. From these run streams sufficient for working sugar-mills. In consequence of this supply, the district never suffers from drought, and the taro-patches are well supplied with water by the same means.

The soil on the sides of the hills is a hard red clay, deemed useless except for pasturage. Here and there in the valleys passing through these hills and in the low grounds, is found a soil capable of producing all the varieties of tropical vegetation.

There is every indication that an elevation of the island has taken place: the flat land is now fifty or sixty feet above the level of the ocean, and the upper rock has the appearance of calcareous sandstone. The latter lies on the bed of lava, part of which is above, but a greater portion below the ocean level. There are above this rock and on the plain behind some horizontal beds of sea-worn pebbles. It seems remarkable, however, that although this upper rock will effervesce with acids, yet all attempts that have been made to convert it into lime have failed. It has been put into the same kiln with the present reef coral, and while the latter produced good lime, the former came out unchanged,--a pretty conclusive proof that it is not coral rock, as it appeared to be. As this rock will be treated of in the Geological Report, I shall refer the reader to it for further information…(Wilkes, 1970:81)

[Hawaiian Language Report Published *Ka Hae Hawaii*]
Ka Hae Hawaii
Olelo Hooholo a ka Ahakiekie.
O Levi Haalelea kue Daniel Montgomery.

Apelila 14, 1858 (aoao 6)

Hoakaka ae la ka Lunakanawai o Robertson i ka manao hooholo o ka Aha, penei:

Ke hoopii mai nei o Haalelea, i mea e maopopo ai ke kuleana o ka hopu ia ana i hoopaapaaia e ka mea kue e D. Montgomery, a e loaa paha ia ia kona poino no kona hoole ia aole make hopu ia ma kauwahi o Montgomery, ma Puuloa i Oahu nei.

Mamuli o ka hoike ana, o ka aina o D. Montgomery, ka mea kue, he wahi apana ia o ka ahupuaa o "Honouliuli," a ua kuaiia e Isaac Montgomery ke kaikuana o ka mea kue, i ka makahiki 1849, no M. Kekauonohi mai, ia manawa, he wahine kane make oia. a mahope iho, i ka makahiki 1851, make oia, me ka waiho ana i ka aina o "Honouliuli" a me na waiwai e ae i kana kane mare hou a oia ka mea hoopii ma keia hookolokolo ana. O ka palapala hoolilo aina a M. Kekauonohi ia lsaac Montgomery, ua kakauia ma na olelo Hawaii a me ka Beritania, a o Frank Manini ka hoike.

Eia na mea i aeia e na aoao elua:

Ua aeia o D. Montgomery, oia ka mea nona ka aina i keia wa e noho nei.

Ua ae mai hoi o D. Montgomery, ua hookapu oia ia Haalelea a me kona poe, aole make hopu i ka ia ma kahi i hoopaapaaia.

Ua ae mai noi o Haalelea, mai ka wa i kakauia'i ka palapala hoolilo aina e M. Kekauonohi, ua pau ka noho ana o kona luna ma Puuloa, a hooki hoi i ka lawaia a e hookapu ia ma ke kohola e ku pono ana i ka aina o D . Montgomery , a make o M. Kekauonohi. a o Haalelea hoi, aole oia i hoike mai i kona manao e hopu i ka ia ma ia wahi, a i keia manawa iho nei.

A mamuli o keia mau mea, manao ae la o D. Montgomery ia ia ponoi wale iho no ke kuleana hopu ia ma kahi e ku pono ana i kona aina. A manao ae la hoi o Haalelea ia ia ponoi wale iho no a me kona poe e noho ana ma "Honouliuli" ke kuleana e hopu ia ma ia wahi; no ka mea, i kona manao, aole i loaa ia D. Montgomery ke kuleani hopu ia mawaho ae o na mokuna o ka aina ana i kuai ai me Kekauonohi.

I ko kakou hoomaopopo ana i ka mea nona ka pono a me ke kuleana o ka hopu ia ana. he pono ke heluhelu i ke kanawai.

Ma ka aoao 36 o ka buke Kanawai mua, olelo Beritania, penei ke kakauia ana: "Ke lawe nei ka Moi o ke Alii nui i na wahi ia noloko ae o ka lima o ka poe i loaa, mai Hawaii a Kauai, a ke haawi hou aku i kekahi hapa na na kanaka, a i kekahi hapa na na konohiki, a i kekahi [h]apa hoi nana ponoi no.

Eia na wahi ia a ka Moi e haawi nei na na kanaka, o na wahi mawaho ae o ka Puukoa, penei, o na wahi Kilohee, o na wahi Luhee o na wahi Malolo, a me ka moana mawaho ae.

A o na wahi ia mawaena ae o ka Puukoa a me ke kahakai, na na konohiki ia a me na kanaka o ko lakou aina aole no na mea e ae."

A mai ia wa mai o ke kuleana hopu ia o ka wa kahiko, ua pau i keia manawa he kanawai i kakauia.

Ma ke kanawai o ka makahiki 1839, o ke kuleana o na konohiki a me na hoaaina ua hooponoponoia ma kauwahi, a pela no a hiki i ka makahiki 1846, a malaila ua hooponopono hou ia. E nana i ka buke mua aoao 90 a hiki 92. pauku 1 a hiki 7. Eia na pauku pili pono:

"PAUKU 2 O na wah ia, no na puukoa aku, a ina aohe puukoa, hookahi no mile no ke kahakai aku, ma ke kahawai, oia no ke kuleana ponoi no o na konohiki no na ka aina e pili ana ma ke ano kahiko, aole e mea ia i na konohiki i ko lakou kuleana hopu ia, aia mamuli o na kanawai e kau ia mahope.

"PAUKU 3. I ka manao o ke kanawai, no na konohiki no ka hopu ia ana no lakou iho a me na hoaaina ma ko lakou aina iho; a e hopu no na hoaaina i ka ia o na konohiki malalo nae o na mea i oleloia ma keia kanawai."

Mamuli o keia kanawai, o na wahi hopu ia a pau, e moe ana mawaena o kahakai a me kuanalu makai aku o ka ahupuaa o "Honouliuli," oia no ke kuleana ponoi o M Kekauonohi, nona no malalo nae o na kuleana o na hoaaina e noho ana ma ia ahapuaa

Oia na kuleana o M. Kekauonohi i kona wa i kekauia'i ka palapala hoolilo aina ia Isaac Montgomery; a eia ka ninau ua loaa anei ia ia, ia I. Montgomery, kahi kuleana

hopu ia ma ia wahi, i kela palapala hoolilo aina?

Ma ka aoao o ka mea kue, o D. Montgomery, manao oia e holo ana kona aina a i ke kai hohonu mawaho ae o ka papakoa e hookomo ana i kauwahi ia a pau o ke konohiki e kupono ana i ka aina i lilo ia Isaac Montgomery. Ua oleloia, okoa ke kai hohonu, okoa hoi ke kai papau mawaena o ke kuanalu a me kahakai. Aka, ua maopopo aia ka mokuna oia aoao, aia no maloko ae o ka papakoa; no ka mea, penei ka olelo ana: "aole nae e hookomo ana i ka papakoa mawaho." Nolaila, ua maopopo ia makou aole i komo kauwahi hopu ia iloko o ka aina i ana ia a i hooliloia ia Isaac Montgomery.

A olelo mai la ka loio o D. Montgomery. Ua lilo ae la ke kuleana ia o M. Kekauonohi ia D. Montgomery me he mea apana la o ka aina ma keia olelo ana, "a me na mea paa a pau e waiho ana maluna iho, a me na mea e pili pono ana," aka, i ko'u manao, aole e pili pono kela mau huaolelo i kauwahi o ke kai.

Ua olelo ia hoi, o ka hoopau ana o M Kekauonohi i kona luna ma Puuloa i ka wa i lilo ai ka aina a hiki i ka manawa i make ai, aole i hopu i ka ia, ma ka puu koa kupono i ka aina i lilo ia Montgomery, a pela no kana kane o Haalelea no kekahi mau makahiki, oia na mea e maopopo ai ka manao o M. Kekauonohi, a o kona manao ia e hoolilo loa aku i kela wahi ia, a i kona kuleana a pau iloko olaila. Aka, aole e pono ke manao wale aku ma ia mea, i ole e kakauia ma ka palapala hoolilo, aole e maopopo.

Aole i lilo kekahi kuleana ia o M. Kekauonohi me he mea apana la o ka aina i kuai ia ia Isaac Montgonery. Ma ka olelo maoli wale no i lilo ai. Ina paha ma ka palapala hoolilo, i hoohlilo ai oia i ka ahupuaa a pau ma na mokuna i anaia a puni me ke komo olelo kauwahi ia ma ka olelo, aohe maopopo ka lilo ana o kauwahi ia a o kona kuleana malaila.

I ko makou manao, aole i hoolilo o M Kekauonohi i kekahi apana o kahi ia, a i kekahi o kona kuleana ponoi ia Isaac Montgomery; a eia hoi ko makou manao, i ka wa i loaa'i ia I. Monthomery ke kuleana o kauwahi o ka ahupuaa o "Honouliuli," ua loaa ia ia no hoi kekahi kuleana hopu ia me he hoaaina la, e like me na kanaka e ae e noho ana ma ia ahupuaa. (E nana i na Olelo ae Like, Vol 2, Statute Laws, page 70).

No ka maopopo ole o ka poino i loaa ia Haalelea, nolaila, o ka poino i manao wale ia ka pono.

E hooholoia na ka mea hoopii ke ko i ka la hope o ke kau hookolokolo. Elima dala ka poino me ke koina.

A. B. Bates, loio no L. Haalelea.
J. Montgomery, loio no D. Montgomery.

g. Hookahi Po i Lihue (A Night at Līhuʻe)

In the narratives below, Kalakini, a resident of Kalihi, shares with readers of the newspaper, *Ka Lahui Hawaii*, a description of his trip to Honouliuli and the uplands of Līhuʻe. Kalakini mentions the potential of development in the ʻEwa District should the Reciprocity Treaty (with the opening of Puʻuloa to American ships) be passed, and the possible economic benefit to the Hawaiian Islands. The visit took Kalakini to the Meek family ranch estate at Līhuʻe in Honouliuli, and he refers to several notes places in the region through place names and mele.

Ka Lahui Hawaii
Hookahi po i Lihue.

Pepeluali 3, 1876 (aoao 3)

E Ka Lahui Hawaii; Aloha oe:—
He wahi kanaenae iki keia e waiho aku nei i kou ahonui palena ole, a nau ia e lawe aku iwaena o kou lahui, ke hiki.

I kekahi la o na pule i aui ae nei, i ke kupono ana o ka wati i ka hora 10, e hele ana he huakai makaikai ma na kula akea o Lihue, me he mea la i ka hoomaopopo iho, ua hiki aku ka huina i ka eiwa a umi paha. I ka ike aku a ka mea e kakau nei i keia mau kula, aohe wahi a ka manao e hoohalahala ai. He mau wahi oi loa no na hanai holoholona ana ma keia mau mokupuni, a maluna aku o keia ke holo ke Kuikahi Panailike, aohe wahi e ae a na Hui Kalepa nui o kakou nei e manao ai i mau mahina ko e like me keia. Aka, me ka nui no paha o na lilo e wehe ia ai ka nuku kaulana o Puuloa i hiki ai ke komo na moku nui, ke ole e kuhihewa ka mea kakau, me he mea la, he mau makahiki helu wale no paha, e hoihoi ia no na poho ke holopono na hana.

No Na Awawa a me na Alu.

O Kipapa oia kekahi o na awawa nui a akea aʻu i ike ai ma keia ala, a he malihini no hoi au i ka hele ana ma keia mau wahi. He awawa maloo loa keia, a me he mea la paha i ka wa hooilo e ike ia ai he wahi wai malaila, i ka nana ana aku, ua piha pono i na holoholona, e ai ana, e moe ana, iluna kekahi i ka nihinihi, ilalo kekahi i ke apoopoo, a me na alu. I ko makou kau ana ma kela aoao o keia awawa, ua koe

aku makou ekolu wale no, ua huli mai la e nana ia hope, aohe maalo kanaka, o na bipi kupelu o ia kula i hoomaopopo ole mai ia makou ka mea ikea e nuu ana i na mauu i paa mau i na kehau waikoloa oia kula uliuli.

Ku iho la makou no kekahi mau minute a nana aku la ia mua, a pela hoi mahope, a ike iho la ua loihi kahi i hele ia, a eia no hoi kekahi, o ko makou wahi pailata, aia aku la oia me ka poe mahope. I keia manawa ua hiki i ka hora 2, a ke hakumakuma mai la no hoi na ao ua, a o na kauhale kokoke imua o ko makou mau alo; oia no na hale noho kuahiwi o ka makua Capt. John Meek, i hala aku la ma kela aoao, iloko o kona mau la kanikoo. I keia wa, ua kuka iho la makou no ka pono o ka hoi ana ihope, a no ka hele ana imua, ia manawa, ua hooholo koke iho la makou no ke kipa ana i na hale i kokoke imua o ko makou mau alo, a o Lihue ka ihu o na lio. I keia wa a makou e holo nei maluna o ko makou mau lio, o ko makou kokookolu he wahi opio, nona ka leo e hoopuiwa mau ana ia maua i na wa a pau, ma ka uwa me ka akena ana, no ka ikaika me ka holo o kona wahi lio uuku, i oi ae ka mamua o ko maua, a pela io no i ka‘u nana iho, ua ano nawaliwali io no ko maua mau lio, ua hilinai ia no paha ia, no ke nui o ko mau kino, a me ka loa o kahi i hele ia.

Ka Hoea Ana i Kauhale.

He hapalua mile paha hiki aku makou i na hale, no ka nui makewai o ko‘u mau hoa, ua kipa koke aku la laua malalo o kekahi alu i eli ia he punawai, a i makaukau no hoi i ka bakeke e huki ai, ua kahea mai la laua ia‘u. A aole nae o‘u wahi mea a hoomaopopo‘ku. Auau loa aku la ko‘u lio, me ka manao e hiki koke i kauhale, a e ike paha i kekahi mea i launa a i kamaaina hoi. A i ko‘u kaalo ana ae mamua iho o na hale, pae ana he leo, a o keia leo, no kekahi wahine a‘u i ano kamaaina iki ia‘u mamua, me ka peahi pu mai, ia wa ua komo mai ka hoomanao ia‘u no keia mau wahi lalani:

Pa kahea a ke Koolauwahine o Puakei—e
He pua lau kona na ka moe e aloha ai,
Oia aloha la e hoi hou iho,
I kaulele no ka po i hala ae nei.

Iloko o ka eleu, a me ka hiki wawe o ke kamaaina wahine; a kahea ae la ia he mau kanaka elua, na laua i miki aku e malama i kuu lio. Aohe no hoi i upu iho, ua hoea mai ko‘u mau hoa, a ua apo koke ia mai la makou e ke kamaaina wahine i piha i ke aloha akea me ke ahonui. A nona ko makou mahalo piha, ma ke ano o kana hookipa ana, he makamaka heahea oiaio oia, a he ano lede maoli, a hoomaopopo ae la au o ka wahine mare oia a Mr. Richard Meek, kekahi o na ona o ia kulanakauhale, na kula akea a me na kuahiwi kualono. O na mea i oi aku ke kamaaina ia makou, oia

no o Thomas Meek me kona kaikaina nona ka inoa maluna ae, he mau kanaka hoi i ikeia no ke ano akahai a hookipa oluolu i ka poe e kipa aku ana ma ko laua home.

A iloko o ka lokomaikai palena ole o na Keonimana no laua keia wahi, ua oluolu loa laua i ke noi ana mai ia makou e moe ilaila ia po, a ua ae koke ia keia noi, a no ke ano nawaliwali no hoi kekahi o ko makou mau lio, nolaila, ua holo lea loa ke noi. Ua nanea iho la ia koena o ka manawa, a hiki i ka makaukau ana no ka paina ahiahi, ia wa, ua ku like mai na kamaaina iluna e hoomakaukau ia, a i koʻu nana ana iho i na mea o ka papaaina, ua komo koke mai la iaʻu ka pololi, a hoomanao ae la au i na lalani malalo iho :

Me he lamalama la ka pua lena o ke koolau,
I ka pala luhi ehu ma kauka o ka Ako.

Ua ai, ua honuu, a ua inu a piha, aole au e poina iki ana i na hoowehiwehi hanohano ana a na keiki lalawai o ia uka iloko o ka hapa hope o koʻu mau makahiki e hele nei, no laua koʻu aloha a nui loa. Ua ano powehiwehi iho la i ka wa i pau ai ko makou paina ana. Ia wa puka aku la mawaho o ka hale, e ike i ke Aliiwahine hoomalamalama o ka po e pahola ana i kona nani maluna o na papalina o ka honua. A ia wa no hoi au i ike maka iho ai i ke kololio ana mai a ka welau makani kehau, ke hele la au a maeele, i ka ua mea o ke anu e, ke "Hao la na kepa ka hau o Lihue."

I keia wa, ke ke mai la ke ahiuhiu makani mai na oawawa mai, me ka halihali pu mai hoi i ke ala kupaoa launahele, a me ke onaona o ka mauu nene, o ia uka aloha aʻu e hoomanao ai i keia mau lalani:

"Paoa Lihue i ke ala o ke Kupukupu,
I ke ala o ka mauu pua nene,
I honia e Kokoloea a Malamanui,
Maewa ke oho o ke Kaunoa i ka la."

Aole no hoi au e poina ana ma keia i ka haawi ana i ka mahalo ia Keoni Miki Liilii, i kona akamai luaole ma ka hookani ana i ke Guitar, (Ki-ka,) ua like no ia me ka ipo malalo o na kohaihai o kekahi po mahina konane like me keia. Ua hoalo ia ka manawa ma na nanea ana o keia ano, a hiki wale i ka wa i hoalii iho ai ka hiamoe i na maka, ua hoi aku la makou e moe.

A ma ke kakahiaka ae o kekahi la, ua ala ae la, a mahope o ka aina kakahiaka, ua hoomakaukau iho la makou no ka hoi ana mai. Ua paa ko koʻu mau kokoolua lio, a o koʻu ahi lio, ke noke ia mai la i ka homalimali ia, a aohe wahi mea a maliu mai,

me he mea la ua

Makemake wale aku no ia i kanahele,
Ua hiaai wale aku no i ka lehua.

Ke puiwa la kela, ke owala ‘la. Me ka leo nui ka hoa‘loha Thomas Meek i kahea ae ai i na Paniolo ona, ia wa no hoi makou i ike aku ai i ka eleu nui, me ka hikiwawe i ohi mai ai na keiki o ia nahele, me na kaula ili pakahi ma ko lakou mau lima, a me he mea la aole i elua minute mahope iho ua hihipea ka a-i o ua lio nei o‘u i na kaula i lele mai ma o a maanei. He wa pokole loa mahope o keia, ua kau like ae la makou maluna o na lio, me ka hawi ana i na aloha lulu-lima i na makamaka oiaio o ia uka ano iuiu i paa mau i ka ohu.

A pela iho la i hoalo ia ai he manawa pokole o ka mea nana i kakau keia, mawaena o na hoa‘loha, me ka haalele aku i ko laila mau kaiaulu. Me ka Mahalo i ka Lunahooponopono a me na Keiki o ka Hale Pai.

Kalakini.
Kalihi, Honolulu, Dek. 15, 1875.

Summary — A night at Līhu‘e

…One day, a few weeks past, a trip was made to Līhu‘e to understand events. Upon seeing the plains, the writer found nothing to criticize. There are many excellent grazing lands upon these islands, and if the Reciprocity Treaty moves forward, there is no place else that the Merchants Association is looking at that would be like the lands here for fields of sugar cane. But it is only to give the opening of the famous enter of Pu‘uloa so that large ship may enter. Unless the writer is mistaken it will be a number of years for the completion of this work.

The Valleys and the Ravines.

Kīpapa is one of the large, wide valleys that I saw on this road and I was unfamiliar with travel in these places. This is a dry ravine, though perhaps during the winter water may flow. Upon looking there, it was seen that it was filled with livestock, eating and lying down. Reaching the other side, we found on the plains green grasses moistened by the Waikōloa dew.

At 2 o’clock, we arrived at the mountain home of Capt. John Meek, who had passed on to the other side in his old age. We then continued on to Līhu‘e.

Arriving at the Residence.

Going on about a half mile we arrived at the house, and because of the thirst of my companions, they went on down to a ravine where there have been dug a spring. I then heard the greeting of a voice from the house, coming from a woman with whom I was somewhat familiar. Two men came out and took my horse as she greeted us. This lady was the wife of Mr. Richard Meek, one of the owners of this house of the broad plains on the mountain slopes. We were also greeted by his older brother, Thomas Meek…

After eating dinner, we went outside and I saw the wisps of the wind born dew descending. It was becoming dark and cold in the rains, as said, "The spurs of Līhuʻe dig in with cold." Then a wild wind came down from the gullies, bearing with it the fragrance of the forests and grasses. There is remembered the lines of this song:

"Līhuʻe is scented with the fragrance of the kupukupu fern,
By the fragrance of the flowering nēnē grass,
Kissing Kokōlea and Mālamanui,
As the kaunaʻoa strands turn in the sun."

The next day we arose, had breakfast, and made prepared for our return journey. Thomas Meek called his cowboys, our horses were prepared, and in a short time we were making our way by to town…

Kalakini.
Kalihi, Honolulu. Dec. 15, 1875.

h. Huikau, Pohihihi ke Kuikahi Panai Like me ka uku Kaulele o Puuloa (Confusing and bewildering, the Reciprocity Treaty with its Interest charge of Puuloa)

The move by businessmen—many, the children of missionaries and other foreigners who had taken up residency in the Hawaiian Kingdom—to develop sugar plantations led to the movement towards "reciprocity." The sugar growers sought a way to compete with southern sugar growers in the United States; through the Reciprocity Treaty which took effect on September 9, 1876, the Hawaiʻi sugar growers were able to export their sugar and rice crops with relief from taxation on foreign imports. The treaty also set the foundation for American development of Pearl Harbor as a Pacific Base of military operations. In 1887, the re-negotiation of the treaty was forced upon King Kalākaua through the "Bayonet Constitution" (cf. Kuykendall, 1967).

In the article below, Hawaiian historian Samuel M. Kamakau questioned the move towards the

Kingdom relinquishing control of Pu‘uloa (Pearl Harbor) to the United States.

> ***Ko Hawaii Ponoi***
> **Huikau, Pohihihi ke Kuikahi Panai Like me ka uku Kaulele o Puuloa.**
>
> **August 20, 1876 (page 3)**
>
> …About Ewa. Ewa and it’s many bays are surrounded by land on most sides. The entrance to the Harbor is at Puuloa. Its narrowest point is between Kapuaikaula and Kapakule. It is perhaps a little more or less than a furlong across. The rise (submerged hillock) outside of the entrance is Keaalii. There is a shallow place there, approximately 9 to 10 feet deep.
>
> Here is a description: From Keaalii to the mound at the entrance of Puuloa harbor, there is a channel on the west, near Kapakule. Then [it runs] from Kapakule to Kepookala. From Kepookala one turns towards the estuary of Kaihuopalaai, and Kapapapuhi is on the west side. That is the branch of the estuary of Honouliuli. Amoe Haalelea is the chiefess, landlord of this section of the estuary, and the lesser landlords, who control the fishing boats.
>
> From Keaalii and the channel to Kapakule, and to the east, to the tip of Mokuumeume, is the estuary channel of Komoawa. This branch of the estuary is now called the Halawa Branch. There are two titled landlords here, their highnesses Queen Emma and Ruth Keelikolani.
>
> From Kepookala, along the sheltered western side of Mokuumeume, along the Halawa branch, and along the point of Paauau to Kalaehopu, Kupahu, and Halaulani; this branch of the estuary is called Waipio and Waiawa. The titled land lords of this section of the estuary are Malaea Ii and the relatives of Ruth Keelikolani. This is an expansive place, not filled with thousands of boats and more, from the point of Pipiloa to Mokuumeume, and from there to Halawa. Turning north are the lands of along the sheltered bays of Manana, Waimano, Waiau, Waimalu, Kalauao, and Aiea. Waimalu is the land division to which Mokuumeume belongs.
>
> What right does the government have in giving Puuloa and Ewa as payment for the Reciprocity Treaty? I know of no right that the government has…

i. An Itinerary of the Hawaiian Islands (1880) with A Description of the Principal Towns and Places of Interest (Developments in Honouliuli and the ‘Ewa District)

George Bowser, compiler and editor of “The Hawaiian Kingdom Statistical and Commercial

Directory and Tourists Guide" (1880) documented various statistics and places of interest throughout the Hawaiian Islands. The following excerpts from Bowser's publication provide descriptions of the communities and development in Honouliuli. Entering the 'Ewa District from Wai'anae, Bowser reported:

> …My next halting place after leaving Nanakuli, was at Honouliuli, at Mr. James Campbell's. This gentleman owns, also, the Kahuku ranch, on the extreme north point of the Island, of which I have already spoken. The Honouliuli ranch is an extensive property. The main road runs through it for about twelve miles, and the general breadth is seldom less than four miles. The surveyed area is 43,250 acres. One large tract of this land is perfectly level, with the exception of a few acres near the center, where there is a knoll of rising ground.
>
> From Mr. Campbell's veranda, looking eastward, you have one of the most splendid sights imaginable. Below the house there are two lochs, or lagoons, covered with water fowl, and celebrated for their plentiful supply of fish, chiefly mullet. In the far distance, some twenty miles away, you can see the range of mountains which form the backbone of the island. It was on the northeastern side of the mountains that the earlier part of my ride was taken. The chain runs from Mr. Campbell's place at Kahuku, away to the easternmost point of the island. The soil at Honouliuli is good, and, with the aid of irrigation, will grow anything. In the meantime, it is wholly pasture land, but the means of irrigation have recently been secured by Mr. Campbell, who has sunk an artesian well to the depth of 273 feet. This well has delivered a continuous stream of water equal to 2,400 gallons per hour, ever since the supply from which the present flow comes, was struck on the 22d of September, 1879. Besides Mr. Campbell's residence, which is pleasantly situated and surrounded with ornamental and shade trees, there are at Honouliuli two churches and a school house, with a little village of native huts.
>
> Leaving Mr. Campbell's, I came next at Waipio, at which place resides Mr. W. G. Needham, the District Judge for the districts of Ewa and Waianae. Here, also, is his courthouse, and near it a considerable village. The neighborhood is celebrated for its fish-ponds and rice plantations which extend for many miles around the Lochs through which the stream—best known under its English name as the Pearl River—finds its way to the sea…[page 495]

j. Honouliuli Ranching and Land Development (1830-1900)

Grazing of small herds of cattle, and eventually larger ranching operations began developing in Honouliuli by the 1830s. Initially, native tenants and a few foreign residents vied for access to the land. By the 1860s, few native residents could compete and individuals like Isaac and Daniel

Montgomery, John Meek, James Dowsett and James Campbell came to control the majority of the land in Honouliuli. The consolidation of land title set the foundation for radical changes in the landscape, led to problems with access to the Honouliuli fisheries, and changed the makeup of Honouliuli's population. The articles in this section of the study focus on the large estates and ranching endeavors in Honouliuli (Figure 6). The consolidation of title under James Campbell in 1877 led to the formation of serious business endeavors. In 1879, Campbell had dug the first artesian well in Hawai'i. With a reliable water source, initiatives like "Honouliuli Colonization Land and Trust Company" and large-scale plantation programs was within reach at Honouliuli and neighboring lands, where a few people controlled nearly all of the land.

Figure 7. Por. of the Island of O'ahu (W.E. Wall, Surveyor 1902). Yellow lines decipt grazing lands, orange lines decipt sugar plantations, green area depicts sisal planation.

The following narratives document the relationship between Honouliuli business interests with those of other locations in the ‘Ewa District and in the larger development plans on the island.

In 1868, *The Pacific Commercial Advertiser* published an article filled with details of a journey from Honolulu through the ‘Ewa District to Honouliuli and beyond. The unidentified author described places and features passed along the old government road and spoke at length about the potential for agricultural development throughout the district, urging businessmen to take action and end waste of the land resource.

The Pacific Commercial Advertiser
Kaala Mountains, January 1868.
Ride to Ewa.

January 18, 1868 (page 1)

> …We galloped out of King Street on the excellent road that leads in the direction of Ewa. This is decidedly the best highway leading from Honolulu, as far as the Kalihi bridge. It is macadamized with coral, broad, graded, convex enough for the water to flow to either side, and is compact and durable…
>
> Beyond Kalihi, the cactus and yellow-flowered mimosa, which filled the air with its delicious fragrance…Descending a hill which was the terminus of an ancient volcanic wave of tufa, we enter the romantic valley of Moanalua. The bright waters were murmuring over a pebbly bed between green and fertile banks, where there were some evidences of cultivation. Our road wound up the valley for some distance, past substantial farm-houses, quietly nestled between hills, where we left the valley meandering away with Arcadian beauty among the green wooded mountains to the right, and ascended the volcanic ridge. On the summit of the ridge to the left were several piles of stone rising like rude obelisks, that were surrounded with superstitious traditions of the past. There mark the descent, the jumping of place, to Kapapakolea, or the infernal regions of Oahu. We rode to the summit of the ridge below the weird piles, and stood on the sheer brink of a precipice that overlooked the Hawaiian Lake Avernus [Āliamanu].Far below, having the base of the dark volcanic cliff, in the cavern of an extinct crater, a gloomy lake was sleeping in a green meadow pastured by cattle…
>
> As a dark cloud swept over the scene, it gave it that impress of awe and grandeur that created in the Hawaiian mind the idea of its being the place of descent to the regions of the dead. One of the native legends bears…An enamored youth in ages long past, lost the lady of his love, and he determined to seek her among the shadows of the dead. He made the descent , found the shade of his beloved… by

trick he outwitted Milu, the prince of the realm of darkness, and returned to the upper world with her spirit, which was restored to her body and the lived a life of bliss in the Eden of the Islands. The Hawaiian idea of the immortality of the soul, before the intercourse with the Europeans, was more brilliant and spiritual than that of the Jews, and most of the civilized nations of antiquity…

The Hawaiian Avernus is a fresh water lake; but beyond it to the south-east, also in the crater of an extinct volcano, nearer the sea, is a larger lake of salt water, called Kealia, [Āliapa'akai] which it is said rises and falls with the tide, showing a subterranean oceanic connections. The view above these lakes from the ridge is beautiful, extending over mountain, vale and ocean. Away to the west and north-west extended the green undulating and wide plain of Ewa, bounced by the Kaala or Waianae range of mountains, over which was spread a gossamer veil of clouds, which gave a softened beauty to the scene, and contrasted the brighter emerald of the grassy glades with the deeper variegated green of the wood-lands. The bright bay of Ewa, or Pearl River, lay before us, spread around its verdant islands, extending deep into the plain, and affording excellent inland navigation for miles. What a magnificent site for a city—a commercial emporium of the Pacific—on its shores!

The narrow entrance that leads into the bay is shallow, but the coral bar is short, and can be dredged and deepened at no considerable expense so as to admit the largest vessels. When once inside, the harbor is land-locked, secure and capacious enough to furnish anchorage for all the ships engage in the commerce of the Pacific. There is not only one, but many harbors and anchorages. The purest spring water gushes in abundance from the bold shores, and two limpid, never-failing streams from the mountains pour their bright waters into the bay. Then there are the Waiawa and Waikele, furnishing water enough to supply the largest metropolis…

We descended the ridge rapidly, passed the ravine of Halawa, and over an elevated table land into the bright fairy-like valley of Waimalu, where a Roman catholic church and the sugar mill and plantation of Mr. Williams are situated [at Waholoa]. On over the table land we galloped, descended into another valley where a bright stream was winding its way, and some neat cottages and *hale pilis* appeared to the right and left of the road, with some evidence of cultivation around. The sugar plantation of Mr. McColgan was passed to the left of the road. It is immediately on the margin of the bay, where several large springs gush out of the bluff near the sugar mill. We paused not, but continued on to where two cyclopean rocks formed a gate-way leading to the left of the road, where a few rods ride brought us to the hospitable residence of Victor, near the murmuring shores of the bay. We were

cordially received, enjoyed his hospitality in the form a most excellent roast beef, fresh butter, the best French bread and cool spring water…

The neighborhood appeared populous, several respectable cottages and farm-houses were around, and it had the appearance of a village. There was much evidence of cultivation. We saw corn and beans flourishing as finely as in any of the States of the West, and we do not know why cotton would not do as well… No irrigation is resorted to for cultivating the corn and beans. They derive sufficient moisture from the soil and atmosphere, and where these products grow, cotton will generally succeed. We passed the cattle ranch of Messrs. Bernard & Raymond [Mānana], and by the local District Judge's, over fine lands, and forded the bright dashing waters of the Waiawa, a perennial mountain stream that waters a beautiful and well cultivated valley. We rode slowly on out of the valley over the plain for the purpose of admiring the excellent corn and cotton lands which lie between this stream and the Waikele. There are several thousand acres lying waste and idle, that could be made to produce and annual income of thousands of dollars? Why is this? and why such a want of enterprise and knowledge of the agricultural interests of the Islands? We passed by the old residence of the late Wm. Hunt [in the ʻili of Pāpaʻa] on a conspicuous elevation, saw two beautiful springs that gushed out of the cliff in waterfalls, crossed the Waikele Bridge and the narrow valley of the stream, where many deserted taro patches appeared, and the cocoanut palms seemed to droop over the desolation around. We ascended the bluff beyond by a hedge of Mexican-like cactus, and were attracted to a mound on the left that appeared like a miniature Cholula. We rode upon its summit and enjoyed the view. It is one of the most beautiful and rural in the islands. Although thirteen miles distant, Honolulu appeared almost at our feet; every outline of the coast, plain and mountain was distinct and clear; the rolling, green plain of Ewa between the grand ridges of mountains, the windings of the bright bay and the great blue sea, with several sails in the distance, completed a scene of beauty. But a short ride by a long an new stone wall brought us to Hoaeae, the *ranch* or cattle station of James Robinson, Esq., where we were kindly welcomed by his *mayordomo*, or head man, Mr. Patrick Curran…He kindly welcomed us, gave us the best of cheer, and ascertaining that we wished to for ride the mountains, prepared to furnish us with fresh horses…

We had a few glorious showers in the evening, but when these passed away, the setting sun peered gloomily through the hazy clouds, and we walked down to the shores of the bay. On either hand were evidences of former populations, in deserted and dried up taro patches, the foundations of ruined buildings, piles of shells near them, like those of the pre-historic races on the shored of the Baltic, and over all,

the ancient and decaying cocoa palms appeared like melancholy monuments, drooping over this scene of desolation. We were informed that before the era of the small-pox in 1853, there were twenty-five native houses in the little valley between Patrick's residence and the bay. Now there are none—a sad evidence of the withering away of the native population…

[Rising the next morning and traveling the uplands of Honouliuli, it was reported:] Thousands of acres of the best cotton lands extended on either hand, and few wandering cattle seemed all the enjoyed any profit from it. We crossed several deep ravines in the ascending plain and came to a the green rounded foot hills where the wiliwili and kukui trees first made their appearance in the ravines. We ascended the grassy foot hills by winding cattle paths, and when we arrived the region of the koa, we discovered a flock of about sixty turkeys in a glade…The koa forest was young and low…Higher up the mountain we discovered signs of wild hogs, and on a lofty ridge in the midst of a koa forest we came upon a "bee tree," in the form of a hollow koa that had been blown down by some wrathful tempest, but was yet green and flourishing…

The scenery as we ascended the mountain benches opened out grandly. From the summit of the loftiest ridge of Kaala mountain more than half of Oahu can be taken in at a glance; eastward beyond Diamond Head; northward to the summit of the eastern mountains; the plain of Ewa, from wave to wave and mountain to mountain…We have never witnessed a more lovely place than that of Ewa and the peninsular plain that extends along the sea form the southeastern terminus of the Kaala mountains to the [Pu'uloa] Salt Works at Ewa bay…

In the 1870s, a dispute arose over the trespass of cattle between J.H. Coney, who owned the 'ili of Kaulu in Honouliuli, and J.I. Dowsett, who owned the 'ili of Pu'uloa in the same ahupua'a. Dowsett also held leasehold rights to larger tracts of Honouliuli. Results of the court proceedings were published in *The Hawaiian Gazette* and contain summaries of the leases and grazing rights in the ahupua'a.

The Hawaiian Gazette
Honouliuli Land Case – Coney v. Dowsett before the Supreme Court
Wednesday, January 17, 1877.
Supreme Court of the Hawaiian Islands.
October Term, 1876.
John H. Coney vs. Jas. I. Dowsett.
Opinion of A. Francis Judd.

January 17, 1877 (page 4)

This is an action in which $10,000 are claimed as damages for the trespass of the defendant's cattle upon the land "Honouliuli" in Ewa Oahu, the property of the plaintiff, since Oct. 16th, 1875.

The jury returned a verdict for the plaintiff of $200, and a motion is made to set aside this verdict and grant a new trial on the ground that the jury must have mistaken or disregarded the instructions of the court on the effect of certain leases under which the defendant justified, or that the jury misunderstood the evidence.

The first lease in question is dated March 3d, 1846, and running for twenty-five years from the 1st of February of that year, expired on the 1st of February, 1871. It demises to John Meek and his heirs, the kula land at Lihue, and the privilege that his cattle should be undisturbed at Honouliuli, if they should go there.

The second lease is dated 13th of July, 1851, and leases to John Meek and his heirs and assigns the land called Waimanalo, at Honouliuli, particularly as follows: The kula and the kuahiwi and the rights appertaining thereto, and the Poalimas, the river with all the rights appertaining thereto. It gives the boundaries as follows: On the mauka side the lands previously leased to John Meek, that is, the kula of Lihue and the kula of Honouliuli; on the makai sides Nanakuli and the Koolina. This lease expired on the 5th of July, 1876.

The third lease is dated the 16th of February. 1853, and it being for twenty-five years, does not expire until the 16th of February, 1878. By this lease there is conveyed to John Meek, his heirs and assigns, all the remaining portions of the lessor's kula land at Honouliuli: this being explained as follows: All parts of this kula land not included in the previous leases made between A. Keliiahonui, M. Kekauonohi and Jno. Meek for that land called Lihue, on the 3rd of March, 1846, and another lease between J. H. L. Haalelea and John Meek, of all that land called Waimanalo, on the 15th of July, 1851, the rents of these two lands shall continue and their lease, until the expiration thereof. they are not included in this lease. Before considering the reservations, which are made at length and with considerable particularity.

Let us go on to the fourth lease, which is dated the 1st of February, 1871, and which conveys all of that certain piece of parcel of land situated in the Ahupuaa of Honouliuli, district of Ewa, island of Oahu, known as the Ili of Lihue, for seven years, and which will not expire until the 1st of February, 1878.

The plaintiff claims that lease No. 1 conveyed not only Lihue but a portion of the

kula of Honouliuli, and builds up an argument in sup- of this from the words of description of Waimanalo, above given, in which the mauka boundary of Waimanalo is stated to be the kula of Lihue and the kula of Honouliuli, and that the portion of Honouliuli conveyed by the first lease and not included in the third lease, was not covered by the fourth lease, which was a lease of the Ili of Lihue only. The plaintiff claims that as there was abundant evidence that the defendant's cattle pastured upon this tract of land within the dates in which this trespass is laid, the award of the jury of $200 is far from excessive and should be sustained. But can this position of the plaintiff be sustained?

The first lease conveyed only Lihue, the lessor covenanted in addition that the lessee's cattle should be undisturbed on Honouliuli, if they went there. This does not lease any portion of Honouliuli outside of Lihue, but only protected the lessee from being held liable for trespass if his cattle strayed on Honouliuli. This view is strengthened by the wording of lease No. 3, made in 1853, which shows the interpretation put by the parties on their previous leases after seven years of dealings with each other as landlord and tenant. This lease No. 3 distinctly says that the lease of 1846 was for that land called Lihue, and that the lease of 1851 was for that land called Waimanalo. Now, as this lease No. 3 conveyed all parts of the kula of Honouliuli, not included in leases No. 1 and 2, it conveys all of Honouliuli except Lihue and Waimanalo and the reservations.

…The reservations in lease No. 3 are as follows: "These are the places reserved to the party of the first part; the fish ponds in said kula land, having fish in them, and two lots intended to be enclosed hereafter: also Mokumeha adjoining the enclosed taro lands: and also that piece between Kualakai and C. W. Vincent's lot; that places known as Ka pa Uhi is also reserved; the sea fishery and its rights are also reserved, similar to the Waimanalo sea-right reservation; also the Pa aina at Honouliuli and the said enclosure: and also the cultivatable land at Poupouwela; all of which are reserved and not included in this lease, but John Meek's cattle shall not be molested should they go on to these places reserved if not fenced in with a fence sufficient to prevent cattle from trespassing. Poupouwela will still remain as in times gone by, and is not intended to be fenced in as its situation is good, not needing a fence. The tabued woods of the mountains of the lands mentioned in this lease are also reserved to the party of the first part, but he, John Meek, can take said tabued wood for his own use, as much as he wishes, but not to dispose of to other parties."

…As regards Poupouwela, its aina mahiai is reserved. This is translated cultivated or cultivatable land. Whichever rendering is taken there is no evidence that Dowsett's cattle trespassed upon either the cultivated land or the land capable of

cultivation in Poupouwela. The evidence was confined to the statement that the cattle driven from Waimanalo between the 11th and 18th of July were driven from Lihue to water at Poupouwela and back again, but there was no evidence that this water was in the limits of the aina mahiai. I am of the opinion, though the jury were not so instructed, that no trespass could be maintained even on the aina mahiai of Poupouwela, as the clause in reference to immunity from trespassing applies to it, and the lessor disavows his intention of fencing it, as the situation of the land did not require it. The legal inference from this is, that he took the risk of cattle trespassing on it, though unfenced…

A. Francis Judd,
Justice Supreme Court.
L. McCully and E. Preston for plaintiff. A. S. Hartwell and W. C. Jones for defendant.

Honolulu, Oct. 23, 1876.

John H. Coney vs. James I. Dowsett.
On Exceptions to the Decision of Mr. Justice Judd.

Present: Chief Justice Allen, Justices Harris and Judd.

The question upon which the opinion of the fall court is desired, is the construction of the leases on file in the case.

The arguments of the counsel for the plaintiff are exceedingly ingenious, and we have given them full consideration. We have likewise reviewed and weighed the opinion given by Mr. Justice Judd, which is excepted to and we concur in that opinion fully, seeing no reason for altering, amending or expanding it.

The jury will be instructed in accordance with this opinion, in case a new trial is proceeded with.

Elisha H. Allen,
Chas. C. Harris,
A. Francis Judd.
E. Preston and L. McCully for plaintiff, A. S. Hartwell and W. c Jones for defendant.
Honolulu, Dec. 29, 1876

The Daily Bulletin
Honouliuli Ranch

August 14, 1885 (page 6)

Viewing the Ranches.

> …If observation is anything, and scientists say it is everything, these hills and glades go to prove that a least the island of Oahu has been perverted from its original purpose in the economy of nature, and that "someone had blundered." inasmuch as large areas of its best lands are devoted to the sustenance of the cow, the ox and the goat, the people to shift for themselves as best they can about the docks and street corners of Honolulu. Where cultivation appears, it proves an unmistakably grand success. Wherever improvements break up the soil, the soil gives manifold returns. Coming over the brow of one of the hills, an immense structure appears in the distance. It reminds the observer of the bridges over some of the mountain gorges on the line of the Union and Central Pacific railroads. It turns out to be Robinson's irrigating flume, running along on trestle work over a wide gorge at the bottom of which is the Waipahu stream and spring. The road leads down towards the water, and passes under the highest part of the trestle bridge, the flume at the roadway being apparently about eighty feet overhead. Right by the road is a big pump for raising the water to the flume. It is brought by this conduit to Robinson's banana plantation, covering about fifty acres of land at Ulalena. There is an opinion among the natives that this Waipahu stream has subterranean connection with Kahuku. In support of this theory the story goes that a woman at Kahuku accidentally let a tapa stick fall into the water, and all efforts to recover it proved futile, but some time afterwards being at Ewa, she saw her lost tapa stick and accused the possessor of having stolen it, but the alleged pilferer was acquitted on proving that the stick had been picked up in the Waipahu stream. The "fourth estate" cavalcade passes on, and after anther hour's equestrianism, that by this time is beginning to be more painful than romantic to some members of the party, the Honouliuli ranch is reached, horses are taken care of, the pressgang, professor and all, are shown to well furnished apartments, and every man is hospitably directed to make himself perfectly at home. A sumptuous dinner soon follows, the soup and fowl are excellent, and the fish, a fine Papiopioulua, is simply magnificent. In next letter, you will have an attempted account of a two days' ride over the great Honouliuli ranch, covering a tract of about 43,000 acres.

The Hawaiian Gazette
Honouliuli Ranch

August 19, 1885 (page 2)

With a good horse and agreeable companions the ride from Honolulu to Mr. Campbell's ranch at Honouliuli a very pleasant undertaking, and so it proved to a party of gentlemen of the press and others who made the journey on Monday last.

To a traveler who has not been over the ground for some seven or eight years, considerable changes are observable, chiefly in the direction of increased farming and cultivation. The extent of rice and banana land is much enlarged, and Mr. Mark Robinson's flume and pumping engine at Ulalena is a remarkable piece of work. Though apparently of the slightest conceivable scantling it stood through the late gale without injury. This flume irrigates over 200 acres of land fit for banana, watermelons and a variety of produce and of which 35 acres are in bearing.

Of Honouliuli itself there is a great deal to be said. Mr. Campbell's estate contains about 13,250 acres and has been in his hands for eight years. During this time he has put up 30 miles of fencing of which 20 miles are of wire and 10 miles of batten. The estate is thus completed enclosed; either by fence, by the impenetrable ridges of the Waianae Mountains, by the water front of Pearl Harbor or by the open ocean, Hon. J. I. Dowsett's place at Puuloa cuts off a corner stretching from Pearl River to the seabeach behind. There is little of any of this land which is not capable of being made productive in one form or another. At present it only carried 5500 head of cattle, and one rides along the foot-hills of the Waianae range and the plain below through miles of manienie grass above fetlock deep, only sprinkled here and there with high bred cattle in splendid condition. Occasionally one comes to a batch of some acres of mimosa bush and sometime of blue weed. Again on the high plateau on the western terminal slope of the mountains large batches of Spanish clover, kukaepuaa are amongst the prevalent manienie.

On taking possession of the property, Mr. Campbell found it heavily overstocked and wholly unfenced. Buying out the Kahuku property on the north side he caused to be removed 32,300 head of cattle, reserved Kahuku for breeding purposes, and after letting the land rest for twelve months, gradually raised the stock on the two estates to the present figure, viz, about 5300 on Honouliuli and 3300 on Kahuku.

The young stock are driven from the last named place to the Eastern, or Lehue [Lihu'e] end of the former, and so onwards till they reach the fattening ground of some 15,000 acres, towards Manikuli [Nanakuli] and thence is an easy drive to the slaughter house on the Pearl Harbor, whence the carcasses are carried by steamer to the Capital, thus avoiding the deterioration inseparable from long drives to market.

Among the ravines and narrow valleys between the span of the main mountain range towards the Leilehua boundary, are evident traces of extensive taro grounds, sufficient proof that there at least, abundant supply of water has formerly been available. Though the great bulk of the land from Honouliuli to the "big tree" is available at present for cattle runs only, there seems to be no reason why, at reasonable expense a good portion of this might not be irrigated for dairy, grape, vegetable and many other marketable produce.

A well at Kunia, 400 feet above the sea and sunk 50 feet brings water to within twelve feet of the surface, except during long droughts, while an Artesian well (Waianiani) about fourteen feet above sea level has yielded 2,400 gallons an hour since it was sunk in 1879. The water front on Pearl Harbor affords on one side promising bathing places, while the whole area of the sheltered harbor offers unrivalled opportunities for yacht sailing. The rice grounds are in the hands of the Chinese, who pay a low rental for the first seven years, which are nearly expiring, but they are desirous of renewing for another seven years at a considerable advance. Fishing rights, lime and building stone are also valuable considerations.

The soil almost throughout this estate is the rich red volcanic mould familiar in these island, its depth is shown by the numerous cracks and slopes, and its fertility by the spontaneous growth which covers it.

At present the Campbell estates send an average of six carcasses per diem to Honolulu being rather more than one third of the consumption. The cattle are all in prime condition, and judging from the large areas on which mere traces of cattle are now visible and the immense amount of available feed, this quantity could be readily increased by 50 per cent. Without distressing the land. No doubt a large portion of this land is available for cultivation by small freeholders; how much, can only be ascertained by experiments in the way of raising and distributing water, especially between Honouliuli and Lihue. The questions of market and ready access thereto, may be left for the present to await further information based on actual experiments.

At the ranch itself Mr. Cecil Brown did the honors in most hospitable style, and rode each day with the party ready to lead the way over the country and afford every information asked for, and to him members of the party are indebted for a pleasant trip.

Daily Bulletin

Honouliuli Ranch,
August 31, 1885 (pages 2-3)

Tuesday, Aug. 11th.

[riding in from Waialua, across Wai‘anae Uka]
…Passing on, the party soon reach the Kunia windmill, drawing from a well about thirty feet deep a continuous stream of water. The elevation at this point it estimated to be about 450 feet above sea level. The Kukui windmill is about as good an indicator as can be that these lands may one day be dotted over with the habitations of an industrious agricultural population. If one windmill draws a continuous stream of water from a depth of not more than thirty feet at this elevation, it may reasonably be inferred that a water supply for purposes of settlement can be had at other points as well as here.

The next halting place is in the umbrageous shade of The Big Trees at Lihue. There are two gigantic kukui trees standing about ten feet apart, on the top of a high hill, like sentinels keeping guard over the surrounding country. As every object of note must have a legend, that of The Big Trees is that a native has his six by two resting place under each tree. Several visitors in years gone by have carved their names on the bark, thus leaving to the kukui trees the sacred trust of bearing their names, as the years roll on, higher and higher in view of all who pass this way, in proof of the fact that they had at least made their mark in the world. Nearby is a dilapidated old building, once the residence of Captain John Meek. With reference to the capabilities of the soil it is related that Captain Meek raised oats and corn here in his time.

A few miles further on, another halt is called at a magnificent stream, and right by is a fine dairy kept by a Portuguese. It need hardly be said that every milk drinker in the party had his wants supplied to his own satisfaction and the credit of the ranchman’s cows. The outward bound ride at length comes to an end at the Papowela [Poupouwela] stream and well. Here, a hole was bored years ago with hand tools, and, as the water did not come at the time, the pipe was plugged. Six months after the plug was taken out, the water flowed and has flowed on ever since.

The order rings along the line, “Back to the ranch house.” The march back is close along the line of the Leilehua Ranch. About half way down the home stretch, the ride is mostly over level ground. A gallop of a mile or so over a rich carpet of verdure, then a slow march down a steep bank and across a ravine under clusters of kukui nuts, and up the opposite bank, then off again on another steeple chase (all but the steeple), over another ravine, and so on for five or six miles. Occasionally

we pass a drove of cattle, so rolling fat that their sleek coats glisten in the sun. The ilima plain traversed in the morning is again entered, though on a different trail, and at half past one, P.M., a rather sore, but much delighted party of the wise men of Honolulu are luxuriating, in the bath room, on the breezy verandahs and at the sumptuous dinner table of the Honouliuli ranch house.

Wednesday, Aug. 12th.

This was the second day's riding over the Honouliuli Ranch, and a more exciting and romantic excursion could hardly have been made. The start was made, as before, from the ranch house, and lay over a part of the wide flat traversed yesterday, and which, as before stated is well covered with the ilima, indigo and other shrubbery much relished by cattle. The shrubbery, I omitted to mention yesterday, is richly supplemented by an undergrowth of manienie grass. The route this morning is to the mountains. The climbing begins. Looking forward and upward at an angle of about 40 degrees to a height of some 800 feet, the first peak to be scaled [Pōhākea] is in full view. The prospect is not a comfortable one to the ranch horses. They face the acclivity, however, with commendable equine determination, pawing their way with sure-footed care up the slope, through heavy grasses growing knee-high. The whole slope is heavily coated with manienie and native grasses, and some Spanish clover, and is well dotted over with trees, chiefly the kukui. After reaching the top of the first peak, the trail winds down, corkscrew fashion, through heavy verdure and under the umbrageous shades of large wide spreading trees into a deep ravine, out of which there is another corkscrew trail up on to the next peak and reaching a little farther into the clouds. Parts of the trail just gone over runs along the margins of immense gulches into which the rider looks down over precipitous descents of some nine or ten hundred feet through the dense foliage of trees that have somehow got rooted in the sides of the declivities, so that they suggest the idea of an aerial vegetation. The prospect up these mountain sides and through these ravines, is grandly picturesque. These exhibitions of mountain scenery grow upon the view. The first hour among them extorts expressions of wonder and admiration. Passing on, their majestic grandeur repeats itself in ever increasing variety. The faithful horses climb almost perpendicular ascents over the rugged natural stairways, and again descend similar hard places, with equal care and safety. "Jerry" proved himself an able and reliable steed. "Sooner," by the way, had been discarded, as deficient in intellect and understanding, and unfit for the service of the Bulletin, But "Jerry" is an intelligent big bay, wanting neither whip nor spur, but always knowing just where to go, and regulating his paces with infallible correctness, whether on the slow march over rough and rugged ways, or on a streaking gallop over pieces of smoother roadway. Midday finds the whole

party on the highest point, but one, of the Waianae. The scene at this point is grand. It is magnificent. It is stupendous. We stand here on the rim of an immense basin scooped out of the mountain, with the seaward side broken out. This vast cavity is about a quarter of a mile wide, with almost perpendicular walls a thousand feet high. Beyond the basin northward, the mountains shoot up skyward in collossal isolated cones. Spreading out in the spacious concave of the western horizon, are the deep blue waters of the great Pacific Ocean, the "boundless, vast, illimitable waste of waters." The Nuuanu Pali, with all its grandeur, is surpassed by this exhibition of nature's wonders in the Waianae. All these mountain elevations, with their deep broad gulches are valuable, from the utilitarian standpoint as they are from the romantic and sentimental. Herds of splendid cattle are seen feeding on the slopes and in the valleys. The cavalcade moves on down the seaward side of the mountain, in view of thousands of acres of flat land lying along the seashore. These seaward paddocks are pointed out as the territories that will be in order for the explorations of tomorrow…

Thursday, Aug. 13th.

[returning to 'Ewa via the low land trail]
…The trail leads over coral which is evidently upheaval. Up through every crevice and around every boulder, big and little, there are thick growths of pili, makuekue, pualele (milk weed), manienie, kukaepuaa and other native grasses. At one place, a cavity in the rocks contains luxuriant growths of breadfruit, bananas, sugar-cane, and numbers of wiliwili trees, with their exceptionally pretty red seeds. The natives say when these seeds are ripe and red, there are plenty sharks off Puuloa. On the lower part of this land among the rocks, fine clumps of algaroba trees appear in different stages of development. All these trees have grown up within about six years. The large progeny of baby algarobas whose frowsy heads appear here and there over the plains, if not nipped by cattle would evidently evolve, within a very few years, a race of sylvan giants. Cattle kept off, and the natural propagation of these fine trees assisted by some planting, there is here the possibility of a big bonanza in a ten thousand acre forest within ten miles of the city of Honolulu. As pasture land this portion of the rand is unsurpassable in richness. It is the part of Honouliuli designated the fatting paddock. Cattle intended for the slaughter house are brought here to have the "gilt edge" finish put on them. About six head are slaughtered every day for the Honolulu market and forwarded by the steamer Kapiolani. The ranch is capable of supplying a much larger daily quota of beeves, but the demand is limited, and the ranch is of course stocked considerably short of its capacity. There are at present on it some 5,500 head all told. But if the grasses, and other plants in their present condition, mean anything, they indicate enough

and to spare for herds numbering twice five thousand.

A fact deserving of special note is the improved breeds with which the ranch is almost wholly stocked. Durhams, Herefords, Jerseys, Ayrshires and Holsteins are pointed out. And, really, it needs not the eye of a connoisseur or a grazier to notice that the animals are no "square piles of bones built on four uprights of the same;" for no one can view them roaming in herds over the mountains, scattered in squadrons over the plains or massed in closer order around the reservoir on the fatting paddock without noticing many of the points of superiority characteristic of the several varieties of improved stock…

The Daily Honolulu Press
Great Land Colonization Scheme, Island of Oahu, Hawaiian Islands.

October 31, 1885 (page 2)

A property of 115,750 acres offered for sale to a joint stock company, which will sell the same as suitable for sugar, rice, grazing, homestead, dairy, fruit and other purposes.

63,250 acres in fee simple and 52,500 acres held under lease, at present carrying between 12,000 and 15,000 head of cattle and 250 horses and mules.

A large area of this property is suitable, according to locality, for Sugar, Rice, Vinyards, Fruit Orchards, and small Homesteads, the remainder being fine mountain side grazing ground.

Under the proposed arrangements of the Company to be formed an exceptional opportunity is offered for acquiring homesteads, by a system of deferred or gradual payment as may be agreed upon; the whole being within easy reach of Honolulu, the capital city and principal port, with a steadily growing market.

Climate.

The climate is pre-eminently healthy, the North-east trades sweeping across the island for the greater part of the year.

While there are no available registers barometer, thermometer or rainfall for this particular district, there is no reason to question their strict analogy with that of the Nuuanu Valley, in the same island, and in which Honolulu and its suburbs are situated, where the rainfall amounts to 33.28 inches per annum from a minimum of

0.94 in March to a maximum of 3.43 in December; but these figures relating only to the lower levels in and about Honolulu do not by any means represent the rainfall on the Waianae Mountains, which is very much heavier.

Thus the temperature may be said to range from 68 to 85 Fahr., varied of course by situation, elevation above the sea, accessibility to trade winds, etc..

Honouliuli Ranch.

Containing 4,3250 [43,250] acres in fee simple. This land is favorably situated, having direct communication with Honolulu by water, distance 10 miles, or by land by a good road, distance 17 miles, the latter offering singular facili- for an inexpensive railway track.

The water route to Honouliuli is from Honolulu harbor skirting the reef to Pearl harbor, a magnificent inlet of the Ocean protected by a reef or bar with 11 to 13 feet, but inside with from 20 fathoms to 3 fathoms of land-locked, protected anchorage, fit for all classes of coasters and yachts. On the west arm of this harbor Honouliuli has a frontage of no less than five miles, all steep-too, with from three to twenty fathoms in front of it. The whole fishing rights of this west arm are part of the property.

Honouliuli Ranch is bounded by the sea and Pearl River on two sides, and extends in a westerly direction to the divide of the Waianae Mountains which form a natural boundary so well defined and so difficult to pass as to render fencing on this line unnecessary. But where Honouliuli adjoins the neighboring properties, it is securely fenced. There are twenty miles of five-wire fence with redwood posts, and ten miles batten fence, all in good order and erected within the last seven years.

Stretching from Pearl harbor and skirting the base of Waianae mountains southward and eastward is a plain of about 7,000 acres of rich alluvial soil, eminently suitable—the upper portions for sugar and the lower for rice lands. Of these latter, from 3,000 to 4,000 acres may be irrigated by artesian wells, the elevation above high water mark being between 12 and 35 feet. One well sunk in this district in 1881, to a depth of 186 feet, has yielded unceasingly 2,400 gallons per hour since completion.

On the eastern slopes, among the foot hills of the Waianae mountains, are over 10,000 acres of land, suitable for small farms, vineyards, orchards, &c. several perennial spring, flow through these valleys and ravines, and the extensive traces

of taro culture show that in the hands of the old natives there was no lack of water.

Wells have been sunk at elevations from 400 to 700 feet above the sea level. Water was found at from 30 to 60 feet below the surface. One is a flowing well; on the other a windmill suffices to raise drinking water for surrounding herds.

The ravines of the Waianae slope are narrow and readily lend themselves to favoring the construction of storage dams for purposes of irrigation.

The Waianae mountains attract or precipitate a sufficient rainfall in ordinary seasons for the maintenance of the present heavily-grassed condition of the slopes, and due attention to the forestry will enable them to carry more numerous herds of cattle than those which now fatten hock-deep on the Manienie or Bermuda grass.

The lower and more open slopes are suitable for dairy, poultry or fruit raising. They are within easy reach of the main road to Honolulu, and when peopled must soon invite the construction of a railway to the capital.

The Sugar cane and Rice land of this property is valued at from $100 to $200 an acre, and may be taken up in large or small tracts at these figures; the grazing, farm and fruit lands are valued at from $10 to $50 per acre. It is at present intended to offer some 10,000 acres of first-class agricultural land for sale, upon convenient terms, at $50 an acre for colonization purposes, for resident and improving occupants…

General Remarks.

[Author references the additional ranching operations of the Kawailoa and Waimea Ranches which contain 72,500 acres of land]. The Honouliuli property is distant about twelve miles, but is connected with them by an excellent road. These properties have at present 66 miles of good fencing. The land is well grassed with a fair proportion of timber throughout. Livestock of all kinds thrive and fatten on the pastures, and by increasing the number of enclosed paddocks and working the combined estates systematically the number of cattle and horses on the land might be largely increased.

The number of cattle, 12,000 to 15,000. Now on these estates has been already mentioned, also 250 head of horse stock and mules, together valued at $312,000. The horned cattle are bred from "Hereford" and "Short-horn Durham" imported for these estates, and they thrive and fatten without any stall feeding or housing.

The horse stock is exceptionally good, one sire, "Shenandoah," having won over $20,000 as a two-year-old in the United States. There are also three trotting stallions, two of which cost $1,000 each, and there are unbroken colts and fillies from these sires, some four or five years old, which may be readily broken for saddle or harness.

These properties, if united, would give the proposed company a controlling interest in the Honolulu market, for produce of all kinds, with a steadily increasing demand; to which the contracts recently entered into by the Pacific and Oceanic Steamship Companies may prove a valuable stimulant. Indeed it is possible to create a trade with San Francisco for carcasses of beef and mutton carried in refrigerating chambers by the Oceanic Steamships.

The income from these estates at present, including leases, is $70,000 a year. Moderate calculations show that these figures might be nearly quadrupled.

The fishing rights on Pearl harbor pertaining to the Honouliuli estate, now leased for a short term at $1,700, can be rented at $2,500 on the expiration of the present lease.

A limestone quarry on the Honouliuli property at present pays a small annual rent, and a royalty on the lime produced. The entire demand for this kingdom may be supplied from this quarry, instead of, as hitherto, importing lime from California. The builders of Honolulu consider this lime superior in quality and preferable to the Californian lime. There is also a fine limestone quarry on Kahuku Ranch.

The five mile frontage on Pearl harbor spoken of suggests a town site for a summer resort there, the facilities for yachting and boating being unsurpassed, while the climate is all that can be desired.

A vast variety of fruit or timber trees grow with extraordinary rapidity. The whole Eucalyptus family, the algarroba or locust tree (pseudo-acacia), the tamarind, "alligator pear," guava, bread fruit, &c. Citrus fruits especially thrive without care or cultivation. Many ornamental woods known as koa, kou, ʻōhiʻa, &c., grow well. India-rubber (caoutchouc), quinine (cinchona), and perhaps above all the ramie will flourish, each in its suitable locality, which may be found on these estates.

Proposed plan for forming a Joint Stock Company to purchase,
sub-let, sell or work these Estates.

It is proposed to form a Joint Stock Company to buy the properties described below, both freehold and leasehold, to divide them for purchase or lease on convenient terms, and to work the unsold or unleased portions for the benefit of the shareholders.

Property consisting of–

63,250 acres in fee…	$ 822,250
Capitalized value of leased land, 52,500 acres…	$ 65,750
15,000 head cattle at twenty dollars each…	$ 300,000
260 head horses, &c…	$ 12,000
	$1,200,000

The Company's stock to consist of-	
12,000 shares of $100 each…	$1,200,000
8,000 of said shares, par value $100 each…	$ 800,000
To be offered for sale and	
4,000 of said shares, par value $100 each…	$ 400,000

To be held by the promoters of the Company, viz., Jas. Campbell Esq., owner of the Honouliuli and Kahuku estate; Jno. H. Paty Esq., of Messrs. Bishop & Co., Bankers, principal owner of Kawailoa and Waimea estates; M. Dickson Esq., and J. G. Spencer Esq., part owners of Kawailoa and Waimea ranch; Mr. B. F. Dillingham, President Pacific Hardware Co.

As soon as 8,000 shares of the capital stock have been subscribed for by responsible persons, the Company will be incorporated and the stock issued.

Receipts from the sale of the stocks will be paid over to the owners of the properties. Deeds, leases, and bill of sale of landed property and of live sock to be placed in the lands of the officers of the Company appointed to receive them.

The following gentlemen have consented to accept office: President, James Campbell. Vice-President, J. H. Paty. Secretary and Treasurer, Godfrey Brown.

The following gentlemen have consented to be nominated for Directors: James Campbell, J. H. Paty, S. G. Wilder, A. J. Cartwright, W. F. Allen, S. B. Dole, W. Austin Whiting, W. R. Castle, B. F. Dillingham. General Manager, B. F.

Dillingham, Sub-Manager, M. Dickson.

k. Honouliuli Colonization Land and Trust Company

The Daily Honolulu Press
November 19, 1885 (page 3)

The Hawaiian Colonization Land and Trust Company have issued a preliminary prospectus setting forth the merits of the Honouliuli, Kahuku, and Kawailoa and Waimea ranches. The introduction to the prospectus contains the following clause: "The object and purpose of this company shall be to purchase the land and leases herein-after described, also other desirable property in the Kingdom which may be offered for sale or lease upon favorable terms, and sell or sub-lease them for colonization purposes, in lots or parcels to suit purchasers, and upon terms which will make it not only possible but convenient for those with very limited means, to gain a 'foot hold' in this country," Occasion will be taken here-after to review the scheme at greater length.

The Daily Honolulu Press
The Colonization Scheme

November 30, 1885 (page 2)

Governments are the natural guardians of the people; therefore to protect the rights of an individual is no less the duty of their rulers than it is their duty to foster schemes for the development of the country's natural resources. While it would be impracticable in most instances for a Government to become a party to a corporation, yet it can give protection and add support to its subjects, who are its direct agents for the improvement and development of the country at large. But development is a basis for security, and increased security means financial protection, and financial investment always assumes that the Government is a natural guardian under whom both capital and industry can rest secure and increase without molestation.

It follows that all reasonable projects for developing the resources of these Islands should be furthered and protected by this Government. It is the duty of every citizen to aid in bringing about such a state of reciprocal interests. Such a chance is now offered both Government and citizens in a scheme for the colonization and development of the Island of Oahu by a *bona fide* joint stock company, known and existing under the style and name of the Hawaiian Colonization Land and Trust Company. The men whose names figure in the preliminary prospectus of the

company preclude any doubt as to the sterling worth and merit of this enterprise.

It is proposed by this company to buy up some of the great landed estates of these Islands, the present scheme embracing the Honouliuli ranch containing about 45,000 acres of land, the Kahuku ranch containing about 25,000 acres and the Kawailoa and Waimea ranches containing about 45,000 acres of surveyed and unsurveyed land. The company proposes to sub-let, sell or work these estates on terms the most favorable to settlers, as will be seen by perusing the preliminary prospectus heretofore published in the Press, as well as in pamphlet form for general distribution.

Some of the main points connected with the situation and resources of these ranches may be briefly summed up as follows: The different properties are easy of access either by land or water; they are all fertile valley lands or fine uplands for grazing; all the properties are well watered by springs, artesian wells and natural water sheds with easy constructed reservoirs; they are all well stocked, well grassed, well wooded and well fruited; they contain excellent fishing possibilities which may be practically developed into an immense source of revenue; these different ranches are capable, according to locality, of producing sugar and rice, vineyards and fruit orchards, and are also suitable for small farms or larger grazing tracts.

One of the main things to be taken into consideration, in the present offer of the company, is, that each and every one of the properties embraced in the scheme is at the present time *a paying property*. Another feature to be looked at is, that no matter how poor a man may be he can enter upon the land offered and by his own labor and enterprise can not only make a living but can lay by enough money to purchase in a few years, on the installment plan, the homestead upon which he lives, thereby rendering himself and his family independent.

The scheme is a gigantic one but it is backed by men of sterling moral and financial worth, who will use every endeavor to carry it through to a successful consummation. Embracing as it does an estate containing 63,250 acres of land in fee simple and 52,500 acres of leasehold land, it is a scheme that necessarily calls for foreign immigration and home support. What one man may do for the development of these Islands has already been seen and appreciated by many; what an organized company of our best citizens can do, with the proper support from the Government, will by far eclipse any instance of private enterprise and will open up and develop the resources of Hawaii until public debts will not only be a thing of the past, but "Money to Lend" will be posted in every doorway from the Government building to the confines of Chinatown.

The Daily Bulletin
Prospective Returns of the Colonization Scheme

December 17, 1885 (page 2)

A communicated article in a contemporary presents some of the sources of profit to investors, and advantages to settlers, held in prospect by the promoters of the "Hawaiian Colonization, Land and Trust Company." For the information of our readers we summarize the leading facts. The Honouliuli territory, of which the company has the refusal, contains 17,000 acres of land suitable for growing sugar cane. Of this amount 7,000 acres are comprised in a plain requiring artificial irrigation. To effect that object artesian wells are proposed for the portion lying at an elevation not exceeding thirty-five feet above sea-level, and a series of dams, in a natural gulch, for higher levels. Both means are proved feasible beyond any reasonable doubt, by the complete success attending their adoption, under similar conditions and in contiguous areas. Their estimated cost, for this company's purpose, is $125,000. When the land is furnished with watering facilities, it is assumed that at least from 2,500 to 5,000 acres will be occupied by responsible cultivators of sugar cane. The cane would be raised on shares, in the proportion of, say, five-eighths to the planter and three-eighths to the company. Milling facilities, with transportation of cane to mill and sugar to place of shipment, should be provided by the company, while the planters should do the harvesting and loading. Four tons to the acre is the very lowest estimate of the soil's productiveness, but experience dictates a higher figure by two or three tons. Taking the smallest amount of both land and yield, however, we have 2,500 acres producing an aggregate of 10,000 tons of sugar. Of this the company's share would be 3,750 tons, worth, at present value, $375,000 net. As to the cost of accomplishing the result just given, the author of the article herein drawn upon presents the following statement:-

Cost of 30-ton mill, say…	$150,000
Cost water supply for mills and dams…	$125,000
Cost tramway and cars for trains porting cane and sugar, say…	$ 25,000
Total estimate outlay…	$300,000

On this estimated outlay of $300,000, which he explains, is a liberal one, the following reductions are allowed: -

Interest at 9 percent…	$ 27,000
Wear and tear on mill and tramway, and repairs to dams, say…	$ 28,000
Current expenses, taxes, Insurance, etc…	$ 75,000

Total annual expense… $130,000

Ultimate results are thus deduced from these figures: "If this amount for annual outlay under every legitimate head of expenditure be deducted from $375,000, the value of a season's sugar crop, there is left a balance of $245,000 and interest of 9 percent on investment. This is calculated on the basis of existing prices. But suppose that the price of sugar should drop 40 per cent., or 3 cents per pound, as an extreme limit, which is very unlikely, there would be $150,000 to write off the value of the sugar crop, reducing the $375,000 estimate to $225,000. Now, deducting from this sum of $225,000 the estimated expenditure of $130,000, there would remain a net profit of $95,000 and interest at 9 per cent. on the investment, making a total income on the investment of $122,000 per annum."

It is asserted that most, if not all, of the ten thousand acres to be devoted to colonization is good rich soil. Extending from Pearl Harbor to the foothills of the Waianae mountains, the area gradually reaches an elevation of about 1,000 feet. A large proportion of the land may be irrigated by storing water as above mentioned, but, besides that recourse and artesian wells, water is obtainable at many points from springs and similar favors of nature. Being in the most elevated region of Oahu, the rainfall of the area is very large, and it is anticipated, upon the strength of wellknown natural law, that, once under cultivation, more humid conditions still would be induced.

Already over forty applications for lands have been received by the provisional company, the aggregate amount applied for exceeding two thousand acres. The applicants, some of whom are long residents in the country, are confident of being able to make a fair living from products they can raise for even the local market. By raising sugar on shares with the company, the owner of five acres, it is estimated, is assured of a net income of from $1,000 to $1,500 a year, besides minor sources of living that an agricultural holding affords. This would indeed, be a princely existence to many millions of people throughout the globe, "who," as the correspondent says, "toil unceasingly six months of the year to exist the remaining six."

Besides the foregoing inducements to settlers, it is intimated that persons disposed to engage in stock-raising can be accommodated with lands of the company, by purchase or lease, with the opportunity of buying a high class of stock now subsisting on the property. The company would even "cut up and dispose of the whole property on very favorable terms to a desirable class of bona fide settlers."

The Hawaiian Gazette
Honouliuli Ranch
A Very Large Reservoir to be Constructed to
Hold a Million and a Half Gallons of Water.

November 18, 1890 (page 10)

> Mr. H. M. von Holt, superintendent of ranches for the O. R. & L. Co., is having constructed on the Honouliuli ranch, about five miles from the new Ewa plantation works, a storage reservoir which when completed and full of water will be about 1250 feet long by 150 feet wide, and have a depth of water at the dam of 15 feet. A trench or puddle dam was dug through the fall of the gulch to a depth of from 3 feet on the ends to 7 feet in the center, where a hard pan, impervious to water, was found. This was then filled up with earth only, and packed down and over this the dam of earth is being built. When completed it will be about 50 feet wide on the middle bottom, sloping upwards to a width of 10 feet on top, 160 feet across the gulch and 17 feet high. The dam is situated on one of the large plains extending from the easterly slopes of the Waianae mountains, while deep ravines on either side of the plateau will prevent any chance of mountain freshets. Two gulches stating from zero on the plain about half a mile from the mountains and a quarter of a mile apart run nearly parallel for about a mile, where they join, running out to the plain again at zero. The dam is a quarter of a mile below the junction of the gulches, and the reservoir when filled with water, as it is hoped by the winter rains, will be backed up as far as this junction. The reservoir will be fenced off and water led into troughs below the dam through a two-inch pipe, so that the stock can have clean and clear water. The survey plans and detail of work were furnished by Mr. G. C. Allardt, civil engineer, who returned on Monday afternoon from inspecting the progress of the work. A gang of twenty Chinese are doing the labor, and are encamped near the works, at a spring of water. After the heavy rains of the beginning of the year, the water seeping out from the clay beds in both gulches continues to flow quite a stream until the middle of June. This supply, together with what storm water may fall on the plains, and flow into the gulches, will be utilized to fill the reservoir, a waste way being provided for the overflow. Mr. Allardt estimates the reservoir when full to hold 1,500,000 gallons of water, which once full will no doubt be sufficient to stand an eighteen months drought, allowing for evaporation and stock purposes.

2. Honouliuli – Water Development

a. Emergence of the ʻEwa Plantation, Railroad Lines And the modern Community

While ranching remained a part of Honouliuli's history through the middle 1900s, the development of the ʻEwa Plantation Company took over as the major revenue generator and source of the major changes on the land (Figure 7). Thousands of acres were cleared for sugar fields, work force populations were developed, housing and commercial interests grew, and traditional cultural resources were erased from the landscape. Sugar cultivation dominated the Honouliuli Ahupuaʻa through the 1970s.

James Campbell purchased the ahupuaʻa of Honouliuli in 1877 (Liber 52:201-201). He continued the ranch operations of his predecessors,and sought ways to develop further business opportunities on the land. In July 1879, James Campbell contracted with John Ashley to drill a well near his ranch house. The well was successful and resulted in the first artesian well in the Hawaiian Islands, which remained in use through 1939 when it was capped. When it was determined that water supplies could be relied upon, planning for large scale commercial agriculture began on the Honouliuli plain.

In 1885-1886, James Campbell entered into an agreement with Benjamin Franklin Dillingham to implement a "great land colonization scheme" for Honouliuli (Thrum, 1886:73). It was their goal to offer small tracts of land for agricultural and homestead uses. It was reported that "A large area of this property is suitable, according to locality, for Sugar, Rice, Vineyards, Fruit Orchards and Small Homesteads, the remainder being fine mountain side grazing ground" (Thrum, 1886:73). There was little interest in the land scheme at the time, but within a few years, Dillingham was developing the Oʻahu Railway and Land Company (O.R.& L. Co.). By 1889 the rail system ran from the Honolulu Harbor to Mānana, ending near the old ʻEwa Court House (Whitney, 1890:155).

On January 29, 1890, the ʻEwa Sugar Plantation Company was chartered, and operations set in motion. The region that had formerly been described as a "veritable desert," grew "into a full-fledged sugar venture" (Conde and Best, 1973:278). Within the year, 5,000 acres of land had been put into cultivation for the ʻEwa Plantation (Whitney, 1890:159). In June 1890, it was announced that the O.R.& L. Co. operations had been extended to the ʻEwa Mill. Local papers reported:

> The first carload of freight to ʻEwa Plantation went over the OR&L Co.'s line yesterday (*Pacific Commercial Advertiser*, June 19, 1890).

> On Wednesday the last track of the ʻEwa Plantation railway was completed to the harbor front, so the first train reached the wharf and several carloads of bananas were placed in scows and put on board the Australia (*Pacific Commercial Advertiser*, August 1, 1890).

By 1895 the tracks were extended through Honouliuli to Wai‘anae. The railway facilitated the continued development of the sugar plantations, ranching, and successive developments throughout the ‘Ewa District up until 1947 (Conde and Best, 1978:279-280, 315-316).

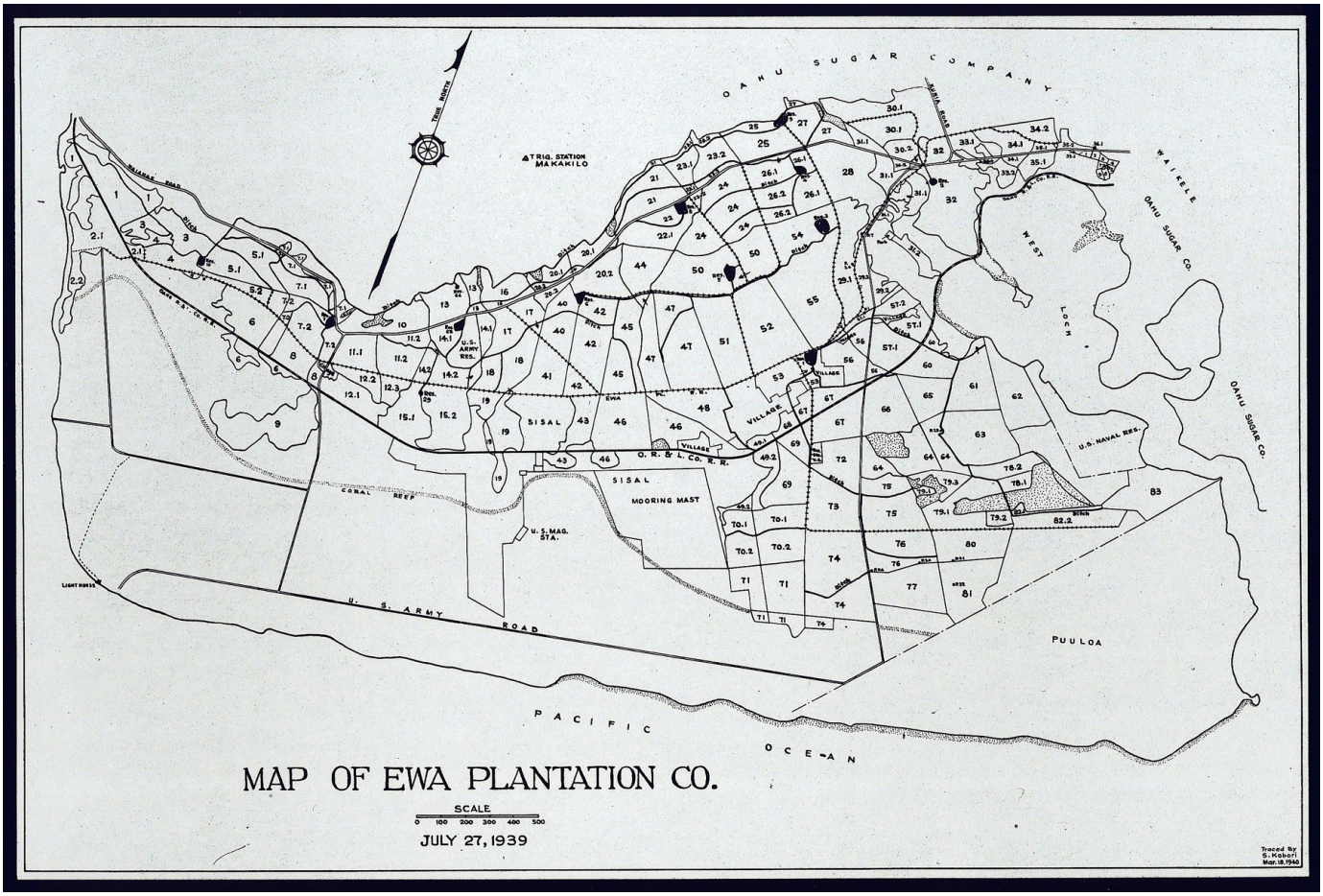

Figure 8. Map of the ‘Ewa Plantation Fields (1939).

The plantation operators recognized the agricultural potential of the coral plain. For a few years during the early part of this century, ‘Ewa Plantation undertook a land reclamation project. In order to put some of this wasteland into cultivation, they devised a complex system of drainage ditches running from the lower slopes of the Wai‘anae Range to the coral plain. Before the rainy season, men plowed the slopes so as to induce erosion. When the heavy rains began, great quantities of soil were carried down into the drainage ditches and onto the coral plain. While the modern-day promotion of sedimentation is contrary to wise use of resources, the experiment was considered successful and approximately 373 acres of coral wasteland were “reclaimed” (Immisch, 1964:70).

As early as the 1860s, visitors to the region were describing a land ripe for commercial agriculture. A series of articles published between the 1880s to 1910 provide a history of the changing landscape, evolution of the plantation, and the diversification of the

population. Selections from those articles follow below.

The Daily Bulletin
Development of Water at Honouliuli
Water Prospects of the Colonization Lands.

April 8, 1886 (page 4)

A few weeks ago the writer was one of a party of explorers, to examine the prospects of irrigation on the lands proposed to be developed by the Oahu Colonization Company. The particular occasion was a request from Messrs. John Fowler & Co., a large manufacturing firm of London and Leeds, to Mr. A. M. Sproull, B. E., their practical engineer and correspondent in these Islands, to report on the water prospects of those lands. Since Mr. Sproull's arrival in this kingdom about five years ago, that firm has supplied a good deal of sugar making machinery to plantations here, and has also acquired a financial interest in some of them. It is gratifying to have such an influential and wealthy firm, so far away as England, manifesting a practical interest in the colonization scheme, the success of which implies a vast increase in the productive resources of this country. What Mr. Sproull's report will be time may show; but, so far as the unprofessional eye of the Bulletin could judge, the feasibility of ample irrigation of the lands, at a cost not disproportionate to the certain returns, is assured. This conclusion is reached from evidence that may be summarized briefly: 1, Water has been obtained wherever a hole has been bored in the dryest of the different properties; 2, the best and widest stretches of soil are below elevations where steady streams have been obtained; 3, Water in great abundance has been procured on other properties, where the conditions do not appear to have been any more favorable than on the colonization lands; In one case, at least, it is demonstrated that the storage of water in mountain gulches is an available resort to a certain extent.

Incidentally the expedition gave an opportunity of inspecting, at close range, other features of the colonization scheme than the one under particular investigation. One fact made prominent was that, as an investment, the scheme offers immediate returns from the stock raising branch of the enterprise. Indeed, there seems no necessity for diminishing the scale on which this is conducted, while thousands of acres are being reclaimed for sugar, rice and other cultivation. Also, it seems feasible, by turning water on some now desert stretches that will not be fit for agriculture for a long time to come, to create fresh pastures for herds, thus releasing lands now necessary for their sustenance, on the grassy foothill slopes, for a variety of agricultural operations by prospective settlers. Enough was seen to convince anybody that fruit-growing could be successfully prosecuted over a very large aggregate of ground, in rough and diversified sections, where ordinary agriculture would be attended with more or less difficulty.

A brief report of the expedition referred to, which is given below, will, we think, bear out the generalizations contained in the foregoing. As the lands have been previously described in detail by another member of our staff, in connection with a larger expedition, this narrative only requires to be a brief sketch, as much the record of a very agreeable few days' outing as anything else.

About 4 o'clock in the afternoon of March 9th, an equipage provided and driven by Mr. B. F. Dillingham, chief promoter of the Oahu Colonization Company, rattled up the Ewa road bound for Honouliuli Ranch. It was a strong but not too heavy wagon, drawn by a large, well-fed span of mares, thoroughly trained roadsters. With an ample commissariat and light baggage, as befits an outing of the sort contemplated, and three passengers, the vehicle was snugly but not uncomfortably laden. Between the enthusiastic colonizer, the critical Bachelor or Engineering, and the journalist—supposed always to be on the seat for information on the public's account—it may be imagined that not much of the works of either nature or art within the range of vision escaped notice and discussion by the way. This road—as everybody in Honolulu ought to know—affords one of the pleasantest drives in all the kingdom. The views of the city and harbor from Palama and Kalihi are superb pictures, while the scenery all the way to Pearl Harbor is full of majesty, with snatches of beautiful, but quiet—very quiet—pastoral vales and slopes. Health itself blows on us in the cool, pure mountain breezes: the road for the most part is easy; therefore, this stage of our journey may well be described as delightful. Branching off the main road a few miles from the ranch, a remarkable object looms up over the track. It is an immense piece of trestle-work, gossamer-like in the lightness of its material, but towering up, over the deepest part of the gulch it crosses, some 40 or 50 feet, and stretching away more than half a mile. This elaborate piece of engineering is on the property of Mr. Mark P. Robinson, carrying irrigation pipe from a pump over a steep hill to extensive banana fields. That soil is rich and promising of large returns, indeed, which justifies much costly works of irrigation as this. Shortly after sundown, the young moon lighting the now rather rugged way, Mr. James Campbell's group of houses, local headquarters of the Honouliuli Ranch, is reached. After exhausting his lungs in vain on a tin horn in calling Charlie, our conductor, with the assistance of his guests, proceeds to get up a hot supper. His eminent success in that respect, if allowed as a token of his ability as "chief cook" of the colonization scheme, would leave no doubt of that project doing more than anything else to fulfill his Majesty's motto, "Increase the nation."

Early the next morning the much-wasted Charlie, the head driver of the ranch, a very active native man, had horses ready for a ride over the property. A short distance from the house a flowing excavated well was encountered, its troughs surrounded with cattle. Cantering off over very even ground, the slaughterhouse on the margin of Pearl Harbor is shortly reached and its unrivalled natural facilities for shipping are observed. A pipe line leads to

a well dug through ragged coral, a little distance off, which, at an elevation of 20 feet, shows water 15 feet from the surface, which is pumped by one of the patent windmills supplied by the Pacific Hardware Co. Then, to horse again, and after going through large enclosed paddocks with a capacity of thousands of cattle, we ride for several miles over rich, alluvial soil, apparently of great depth. This part of the estate consists of almost imperceptible slopes from the foothills of the Waianae Mountains, divided at intervals by light gulches. Here and there are the beds of small lakes or large pools, now dry but affording evidence of large volumes running to waste from watersheds above in the rainy season.

After resting a few minutes, while Mr. Sproull takes bearing and notes on his map, on a knob 400 feet above the sea, we head or the top of the mountains. On a high but even slope, beside a vast gulch, a herd of wild goats is seen ahead, and Charlie is after them in a moment with his lasso. He makes a splendidly exciting chase, down and up the precipitous banks, and wheeling like lightning when the goats double on him. It was no use, however; the frisky creatures went through the flying snare and would not be caught. Onward and upward, now, the sure-footed cattle-driving horses are urged, and still it is "Excelsior." Inclines so steep are surmounted, ridges overlooking such awful depths are traversed, and a path so rugged in some places is climbed or descended as on stairs, that nobody who faces the difficulties for the first time would think it possible to get over them on horseback until he was the guide ahead actually performing the varied feats—or rather letting the horse do them. Once the writer's horse stopped at a descent of about four feet at one step, over bare rocks, with a slope of about 45 degrees beyond, and both sides of the path tumbling down through the trees a thousand feet at an angle of 70. It looked prudent to get off, and horse and rider each choose his own way of climbing down. But the reckless brigands below shouted, "Let the reins loose and hit the horse." Not without apprehension this injunction was followed: the animal carefully felt for the notch beneath with his forefeet, then with a lurch brought down his posterior limbs, the saddle creaked and groaned, its bands giving a crack—the descent was made. We reached an altitude of 4,320 feet before returning by an equally difficult way to the plain. The scenery away up there was sublime in lofty peaks, awful gorges, and gaping notches: while beautiful with the foliage of a profuse growth of trees on the mountain sides, and bright green herbage away down in the valleys. Cattle swarmed out of the woods in countless number in answer to the peculiar "whoophoo" of the cowboy. They were rolling fat on the teeming rank grass and rich browsing. Going back over the plain we come to a well sunk over 300 feet at an elevation of 60 feet, in which the water is 20 feet from the surface. There is an engine and piping on the spot, but not in working order.

Next morning the road is taken for Waialua, the wagon having a smooth thoroughfare for several miles before getting off Honouliuli, traversing a magnificent stretch of heavily

grassed land, containing hundreds more of well-favored cattle of good breed. At an elevation of 800 feet is a windmill, at the food of the mountain, placed on a dug well 30 feet deep, in which there is 15 feet of water. Just on the border of Honouliuli ranch, close to Hon. C. H. Judd's ranch, at an elevation of 1,000 feet, is a flowing artesian well 80 feet deep, from which a perennial stream flows through a gulch presenting very favorable conditions for storing unlimited supplies of the essential element. It should be mentioned that we had been traveling all morning on the edge of gulches leading from the watershed, which would lend themselves easily and cheaply to a system of water storage. At the main road, the saddles were taken again for a three or four miles' jaunt, to take a view of the Kaukoanahua and neighboring gulches, the one named being the source of the Waialua river. There could be vast reservoirs made almost anywhere here, and judging by the rain clouds bathing the distant mountain summits water would not be wanting to fill them. [Author then described Waialua headquarters of the Kawailoa and Waimea ranches.]

Narrative of a Visit by Teachers to Ewa via the Oahu Railroad and Land Company Train Line – Development Described

The Daily Bulletin
July 23, 1890 (page 4)

Teachers' Excursion.

The national school bell rang at the depot of the O. R and L. Co., at ten o'clock Saturday morning and thereupon came hurrying and scurrying from all parts of the city, dominies and school marms galore, to the trysting place. Five passenger coaches with the band car in the rear were pulled up alongside the platform. At sharp ten, the Royal Hawaiian band struck up a merry air, the engine gave the usual screech and the train moved out leaving nothing but vain regrets for all "passengers aboard who had been left behind." A more highly delighted crowed than filled the coaches could hardly be imagined. As the train went rolling through the rice fields, the clatter of the wheels, the easy rocking of the coaches and the mountain breezes playing through the open windows, recalled to many present some pleasing recollections of home lands beyond the sea. At Pearl City a stop of twenty minutes gave groups of excursionists the opportunity of strolling through the streets and avenues of the Ewa metropolis. Whether any of them located corner lots for themselves deponent saith not. "All aboard" was called again, and the party was run through to Honouliuli, where track laying has been carried forward to within about a quart of a mile of the great artesian wells which have already solved the "water problem" of the colonization scheme. Four wells have been sunk and the fifth is in progress. Most of the excursion party having gathered round, the fourth well was uncapped for their entertainment. A volume of water came rushing up through the ten-inch pipe from a depth of 450 feet, with a force that drove the column about a foot above the mouth of the pipe. Hard by, the brick layers are at work

on the foundation of a building in which pumping machinery will be fixed with a capacity of raising six million gallons of water per day and delivering it over the adjacent bluff to irrigate the new plantation. The water is clear as crystal and has a barely perceptible brackish taste. On the return trip, a halt was called at Manana for refreshments. A splendid collation was provided in the grand pavilion, Mr. Johnson of the Hamilton House, caterer. In quantity, quality and variety, the bill of fare was first class. "Mine host" of the day, the Hon C. R. Bishop, personally supervised the serving of the large company and seemed to possess the facility of being everywhere at the same time seeing that no guest's timidity should prevent his wants being fully satisfied. After lunch, the teachers were grouped in the grove and photographed by Mr. J. A. Gonsalves and other operators. The assembly next came to order with the Inspector General standing under a big tree as chairman, when a resolution was read: "That the hearty thanks of all the teachers present are hereby tendered the Hon. C. R. Bishop, President of the Board of Education, for this delightful excursion and entertainment." The motion passed with a strong unanimous "aye," backed by three cheers and a tiger. The Hon. President responded in brief and cordial terms: "Ladies and gentlemen, if you have enjoyed the day as much as I have, I am satisfied." Then followed a return to the pavilion where the band struck up terpsichorean music, a large number of the guests took the floor and whirled through the mazes of the dance until the foot of the locomotive announced that it was time to return to town. The afternoon train from Honolulu, just arrived, let down one passenger and thereupon the fine physique of the Hon. Secretary of the Board of Education was seen moving toward the pavilion. The "late Mr. Smith" expressed himself well pleased on hearing about the fun that office duties had prevented his sharing. At 3:30 P. M., the train arrived back at the depot, whence the excursionists disperse, all very grateful to the Honorable President of the Board for his kindness in providing them with such an exceedingly pleasant wind up of the past year's work.

b. Development of the 'Ewa Sugar Plantation and O'ahu Railway & Land Company

Henry M. Whitney's "Tourists' Guide…" provides an overview of sugar plantation development in Honouliuli and the larger 'Ewa District in 1890. At the time of writing, the O.R.& L. Co. had just opened with train service passing from Honolulu to the 'Ewa Court House (remaining track routes were laid shortly thereafter). With the development of the rail system, businesses began immediately expanding as rail access made the job of freight and livestock transport an easy task and the 'Ewa Plantation incorporated. Whitney's description of the inaugural service on November 15, 1889 (coinciding with King Kalākaua's birthday) and subsequent trips provides a description of the Pearl Harbor regions, documenting the continued change in the 'Ewa landscape, and the planned development of "Pearl City," setting the foundation for new homes and business opportunities.

Another part of the rail development focused on the wharf at Iwilei, by which crops, livestock and goods could be easily transported from the field to ships for transport across the sea.

Oahu Railway and Land Co.

The story of its origin.

…Within the past year Hawaii has started in the footsteps of America by projecting a railroad around the island of Oahu, and actually perfecting, within the period from April 1st, 1889, to January 1st, 1890, a well-equipped railroad in running order, extending from Honolulu along the southern shore of the island to a temporary terminus at Ewa Court House, a distance of twelve miles. It was five years ago that Mr. B. F. Dillingham advanced the idea of building a steam railroad that should carry freight and passengers, and conduct business on the most improved American methods. A hundred men told him his scheme was infeasible where one offered encouragement. He believed he was right, and so put forth every endeavor to secure a franchise, which was granted to him only after vigorous legislative opposition to the measure. The incorporation of the Oahu Railway and Land Company with a capital stock of $700,000 was the next step in the venture, but not an easy one by any means, as home capitalists were timid at that time, and few would believe that the soil of Oahu was worth developing to the extent of Mr. Dillingham's plans. A small number of gentlemen, notable among whom was Hon. Mark P. Robinson, came forward at the right time and purchased enough stock and bonds to set the enterprise on foot. With all the disadvantages that remoteness from the manufacturing centers of America offered, [page 155] Mr. Dillingham undertook the contract of building and equipping the railroad. Rails were ordered in Germany, locomotives and cars in America, and ties in the home market; rights of way were amicably secured, surveyors defined the line of road, and grading commenced. The work was prosecuted with the utmost speed consistent with stability and safety, and there was hardly a day's delay from the time grading commenced, in the spring of 1889, till September 4th following, when the first steam passenger train, loaded with excursionists, left the Honolulu terminus, and covered a distance of half a mile. It was the initial train, and the day was Mr. Dillingham's birthday, a period he had designated when he secured his franchise, exactly twelve months before, as the natal day of steam passenger traffic on Oahu. The little excursion was a success, as far as it went. On November 15th, his Majesty's birthday, the formal opening of the road took place. Trains ran to Halawa and back all day, carrying the public free. Following this event, which marked a significant epoch in the commercial history of this kingdom, the Oahu Railway & Land Company opened the doors of their commodious offices in the King Street depot for business.

Developing the Country.

Simultaneous with the commencement of business was the acquisition, by the O. R. & L. Co., of a fifty-year lease of the Honouliuli and Kahuku Ranch's 60,000 acres, and the purchase of 10,000 head of cattle running thereon. This vast area, hitherto utilized as a stock range, is, under the manipulation of the railroad people, becoming one of the garden spots of the Kingdom. Two new corporations of sugar planters,—the Ewa plantation and Kahuku plantation—capitalized at $500,000 each, have each secured from the railroad leases of from 5,000 to 10,000 acres for sugar cultivation. Cane is now growing on a part of the lands. These two great agricultural enterprises, the direct outgrowth of the railroad movement, confer valuable pecuniary benefits on the business men and mechanics of Honolulu. Artesian wells, yielding a bounteous flow of water, supply the means of irrigation, and make possible in that section of the island what almost everyone but the promoter of the railroad formerly believed to be impossible—the culture of sugar cane on a large scale. This abundance of water, which is obtained by the mere sinking of wells, has stimulated [page 156] other agricultural pursuits on the railroad's lands. Ever since the day traffic was begun, the railroad people have been pushing forward in their good mission of banding the island with iron rails…[page 157]

Colonization.

It is patent to every resident of this Kingdom who is acquainted with Mr. Dillingham that his pet scheme is the industrial development of these islands through colonization. The railroad signalized the advancement of the scheme. It is now the purpose of the railroad company to bring out thrifty people from Europe and America who will take up land, cultivate the same, and establish their homes thereon. The railroad makes colonization possible, and is in itself an invitation to ranchers to engage in the different pursuits that are especially adapted to this soil and climate…[page 158]

The Ewa Plantation.

One of the direct results of the railroad enterprise is Ewa Plantation, now an accomplished fact. Over 5,000 acres of land have been leased, and a company organized with the following efficient officers, who are all experienced sugar men, thoroughly versed in all the ins and outs of sugar production on these islands: C. M. Cooke, President; J. B. Castle, Vice-President; E. D. Tenney, Secretary; J. B. Atherton, Treasurer; J. H. Paty, Auditor. The foregoing five officers constitute the Board of Directors. Castle & Cooke are agents, and William J. Lowrie is Manager. He has had a large experience as manager on plantations on Maui, and brings to this work the energy and business capacity that are needed. Sixty-five acres are planted with seed cane. The best of Lahaina top-seed is being used, which is considered much the best. Sixty men are now employed. Flumes have been constructed

connecting with those from Mark Robinson's pumping works, which were already in operation when the company took possession. The young cane show a marvelous growth for this season of the year. This seed will plant six hundred acres, and that area will be seeded for the first crop, the planting to begin in August, 1890, and next year it is expected that one thousand acres will be planted. The best Fowler & Son's steam plows have been ordered from Scotland. The McCandless Bros. are already at work putting down artesian wells, and expect to have six wells in operation during 1890. The wells are ten inches in diameter, which is somewhat larger than is usual in this country. Carpenters are at work building laborers' houses, etc. A Baldwin locomotive, cars, rails, etc., are already ordered for the transportation of the cane. The pumping plant will be of the latest designs and the best patterns made. Five hundred workmen will be employed, and the planting of the first crop will be pushed forward as rapidly as possible. [page 165]

Abundant water supply.

One peculiarity of the Ewa Plantation which receives the unqualified endorsement of the manager is the source of the water supply. The main dependence will be artesian wells, and as the water does not naturally rise to the required height, the cost of pumping must be taken into account, but notwithstanding that it is claimed to be the best, inasmuch as water can be had in sufficient quantities when it is most needed, which is not the case when the supply is from mountain streams; for when those streams are lowest is the particular time of the y ear when the most water is needed. Another thing in favor of the Ewa Plantation is the fact that one account of its low altitude and the corresponding warmth of its soils a crop of cane can be matured there in from six weeks to two months less time than in some places where cane is successfully raise on these islands.

From what we have learned from all sources we have greater faith than ever in the success of both the Oahu Railway and Land Company and the Ewa Plantation. [page 166]

c. Development of Water Resources at Honouliuli

Hawaiian Gazette
Ewa's Pumps. Graphically Described, Giving Their Cost and Capacity.

September 1, 1891 (page 2)

On Wednesday a party of business men were enabled through the kindness of the O. R. & L. Co. and the plantation agents, to take a run down to the Ewa plantation. The mill which was made the first objective point, has already been described in these columns. It is being rapidly pushed on to completion, and will be ready long before the cane is. The whole party

devoted itself principally to the examination of the pumps which are to put the water on the fields.

There are twenty-two ten-inch wells on the Ewa plantation, and three large pumping stations. The smallest of these pumps is used to raise the water from two finely flowing wells and is now watering 180 acres of cane. The pump if worked twenty-two hours a day will raise from four to five million gallons of water sixty-eight feet. This is fifty per cent more than the average daily water consumption of Honolulu. The whole plant cost $22,000 which includes building and foundation, piping and a small reservoir. The furnace consumes about two long tons of coal for each day of twenty-two hours, and the coal can be laid down at the furnace doors for about $7 per ton. If this single pump—the smallest in the plantation were transplanted from Ewa to Honolulu, the water famine would be over, and people might water their gardens "twenty-five hours in the day."

The above pump like all those on the Ewa plantation is the product of the Blake Manufacturing Co. It runs very smoothly, so smoothly that even the engineer one day forgot in a moment of absent-mindedness, that the powerful and noiseless engine was in motion. He got in the way—just with one finger—and did not notice the collision until he saw his finger—lying in the dripping pan!

Pumping Station No. 3 is now in process of construction, and, when complete, will be one of the "sights" of this island. There will be nothing to beat it on this side of the Rocky Mountains. Two large pumps will lift the water from twelve artesian wells—one to a height of 137 feet, the other to a height of 167 feet above sea level. Deducting 32 feet, the height of the natural flow, we have a straight lift in the two pumps of 105 and 135 feet respectively. The ordinary capacity of these pumps is, together, twenty million gallons per day, but they have a maximum capacity of about ten millions more. Yet the ordinary daily consumption of coal will probably not exceed seven tons. This very moderate consumption of coal will be due in a great part to the use of tubular boilers which, it is claimed will furnish about twice as much steam per pound of coal as the best boilers of any other pattern. These climax tubular boilers were made at the Clombrok Steam Boiler Works in Brooklyn, N. Y. The whole work of preparing the foundation and erecting the pumps is under the personal supervision of Mr. Bunge, a courteous gentleman as well as a skillful mechanic, who has been sent here by the Blake Manufacturing Company for this special purpose.

The total cost of this great pumping station, including the wells and the piping will be in the neighborhood of $100,000.

The total capacity of the twenty-two artesian wells, with the four pumps working at their maximum capacity, will probably be not far from fifty million gallons per day. This is an

astonishing figure, but it gives only a correct idea of the power of these splendid pumps. There will be water enough to irrigate, if necessary, 4,000 acres of cane, and at the ordinary working capacity of the pumps, there will be abundance of water for 3,000 acres. Enough water will flow in the once thirsty deserts of Honouliuli to supply a city of 200,000 people.

After doing more than justice to an exceedingly bountiful and generous repast, the party rode through the cane fields to convince themselves by personal inspection of the magnificent condition of the crop.

The condition of the plantation is a highly gratifying one and its prospects bright, even with sugar at the present low price. Everything which a favorable situation, a surpassingly fertile soil and appliances of the most approved efficiency can do for any plantation, nature and man have done for Ewa. The wells have not been in the smallest degree affected by the severe drought of the passing summer.

The plantation has passed the experimental stage, and the stockholders may lay, as a flattering unction to their souls, the observation of one of Honouliuli's leading business men—an observation made after careful personal inspection: "The plantation appears to be very carefully managed. Everything seems to have been thought out beforehand."

1891: 'Ewa Plantation, An Overview of the New Plantation Operations and Railroad Access

Little more than a year after the debut of the OR & L Co., the new 'Ewa Planation Mill at Honouliuli was up and running and major changes were under way in land use, population makeup, and cultural landscape depletion.

Hawaiian Gazette
Ewa Plantation.
Visited by a Number of Representative Sugar Men
A Brief Description Of The New Mill
Excursion Over the Oahu Railway and Land Co.'s Line

November 3, 1891 (page 4)

At a quarter to nine on Saturday morning a party of about five and twenty gentlemen started by train for Ewa Plantation and Mill, at the invitation of Mr. J. N. S. Williams, manager of the Union Iron Works, to whom was assigned the contract for the whole machinery of the mill.

Amongst the invited guests were Senhor Canavarro, the Portuguese commissioner, Messrs. W. G. Irwin, Jos. Marsden, H. M. Whitney, H. T. Waterhouse, F. A Schaefer, F. M.

Swanzy, Austin, Chas. Cooke, Bowen, W. O. Smith, Holdsworth, Mist, May, Evans, Frear, J. O. Carter, Kluegel, and the Bulletin and Advertiser representatives, all interested in the sugar business of the country. Mr. Robert Moore, the superintendent of the Union Iron Works, was there too, and neither last nor least Mr. Dillingham, whose indefatigable energy has rendered possible such an undertaking as this which the party went to see.

Stopping for a minute at Moanalua the group was joined by Hon. S. M. Damon, and the train ran on to the Peninsula junction of the Pearl City station, where a few minutes were spent looking at the work going on for an ornamental fish pond for the coming city.

Thence the train ran on to the Ewa station, where the company alighted and, passing through the large general store of the plantation, entered the mill building, a large business-like erection, walls and roof being all of corrugated iron, and here they were met by Mr. Lowrie, the manager, and Messrs. Kopke and Hughes, engineers, who showed the visitors through the works and answered the numerous questions put by observers in search of information.

To go through the mill and describe briefly the processes from the field to the sugar room, we begin with the spot where the cane is brought from the fields and passed direct into the cutting or slicing engine, which was running at full speed.

From here the cane now reduced to shreds is carried by an endless chain of rakes up an incline to the upper story of the building, where it is distributed by a series of hoppers into the diffusion battery of 28 huge vertical cells each of which will take 2 tons of sliced cane. Here it is treated with hot water and the necessary proportion of lime and passed on to the quadruple effect and then to the vacuum pans, one of the 10 tons capacity with 7 coils of steam pipe, the other with 20 tons capacity and 9 coils. After this the sugar descends to the 16 centrifugals where it is dried, the residuum being led into the tank from whence it is passed away as fertilizer.

Meanwhile the chips or slices of cane deprived of 97 per cent of their saccharine qualities, are dropped through the opening base of each diffusion cell on to another moving platform or endless chain, which takes them to a 4-roller mill which was running on Saturday where the water they may contain is thoroughly expressed and they become fit for fuel for the furnaces.

There are 6 boilers all leading into the same steam pipe whence the whole machinery is worked.

A chimney 110 feet high which took 125,000 bricks in its construction affords ample

draught.

This, though it may be a mere sketch of a great industrial undertaking, may serve to show the work in outline of one of the newest as well as the greatest of the enterprises of our sugar men. Barons if you like—we hope that they may soon vindicate their title.

From the upper windows of the mill one looks over hundreds of acres of waving cane and other hundreds of acres all of virgin soil only awaiting the plow and the planter to be tuned to a like account.

The red volcanic soil enriched by centuries of neglected vegetation only needs invitation to produce whatever the ingenuity of man can demand from it. The three well-stations of the company will yield, it is estimated, 33,000,000 gallons of water a day, and it is not in hands which will waste it.

After viewing the mill in self-assorted groups, the visitors sat down to a pleasant lunch of salads and sandwiches, coffee and effervescent drinks, at tables presided over by Messrs. Dillingham, Williams and Lowrie, while Messrs. More and Hughes kept the waiters up to the mark and saw that their guests wanted for nothing.

Soon after noon the party started homeward-bound from Ewa, and stopping for a time at Pearl City Station were able to be present at the opening of the first store in Pearl City itself.

Thence the train ran on to Honolulu, reaching it in time to clear the 2:15 p.m. passenger train just ready to start out.

Many hearty handshakings did Mr. Williams receive as his guests left the train with earnest congratulations on the admirable way in which he and his coadjutors, Mr. More and their staff, had carried to success one of the greatest enterprises ever undertaken in these islands.

All of which would have been impracticable but for Dillingham and his railway!

The weather was delightful and the whole excursion most enjoyable.

d. Labor Contracts at the ʻEwa Plantation Company

The Hawaiian Star
Co-Operative Labor. How It May Supersede Contract Methods.
A Way Out for Sugar Men – How the New Method Works at Ewa Plantation.

April 22, 1893 (page 5)

One way, and perhaps the best, to settle the cane planting question without contract labor, is to run the big sugar farms on the co-operative plan. This method has been tried at Ewa plantation with a measure of success which out to lead Hawaiian growers generally, as the opportunity comes, to give it a fair trial.

The details of the co-operative plan as it has been developed at Ewa are as follows:

This Agreement, made this…day of…189…, by and between the Ewa Plantation Company, a corporation, of the first part, hereinafter called the employer, and…, of the second part, hereinafter called the planter, witnesseth:

That in consideration of the promises, terms and covenants herein below set forth from either party to the other moving, the said employer does hereby promise, covenant and agree to admit the planter as an agricultural laborer and share planter upon the Ewa Plantation, at Honouliuli, on the Island of Oahu and in furtherance of said object does hereby agree:

I. To give to the said above named planter for cultivation on the profit sharing system, as hereinbelow set forth…of that section of land now plowed and furrowed on the Ewa Plantation amounting to about…acres, and described in plantation map as follows: … and also to advance not to exceed…dollars ($...) for each month of service for food and other necessary uses of the planter which amount shall be returned by the planter without interest as hereinafter set forth.

II. The employer agrees: to furnish, without charge, lodgings sufficient for the planter, and also fuel for domestic use, which shall be cut and gathered by said planter for himself at such place as the employer shall designate; also tools for irrigating purposes shall be furnished in the first instance, after that all tools shall be furnished by the planter; also seed cane; also water in the main plantation ditches for irrigation, but taking water therefrom to the cane fields shall be done by the planter, and the water so furnished shall be used economically and without waste for each irrigation. Also, to place movable tracks through the fields at a distance of not over four hundred (400) feet apart.

And the planter on his own behalf, covenants and agrees in consideration aforesaid, to go to the Ewa plantation, on the island of Oahu, and there to labor in accordance with the terms of this agreement, to wit:

III. With such other planters as may be designated by the employer to cut and load the seed,

prepare the land, make level ditches, put in gates and boxes, plant, irrigate, and cultivate in the best manner to maturity, and, when so required by the employer, to cut and deliver the cane to be so cultivated upon the cars of the employer whenever deemed necessary by the employer. In cutting, it shall be cut close to the ground and topped clean, and care shall be taken not to load any dead or sour cane upon the cars, and all unsound cane so loaded shall be separated at the cane carrier, weighed and deducted from the sound cane, and all expenses connected with separating and weighing such unsound cane, shall be charged to and deducted from the planter's share. All of the cane to be stripped at least twice, and in heavy places three times whenever so directed by the employer; and all roads and ditches running through said fields to be kept clean and free from weeds.

IV. It is likewise hereby agreed that all work, labor and service to be performed by the planter under this agreement, shall be subject to the supervision, and shall be done to the satisfaction of the employer in all cases; and if it shall seem necessary to employ extra labor to do the work satisfactorily, the employer shall so employ extra labor, and all costs of same shall be charged to and deducted from planter's share with interest at the rate of nine per cent, per annum, except such extra labor as may be necessary in cutting and loading seed, planting and first watering, making level ditches and putting in gates and boxes for which the planter shall be charged $. . . per acre to be returned without interest; and the planter shall always be subject to the supervision or order of the employer.

V. For all labor performed under the terms of this agreement in cultivating and harvesting cane upon the land set off to said planter, he shall be paid at the rate of . . . per ton of two thousand (2,000) pounds of cane on all of the cane produced upon the land cultivated by himself in common with others as aforesaid, such proportionate part as his labor bears to the entire amount of labor expended upon such premises by the planters, averaging the same between the total number of such planters.

VI. From the proceeds of his labor, as set forth in the last article, he shall return to the employer the advances set for in articles No. 1 and 4 afore said as therein set forth.

VII. This agreement may be terminated at any time by the employer, and upon two months' notice by the planter, the planter being entitled upon such settlement, to wages at the rate of . . . dollars per month for the term of his service rendered deducting there-from the advances as aforesaid under Articles No. 1 and 4.

VIII. In case of the death of the planter during the term of this agreement, the estate shall be entitled to an immediate settlement at the rate of . . . dollars ($. . .) per month, deducting advances as aforesaid; or settlement may be deferred until the crop is harvested and then it shall be made upon the terms hereof for the proportionate time given by said planter

hereunder. In case of accident to or sickness of said planter whereby he is prevented from performing the labor under this agreement, if he shall not supply labor in place of his own, the employer shall do so and a proportionate amount of said planter's share under this agreement shall be deducted for the time lost.

IX. The planter, together with his co-workers, shall have the right to inspect the weighing of their cane at any time.

X. This agreement shall terminate and be at an end when the last cane upon the fields to be cultivated hereunder, shall have been placed upon the cars and weighed, and settlement shall be made in full not later than one week thereafter.

In witness whereof, the said employer has caused the execution of these presents, by the attachment of its corporate seal together with the names and seals of its President and Treasurer, and the said planter has hereunto set his hand and seal the day and year first aforesaid.

Signature of Planter. . . .
Ewa Plantation Co…

e. Honouliuli Water Resources Capable of Supplying Honolulu

The Hawaiian Gazette
Water Wanted.

August 17, 1894 (page 4)

The water famine has brought down on the heads of the Government anathemas from all quarters. It must be confessed that these anathemas are not altogether undeserved. The Government has been somewhat dilatory in providing against the recurrence of the annual water famine. With the improvidence which is supposed to be the peculiar characteristic of the aboriginal race, they have enjoyed the moisture when wet, and folded their hands in a fatalistic apathy, when dry.

The curse of the Honolulu water works system has been the infatuation of the rulers with reservoirs and rain water. The study of elaborate maps and estimates and calculations has turned the head of one Government after another, and the result has been that, while Ministers were lapped in gorgeous visions of chains of reservoirs stringing Nuuanu Valley, and costing, fortunately only on paper, fabulous sums, the town has gone dry. Now, a pump has been ordered, and it is to be hoped that the long-tried and deeply discredited mud pond

system will yield to a more rational plan.

The wells of Ewa have been flowing for four years, and its pumps have poured out upon the thirsty plains of Honouliuli enough water daily to supply the wants of a city as large as San Francisco. With this example at the very door, what possible excuse can there be for any more water famines?

A tenth part of the power in the great pumps at Ewa, applied to a group of two or three artesian wells, will insure to Honolulu an abundant supply of pure, fresh water in the driest days of August no less than in the midst of the winter rains. The problem is a simple one, and there is no reason why there should ever be another water famine in Honolulu.

Huakai Makaikai a na Poe Kakau Nupepa i ke Alahao Hou
(A Site Seeing Journey of the Newspaper Publishers on the New Railroad)

The following 1895 article shares an account of the journey made by newspaper staff, landowners, rail executives, and dignitaries on the newly opened extension of the O.R.& L. Co. track to Pōkaʻī in Waiʻanae. While passing through the ʻEwa District, the author (editor, W.H. Kapu) referenced several traditions of noted places seen along the way.

Ka Makaainana
O.R. & L. Co.
Huakai Makaikai a na Poe Kakau Nupepa i ke Alahao Hou

Iulai 8, 1895 (aoao 1)

E like hoi me ka mea i hoike mua ia, pela no hoi ia i hooko ia ae ai i kakahiaka Poalua iho la, hora 9:30. Ua akoakoa ae na poe kakau nupepa ma ke kahu kikowaena o ka Hui Alahao a Aina Oahu mamua ae o ka manawa i hoikeia maluna ae, a i ka hora 9:40 nae hoi i haalele iho ai ia Kuwili, no ka ulu niu o Pokai ka pahuhopu, kahi hoi i makaukau o ka hooloihi ana aku o ke alahao, e hoopuni aku ai paha hoi ia Oahu nei ma keia mua aku, no ka lio hao e holo ai.

Malalo iho na lala o ka Papapai i holo aku F.J. Testa (Hoke), Puuku o ka Ka Makaainana nei; J. Nawahi, Aloha Aina; J.E. Buki, Ka Leo o ka Lahui; a me D.M. Punini o ka Oiaio; J.U. Kawainui, Kuoka, i kokuaia e G.P. Kamauoha, luna makaainana hoopili wale; Bihopa Wilisi no ka nupepa ekalesia oili hapaha, S.E. Bihopa, Hoa'loha; W.R. Farinetona, Pi Ki Adavataisa a me Kekake; G.C. Keniona, Kuokoa namu; E. Tause, Hoku; J.M. Vivasa. A Senetinela; G. Manasona, Buletina Ahiahi; J.D. Haine, Ka Hawaiiana; J.D. Setaka, Ka Manawa; L.P. Linekona, nupepa ekalesia oili malama a ka Rev. A. Makinikoki; Ho Fona, Nu Hou Pake; C. Iakanama, Manawa Pake; H.M. Wini, nupepa malama a na poe mahiko; F. Godefere, aohe ana nupepa, aka he hoa kamaaina oia no ia oihana. Aohe mea o na

nupepa Kepani i hiki ae, a me he la, o keia paha kekahi akoakoa nui loa ana o na poe o ka Papapai, koe nae hoi ke ano laulea like nui ole ae. A mawaho ae hoi, ua kau aku ma ke ano ohua o Hope Makai Nui Kelekona o Waianae a me kana wahine. O ke Ana aina Nui o ka Hui a me ka mea paa aelike no ka hoomoe alahao ana kekahi i kaa pu me na poe kakau nupepa.

Mai ka hoomaka ana aku e holo a hoea hou mai iluna nei, ua nana, malama, a hoomaopopo ia na mea a pau e Luna Nui F.C. Samita, a ua hookeleia hoi ka enegini mahu e ka Wiliki Nui H.D. Robata. I ka haalele ana iho ia Honolulu nei a mahope koke iho, ua hoolawaia mai kela a me keia me ua po-ke pua Pake poni a ulaula, a ma hope iho me na kika a me na mea inu mama. Hora 10:[0]9 i kaalo loa aku ai ia Kulanakauhale Momi me ka hoomaha ole, a ku i ka halewiliko o Ewa i ka hora 10:25, a aole no i loihi loa iho hoomau aku la i ke kamoe ana no ke kaha o Waianae, kahi i kaulana i ka moolelo o Kamapuaa, a me Kaopulupulu i ke au o Kahahana ka Moi o Oahu nei, a pela no hoi me Hiiaka-i-ka-Poli-o Pele, ma kana huakai imi kane, ia Lohiau.

Ua like ka holo ana o ke kaa mahope iho o ka haalele ana i ka halewili me he "kai nehe i ka iliili," a e "pahee ana i ka welowelo," hookahi no hana, he hoolai wale no, i ka maikai a iliwai like o ke alanui a i ka laula ae paha hoi kahi o ke alahao. I ka hoea ana aku hoi keia i kahi papaakea o ke ala, i awili pu ia me ka lepo, aohe puehu a koe mai o ka lepo, a poino na maka o na poe ma ke kaa hamama mahope. Maika na mea ma ke ala i ka ikena aku a na maka, koe no ka uliuli mai o na pohaku on na pali. Komo aku la i **Waimanalo**, he ulu kiawe ma o a maanei, a aole i liuliu iho puka ana i ka aekai, ae waihoa hamama mai ana ka uliuli o ka moana i ka loa a me ka laula, a aohe nani aku a koe mai o ia wahi o ke ala. A hoea i Piliokahi, he wahi pa pohaku kahiko, a ilaila la, wahi a kamaaina, pale mai o Ewa a pale aku o Waianae, a e waiho lahalaha mai ana hoi mauka ae na awawa hanai holoholona o Nanakuli a me Mikilua…

…A pau no hou ka ai ana, ua hele hou aku kela a me keia e makaikai hou i ka halewili a me kahi mau wahi e ae…a haalele aku ke kaa ia Waianae i ka hora 2. Ma ke ala hou, ua ku ma ka halewili o Honouliuli e kali ai no ke kaa iho aku. A mai laila mai hoi, aohe no i holo nui loa mai, no ka ike e ia ana mai nae paha hoi kahi o kekahi kaa mamua i ke kamahele kaa ma Waiau, a nolaila, ua ku pokole ma Kalauao, a hoohiki loa iluna nei he mau minute mahope iho o ka hora 4…

Translation Summary:
A Site Seeing Journey of the Newspaper Publishers on the New Railroad

At 9:30 on Tuesday morning, newspaper editors and others gathered at the Honolulu station of the Oʻahu Railway & Land Company. At 9:40 we departed on our trip past Kūwili on our way to the end of the route now at the Pōkaʻī in the coconut grove.

Having left Honolulu by 10:09 drew near to Pearl City, and then reached the ‘Ewa Sugar Mill at 10:25. We continued on our path [through Honouliuli] before us towards the shore of Wai‘anae, passing the place made famous in the traditions of Kamapua‘a and Ka‘ōpulupulu in the time of Kahanana, king of O‘ahu; also, in the tradition of Hi‘iaka-i-ka-poli-Pele, in her journey to fetch Lohi‘au…We entered into Waimānalo, where the kiawe trees grew here and there, and passed along the seashore, arriving at Piliokahi, where there is an ancient stone wall. This was pointed out by a native as being the boundary between ‘Ewa and Wai‘anae…

Reaching our destination, we ate and then left Wai‘anae at 2 o’clock, traveling along the new track to the mill at Honouliuli where we waited for the passing of another train. From there, it was not long until we traveled to Waiau, then a short time to Kalauao, returning [to Honolulu] at 4 o’clock.

In 1895, a census of the population in ‘Ewa was taken and published. This publication discovered that the ‘Ewa Plantation hosted the fastest growing population, largely comprised of immigrant plantation laborers.

f. Other Businesses Ventures on the Land

Traditional Hawaiian architecture relied on stone or coral cobbles (readily available sources on the coral flats of Honouliuli), wood, and thatch materials. Foreign residents wanted more durable materials for houses and other structures. Although lumber and supplies were shipped in, the native stone and coral were used in the construction of a wide range of buildings. By 1820, sources of lime for construction were developed at various locations on the islands, and Honouliuli was one of these sources of material. As the plantation developed, lime produced from the coral plains was also used by plantations as a soil conditioner (Charvet-Pond and Davis, 1992).

Sugar was not the only crop on the Honouliuli landscape. The fiber plant, sisal, was also planted in the ahupua‘a with a large track around Pu‘uokapolei down to the in the Kalaeloa vicinity (see Figure 6). In February 1899, the Hawaiian Gazette reported that 75 acres had been planted, with intentions on planting 3,000 acres on land that had been leased from James Campbell.

The Hawaiian Gazette

On a Sisal Farm – New Enterprise on Land Near Ewa Plantation. The Production of Hemp. Progress Made by the Hawaiian Fibre Company – Outlook for First Crop is Good.

February 21, 1899 (page 2)

Twenty mile west of Honolulu there is today an infant industry, comparatively

unknown, which at no very distant date will probably take a leading rank in the industries of the Islands.

Las April a company was formed, with Cecil Grown, president; Mark Robinson, vice president; W. C. Weedon, secretary and treasurer; A.H. Turner, manager. The object of the Hawaiian Fibre Co., as it was termed, was the cultivation and manufacture of all fibres. Sisal was the class of fibre principally thought of.

Now possibly everybody does not know what sisal is. Sisal is a fibre of the Agave family which flourished chiefly in Yucatan and the Bahama Islands.

The Hawaiian Fibre Co., upon its organization, leased from Jas. Campbell 3000 acres of land for the purpose of the cultivation of sisal. This tract of land is twenty miles west of Honolulu, being two mile beyond Ewa Mill and ten mile from Pearl City. It extends some distance mauka of the railroad track and on the other side clear to the sea.

It has not been many years since the first sisal plant was imported here with a view of another possible industry. Joseph Marsden imported a number form the Bahamas about five years ago and they were planted on a small piece of land this side [east] of Pearl City, where is a pond for one-half of the year and dried mud curing the other half. They did not thrive, and it was thought they needed more water, as much as sugar cane. Some were taken up and planted on one edge of Ewa plantation, near the railroad track by Mr. Lowrie. This lot forms the nursery for the present company.

Sisal is a peculiar plant. It will thrive and flourish where nothing else will live; where even a mountain goat could not live, sisal will grow like a green bay tree; when it get into soil that is rich and has depth, and where something else might possibly grow, it immediately declines and loses strength. It does not depend on the soil for nourishment. Given plenty of heat and sunlight a little moisture now and then, a stretch of rocky land and you have your model site for the cultivation of sisal.

The tract selected by the Hawaiian Fibre Co. is admirably suited for the purposes desired. It is rough, rocky and about as useless looking a place of ground as one could find. It is not to be thought of in connection with sugar.

Today about seventy-five acres of land are under sisal cultivation. The plant on an average is about three feet in circumference, that is the bulb itself, and has no roots

> to speak of. The branches or fronds from which the hemp is extracted, grow to a height of from three and a half to five and a half feet, tapering off to a small needle like barb, and in all direction and angles.
>
> The perpendicular fronds are never taken. The are not ripe. As they ripen, they fall toward the ground and then they are ready to be cut and turned into hemp.
>
> While the plant has no roots to speak of, it throws out numerous suckers, or feeders, in all directions, which turn into small plants. These take the life of the mother plant and are cut off. The small plants are used as nursery stock. It take about three years for a plant to mature. From thirty-five to forty fronds can be cut from one plant twice a year, with an average weight of one and a half pounds to the green frond. Take five percent of this amount and you have the amount of pure fibber obtained from one plant in a year.
>
> The company has cleared and planted about seventy-five acres of land. A comfortable home for the manager has been built. Everything is well conducted and prosperous looking.
>
> The main difficulty is to obtain the fibre from the plant. Extensive machinery is necessary, but the management intends to put up the machinery in time to reduce the first crop, which they expect to take off in about two years.
>
> This is one of the new businesses of the Islands. The hemp industry is confined to a few places. It now seems that it will not be long before these island will take a leading, if not the leading place in the hemp industry.
>
> Specimens of hemp which have been worked out by hand can be seen at this office.

In 1900, it was reported that 1,000 acres of Honouliuli were currently under cultivation. The goal bein to make locally sourced sugar bags and other fiber products. *The Honolulu Republican* of July 28, 1900, reported:

> Hawaii now expends nearly half a million dollars annually for jute bags, all of which ought to be manufactured here. The Republican is pleased to be able to say that the foundation has been laid for the establishment of works for the manufacture of sugar sacks, cordage and other products from fiber. The firm to carry out this work is the Hawaiian Fiber Company, Limited, which has a 3000-acre farm two miles west of the Ewa plantation…

The officers of this company are: Cecil Brown, president; M.P. Robinson, vice-president; W.C. Weedon, secretary and treasurer; and W G. Ashley auditor. B. F. Dillingham and other prominent businessmen, as well as the Ewa plantation, are largely interested in the company, which is experimenting with sisal, a fibrous plant well adapted to this climate and barren and unproductive lands of the Islands.

The Hawaiian Fiber Company planted 1000 of its 3000 acres which it secured from the railroad company. Six hundred acres are fenced in with a stone wall built from stone taken from the land. Three hundred and two acres are cleared; 80,000 plants, or 215 acres, have been planted, and a manager's house, and comfortable quarters for the laborers have been built. A well has been sank and a good supply of water has been obtained. The work of clearing ground, laying out walks and erecting permanent stone fences is being pushed. The farm, or plantation, is called "Sisal Farm" after the name of the plant.

Sisal belongs to the aloes, family. It is a desert plant and can be raised profitably on rough, rocky, coral flats, where a plow cannot be used—land unsuited and worthless for sugar growing or anything else. It can be grown without irrigation, although the fronds of the plant, from which the cordage is made, might be larger and plumper if the plants were irrigated. During the late dry and hot weather the 215 acres set to the plants have grown surprisingly well. Scarcely a plant was lost. It takes from two and a half to three years for the plants to mature from the suckers. From plants two and a half years old sisal fiber four feet in length has been obtained. The fiber was made by hand, and specimens of it were sent to experts on the mainland, who pronounced it unexcelled in quality by any sisal fiber grown elsewhere.

Sisal is different from Manila hemp. It is superior to hemp for marine or naval cordage. Two years ago prepared liber brought in the market from 3 to 3 ¼ cents: now it fetches from 6 ¾ to 8 ½ cents a pound. The cutting of plants after they reach their growth occurs twice a year. When the lower fronds obtain a horizontal position they are ready for cutting. From sixteen to thirty fronds are taken from each plant. The process of poling continues for five to seven years. Each frond makes a separate fiber. After the fronds are cut the pulp is extracted and the fiber is washed and baled for the market. Here plants are set from nine to eleven feet apart. In Bermuda, they are set much closer. The fronds of the plants must not touch each other. There is a hard, thorn spike, sharp as a needle, on the end of each frond, and if they come in contact they scar and bruise and materially and injuriously affect the fiber. The company believes that this industry will become one of the most profitable industries of the Islands. Land valueless for any purpose can be utilized in growing

sisal; the cost of production is nominal and no irrigation is necessary in its cultivation. There are many thousands of acres of land in the group that will grow sisal and nothing else.

The Hawaiian Fiber Company has now, reached a better than the experimental stage. The ability to grow sisal has been fully demonstrated, and the company is now considering the advisability of erecting a plant for the manufacture of the fiber. Persons who have given the subject study predict great things from this industry…

"…Sisal comes from the Bahamas and will grow here on any old worthless lands" Mr. Taylor [Commissioner of Agriculture Forestry] said:

The Importance of this industry is shown by the fact that the sugar industry alone consumes 4,800,000 bags at a cost of not less than $384,00. It is estimated that the crop for this year will reach 300,000 tons, requiring sixteen bags to a ton, at a cost of 8 cents a bag (*The Honolulu Republican*, July 28, 1900:5).

In 1903, the Sunday Advertiser published an article providing more details on the sisal plantation in Honouliui and identified the O. R. & L. Co. rail station situated near the mill site by the name "Sisal." The article also included two photographs of the Honouliuli sisal mill and a plantation field.

The Sunday Advertiser
Sisal One of Coming Island Industries. The Work of Building up the New Idea.

January 25, 1903 (page 3)

"Bermuda sisal" they call it, although the best authorities assert that it is native to the Everglades of Florida, and it contains within its sword-shaped leaves something of the future of Greater Hawaii.

B.F. Dillingham, president of the Oahu Railway, took a party in his special car down over the road yesterday to Sisal station, just on the far side of the Ewa plantation, to see the beginning of the sisal industry in the Islands. It is but a beginning, although a most promising one. The special, leaving the city station at half past one in the afternoon, ran down fast through a rarely beautiful country—all the country hereabouts is beautiful—until the station for Oahu sugar plantation was reached, the station under the picturesque cocoanut tress that has been made famous because no amateur with a kodak has ever been known to pass it by without a shot.

The party was shown over the Oahu sugar mill first, and, although most of them were old residents of the Islands, some were there who had never seen the golden wealth of the land turned out as it is turned out there. Then a busy little plantation locomotive came along, puffing, and took the special car out over the plantation roads to one of the big pumping plants, where from 15,000.000 to 18,000,000 gallons of water are raised every day to the top of a bluff over 400 feet high, and to another station where the big steam pump has been sunk into the earth to meet the rising artesian water and that was a thing many of the party had not seen before.

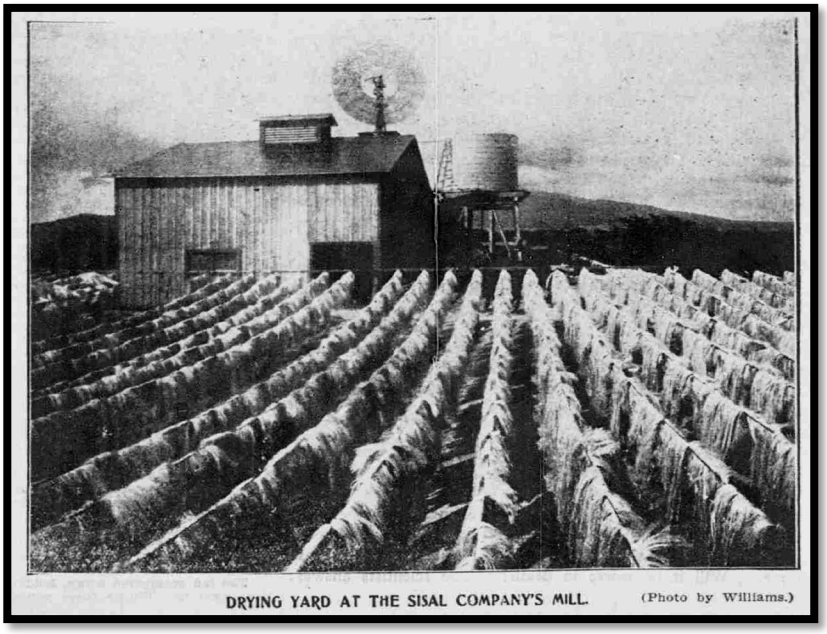

Figure 9. Image of Sisal Planatation

The plantation locomotive went off about its regular business after that, and the special went whirling across the level land skirting Pearl Harbor, past the little Chinese rice fields and the great broad fields of waving cane, like oceans rustling with life, to Sisal. Presently the road led into a region of what seemed to be century plants, thousands and thousands of them standing stark upright in their thorny dignity, set out in straight rows and topping the weeds that they seemed to set themselves above as something exclusive and apart in the line of vegetation. And that was the sisal. Those spiny leaves, crushed for the fiber in them and dried, are worth just 8 ½ cents a pound in the market of San Francisco, and there is demand for all that can be produced. That is why the sisal holds in its heart a part of the future of Greater Hawaii, and probably a large part.

The sisal plantation and the small mill upon it are in charge of Superintendent A. B. Turner, and he is a man who knows his business and talks intelligently upon it.

The little mill, the first of many large ones of the future, perhaps, was crushing the cut leaves of the plant, which were delivered at the door in carefully tied bundles of fifty by Japanese laborers. Each leaf went into the jaws of the crusher just as it came from the field. It came out in the form of bundles of glossy greenish fiber which out to hang on lines with thousands of its fellow, until the sun had bleached it white, when it would be spread on the ground for further bleaching, to finally gathered and baled, as hay is baled, in which form it will go to the ends of the earth to be made into ropes and cordage and binding twine and all the things for which tough giber is used in the hurry of modern life. For the sisal fiber is one of the toughest that is known, and ropes made from it might well be used to hold a weight for a man's life.

Figure 10. Workers in sisal plantation

"The sisal matures to the cutting stage in from three and a half to four years," said Superintendent Turner, explaining the plant and the process to Mr. Dillingham's guests yesterday. "The plant grows from six to fifteen years before it flowers, as the century plant does. It is one of the aloes. After it flowers it dies, but it gives birth to many bulbs in flowering, and has produced much fiber before it reached the stage of uselessness. We begin cutting it at the age of from three and a half to four years. Then, once we begin, the plant yields constantly. All the leaved are not taken at once, you understand. We take only those leaves from each plant that have reached the proper length, and then the remaining leaves on that plant take a straighter form until the time comes to cut that plant again. Thus, when a plant begins to yield fibre it keeps on producing until it dies. There is a constant succession of crops from i, and no cessation in the yield, because there are always

plants in the cutting stage. A producing plantation produces all the time, and the men go about from plant to plant, always brining on a crop.

"The sisal has the further recommendation that it grows on land that is too poor to produce sugar. In fact, sisal does not do best on land that is too rich. The fiber is too coarse, the growth being rank. We have 600 acres in this plantation, that plants being set out about 580 to the acre. I figure that we have about 200,000 mother plants, and about one million coming on from bulbs and sprouts. So that we can replace all our plants that dies as fast as they succumb to age. Also, eventually we will have lots of plants to sell. We are getting, as the plants stand now, about 1,000 pounds of fiber to the acre, which is good for a second crop. We will produce, this year, 100 tons of fiber, and will double that next. At the present price of fiver, the income should come not far from $18,000. Our mill has a capacity of 2,000 pounds daily, but is now handling only between 1,200 and 1,500 pounds per day.

"And we have solved the labor problem, incidentally, in this industry. At least, we have scored a point that will aid in its solution so far as we are concerned. The sisal fiber can be cut and left lying in the field for six months, and it makes as good, clean fiber at the end of that time as when first cut. It is a pretty strong strike that would outlast that. Also, a peculiarity of the sisal is that when the mother plant flowers, all the suckers from it send up flower stalks, no matter what their age. So these must be taken up if they are to be saved."

In the party taken out by Mr. Dillingham yesterday were A. B. Wood, W. W. Hall, W. G. Cooper, E. E. Paxton, John F. Bowler, J. O. Carter, M.P. Robinson, Isaac Dillingham, Dan Logan, Albert Raas, and T. C. Miller and ex-Governor John E. Osborne of Wyoming.

g. Overview of Government Use of Land in Coastal Honouliuli

While it is described as a "free-trade agreement" between Hawai'i and the United States, King Kalākaua was pushed into the agreement, officially enforced on September 9, 1876. The agreement granted the U.S. Navy the exclusive right to develop Pearl Harbor in exchange for the United States approving a Reciprocity Treaty with Hawai'i, allowing Hawaiian sugar to enter the U.S. duty-free (Kuykendall, 1967). Following the treaty, the United States took no significant action on the harbor development. In 1888 it was reported that there were efforts to purchase the Waipi'o Peninsula from the 'Ī'ī Estate (*The Hawaiian Gazette*, September 20, 1888:5). Following the overthrow of the Hawaiian Monarchy and subsequent annexation of Hawai'i to the United States in 1898, more serious actions were engaged. These actions were in part due to conditions in the Philippines where the Spanish American War was underway. In 1899 Lieutenant Pond,

Commander of the Navy ship *Iroquois*, conducted a survey of island harbors, including Pearl Harbor (*The Evening Bulletin*, October 4, 1899:1). In 1900, a Bill was written for the United States Congress to construct a naval Station at Pearl Harbor (*The Hawaiian Gazette*, May 29, 1900:6). The following entry details the land acquisition plans of the United States, including securing the land on the "west side of channel," being Pu‘uloa.

C. Historic Sites

1. Pu‘uokapolei

Ka Moolelo Hawaii – Hawaiian History:
Traditions of Pu‘uokapolei and Kaupe‘a

Native historian, Samuel M. Kamakau penned hundreds of article as letters and in serial form, in which he documented Hawaiian history through traditions, personal experience and in observations of the history unfolding around him. On February 10, 1870 Kamakau explained the history and reckoning of periods of time through the ancient Hawaiian year. In this account, he shares that Pu‘uokapolei and Mahinaona on the kula lands of Honouliuli were the markers of the changing seasons. The original Hawaiian texts follow, with a new translation adapted from the translation of Mary Kawena Pukui (Kamakau, 1976:14)

Feberuari 10, 1870 (aoao1)
Ke Au Okoa
Ka Moolelo Hawaii.
Na S.M. Kamakau.
Helu 17.
No ka mahele ana i na wa o ka makahiki.
…O ka poe helu a hooponopono i na malama o ka makahiki, o ko Oahu poe kilohoku a me ko Kauai ka poe akamai loa i ka hooponopono ana, a me ka mahele pono ana i ke ano o ka la, o ka mahina a me na hoku, a me ka papa hulihouna o ka aina, a me na hoku, a ua kapa ia ia poe o ka poe kuhikuhi puuone, a me poe kilo hoku holo moana, a o ka poe helu e noho ona ma Waimea i Kauai.

I ke kupono ana o ka la ma ke alanui polohiwa a Kane, a nee ka la i ka akau a paupono ka la i Kaula, a nee ka la a kau i Kawaihoa, a no ke kau ana o ka la ma Kaula a kau i Kawaihoa, a nolaila i kapaia aku ai kekahi inoa o Makalii o ke Kau, a no Kaulana a Kane kekahi ikapaia aku ao o ke Kau, a no ke kau ana o ka la i Kaula a nee ka la i ka hema, a ua kapaia o ke Kau Hooilo, a pela ko Oahu poe helu, no ke kau ana o ka la i Puuokapolei, a kau ka [la] i ke kawaha o Mahinaona, ua kapa ia o ke Kau, a mai Puuokapolei a nee ka la i ka hema, a no ke kau o ka la i ka hema, a no ka hiki ana mai o ke anu, a no ka hoolio ana o ke kupu o na oliko

> o na mea ulu he oilo ia, ua kapaia ke kau o ka hooilo, a nolaila, elua no kau o ka makahiki. O ke Kau Makalii, a o ke kau Hooilo…
>
> [Translation]
> …Of the people who kept administerd the accounting of the seasons of the year, those observers of the heavens from Oahu and Kauai were extremely knowledgeable in reckoning, and the correct division of the character of the sun, the moon, and the stars, also in the study of the earth and stars. These people were known as the experts in diserning the nature of the land, the navigators and observers of the stars. They were the observers who went and resided at Waimea, Kauai.
>
> When the sun reached ke alanui polohiwa a Kane (the equator), and the sun traveled to north and stopped right over the islet of Kaula, moving above Kawaihoa, it was then known by the names "Makalii o ke Kau" or "Kaulana a Kane," others called it "Kau," for the setting of the sun at Kaula. When it moved to the south, it was called Kau Hooilo. When the observers of Oahu saw the sun above Puuokapolei, the sun set above the mouth of Mahinaona, it was called Kau. When the sun moved south, and set in the south; when the cold arrived, and the sprouting of the shoots and reddning buds of growing things sprouted, it was called Kau o ka Hooilo. Therefore there were two seasons in the year, the Makalii (summer) season, and the Hooilo (winter) season…

Later in Kamakau's series on Hawaiian history, he described traditions associated with care for the dead (kupapaʻu), respect of the graves (ilina), and traditions associated with the spirit after death. All subjects that are of great significance to Hawaiians. In the account, he identified some of the places of importance in these practices. The narratives are of particular importance to lands and specific wahi pana of Honouliuli, and also connected to places that span the ʻEwa District, all the way to Moanalua.

1933 – Historical Observations of the Cultural Landscape

Several early writers undertook surveys of cultural sites and heiau on Oʻahu. In the *Hawaiian Annual and Almanac* (Thrum, 1907), it was reported that a heiau (ceremonial site) had been located on or near **Puʻuokapolei**. Thrum observed "heiau on **Kapolei** hill, ʻEwa - Size and class unknown. Its walls thrown down for fencing" (1907:46).

In the early 1930s, J.G. McAllister undertook an archaeological-ethnographic survey on the island of Oʻahu for the Bishop Museum. Regarding the heiau at **Puʻu o Kapolei** McAllister (1933) reported:

> **Pu‘u Kapolei** Heiau (Destroyed) Site 138, on **Pu‘u Kapolei** hill. The stones from the heiau supplied the rock crusher which was located on the side of this elevation, which is about 100 feet away on the sea side. There was formerly a large rock shelter on the sea side where Kamapua‘a is said to have lived with his grandmother (McAllister, 1933:108).

2. ‘Ewa Coral Plains

McAllister also summarized how the coral plains of Honouliului may have been used in earlier times:

> Site 146. Ewa coral plains, throughout which are remains of many sites. The great extent of old stone walls, particularly near Puuloa Salt Works, belongs to the ranching period of about 75 years ago. It is probable that the holes and pits in the coral were formerly used by the Hawaiians. Frequently the soil on the floor of the larger pits was used for cultivation, and even today one comes upon bananas and Hawaiian sugar cane still growing in them. They afford shelter and protection, but I doubt if previous to the time of Cook there was ever a large population here (McAllister, 1933:109).

E. Environmental Features

Pa‘akai – Salt Making (1852-1922)

The making of pa‘akai (sea salt) was one of the significant traditional practices associated with the coastal lands of Honouliuli. There are a number of Māhele claims by native tenants of the larger Pu‘uloa land division for salt making sites. The formation of a salt works business at Pu‘uloa led to continuing residency along the Pākule, Keahi and Kupaka shoreline leading towards One‘ula. The Pu‘uloa Salt Works was in operation from the 1840s to the early 1900s (Figure 5). The narratives below provide an overview of the modern business venture.

Daily Alta California
Puuloa Salt Works Advertisement

> **July 1, 1852 (page 4)**
>
> Puuloa Salt Works—Sandwich Islands. These extensive works are situated at the mouth of Pearl river, Island of Oahu, within ten miles of Honolulu, and has the largest and safest harbor on the entire group of Islands. The entrance is half a mile wide, easily distinguished,

with 12 feet of water over the bar at low tide. These works are capable of supplying the entire Pacific Ocean with the article of salt.

Shippers and masters of vessels may procure entire cargoes or smaller quantities of the above article, in bulk, matt bags or barrels at the works, or delivered on board their vessels in the harbor of Honolulu, by applying to:

C.W. Vincent, Honolulu,
Corner of Mauna Kea and King Streets.

In 1860, the following advertisement was published announcing the availability of ocean salt made at Puʻuloa:

Ka Hae Hawaii
"Ka Paakai o Puuloa" (The Salt of Puuloa)

July 25, 1860 (page 70)

From ancient time, the natives have known about and made salt; it is that with which food is seasoned, and is also an item of trade; but the salt of Hawaii is not very good, it is not the best for salting beef and salting pork. If it is left for long, it spoils.

But at this time, salt is made at Puuloa, and it is very good. The bitterness has been removed from within; a mill has been gotten and the salt mixed like flour, and like the salt of other lands; therefore, at this time, the salt of Puuloa is greatly desired. It is taken to other lands and it is a thing that brings prosperity to the land.

Honolulu Star Bulletin
Salt Works at Honouliuli Branching Out Into Shaker Salt Manufacture
Salt Works on Oahu to Branch Out Into Shaker Salt Field

March 11, 1922 (page 11)

Following a policy of doing its share towards making the Hawaiian islands self-supporting—productive of all necessities of life possible—an industry few know exists on Oahu is being brought rapidly to a standard equal to the highest achieved by mainland plants.

By a limpid lagoon, just beyond Pearl Harbor where crystal waters are not contaminated by infusion of foreign substances, the Honouliuli salt works has been developing under the eyes of Honolulu yet few have seen.

Machinery is being installed now to take the industry out of its swaddling clothes—to graduate it from its infant drudgery of feeding ice-cream freezers and supplying demand for crystal and rock salt, into what is known in the trade as the shaker salt field.

Now the word shaker means, in the parlance of salt, something which will shake out of a shaker. So it is a step forward from ice cream freezers to the table.

The plant, producing crude salt is turning out some 55 tons weekly eight months of the year. The other four month overcast skies and rains minimize production. The product is largely due to the care taken in filling the tanks, which are washed, scrubbed and drained before pure sea waters are pumped in. The tanks are of cement. The element of dust and dirt eliminated by the scrubbing makes the product marketable for cruder uses immediately. A fleet of motor trucks is supplying island consumers.

Figure 11. Pu‘uloa Salt Works, 1999 (USGS - Mendendall Collection, No. mwc00802).

The new machinery will convert part of this crude output into salt for table and kitchen uses, shaker and bag salt. The demand for coarser salt will not be slighted in expanding to enter the shaker salt filed. It is the intention of the men who have brought the industry into being, to increase its capacity as the consumption increases.

The new machinery is designed to shatter the crystals and process the salt so that, in the moist

climate of the island coasts, it will not cake—in fact it is the intention of the company to produce a Hawaiian product that will compare on all points with the imported article, with the added feature of ocean freight eliminated.

Expert supply surveys have been conducted in the island from time to time to determine just what imports are necessary to make up the difference between local production of any food article and demands of consumers. It is estimated that the salt works, when under full swing, would be able to eliminate this item from freight lists. The plant is on a branch of the railway. The new unit of the plant will be in operation before summer.

F. Intanigble Cultural Resoures

It is important to note that Honua Consulting's unique methodology divides cultural resources into two categories: biocultural resources and built environment resources. We define biocultural resources as elements that exist naturally in Hawaiʻi without human contact. These resources and their significance can be shown, proven, and observed through oral histories and literature. We define built environment resources as elements that exist through human interaction with biocultural resources whose existence and history can be defined, examined, and proven through anthropological and archaeological observation. Utilizing this methodology is critical in the preparation of a CIA as many resources, such as those related to akua (Hawaiian gods), do not necessarily result in material evidence, but nonetheless are significant to members of the Native Hawaiian community.

Hawaiian culture views natural and cultural resources as being one and the same: without the resources provided by nature, cultural resources could and would not be procured. From a Hawaiian perspective, all natural and cultural resources are interrelated, and all natural and cultural resources are culturally significant. Kepā Maly, ethnographer and Hawaiian language scholar, points out, "In any culturally sensitive discussion on land use in Hawaii, one must understand that Hawaiian culture evolved in close partnership with its natural environment. Thus, Hawaiian culture does not have a clear dividing line of where culture ends and nature begins" (Maly 2001: 1).

a. ʻŌlelo Noʻeau

ʻŌlelo noʻeau are another source of cultural information about the area. ʻŌlelo noʻeau literally means "wise saying," and they encompass a wide variety of literary techniques and multiple layers of meaning common in the Hawaiian language. Considered to be the highest form of cultural expression in old Hawaiʻi, ʻōlelo noʻeau bring us closer to understanding the everyday thoughts, customs, and lives of those that created them.

The ʻōlelo noʻeau presented here relate to Puʻuloa, and its larger moku, ʻEwa. These ʻōlelo noʻeau are found in Pukui's *ʻŌlelo Noʻeau: Hawaiian Proverbs & Poetical Sayings* (1983). The number preceding each saying is provided.

80 ʻĀina koi ʻula i ka lepo.
Land reddened by the rising dust.
Said of ʻEwa, Oʻahu.

105 Alahula Puʻuloa, he alahele na Kaʻahupāhau.
Everywhere in Puʻuloa is the trail of Kaʻahupāhau.
Said of a person who goes everywhere, looking, peering, seeing all, or of a person familiar with every nook and corner of a place. Kaʻahupāhau is the shark goddess of Puʻuloa (Pearl Harbor) who guarded the people from being molested by sharks. She moved about, constantly watching.

123 Anu o ʻEwa i ka iʻa hāmau leo e. E hāmau!
ʻEwa is made cold by the fish that silences the voice. Hush!
A warning to keep still. First uttered by Hiʻiaka to her friend Wahineʻomaʻo to warn her not to speak to Lohiʻau while they were in a canoe near ʻEwa.

274 E hāmau o makani mai auaneʻi.
Hush, lest the wind arise.
Hold your silence or trouble will come to us. When the people went to gather pearl oysters at Puʻuloa, they did so in silence, for they believed that if they spoke, a gust of wind would ripple the water and the pysters would vanish.

493 Haunāele ʻEwa i ka Moaʻe.
ʻEwa is disturbed by the Moaʻe wind.
Used about something disturbing, like a violent argument. When the people of ʻEwa went to gather *pipi* (pearl oyster), they did so in silence, for if the spoke, the Moaʻe breeze would suddenly blow across the water, rippling it, and the oysters would disappear.

1014 Hoʻahewa na niuhi ia Kaʻahupāhau.
The man-eating sharks blamed Kaʻahupāhau.
Evil-doers blame the person who safeguards the rights of others. Kaʻahupāhau was the guardian shark goddess of Puʻuloa (Pearl Harbor) who drove out or destroyed all the man-eating sharks.

1023 Hoʻi aku la ka ʻōpua i ke awa lau o Puʻuloa.
The horizon cloud has gone back to the lochs of Puʻuloa.

He has gone home to stay, like the horizon clouds that settle in their customary places.

1126 Huhui na ʻōpua i Awalau.
The clouds met at Pearl Harbor.
Said of the mating of two people.

1330 Ka iʻa hali a ka makani.
The fish fetched by the wind.
The *ʻanaeholo*, a fish that travels from Honouliuli, where it breeds, to Kaipāpaʻu on the windward side of Oʻahu. It then turns about and returns to its original home. It is driven closer to shore when the wind is strong.

1331 Ka iʻa hāmau leo o ʻEwa.
The fish of ʻEwa that silences the voice.
The pearl oyster, which has to be gathered in silence.

1686 Ke awa lau o Puʻuloa.
The many-harbored sea of Puʻuloa.
Puʻuloa is an early name for Pearl Harbor.

1698 Ke hoʻi aʻe la ka ʻōpua i Awalau.
The rain clouds are returning to Awalau.
Said of a return to the source.

1721 Ke kai heʻe nehu o ʻEwa.
The sea where the nehu *come in schools to ʻEwa.*
Nehu (anchovy) come by the millions into Pearl Harbor. They are used as bait for fishing, or eaten dried or fresh.

2152 Mehameha wale no o Puʻuloa, i ka hele a Kaʻahupāhau.
Puʻuloa became lonely when Kaʻahupāhau went away.
The home is lonely when a loved one has gone. Kaʻahupāhau, guardian shark of Puʻuloa (Pearl Harbor), was dearly loved by the people.

G. Cultural Practices

1. Na Ala Hele (Traditional Trails)

The Path Traveled by Kamehameha I from Honolulu to Puʻuloa

When Kahekili died in ca. 1794, his son Kalanikūpule succeeded in rule. By May 1795, however,

Kamehameha I and his forces invaded O‘ahu and killed Kalanikūpule, taking control of all the islands except for Kaua‘i and Ni‘ihau (Chronology in The Friend, January 1878). The article below, published in 1883, describes events around a visit of Kamehameha I to Pu‘uloa.

The Daily Bulletin
Treason & Magnanimity, An anecdote of Kamehameha the Great.

September 3, 1883 (page 2)

> When Kamehameha conquered Oahu though he had firmly established himself all the chiefs had not reconciled themselves to his rule. Kamehameha however adopted the plan of making the women chiefs and not allowing their husbands to receive the taxes. He also selected the handsomest and smartest women as spies who used to report to him all that went on in their districts. One of these female spies reported to him that the chiefs of *Ewa*, *Waianae*, and *Waialua*, were conspiring against him and were to meet on a given night at *Puuloa* (Pearl River), then the favorite spot with the chiefs of those districts, to finally settle on their plans.
>
> Kamehameha was then living at *Pulaholaho*, afterwards known as Charlton Square, the block now bounded by Merchant, Kaahumanu, Queen, and Nuuanu Street. It was then supper-time and he excused himself from supper and, taking his famous spear of peculiar make, *Ka ihe o Kamehameha*, the like of which no other Hawaiian had, he started off striking across the harbor at *Kapuukolo* (near Emmes boat-building establishment,) to *Koholaloa*, along a fishpond wall to *Kulaokaiwiula*, (the plains near Kalihi), then swimming the *Kalihi* passage and wading till he came to *Ahua* (the sand beach below *Moanalua*), then to the Pearl River and swimming across to *Puuloa*, He thus made a bee-line from E. to W. over land and sea alone without a single attendant. Nothing stopped him. Here he went from *halau* to *halau*, (the *halau* is a large meeting house), until he came to the place where all the Chiefs were inside plotting treason against him. After listening long enough to learn all their plans he stuck his spear point downwards, in the sand about 4 feet from the door and returned as he came alone.
>
> When the chiefs awoke next morning and went out they saw the spear. Said they, “The great chief has been here. Here is his spear. He knows all.” So in accordance with the ancient Hawaiian custom of those who feared for their lives, they went to Honolulu and crawled in on their hands and knees into the presence of Kamehameha saying “*E ola au*.” (Let me live.) And Kamehameha granted their prayer and had the satisfaction of knowing ever after that they were faithful to him.

2. Fishing Traditions

Fishing Right of Honouliuli in Pearl Loch

For reasons set forth at large in the record of the Commissioner, the Fishing Right is not awarded in the body of the Certificate of boundaries, but the finding of the Commissioner on the testimony presented, as well as by the assent of parties adjacent and in interest is set forth in this Supplement as follows, to wit.

The Fishing Right of Honouliuli covers the whole of "West Loch," with the reservation to Hoaeae, Waikele (Exhibit the Ili of Auiole) and Waipio of the fishing opposite each to where the water is "chin deep" to a man, say five and one half feet deep, also cutting off the bight or inlet where the boundary of Waipio and Waikele cuts across from to **Kaulu** constituting the "Fishery of **Hoomakaia**." The channel at the entrance of the Loch, as far up as **Pookela** point is divided equally between Honouliuli & Halawa.

Note: The map of survey presented

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Honouliuli
From fol 250

presented by the petitioner is the one executed by Prof. W.D. Alexander in the year 1873, and the award made conforms to said map.

In witness whereof I have hereunto set my hand at Honolulu, this 22d day of January A.D. 1874.

Lawrence McCully
Commissioner of Boundaries, Oahu.

Honolulu, November 5th 1874
The petitioner in this case further asking that "Puuloa"

a part or ili of this land, sold from it to Isaac Montgomery
be included in this certificate and the proofs for this pur-
pose being already of record, and this original certificate
not yet issued.

I do hereby supplement the same, as follows

viz. Instead of Course 31 as above, read thus
31. Oneula to Puuloa trig Station, at windmill
N. 69° 41' E. 18720 ft; thence along shore to stone
pillar at Kahuka N. 22° 20' W. 10010 ft.

Area of Puuloa 2610 acres
Total area of Honouliuli 43,250 acres

Lawrence McCully
Comr. of Boundaries. [page 251]

Hōʻaeʻae Ahupuaʻa (with Honouliuli)

[From boundary of Honouliuli]
1. The boundary between this land and Hoaeae was first
surveyed by J. Metcalf May 29, 1848, and the "Kula" of Hoaeae
was awarded to L. Rees by this survey.

See Award 193, Volume 1, p. 536.

…Fishery of Hoaeae. The testimony of the kamaainas is that the
fishery extends to the depth of a man's chin, opposite this land.
Mr. Robinson & Mr. Coney agree to this and that outside of that
the fishery belongs to Honouliuli. The award of Hoaeae does
not include the Kai. The makai, cultivated part of
Hoaeae and the Kai or fishery were granted to Namauu
by R.P. 4490 for M. Kekuanaoa. The survey by A. Bishop
is not copied into the R. Patent; the Patent being without metes
& bounds.

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Honouliuli
From Fol. 244

The red line indicating the fishery of Hoaeae, conforms to

Mr. Bishop's survey, and is agreed to by Mr. Robinson as representing their rights of fishing… [page 245]

[From Boundary of Waikele]
Ap. 1 – he aina Kalo me ke kula ma Apokaa.-
Aia i ke kihi Komohana o keia aina pili
ana me "**Hoaeae**", ma ka 4 o na pohaku e waiho
lalani ana ma kahakai ua hoailona mua ia
pea X. Alaila e kuhikuhi i ka palena kai hema
66°3/4 Hikina e au iho ana i kai ma **Aole i pau kuu loa** me ka palena kai o Honouliuli a hiki i kahi i
kapa ia o **Pau Kuu Loa** e pili ana me ka palena kai
o Honouliuli. Alaila, ma kela pohaku X, Akau
Kom. kaulahao ma Hoaeae a hiki i ka **poh. Mokomoko** ma ke alanui Aupuni. … [page 156]

Translation
Par. 1. – a Taro land on the flats of Apokaʻa.
The Western corner of this land is there adjoining
with "Hōʻaeʻae," where four stones form a line
situated on the shore, with the first boundary
marked X. Then the boundaries are pointed out from the shoreline
South 66 º 3/4 East jutting out in the fishery of Honouliuli to the place
called Pau Kuʻu Loa, adjoining with the shore boundary
of Honouliuli. Then from that stone marked X, North
West xx chains along Hoaeae to the stone
Mokomoko along the Government road…

Hawaiians Denied Access to the Honouliuli-Puʻuloa Fisheries

The fisheries—those along the shore of the open ocean and in Keawalau o Puʻuloa (now Pearl Harbor) and along the shoreline—were among the highly valued resources of Honouliuli Ahupuaʻa. With the transition in land tenure and land use that occurred following 1848, native residents of Honouliuli were steadily denied access to the traditional fisheries. Conflicts arose between Hawaiians seeking to maintain customary practices and the restricted access imposed by new land owners.

Mose, a native of Honouliuli, presented a public account of the distress that he, Isaaka and Makahanohano endured in being denied access to the shore along Ke Awalau o Puʻuloa by a foreign tenant of the land, and ask the King if this action was authorized by him.

Ka Hae Hawaii
"Poino."
Nowemapa 25, 1857 (aoao 139)

E ka Hae Hawaii e:
Aloha oe:— Ka mea e holo ana ma na kihi eha o ke aupuni Hawaii, he hoa kuili oe o ka poe imi noonoo, he ipo manuahi oe o ka poe ike. He wahi mea ka'u e hai aku nei ia oe, a nau ia e hai aku i ka poe imi noonoo a pau o ke aupuni Hawaii.

Eia ua wahi mea la. Ia makou i hoomaka ai e holo maluna o ka waapa mai Honouliuli aku a hiki i kahi i kapaia o Keawalau o Puuloa, pa mai la kahi makani ma kai mai, he maunuunu ko ke kaha, he olauniu ko Waikiki, he kukalahale ko Honolulu, hoohuli pono ae la makou i ka ihu o ka waapa me ka manao e holo aku i Honolulu i ke kuai ia, loaa iho la makou i ka poino. Eia no ia, ninau mai la kekahi haole ia makou, o Aigate kona inoa, Owai keia waapa? Hai aku la makou, O makou no. Ninau hou kela ia makou, Owai ka inoa? Hai hou aku la makou, O Mose, Isaaka, Makahanohano. Pane hou mai kela ia makou, Go way; be off kanaka. O ke kani koke mai la no ia o ka pu, a pee iho la makou i ka waha o ka waapa, helelei iho la ka lu iluna o makou, kani hou mai la ka pu, helelei hou iho la ka lu. Kena aku la au i ko'u mau hoa e hoe aku i ka waapa, aka, aole e hiki; no ka mea, ua loaa makou i ka pilikia; aka, no ka ikaika ana mai o ka makani ma kai mai, huki pono mai la makou i ke kaula, pei mai la i ka pei, poho aku la ka pea i ka makani, o ka holo aku la no ia o makou, a pakele makou i keia pilikia.

E! nani ke aloha o ko kakou Haku i ka lani, ka mea kokua i ka poe poino, nana no i hoopakele mai ia makou mai loko mai o keia popilikia.

Ninau.
Ina ua ae ia e ka Moi a me kona lalo iho, a i ole ia, e na makaainana paha e noho ana malalo iho o ka Moi, kona ki wale ana aku i kela kanaka keia kanaka, alaila ua pono; aka, ina aole, e hiki no ia'u ke hoopii e like me ke kanawai o ka aina.

Mose.
Honouliuli, Ewa, 18 Nov., 1857

Summary – Poino. (Distress.)

We departed from Honouliuli in our boat and arrived at the place called Keawalau o Pu'uloa, when a wind arose from the shore. It was the māunuunu of the coastal region — the 'ōlauniu is of Waikīkī, and the kūkalahale is of Honolulu. We turned the bow of our boat, intending to go to Honolulu to sell our fish, that is when we ran into trouble. A

foreigner came up to us and asked whose boat is this, his name was Isaac[12]. We told him it was ours. He then asked our names and we told him, Mose, Isaaka and Makahanohano. He then told us, "Go away, be off, Hawaiians." He then shot at us, and we quickly tried to hide in the bow of our boat. We tried to push off, but because of the wind from the sea, we had a difficult time. We finally got the sail up and we were able to get away from the trouble.

Say, the love of our Lord is beautiful, the one who helps those in need, and who rescues us from our troubles.

Question.
Did the King agree to this being done by those below him, or not. The commoners live below the King, and it is he who determines what is right for each man. I will seek to prosecute this pursuant to the law of the land.

Mose.
Honouliuli, ʻEwa. Nov. 18, 1857.

The Puuloa Fishery of Honouliuli
Supreme Court—In Banco
January Term—1858
Levi Haalelea vs. Daniel Montgomery

By the laws of 1839, as subsequently amended by the organic acts of 1846, the entire fishing ground, lying between low water mark and the outer edge of the coral reef, or kuanalu, along the seaward front of an ahupuaa of land, is the private property of the landlord or konohiki, subject always to certain piscatorial rights of the tenants or hoaainas.

The defendant's brother having received from the konohiki a conveyance of a portion of land of the ahupuaa of Honouliuli, by metes and bounds, but not including any portion of the fishing ground adjacent; it was held, that he acquired a common right of piscary as a tenant or occupant of the ahupuaa, appurtenant to the land purchased, and subject always to the rights of the grantor.

It would not have been in the power of the landlord to grant an exclusive right of fishery in the fishing ground, adjoining the land in question, and it [page 62] was doubtful said landlord could, convey her rights therein, so as to divide the fishery into two or more parts.

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[12] Isaac Montgomery purchased the ʻili of Puʻuloa from chiefess M. Kekauʻōnohi in 1849. Later in 1858, Levi Haʻalelea brought suit against Daniel Montgomery (brother of Isaac) in the matter of fishery rights at Honouliuli (Hawaiian Supreme Court Report, 1857-1865:62).

without infringing on the rights of the tenants.

Where the exact legal signification of the terms of a deed could not be expressed in Hawaiian without great deal of difficulty, recourse was had to the English original.

Justice Robertson delivered the decision of the Court as follows:

The plaintiff brings his action for the purpose, of determining certain rights of fishery, now in dispute between him and the defendant, and also to recover damages from the defendant for having prohibited and prevented the plaintiff and his people, and others occupying certain lands under him, from taking fish on the fishing ground lying to seaward of defendant's land, at Puuloa, on this island.

It appears, from the evidence presented to the Court, that the land now held by the defendant, is a portion of the large ahupuaa of "Honouliuli," and was purchased, in the year 1849, by defendant's brother, Isaac Montgomery, from the late high chief, M. Kekauonohi, then a widow, who died in the year 1851, leaving the land of "Honouliuli," together with other property by will, to her second husband, the plaintiff in this action. The conveyance from M. Kekauonohi to Isaac Montgomery, was executed in the Hawaiian and English languages, and reads as follows in English:

"Warranty Deed.

Know all men, by these presents, that I, Kekauonohi, of Honolulu, Island of Oahu, for and in consideration of the sum of eleven thousand dollars, to me this day paid in hand by Isaac Montgomery, also of Honolulu, Island of Oahu, the receipt of which is hereby acknowledged, do grant, bargain, sell, and by these presents convey unto him, the said Isaac Montgomery, and to his heirs, executors, administrators and assigns, forever, all that certain lot of land, situated in the Island of Oahu, aforesaid, and described as follows:

Commencing at mauka north corner or point of this land at place called Lae Kekaa, at bend of Pearl River, and running along edge of Pearl River, makai side, taking in three fish ponds called Pamoku, Okiokilipi and Paakule to open sea, thence following [page 63] along the edge of the sea (reserving all the reef in front) to end of stone wall by sea, in land called Kupaka, at the makai west comer of this land, thence running north 25º E. 283, direct to place of commencement, including an area of acres 2,244 as per plot hereto annexed.

"To have and to hold, the above conveyed premises and all the tenements and hereditaments situate thereon, with this my covenant and warranty and lawful seizers, unto the said Isaac Montgomery, his-heirs, executors and administrators and assigns forever.

“In witness whereof, the said party, Kekauonohi, has hereunto set her hand and seal at Honolulu, this 7th day of September, A.D. 1849.

“M. Kekauonhi. [L. S.]
Executed in the presence of Frank Manini."

It is admitted that defendant is now the owner of the property, originally conveyed to his brother by the foregoing deed. The Court also understood the defendant to admit that he had prohibited the plaintiff and his people from taking fish on the place in controversy. And it is admitted by the plaintiff that, from and after the execution of the deed by M. Kekauonohi, she withdrew her Luna from Puuloa, and ceased to take or taboo any fish on the reef opposite defendant’s land, up to the time of her death, and that, until recently, Haalelea never asserted, any right or claim to take fish on said reef.

Upon this state of facts, the defendant claims to have, under a proper construction of the conveyance before recited, and the statutes of this Kingdom, an exclusive right of piscary, in the fishing ground lying opposite the land embraced in the deed; and the plaintiff on his part, claims the same exclusive right for himself and his tenants living on “Honouliuli” as against the defendant and all others living on the land covered by the conveyance, or in other words, that the defendant did not acquire by his purchase, a right to take fish anywhere outside of the boundaries of the land conveyed to him, and that the people living on that land after the date of the deed, ceased to be tenants of the Ahupuaa of “Honouliuli,” and so lost their rights to piscary, under the laws of the land.

In order to a right decision of this controversy it would seem [page 64] to be necessary in the first place, to ascertain and define what were the rights of piscary possessed by M. Kekauonohi, as Konohiki of the Ahupuaa of “Honouliuli,” at the time she made the conveyance, to Isaac Montgomery. To do this it is unnecessary to inquire what were the respective rights of piscary enjoyed by the Konohiki and the common people, in ancient times, became since the year 1839 those rights have been regulated and defined by written laws,

At page thirty-six of the English version of the old laws, will be found an enactment on this subject, which commences in the following words: “His Majesty the King, hereby takes the fishing grounds from those who now possess them, from Hawaii to Kauai, and gives one portion of them to the common people, another portion to the landlords, and a portion he reserves to himself.

These are the fishing grounds which His Majesty the King takes and gives to the people:

the fishing grounds without the coral reef, viz: the Kilohee grounds, the Luhee ground, the Malolo ground, together with the ocean beyond.

But the fishing grounds from the coral reefs to the sea beach are for the landlords, and for the tenants of their several lands, but not for others."

This is the point at which the existing piscatory regulations of the Kingdom had their commencement, and since which, ancient custom ceased to govern the subject. His Majesty Kamehameha III, as supreme lord of the islands, and having in himself the allodium of all the lands in the Kingdom, did at that time, with the concurrence of the Chiefs, resume the possession of all the fishing grounds within his dominions, for the purpose of making a new distribution thereof, and of regulating the respective rights of all parties interested therein, according to written law.

The fishing rights of both the Konohikis and the hoaainas were defined and regulated by the law of 1839, which was at different times amended in some particulars, until the passage of the organic Acts in 1846, when those rights were again defined by article 5th, of chapter 6th, part first, of the Act to organize the Executive Departments. (See 1st Vol. Stat. Laws, pp. 90 to 92, Secs. 1 to 7.)

The part of the law to which it is [page 65] necessary to have reference more particularly in the present case, reads as follows:

"Section 2. The fishing grounds from the reefs, and where there happen to be no reefs from the distance of one geographical mile from the beach at low water mark, shall in law be considered the private property of the landlords whose lands, by ancient regulation, belong to the same, in the possession of which private fisheries, the said landlords shall not be molested except to the extent of the reservations and prohibitions hereinafter set forth.

“Section 3. The landholders shall be considered in law to hold said private fisheries for the equal use of themselves and of the tenants on their respective lands; and the tenants shall be at liberty to use the fisheries of the landlords, subject to the restrictions in this article imposed.”

The four succeeding sections of this law, which we deem it unnecessary to cite at length, define and guard the rights of the konohikis, in relation to their reserved or tabooed fish, and contain certain provisions to protect the rights of the tenants or hoaainas, from unjust restrictions and exactions.

Under this statute, as we, understand it, the entire fishing ground, lying between low water

mark and the outer edge of the coral reef, (or Kuanalu, as it is called in the Hawaiian version) along the seaward front of the Ahupuaa of "Honouliuli," was private property of M. Kekauonohi, possessed and held by her as such, subject to the piscatorial rights of the tenants living on that Ahupuaa. On this ground she had a common right of piscary with the tenants of "Honouliuli," or she was at liberty, if she saw fit, to taboo or set apart annually, one particular species of fish for her own private benefit, as provided in section 4th, or in lieu of this, she might on consultation with the tenants, as provided in section 7th, make an arrangement whereby she would be entitled to receive one third part of all the fish caught on the ground.

Such were the rights of M. Kekauonohi in the premises at the time when she executed the deed to Isaac Montgomery, and the next question is, what portion, if any, of those rights did she thereby convey to him, or did he, by operation of law, acquire any rights of piscary on the ground in question, upon receiving that conveyance? [page 66]

It is contended, on the part of the defendant, that by a fair construction of the descriptive part of the deed, it must be held to extend to deep water at the outer edge of the reef, thereby including all that part of the Konohiki's fishing ground lying opposite to the land conveyed to Isaac Montgomery. It is said that the expression, "to open sea," must be understood to mean, "to deep water outside of the reef," in contradistinction to the shallow water upon the reef, between the breakers and low water mark, and that the expression, "following along edge of sea," means following along the edge of deep water, outside of the reef. If this is correct, then unquestionably, the grantor conveyed away all her right and title to the fishing grounds, as well as to the dry land. But it seems very clear that this construction cannot stand without falsifying the obvious meaning of the descriptive language which follows. For if "open sea" means the deep water outside of the reef, and "edge of the sea" means the edge of such deep water, the stone wall which is described as being by sea, in land called Kupaka, must have extended out to the seaward edge of the reef, a proposition which has not been asserted in argument, and which, on reference to the plan annexed to the deed, appears to be conclusively negative. So the expression "reserving all the reef in front," would seem to be inconsistent with the idea that the line ran along the outer edge of the reef, for in that case there would be no reef in front of the line. That the line ran along the inside of the coral reef, seems to us clear from the language used in the Hawaiian version of' the deed, which reads as follows: "Aole nae e hookomo ana i ka papa koa mawaho." We should translate this expression, "not including, however, the coral reef outside." Again, the last line of the survey is described as running from the end of the stone wall, north 25 º east, by compass, 283 chains, to the place of commencement, and it is not pretended that this line extended out to the outer edge of the reef. If such is the case, it is a fact that could be readily ascertained by measurement. But the surveyor's plan clearly indicates the reverse. It is very evident, then, that no part of the fishing ground is included

within the surveyed metes and bounds of the property conveyed to Isaac Montgomery. [page 67]

But, it is argued by defendants. counsel, that M. Kekauonohi's right of piscary in the fishing ground in question, passed to Montgomery as an appurtenance to the land, by virtue of the clause which, in the Hawaiian version of the deed, reads thus: "A me na mea paa a pau e waiho ana maluna iho, a me na mea e pili pono ana," and in the English version, thus: "And the tenements and hereditaments situate thereon." It is said that the words, "a me na mea e pili pono ana," are sufficiently broad in their signification to carry everything appurtenant to the land embraced in the conveyance, and that the Court ought to regard the Hawaiian version of the deed as controlling, wherever their appears a difference between that and the English for two reasons: First—Because the grantor herself was a native, and a person of intelligence, and must, therefore, be presumed, to have intended to convey whatever would pass under the words of the deed, as expressed in her own language; and, secondly, because the Court has decided in several previous cases that, in construing the statutes of the Kingdom, which are enacted in both languages, wherever an irreconcilable difference exists between the two versions, the Hawaiian must govern. On the other hand, it is argued that the grantee, who is an Englishman, received the deed in both languages, thus accepting the English version as the exact counterpart of the Hawaiian; and that, therefore, he and, those claiming under him, should be bound by the English version; that the deed in both versions form but one instrument, and that if the language of: the one is altogether inconsistent with that of the other, which, however, is not conceded, the proper course would be to declare the instrument void for uncertainty.

This involves a question of considerable magnitude, the decision of which may affect the rights and interests of many individuals throughout, the Kingdom. After careful reflection upon the point, we are of the opinion that it would be both unsafe and unreasonable, for the Court to hold that the Hawaiian, and not the English version, should control in this instance, if the difference contended for by the defendant does really exist, which, we think, is not clear. It is true this Court has repeatedly ruled, as stated by the defendant, that, in the case of an, irreconcilable difference between the Hawaiian and [page 68] English versions of a statute, the former shall control (See Metcalf vs. Kahai, 1st Haw. Rep., p. 225; Hardy vs. Ruggles et als., ibid, o. 255.) But it seems to us that the same considerations which constrained the Court so to decide in that case, do not exist in the present instance. The deed before us, with the exception of those parts of it which are descriptive, consists of a printed formula, in the two languages, which has been extensively used here, in dealings between natives and foreigners, since the enactment of laws requiring conveyances of real estate to be made in writing. The English version of this formula is, of course, the original, and the Hawaiian merely a translation. There do not exist in the Hawaiian language, two words which would exactly represent the two English words tenements and hereditaments.

The exact legal signification of those terms could not be expressed in Hawaiian without great difficulty, and therefore words, which if used in some other connection, or under other circumstances would convey a widely different meaning, have, when used in the printed formula of conveyance now before us, been accepted by the general consent of natives and foreigners using such formula, as meaning precisely the same things, and neither more or less than those two legal terms. So far then as purely legal phraseology, or words or technical import, are concerned, it would seem to us both unsafe and unreasonable, to hold that the Hawaiian translation, and not the English original, should govern, when a question arises, upon the construction of any part of the deed, where such legal or technical language is used. Such a course would unbar the door to endless litigation and fraud, and involve our courts in a maze of uncertainty.

It is contended, further, on the part of the defense, that the conduct of the grantor, in withdrawing her luna from Puuloa, at the time of her execution of the conveyance, and in subsequently, up to the time of her death, forbearing to take or taboo any fish on the reef opposite the land sold to Montgomery, and the like forbearance on the part of the plaintiff, for several years, afterwards, are strong evidence in favor of the defendant, and facts from which it may be fairly inferred that M. Kekauonohi intended to grant away tile fishing ground, or, at least, all her rights in the fishery. To this it is replied, that such a [page 69] grant cannot be inferred from circumstances, or from the conduct of the grantor, but must be found, if at all, in the express language of the deed.

As to the fact of her withdrawing her luna from Puuloa, after the sale of that land to Isaac Montgomery, we consider it a natural consequence of the sale, and of slight significance as to any bearing it may be supposed to have upon the disputed question of the fishery. If, however, there was any doubt as to the grantor's intentions, arising from the use of unusual or ambiguous language, then, the fact of her subsequent forbearance to take or taboo fish; upon the place in question, might be regarded as evidence tending to sustain the construction contended for by the defendant. But, it is clear to our minds, for the reasons already stated in remarking upon the descriptive part of the deed, that she did not intend to include therein, or to convey thereby, any part of the fishing ground to Montgomery; nor did she convey to him her individual rights of piscary, under the words, "tenements and hereditaments situate thereon."

None of the rights of piscary possessed by M. Kekauonohi as owner of the fishery, could have passed as a mere appurtenance to the piece of land conveyed to Isaac Montgomery. She could have transferred the fishery, or her right therein, only by an express grant, eo nomine. Had she made a deed even of the whole Ahupuaa, by metes' and bounds, not including the fishery, nor expressly naming it in the conveyance, it is doubtful if either the fishery or her right therein would have passed to the grantee.

Again, if the grantor had conveyed the fishery, or her individual rights therein, by name, to Isaac Montgomery, that would not have conferred upon him the exclusive right which is now set up by the defendant, because M. Kekauonohi herself was not possessed of an exclusive right. It may even be doubted whether she could have conveyed away the portion of the fishing ground lying opposite to Puuloa, or her special rights therein, so as to divide the fishery, without infringing on the rights of the tenants living on "Honouliuli." Certainly if her grantee had tabooed one kind of fish, on his part of the ground, while she tabooed another kind upon the other part, the rights [page 70] of the tenants would have been violated. And if she could have divided the fishing ground into two parts she could have divided into twenty, and so have rendered the rights of the tenants worthless.

But, while we are clearly of the opinion that M. Kekauonohi did not convey any part of the fishing ground, or of her individual rights therein, to Isaac Montgomery, we are also of opinion that, when he received a conveyance of a portion of the Ahupuaa of "Honouliuli," he acquired along with it a common right of piscary in the fishing ground adjacent. That is to say, he became, for the purposes of the law, governing this subject, a tenant of the Ahupuaa, and as such entitled to take fish in the sea adjoining. We understand the word tenant, as used in this connection, to have lost its ancient restricted meaning, and to be almost synonymous, at the present time, with the word occupant, or occupier, and, that every person occupying lawfully, any part of "Honouliuli," is a tenant within the meaning of the law. Those persons who formerly lived as tenants under the Konohikis but who have acquired fee simple title to their kuleanas, under the operation of the Land Commission, continue to enjoy the same rights of piscary that they had as hoaainas under the old system. (See Joint Resolution on the subject of rights in lands, etc., Vol. 2, Statute Laws, p. 70.) If any person who has acquired & kuleana on the Ahupuaa of "Honouliuli," should sell and convey his land, or even a part of it, to another, a common right of piscary would pass to the grantee, as an appurtenance to the land. In that case it would not be necessary, we apprehend, to mention the right of piscary in the conveyance—it would pass as an incident. (See Kent's Com., Vol. 4, p. 517; Comyns's Digest, Vol. 4, title Grant E. 11.) Here, we think, is the great distinction between the rights of the Konohiki, and those of the tenant or occupant, for, while the former holds the fishery as his private property, the latter has only a right of piscary therein, as an incident to his tenancy. This marked distinction in their respective rights must create a corresponding difference in regard to the transfer of those rights.

As the conveyance, by the owner of a kuleana, of a part of his land to another, would create such a tenancy in the grantee [page 71] as would entitle him to a common right of piscary, so, in our opinion, the conveyance to Isaac Montgomery, by M. Kekauonohi, of a part of the Ahupuaa, created such a tenancy, as carries with it, as an appurtenance thereto, under

our laws, a common right of piscary; subject, always, to the rights of the grantor, and her legal representatives.

No specific damage having been proved by the plaintiff we think he is only entitled to recover nominal damages.

Let judgment be entered for the plaintiff, as of the last day of term, in the sum of five dollars damages, together with the costs of suit.

A. B. Bates, Esq., for the plaintiff.
J. Montgomery, Esq., for the .defendant.
January, 1858. [page 72]

V. Oral Records, Interviews and Consultations

A. Oral Histories and Past Studies

This study utilized past oral histories and studies from the area to aggregate traditional histories from kūpuna and practitioners.

Honua Consulting has interviewed numerous individuals with lineal and cultural ties to the Campbell Industrial Park area and its surrounding area with regard to regional biocultural resources, potential impacts to these biocultural resources, and mitigation measures to minimize and/or avoid these impacts.

Table 2. Previous Oral Histories Conducted within the Geographic Extent

Interviewee and Project Details	**Information Appliable to Current Project**
Kumu Hulu Mikiʻala Lindstone Interviewer: Julie Au Date: 6/14/19 Location: Waimānalo, Honouliuli, ʻEwa, Oʻahu Project: ʻEwa Villages	Kumu Lindstone lives in Honouliuli in ʻEwa. She is the President and Director of Ulu Aʻe Learnign Center in Kapolei, and Kumu Hul of her own hālau, Hālau ʻo Kaululauaʻe. She strongly believes in placed based education. In her interview, Kumu Lindstone detailed the changing landscape of ʻEwa and Honouliuli; from the plantation era to the development of urban space. In her opinion, the development displaced many of the cultural markers the land once held, and therefore difficult to reveal what may have been covered up.

Ku‘uwainani Eaton Interviewer: Julie Au Date: 6/14/19 Location: Honouliuli, ‘Ewa, O‘ahu Project: ‘Ewa Villages	Ms. Eaton is from Kupaku, Pu‘uloa in ‘Ewa where she still resides today. She is a second grade teacher at the Kula Kaiapunui (Hawaian langage immersion school). Ms. Eaton is the current president of the Hoakalei Cultural Foundation located in ‘Ewa. The Hoakalei Cultural Foundation was established in 2006 to ensure stewardship of the land and cultural heritage of the ‘Ewa Plain. She detailed that the area used to be largely sugar plantations. Her interview did not cover Kapiolani, but rather ‘Ewa. Before the sugar plantation era, she said the area was likely largely uninhabited.
Shad Kāne Interviewer: CSH Date: 2011 Project: Wastewater Facilities	Mr. Kane’s interivew revealed his generational ties to the peninsula of Pu‘uloa, the historic buried landscape of ‘Ewa, the mo‘olelo of the Battle of Kūki‘iahu, and explained the significance of the muaka-makai relationship in ‘Ewa. Mr. Kāne painted an image of how ancient Hawaiians might have viewed their world. Mr. Kāne discused the dramatic alternations to the land within the moku of ‘Ewa. He iterated that ‘Ewa is at the very nature of partnership; of agriculture and the support of federal agencies, and the eroision of Hawaiian culture. Further, due to the nature of alternation to the region (agriculture and then urban development), Ancient Hawaiian resources have not been removed; rather, they have been filled in.
Arlene Eaton Interviewer: CSH Date: 2/22/2011 Project: Wastewater Facilities	Kupuna Eaton grew up in a traditional Hawaiian household. As her grandfather did not speak English, Kupuna Eaton grew up only speaking Hawaiian until she started school. At the time of the interview, she was involved in several initiatives to preserve Hawaiian language and culture. She is a member of the Royal Order of Kamehameha, Hale o Nā Ali‘i, the Hawaiian Civic Club of ‘Ewa Pu‘uloa, State president of the Business and Professional Women’s Organization in ‘Ewa, and founder of the Hoakalei Cultural Foundation. Kupuna Eaton’s interview provided a window into a pre-developed, late 19th century and early 20th century view of ‘Ewa. While her interview was regionally specific to Ka‘ōnohi and Kalauao, she recounted the mo‘olelo of Ka‘ahupahau and ‘Aumākua of Pu‘uloa, and the mo‘olelo of Hāpu‘u Tree Fern.
Ishmael Stagner Interviewer: CSH Date: 2/1/2011	Dr. Stagner was born in 1939. He was raised in Pearl City where his family had a home since 1935 until they moved to Hālawa Heights in ‘Aiea in 1950. In his youth prior to entering

Project: Wastewater Facilities	Kamehameha Schools, Dr. Stagner learned about the history and culture of Puʻuloa, Oʻahu, and the other Hawaiian Islands through several kupuna. The single most important feature of ʻEwa, according to Dr. Stagner, is its watershed. This fact is highlighted by the naming of the ahupuaʻa with the term wai, including Waiawa, Waiao, Waikele, and Waipahu. Mirroring the ahupuaʻa boundaries, water flows from the Koʻolau mountains down to the waters of Puʻuloa throughout a network of streams and an underwater system of tunnels. These contribute heavily to the Hālawa Aquifer, which now supplies the majority of the drinking water for the island of Oʻahu. Sugar cane was grown on the lands of Puʻuloa mauka of the present-day Kamehameha Highway. The upland streams were channeled to nourish the sugar cane. In 1957, the Oʻahu Sugar Company began to clear the upper sugar fields in Mānana, severely disturbing the ground cover Makai of the present-day Kamehameha Highway was a floodplain that had formerly been dense with taro fields and rice paddies, and eventually watercress ponds. Dr. Stagner highlights the fact that each region had its own special variety of taro. With over 300 kinds of taro throughout the Islands, the freshwater taro of Puʻuloa was particularly productive. The Puʻuloa variety yielded four crops each year, enough to supply taro for one-third of the island of Oʻahu. There were freshwater aquifer springs all over the region and moʻo ʻaumakua guarded these tunnels of water. Dr. Stagner recounted the moʻolelo of Poʻo Hilo and Maʻilikukahi.

VI. Impact Assessment

A. Impacts to Flora

There is no endangered flora in the area. The impact to flora was covered in the EA and there are no anticipated impacts to rare floral of cultural significance. Nonetheless, the project should make an effort to plant native fauna in their landscaping in an effort to repopulate the area with indigenous, endemic, and native species within the project area.

B. Impacts to Fauna

There is unlikely to be any impacts to candidate, threatened, or endangered fauna over the course of this project based on the biological assessment. There is regional concern about the pueo (*Asio flammeus sandwichensis)*, but no pueo have been viewed in the area and the area is poorly suited for nesting or foraging due to its proximity to built environment.

C. Impacts to Historic Sites

Honua Consulting, LLC conducted a literature review and field investigation (LRFI) of the project area which assessed previous archaeology and included a 100% pedestrian survey of the project area. Based on this assessment, it is unlikely the project will impact to historic sites.

D. Impacts to Intagible Cultural Resources

The APE has been largely disturbed due to previous agricultural use and extensive industrial use. Therefore, the project activities are unlikely to have any impact to intangible cultural resources in the area.

E. Impacts to Cultural Practices

This project is unlikely to have any potential impact to the traditional and customary practices that take place in the surrounding region. In the event that historic resources or iwi kūpuna are inadvertently discovered during project work, area cultural descendants should be engaged to care of the iwi.

F. Cumulative and Indirect Impacts

There are no anticipated cumulative or indirect cultural impacts to the area.

G. Mitigation and Best Management Practices

Due to the negligible impacts to cultural resources, there are no mitigation measures recommended or necessary at this time. Standard archaeology best practices should be implemented. In the event of the inadvertent discovery of cultural resources, cultural monitors or practices should be consulted as appropriate to ensure the proper treatment of any cultural resources and the allowance of appropriate cultural practices.

VII. Conclusion

The Honouliuli region is rich with both pre-contact and post-contact histories. While the project is unlikely to have any adverse impact on pre-contact historic properties or Hawaiian cultural practices, the project has an opportunity to enrich the area through interpretive botanical, cultural and historical programs. This study looked comprehensively at all historical records for the region and did not identify any current cultural practices or customs that would potentially be impacted by the project activity. This conclusion was supported by the oral histories from the area.

The State and its agencies have an affirmative obligation to preserve and protect the reasonable exercise of customarily and traditionally exercised rights of Hawaiians to the extent feasible. Part of the manner in which this is implemented is through the completion of thorough and appropriately focused cultural impact assessments, which can effectively research and identify these practices so that they can be appropriated protected. *Ka Pa'akai* calls for a good faith effort on the part of the state to identify cultural resources, including traditional and customary practices, in the area. This CIA conducted an exhaustive and good faith effort to identify such resources and practices. While there are certainly such resourcew and practices within the larger geographic extent of Honouliuli, there are none in the immediate project area or within the area that will be impacted by the proposed project. Therefore, per Act 50 and under the *Ka Pa'akai* analysis, potential effects to cultural resources or practices are negligible due to the absence of ongoing traditional and customary practices in the immediate project area.

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Appendix I: Glossary of Hawaiian Terms

The following list of terms were used frequently throughout this report. All definitions were compiled using Pukui and Elbert's *Hawaiian Dictionary* (1986).

Ahupua‘a	Land division usually extending from the uplands to the sea, so called because the boundary was marked by a heap (ahu) of stones surmounted by an image of a pig (pua‘a), or because a pig or orther tribute was laid on the altar as tax to the chief.
‘Āina	Land, earth.
Akua	1. God, goddess, spirit, ghost. 2. Divine, supernatural, godly.
Ala	Path, road, trail.
Ali‘i	1. Chief, chiefess, ruler, monarch. 2. Royal, regal. 3. To act as chief, reign.
‘Aumakua	Family or personal gods, deified ancestors who might assume the shape of sharks, owls, hawks, dogs, plants, etc. A symbiotic relationship existed; mortals did not harm or eat them, and the ‘aumakua warned or reprimanded mortals in dreams, visions, and calls.
‘Aumākua	Plural of ‘aumakua.
‘Auwai	Irrigation ditch, canal.
Hālau	1. Long house, as for canoes or hula instruction; meeting house. 2. Large, numerous; much.
Hale pili	House thatched with pili grass.
Heiau	Pre-Christian place of worship, shrine. Some heiau were elaborately constructed stone platforms, other simple earth terraces.
Ho‘i	1. To leave, go or come back; to cause to come back. 2. To enter, as an institution or last resting place. 3. A parting chant to which hula dancers dance as they leave the audience. 4. Marriage of a chief with the daughter of a brother or sister; to do so (a means of increasing offspring).

Hula	A Polynesian dance form accompanied by chant or song.
ʻIli	Land section, next in importance to ahupuaʻa and usually a subdivision of an ahupuaʻa.
ʻIli kūpono	A nearly independent ʻili land division within an ahupuaʻa, paying tribute to the ruling chief and not to the chief of the ahupuaʻa. Transfer of the ahupuaʻa from one chief to another did not include the ʻili kūpono located within its boundaries.
Kanaka	Human being, man, person, individual, party, mankind, population.
Kānaka	Plural of kanaka.
Kāne	Male, husband, male sweetheart, man; brother-in-law of a woman.
Kanikau	1. Dirge, lamentation, chant of mourning, lament. 2. To chant, wail, mourn.
Kapu	1. Taboo, prohibition. 2. Special privilege or exemption from ordinary taboo. 3. Sacredness, prohibited, forbidden, sacred, holy, consecrated. 4. No trespassing, keep out.
Kuleana	Right, privilege, concern, responsibility, title, business, property, estate, portion, jurisdiction, authority, liability, interest, claim, ownership, tenure, affair, province.
Kupuna	Grandparent, ancestor, relative or close friend of the grandparent's generation, grandaunt, granduncle.
Kūpuna	Plural of kupuna.
Limu	A general name for all kinds of plants living under water, both fresh and salt, also algae growing in any damp place in the air, as on the ground, on rocks, and on other plants; also mosses, liverworts, lichens.
Loʻi	Irrigated terrace, especially for taro, but also for rice and paddy.
Loko iʻa	Traditional Hawaiian fishpond.
Makai	On the seaside, toward the sea, in the direction of the sea.
Mālama	To take care of, tend, attend, care for, preserve, protect, beware, save, maintain.
Mauka	Inland, upland, towards the mountain.
Mele	1. Song, anthem, or chant of any kind. 2. Poem, poetry. 3. To sing, chant.
Mele mākaʻikaʻi	Travel chant.
Mōʻī	King, sovereign, monarch, majesty, ruler, queen.
Moku	1. District, island, islet, section, forest, grove, clump, fragment. 2. To be cut, severed, amputated, broken in two.
Moʻo	Lizard, reptile of any kind, dragon, serpent.
Moʻolelo	Story, tale, myth, history, tradition, literature, legend, journal, log, yard, fable, essay, chronicle, record, article.
Moʻowahine	Female lizard deity.
Nīʻau-piʻo	Offspring of the marriage of a high-born brother and sister, or half-brother and half-sister.

‘Ōlelo no‘eau	Proverb, wise saying, traditional saying.
Oli	Chant that was not danced to, especially with prolonged phrases chanted in one breath, often with a trill at the end of each phrase; to chant thus.
Pi‘o	Marriage of full brother and sister of nī‘aupi‘o rank, presumably the highest possible rank. Their offspring had the rank of naha, which is less than pi‘o but probably more than nī‘aupi‘o. Later pi‘o included marriage with half-sibling.
Pueo	Hawaiian short-eared owl (*Asio flammeus sandwichensis*), regarded often as a benevolent ‘aumakua.
‘Ūniki	Graduation exercises, as for hula, lua fighting, and other ancient arts (probably related to niki, to tie, as the knowledge was bound to the student).
Wahi pana	A sacred and celebrated/legendary place.
Wahine	Woman, lady, wife; sister-in-law, female cousin-in-law of a man.
Wao	1. Realm. 2. A general term for inland region usually forested but not precipitous and often uninhabited.

APPENDIX II: Honouliuli Ahupuaa, District of Ewa, Island of Oahu

Boundary Commission Volume 1 pps. 131-133 [Figure 1]

Boundaries of the Ahupuaa of Honouliuli Oahu
Filed June 23rd 1873

Application of Mrs. A.A. Haaelea

To the Honorable W.P. Kamakau
Commissioner Boundaries for the Island
of Oahu, one of the Hawaiian Islands.

The undersigned applicant represents
that she is the owner of the Ahupuaa called Honouliuli, situated
in the District of Ewa, Island of Oahu aforesaid; that the same
was awarded by name to Mikahela Kekauonohi, dec'd. by Land
Commission Award No. 11216; – that the same has not been awarded
by the Land Commission, patented or conveyed by Deed from the
King by boundaries described in such award, patent or Deed; and
therefore she respectfully requests that the boundaries of said Ahu-
puaa may be settled by Your Honorable Commission, and to that
end makes this application to have the boundaries of said land
decided and certified by you as Commissioner of Boundaries
as aforesaid.

Pursuant to the statute, the Undersigned applicant
represents that the name of the land is Honouliuli, in the Dis-
trict of Ewa, Island of Oahu, one of the Hawaiian Islands;
that the following are the names of the adjoining lands, and the
names of the owners of the same, so far as known to the undersigned
applicant, to wit. "Waianae" – Crown Land; "Nanakuli" – Crown
Land; "Pouhala," owned by J. Robinson; "Waikakalaua" – Crown
Land in possession of J. Robinson; "Hoaeae," owned by J. Robinson;
"Waikele," owned by K. Komoikehuehu; "Waipio," owned by Estate
John Ii, deceased; "Halawa," owned by Dowager Queen Emma.

That the undersigned applicant is unable to give a general
description of the boundaries claimed, other than as to lands
bordering on the Ahupuaa of Honouliuli, but intends to have

filed with the Honorable Commission a full survey and plot
of the said land upon which she intends to adduce proof
as to the Boundaries of said land.

Very Respectfully
A.A. Haalelea
By her Attorney at Law, R.H. Stanley
Honolulu, June 23, 1873 [page 131]

Ahupuaa of Honouliuli
Supplement to Application
Filed June 24th 1873

Honolulu, June 24th 1873
Hon. W.P. Kamakau
Commissioner of Boundaries for the Island of Oahu,
Hawaiian Islands,

Sir,
Herewith please find under cover
"Memoranda on the Boundaries of Honouliuli" as furnished
by Mr. Alexander, Government Surveyor; which please annex
as part and parcel of application delivered you yesterday.

So soon as the Survey now in progress is completed, full
field notes together with a plot or map of the Bounda-
ries of Honouliuli, as claimed, will be furnished.

I am, Very Respectfully
Your Obdt Svt.
R.H. Stanley
Attorney for Mrs. A.A. Haalelea
owner of the Ahupuaa of Honouliuli.

Filed with above June 24th.

Memoranda on the Boundary of Honouliuli.

1. The boundary between this land and Hoaeae was first
surveyed by J. Metcalf May 29, 1848, and the "Kula" of Hoaeae

was awarded to L. Rees by this survey.

See Award 193, Volume 1, p. 536.

Starting from a stake at makai S.W. corner of Hoaeae
at Kaulu, Metcalf's survey runs as follows: I. – North 45° 30' W. 54
chains – 54.20 in orig. field book – 13 3/12 feet to a point in the old
road on mauka side of gulch near mauka N.W. corner of Namauu's land.

(from a long stone in the wall at mauka N.W. angle of
Namauu's land, it is N. 72 1/2° W. 7.30 ch. to the above mentioned
point in the old road)

II. Thence N. 47° 15' W. 42.90 ch. to a rock by the road called **Pohaku Palahalala**. III. Thence N. 29° 45' W. 29.30 ch. to a stone marked X
by the road. IV. Thence N. 31° 15' W. 71 ch. to rock marked + by
by the road; V. Thence N. 33° 15' W. 97.30 ch. to a large wiliwili
tree; VI. Thence N. 44° 45' W. 57.40 ch. to old Kukui tree;
VII. Thence N. 29° 30' W. 64.20 ch. to a pile of stones on North upper
bank of **Ekahanui gulch**; VIII. Thence N. 32° 15' E. 45.30 ch.
along **Lihue** to a Kukui tree marked A in clump of Kukui
trees; IX. Thence N. 36° 15' E. 55.30 chains along Lihue to a large
Kukui tree, marked B, at bottom ledge of Waikele gulch
(**Manawaielelu** in field book) at mauka N.W. corner of
Hoaeae.

2. The boundary of Honouliuli next follows the line between
it and the Ili of **Pouhala** in the Ahupuaa of Waikele
or more particularly, that part of Pouhala which belonged
to the heirs of Luluhiwalani, and now belongs to J. Robinson.
This part of Pouhala was conveyed to them by Royal Patent
4486, by a survey made by J.H. Sleeper in March 1859.
His survey was made independently of Metcalf's survey of the
adjoining land of Hoaeae, and I have not ascertained
how well they agree. As near as I can ascertain the boundary
between Pouhala and Lihue according to Sleeper's survey
would be as follows: – (X. – N. 26 1/4° W. 4.07 ch.
XI. N. 24 1/4° W. 31.17 ch.
XII.) N. 25 1/4° W. 15.61 ch. to rock
at the western corner of this Pouhala.

3. Honouliuli next borders on a portion of Pouhala which belongs to his Majesty, being a Crown land. I know of no survey of it.

4. The next land bordering on Honouliuli is **Waikakalaua**, a Crown Land. By an old survey made in 1846, the boundary between Waikakalaua and Lihue runs as follows, beginning at the corner of Pouhala: N. 30° W. 37 chains;
N. 23° W. 24.35 ch.;
N. 23 1/2° W. 27.87 ch. to corner of Waianae and Waikakalaua.

5. The boundary of Waianae has been described by natural landmarks in a decision made by the Boundary Commissioner, W.P. Kamakau, Sept. 4, 1869.

6. A survey was made of the land of Nanakuli which is a subdivision of Waianae bordering on Honouliuli by William Webster. Mr. Coney has a copy of his map.

To Folio 218. [page 133]

Ahupuaa of Honouliuli
District of Ewa, Island of Oahu
Boundary Commission Volume 1 pp. 218

From fol. 133

Kaulu or Coneyville, Sept. 11th 1873

This day in company with Professor Alexander, who is surveying the land went about the boundary in part tracing it, in part looking at natural boundaries. Mr. Coney also in company. Adjacent owners not summoned, this being preliminary.

Sept. 12th Kaulu

The proper name of the locality of the premises on the tract, now occupied by Mr. Coney & family is Kaulu.

Beginning at this the boundary along Hoaeae, already surveyed and awarded accordingly will be easily ascertained.

Honouliuli cuts off Hoaeae at top; then runs along Pouhala which is a part of Waikele. The lower part of a crown land, unsettled, for which application is made, and which is to be surveyed by Alexander. It is now understood by surveyor & the petitioner that Waikakalaua, which was claimed as the 4th portion of boundary does not come to Honouliuli but that Pouhala. Honouliuli and Waianae come together in the gulch called by us "**Waieli**" from the pool or bathing place dug for _____ [blank]. Thence the boundary of this land is along Nanakuli of Waianae, the boundary of which has been settled by the B.C.

Court House, Honolulu,
Dec. 30th 1873, 11 A.M.

Hearing assigned for this date and notices issued to Govr. Dominis for Crown Lands; Jas. Robinson for Hoaeae; J. Komoikehuehu for Waipio; A.F. Judd for John Ii Estate; H.A. Widemann for Halawa, of Queen Emma; J.H. Coney, agent for the petitioner; R.H. Stanley, attry. for petitioner; Chas. R. Bishop, agent for Kapepa, heir of Nakuepa; A.W. Pierce for Puuloa.

Present: J.H. Coney; Komoikehuehu; Kapepa heir of Nakuepa for land & sea of **Hanohano**; Chas. R. Bishop, R.H. Stanley, Miss Robinson; H.A. Widemann; A.F. Judd.

The petitioner submits as the basis of description of this land and its adjacent kai, a new survey and map executed by Professor Alexander.

To Folio 243 [page 218]

Ahupuaa of Honouliuli
District of Ewa, Island of Oahu
Boundary Commission Volume 1 pp. 243-251

From folio 218

H.A. Widemann for Halawa, assents to the line of the Ha-

lawa fishery as laid down on the Alexander map. Running through the middle of the channel at the entrance of Pearl River.

C.R. Bishop for Waipio claims a shore fishery not laid off on the Alexander map. Will have it surveyed by Mr. Alexander.

A.F. Judd, for Estate of John Ii, says that the Estate does not appear to border on Honouliuli; that Auwaiole belongs by devise to Komoikehuehu

W.D. Alexander, sworn,
Is Govt.. Surveyor, made the survey of Honouliuli for Mrs. Haalelea, Coney agent. This is the plot of the survey. In making it the principal kamaaina was Kaopala, brother of the former Luna of H. [Honouliuli] under Haalelea on boundary between H. and Waianae. I had the widow of Kuahele. Kamaaina of **Popouwela**, whose testimony agreed with Kaopala, also Kihei K. who went with me, particularly on the b. [border] of Hoaeae. On Pouhala I had the present Konohiki, Kulukulu, now resident there. Also Kanehalau, a kamaaina of Pouhala. Also Thos. Meek.

In regard to Hoaeae I followed the original survey made by Metcalf, which is incorporated in the Award of Hoaeae. I have made this survey and map to accord with the Hoaeae line. I had Metcalf's original field book, March 29th 1848.

Followed the land in the same order. The point of commencement is **Pohaku palahalaha**, a well-known rock, now marked by an arrow and the name "Honouliuli" on one side and Hoaeae on the other, which I have made the initial point of this survey. I verified this by several courses & measurements.

Thence laid the line accordingly along Hoaeae to Pouhala.

Mr. Robinson says he is satisfied this conforms to their line. Note: Lower Pouhala is controlled by survey in R.P. No. 4486 made by J.H. Sleeper. I could not find the marks referred to in the survey. The stone was said to have been marked only with a man's spur, marks on kukui trees have perished. The R.P. for Pouhala & the award for Hoaeae overlap each other seriously, but that is not material to this survey.

My survey substantially agrees with that in R.P. 4486, and the two maps mine & that made by Sleeper show it.

The kamaainas took me to the corner of Pouhala, Hoaeae
and Honouliuli; there is an ancient holua or sliding place
near this, which is agreed to be the ancient corner.

To fol. 244 [page 243]

Honouliuli
From fol. 243.

I marked a flat rock at that point.

From Lower Pouhala the line runs along upper Pouhala, the
property of Crown Lands, to Waianae. In this I consulted all
the kamaainas. I also surveyed Pouhala for the Crown Com-
missioners and made the map of Pouhala for them. I was
authorized by the Comm. to represent the crown in fixing this
line, and now appear for Pouhala.

The line runs nearly straight, following for the most part
the ancient road; where it crosses the Waieli gulch is
a remarkable looking rock marked by me. This line
is settled as here surveyed. A post, granite, is at the corner
of Pouhala, Waianae & Honouliuli.

Thence along Waianae, determined by W.P. Kamakau, the Boun-
dary Commissioner. I had a copy of his award, and followed
it as near as his description permitted. It takes along the
far side of the Waieli gulch to the "houses of Kuhau ma"
where it crosses the gulch. It follows an ancient path,
thence up spur to Hapapa peak. Thence along the mountain
range, an unmistakable line, conforming with Kamakau's
award, to three round hills, Manawahua on boundary of
Nanakuli, I had here a survey of William Webster of Nanakuli,
the award conforms to this survey, and my survey to both
of them; The line is defined along Nanakuli; nearly
to the sea by ridge of mountains and from its termination
to a point on the sea coast, at end of old stone wall.

Mr. Robinson, as lessee of Nanakuli & Mr. Alexander on the
part of Crown, agree on this part of the line. The point is called
Kalanimua, in the award of Waianae.

Thence the line of Honouliuli follows the coast, to the mouth
of **Pearl River**; thence up the line of the loch to where the pali
comes up to the sea just South of the Kuleana of Koulua, which
is the site of the residence of Coney, formerly Monsarratt's, from

thence up to the point of commencement, agreeing with the Metcalf survey.

Fishery of Hoaeae. The testimony of the kamaainas is that the fishery extends to the depth of a man's chin, opposite this land. Mr. Robinson & Mr. Coney agree to this and that outside of that the fishery belongs to Honouliuli. The award of Hoaeae does not include the Kai. The makai, cultivated part of Hoaeae and the Kai or fishery were granted to Namauu by R.P. 4490 for M. Kekuanaoa. The survey by A. Bishop is not copied into the R. Patent; the Patent being without metes & bounds.

To Folio 245 [page 244]

Honouliuli
From Fol. 244

The red line indicating the fishery of Hoaeae, conforms to Mr. Bishop's survey, and is agreed to by Mr. Robinson as representing their rights of fishing.

Next is the Kai of **Apokaa** which is a lele of **Hanohano**. The petitioner claims to within neck deep of the shore, along this, as far as to point marked "Miki" on the map, but the line of this "neck deep" water has not yet been defined by survey.

Wit. From "**Laeokane**" a point in **Miki**, this survey follows & conforms to the boundary laid down in R.P. No. 4524 to Namahana, of **Auiole**, an Ili of Waikele. This patent describes as going to "**Kahakai**" and the plot on the patent bounds it by the "Kai of Honouliuli". This patent terminates at boundary of Waipio & Auwiole [sic]; From thence I followed the authority of a map of Waipio & notes of Bishop. (Waipio has been awarded by survey, following on the coast **Pookela Point**, the terminus of peninsula, not giving on the map any Kai to the peninsula, "Anemoku" of Waipio, as I found none designated in the notes. From thence the line is midway of channel between this and Halawa (consented to above).

My accompanying notes of survey correspond with this plot and my testimony as given; though I have not

described the fishery. My notes and survey follow the line of the shore.

Kukahiko, K. Sworn
I was born at Honouliuli, an ahu-
puaa on Oahu; born in 1810. Know boundaries; am
kamaaina of the land and sea. I know **Papapuhi**. I belong
there. It is a cape, the division of Hoaeae & Honouliuli.
(Wit. points it out). The fishery opposite Hoaeae where a man
can stand belongs to Hoaeae, and outside is deep water is
Honouliuli, and so on, the shore water belongs to the land & the
deep water of Honouliuli, till you come to **Kalaeokane**,
a village **Kupalii**, which is a point of division between Hono-
uliuli & Waikele, in assessing the ancient tax, putting houses
on the line so as to evade both. Thence the line ran on the edge
of the shore, giving no water to Auiole. The line of Honouliuli
cutting across the land to **Panau**. There the people would cross
from side to side to escape tax of either land. There the whole
Kai, of **Homaikaia** belonged to Waipio.

Along the coast to Pili o Kahi [**Pili o Kahe**] joining Nanakuli is all
Honouliuli.

To Fol. 246 [page 245]
Honouliuli
From Fol. 245

X [cross examined] Kimo. There is a Kai to **Kapuna**, which is a portion of
Honouliuli, and not of Auiole. In ancient times not a division of
the fish caught by the Kolo, but latterly John Ii secured a
division. I belonged at Honouliuli, not at Kapuna. The Kai
mauka of Kaulu belongs to Waipio. The Kai below, the
Moana belonged to Honouliuli. Heard that in shallow
places it belonged to Waipio.

Hanama sworn - for petitioner
Was born at Hilo, know land of
Honouliuli. Have lived on it now and then a year & some
months, with Haalelea. I am 37 years old. I know the
boundaries from Kauhi, a kamaaina, who died three months
ago. Kauhi was a makua of Haalelea's, was of age of
last witness. I, Kalaauala, Kamakani & Haalelea went around

boundary with Kauhi, beginning at **Pili o Kahi**, which he pointed out as the division of Nanakuli & Honouliuli. We stopped there three days; thence we came to **Waimanalo**, a river on coast & stayed one day; thence to **Koolina**, thence to **Kualakai**, thence to **Kauela**, stayed there a week, thence to **Keahi**; thence to **Puuloa**. There then was a conversation with Haalelea. Kauhi told Haalelea that ½ the moana was Honouliuli & ½ Halawa. Haalelea inquired why ½ was lele to Halawa.

Kauhi said that Halawa & Honouliuli were lands joining at their heads at the sea, that the **lae of Halakahi** belonged to Honouliuli & not to Halawa. **X** [cross examined] This progress was made in 1856, coming to **Pookala**. Kauhi said that Waipio took the shallow water & Honouliuli the deep, to **Kaulu**, that on the West side the Kai belonged to Honouliuli, and on the East side to other lands, coming to **Panau**. The Kai of those places belonged to Honouliuli, thence to **Kapuna**. Honouliuli anciently took the cape & thence turned. **XX** That from there to **Miki** was all Honouliuli, not mentioning any kai for that shore.

X by Kimo: The same people went all round. They are all dead but me.

We went to Kapuna, Kauhi said it was Honouliuli.

At 5 p.m. adjourned — to 31st 1873

Dec. 31st. Present: Coney, Stanley, Judd, Kimo.
Mr. Judd submits that it is not within the jurisdiction of the Commissioner to award as territory, the sea or inland waters, defining only the land, and leaving fishing rights as appurtenances to be regulated by law.

Mr. Stanley contra. The point is reserved for argument and consideration.

To Fol. 247 [page 246]

Honouliuli
From fol. 246

Prof. Alexander gives a mem. from Vol. 10 p. 59 of L. Com Awards, from the award of Keahua, where the part of the survey including the fishery was expressly excluded by the Commissioners, and the party was referred to his right at law.

Considerations respecting Award of Fishery.
The petitioner for settlement of boundaries of Honouliuli asks that the fishing rights in "**Pearl River**" be determined and certified.

The Attorney General advised the Commissioner not to include such rights in the certificate, confining the award to the shore line and leaving fishing rights to the provisions of the Statute.

As the duty of the Commissioner is supplementary to the work of the "Board of Com's to Quiet Land titles," determining the boundaries of what they awarded by name only, the principles and rules adopted by them, and powers granted to them, and their practice together with subsequent statutes or decisions of the Supreme Court will in respect to boundaries form a rule for the Comr. of Boundaries.

The Board cite among certain questions to be decided "Water privileges and rights of piscary" page 90, Vol. II of Stat. Laws, and page 109 Vol. I, on the same clause they speak of rights of primogeniture, rights of adoption &c. It is obvious that the Board could have entertained such matters only in a collateral and incidental way, and only in making the award, not in the boundary of what was awarded, and therefore little or no authority can be derived thence to the B. Cr.

There is no question that the treatment of rights to fish ponds and such enclosed spaces of the edge of the sea bays &c was as land to be surveyed and awarded as dry land. There is as to such tracts covered with water, not a mere right of fishing but a sole and exclusive ownership. Sec. 384 Civil Code.

As to the general sea coast both near the shore and beyond the reef there may be rights of piscary but there are statutes which regulate them. In Oni v. Meek and in Haalelea vs. Montgomery this is expressly held, and parties are remitted to their rights under them.

The present case is a claim of right of piscary over a navigable bay or loch perhaps unlike any other in the Kingdom, and is a claim of exclusive fishing right as to the whole of a certain branch of this loch of the part lying outside of a line "chin deep" opposite the other lands

situate on this branch. It is distinguishable from the right claimed and by statute given to Konohikis with certain [page 247]

Honouliuli

From fol. 247 prescribed reservations. Civ. Code Sec. 387-92 being a claim as a private and exclusive fishery as completely as that within the "chin deep" line, is claimed for the lands adjacent.

I find in repeated instances that the Board declined to award and define piscary rights, leaving parties to their rights under general statutes, e.g. in the award to Keahua, Vol. 10, p. 59, where the fishing right was surveyed and included in the land asked for, the Board expressly refused to award this portion of the survey, remitting the claimant to the law, endorsing this refusal both on the notes of survey in the award and on the accompanying plot, and no instances of a customary practice are shown to me.

Upon due consideration of the premise, I decline to award the fishery of Honouliuli as a right or as territory, but deeming it of importance that all rights depending on kamaaina testimony be now settled as far as may be, and knowing of no better place than the records of the Boundary Commissioner for the preservation of such claims, I take the testimony offered on the subject and make such a supplementary finding as such testimony warrants.

Award No. 4

Office of the Commissioner
of Boundaries of Oahu

In the Matter of the application
of Mrs. A. Haalelea for settlement
of the boundaries of the
Ahupuaa of Honouliuli, Ewa.

Proper application having been made, as above,
and notice having been given to all parties concerned the
matter came on to be heard at the Court House in
Honolulu on the 30th day of December A.D. 1873, and
from the proofs taken I find the boundaries of the said
Ahupuaa of Honouliuli as follows, to wit:

Beginning at a large flat rock known as **Pohaku Pa-
lahalaha**, a well-known rock now marked by an arrow
and the name "Honouliuli" on one side and Hoaeae on
the other, from which the Govt. Survey Trig. station near
Kaulu bears S. 38° 48' E. the boundary runs
1. S. 38° 16' E. 2875 feet along Hoaeae, to a red wood post [page 248]

Honouliuli
From Fol 248

375 feet beyond the Govt. road near the brink of a gulch;
2. S. 36° 06' east 3703 feet to a point adjoining the west corner of Royal Patent 778 in Kaulu;
3. Along the brink of the Pali to a point opposite a red wood post which bears S. 54° 28' E. 895 feet from the last corner where land Hoaeae begins:
4. Beginning again at Pohaku Palahalaha N. 21° 21' W. 2035 ft. to a pile of stones; along
5. Hoaeae, thence N. 22° 3' W. 4686 ft. along do. to a red wood post, and thence
6. N. 23° 46' W. 6422 ft. to red wood post, and
7. N. 35° 32' W. 4410 ft. to red wood post by an old Kukui tree adjoining Hoaeae;
8. N. 20° 33' W. 4237 ft. across **Ekahanui Gulch** to a granite post at the N.W. corner of Hoaeae; thence
9. N. 41° 18' E. 2990 ft. to a red wood post, still along Hoaeae;
10. N. 43° 36 ½ ft. to a marked rock at the head of an ancient "holua" near the junction of the Poliwai with the **Manawaielelu gulch** on the boundary between Hoaeae & Pouhala, thence;
11. N. 16° 49' W. 265 ft. along Lower Pouhala as per Royal Patent No. 4486, to a marked stone post; thence
12. N. 14° 24' W. 2057 ft. along Pouhala to a marked stone &
13. N. 31° 36' W. 1090 ft. to a large flat rock at the N.W. corner of R. Pat. 4486;
14. N. 26° 43' W. 4587 ft. along upper Pouhala to a marked stone, and thence –
15. N. 15° 44' W. 2467 ft. to brink of the **Kawaieli** gulch by the road – thence –
16. North 11° 52' W. 1363 ft. across the Kawaieli gulch to a granite post which is the corner of Honouliuli, Pouhala & Waianae uka – thence –
17. N. 67° 44' W. 4406 ft. to a red wood post along Waianae and thence –
18. N. 86° 58' W. 3339 feet (along an old path called **Mookapu**) adjoining Waianae uka to a red wood post and thence

19. S. 60° 49' W. 1677 ft. along Waianae uka to a post & thence
20. S. 27° 07' W. 762 ft. across the Kawaieli gulch to a marked stone where Kuhau's house formerly stood – thence –
21. S. 47° 14' W. 8660 ft. up a ridge to the summit of **Kahapapa** thence along the summits of the mountain range which separates this land from Waianae;
22. S. 30° 36' E. 5709 ft.
23. S. 12° 37' W. 5190 ft. to **Puu Kuua** – thence
24. S. 3° 4' W. 9367 ft. along the ridge

Fol. 250 [page 249]
Honouliuli
From Fol. 249

25. S. 9° 35' E. 4505 ft. to **Mauna Kapu**, thence –
26. S. 22° 31' W. 6219 ft. to a red wood post on **Manawahua**, which bears N. 77° 44' W. from the Honouliuli Trig. Station near Kaulu, and
27. S. 63° 16 ½' W. 9115 feet along Nanakuli to a pile of stones on the ridge and thence –
28. S. 44° 47' W. 3200 ft. along Nanakuli to the **Pili o Kahe**, to a marked rock at the end of a stone wall by the road on the shore – thence
29. S. 20° 53' E. 28,175 feet along the sea to **Laeloa** or Barber's Point and thence
30. N. 82° 56' E. 28,641 feet along the sea to a large pile of stones in Oneula – thence –

[side note] Amended by new course [illegible]

31. N. 41° 97' E. 20,920 feet along the land of **Puuloa** conveyed to Isaac Montgomery by Kekauonohi, September 7th 1849 to a large pile of stones at the **Lae o Kahuka**
32. Thence the boundary follows the shore to the point mentioned above where the land of Hoaeae begins, including an Area of Forty Thousand, Six hundred and forty (40,640) acres more or less.

43,250 acres including Puuloa

The bearings given in above survey are the true bearings, the mean declination of the magnetic needle being 9 ¼° East.

Archaeological Literature Review and Field Inspection for the Hawaiian Cement Sand Shed Project at 91-055 Kaomi Loop, Honouliuli Ahupuaʻa, ʻEwa District, Oʻahu Island, TMK: [1] 9-1-026:056

Prepared for

Hawaiian Cement

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Honolulu, Hawaiʻi

December 2020

Management Summary

This Literature Review and Field Inspection (LRFI) was completed for the proposed Hawaiian Cement Sand Shed project at 91-055 Kaomi Loop located in Honouliuli Ahupuaʻa, Ewa District, Island of Oʻahu TMK: [1] 9-1-026:056. The land within the project area is privately owned by Hawaiian Cement. The project encompasses an approximate 8.8-acre project area (approximately 383, 328 sq. feet or 35,612 sq. meters).

The project includes the proposed construction of a sand storage building, new retaining wall, and excavation for new utility lines. The sand storage building and retaining wall will be constructed in the western portion of the project area, referred to as the proposed area of disturbance, and totaling approximately 2.6 acres (approximately 37,975 sq. ft. and 3,527 sq. meters). Utility lines are proposed to extend through the eastern half of the project area. The utility lines are proposed to consist of shallow water lines, extending between approximately 6-18 inches (15-46 centimeters) in depth. The water lines will connect to a 12" water line along Kaomi Loop at the northeast corner of the project area, where it will be required to excavate to approximately 5 feet (1.5 meters) in depth. Proposed construction for the project will remain within the extent of the 8.8-acre project area. Existing buildings within the project area are proposed to remain.

Early historic accounts and maps suggest the vicinity around the project area was not traditionally a heavily populated area. An 1825 Malden map shows the project area is situated near a former coastal trail. No kuleana land claims were made within or near to the project area, therefore, little information on land use prior to its historic use is known. The project area remained undeveloped and dominated by vegetation until the mid-1900s when it was purchased and developed by Hawaiian Cement, circa 1961.

No previous archaeological studies or sites have been documented within the project area. However, several archaeological studies have been conducted within 1.5 miles of the project area. Documented archaeological sites of the area include numerous sinkhole sites containing human burials as well as archaeological and paleontological deposits, traditional habitation sites, stone walls and enclosures associated with historic ranching and commercial agriculture, and the historic OR&L railroad right-of-way.

The purpose of the literature review and field inspection is to determine historic resources in the area and identify potential cultural deposits and artifacts within the project area. This study is not an archaeological inventory survey (AIS), however, this report was written using standards outlined within HAR 13-276 for AIS studies and is intended to assist with historic preservation efforts for the proposed construction within the project area.

The archaeological field inspection conducted for the current project included a pedestrian survey of the western half of the project area in the area of proposed construction for the sand storage facility and new retaining wall. The eastern half of the project area is an active manufacturing area and therefore, only photos were taken of that area. The field inspection found the project area to be heavily developed with infrastructure supporting concrete manufacturing and processing. No natural soils or significant cultural materials or deposits were observed or collected. The project area includes a warehouse which may be historic in age (potentially circa 1961). Evaluation of the warehouse is beyond the scope of the current project and may be subject to assessment by the Architectural Branch of the State Historic Preservation Division (SHPD). The proposed project does not plan to disturb or alter the existing warehouse.

This study found that the proposed project has an effect determination of “no historic properties affected”. Due to significant historic properties documented in the vicinity, consisting of human burials and cultural deposits within sinkholes and semi-permanent traditional habitation sites, it is recommended that the proposed project proceed under an archaeological monitoring program to be conducted in accordance with Hawai‘i Administrative Rules (HAR) 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports).

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Section 1 Introduction

1.1 Project Background

The project was completed at the request of Hawaiian Cement. Honua Consulting conducted the literature review and field inspection for the proposed construction of a sand storage building, new retaining wall, and excavation for new utility lines located at 91-055 Kaomi Loop in Honouliuli Ahupuaʻa, ʻEwa District, Island of Oʻahu TMK: [1] 9-1-026:056. The project encompasses an approximate 8.8-acre project area (approximately 383,328 sq. feet or 35,612 sq. meters) privately owned by Hawaiian Cement and located within the James Campbell Industrial Park. The project area and is bound by Kaomi Loop Road on the northern project area boundary and land owned by Hawaiian Cement to the south, east, and west. The project area is shown on a 1998 U.S. Geological Survey (USGS) map (Figure 1), Aerial photo (Figure 2) and a Tax Map Key (TMK) (Figure 3).

The project includes the proposed construction of a sand storage building, new retaining wall, and excavation for new utility lines. The sand storage building and retaining wall will be constructed in the western portion of the project area, referred to as the proposed area of disturbance, and totaling approximately 2.6 acres (approximately 37,975 sq. ft. or 3,527 sq. meters). Utility lines are proposed to extend through the eastern half of the project area. The utility lines are proposed to consist of shallow water lines, extending between approximately 6-18 inches (15-46 centimeters [cm]) in depth. The water lines will connect to a 12" water line along Kaomi Loop at the northeast corner of the project area, where it will be required to excavate to approximately 5 feet (1.5 m) in depth. Proposed construction for the project will remain within the extent of the 8.8-acre project area. Existing buildings within the project area are proposed to remain. Preliminary site plans are provided as Figure 4 and Figure 5.

The purpose of the literature review and field inspection is to determine historic resources in the area and identify potential cultural deposits and artifacts within the project area. This study is not an archaeological inventory survey (AIS), however, this report was written using standards outlined within HAR 13-276 for AIS studies and is intended to assist with historic preservation efforts for the proposed construction within the project area.

1.2 Environmental Setting

The project area is situated on the southwest coast of Oʻahu. It is approximately 29.5 ft (9 m) above mean sea level (amsl) and is approximately 687 ft (209 m) from the coast. Rainfall in the area ranges from 0.35 to 0.91 inches in dry, summer months (May-September) and 1.1 to 2.52 inches in the wet, winter months (U.S. Climate Data 2017). The project area is free of vegetation.

Inland mountainous areas on the west side of Oʻahu are composed of volcanic substrate of the Waiʻanae volcanic series. The project area is approximately 11km south from the base of the Waianae Ridge and 0.2km northeast from the coastline. Coastal zones are largely made of calcareous limestone formed during episodes of rising and lowering sea levels that have occurred several times in the distant past. In midlands between the mountains and the coast, alluvial soil from the mountains has eroded over the low-lying limestone creating the ʻEwa Plains. According to the U.S. Department of Agriculture (USDA) soil survey data (Foote et al. 1972) the project area is entirely composed of coral outcrop (CR) (see Figure 6). Coral outcrop is described as being used

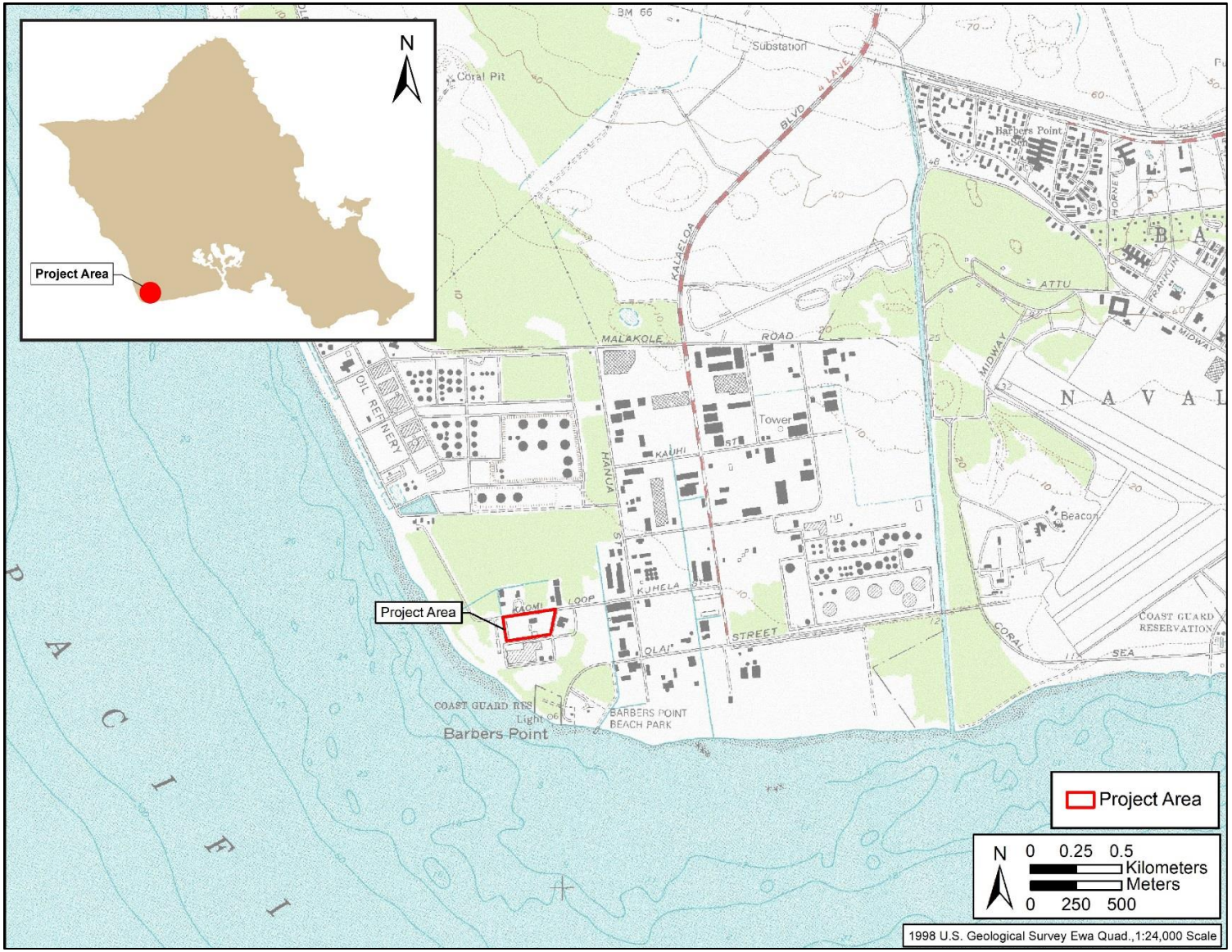

Figure 1. Portion of a 1998 ‘Ewa U.S. Geological Survey (USGS) Topographic Map showing the project area

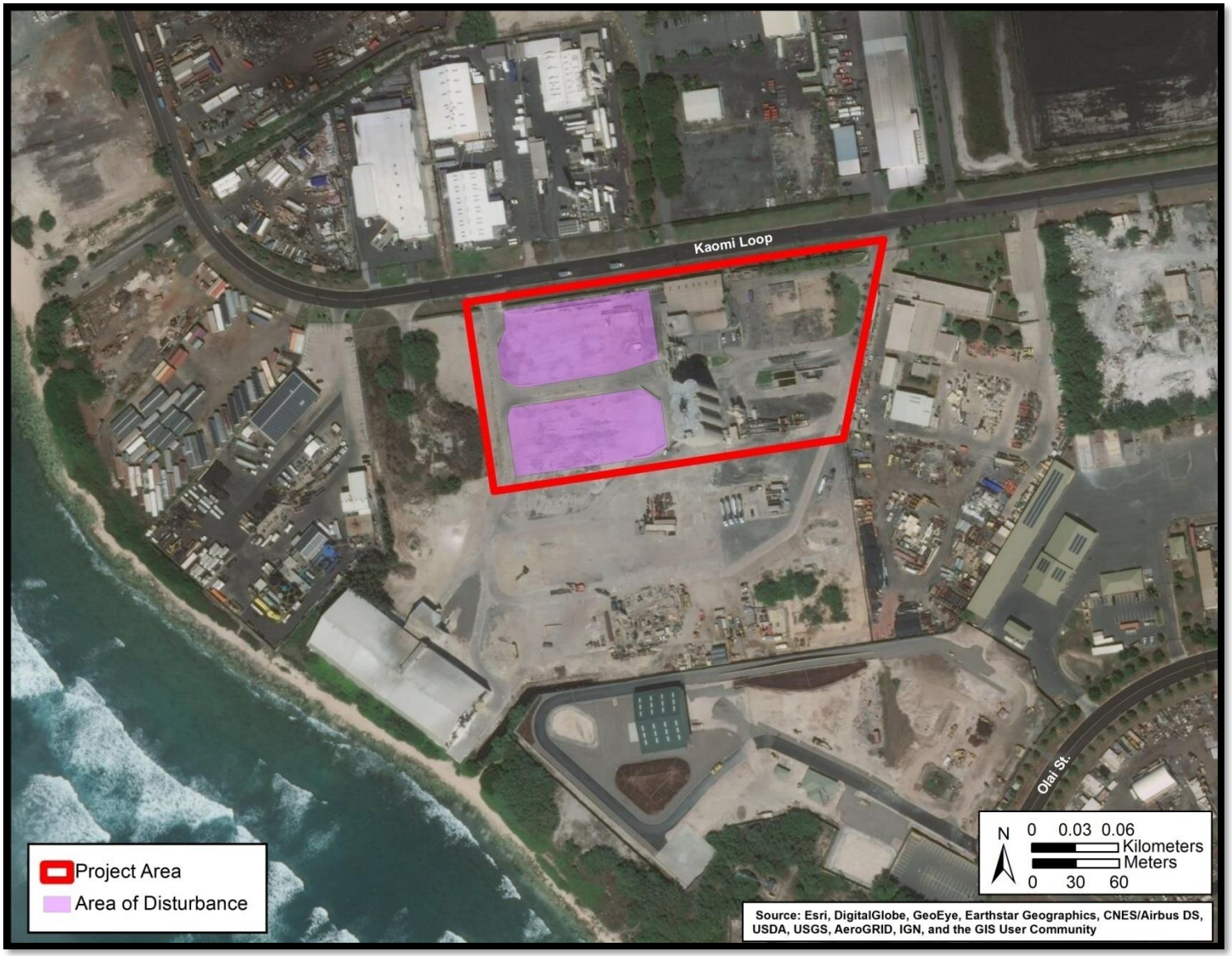

Figure 2. Aerial Photo showing the location of the project area and proposed area of disturbance (Esri Imagery)

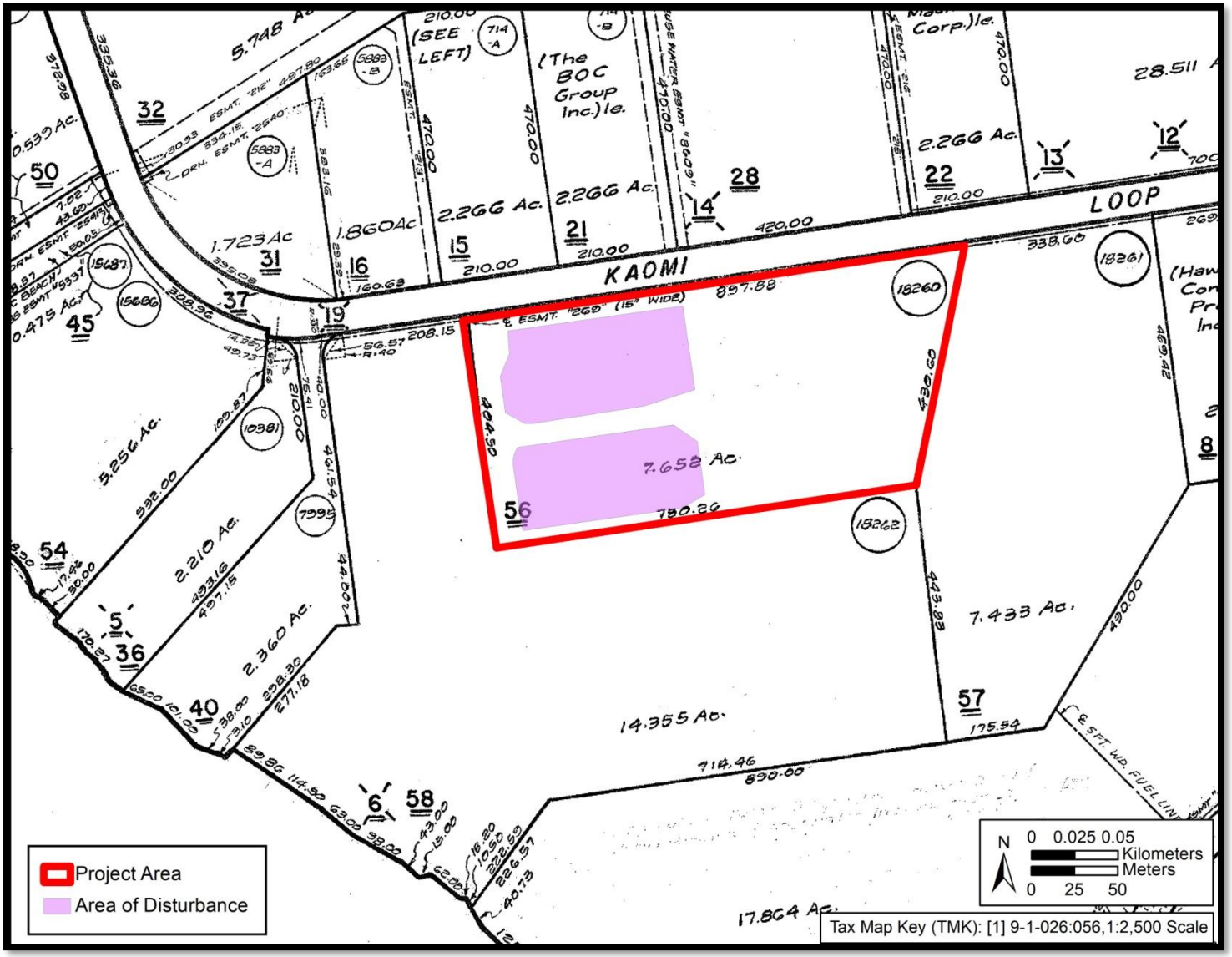

Figure 3. Portion of Tax Map Key (TMK) [1] 9-1-026:056 showing the project area and proposed area of disturbance

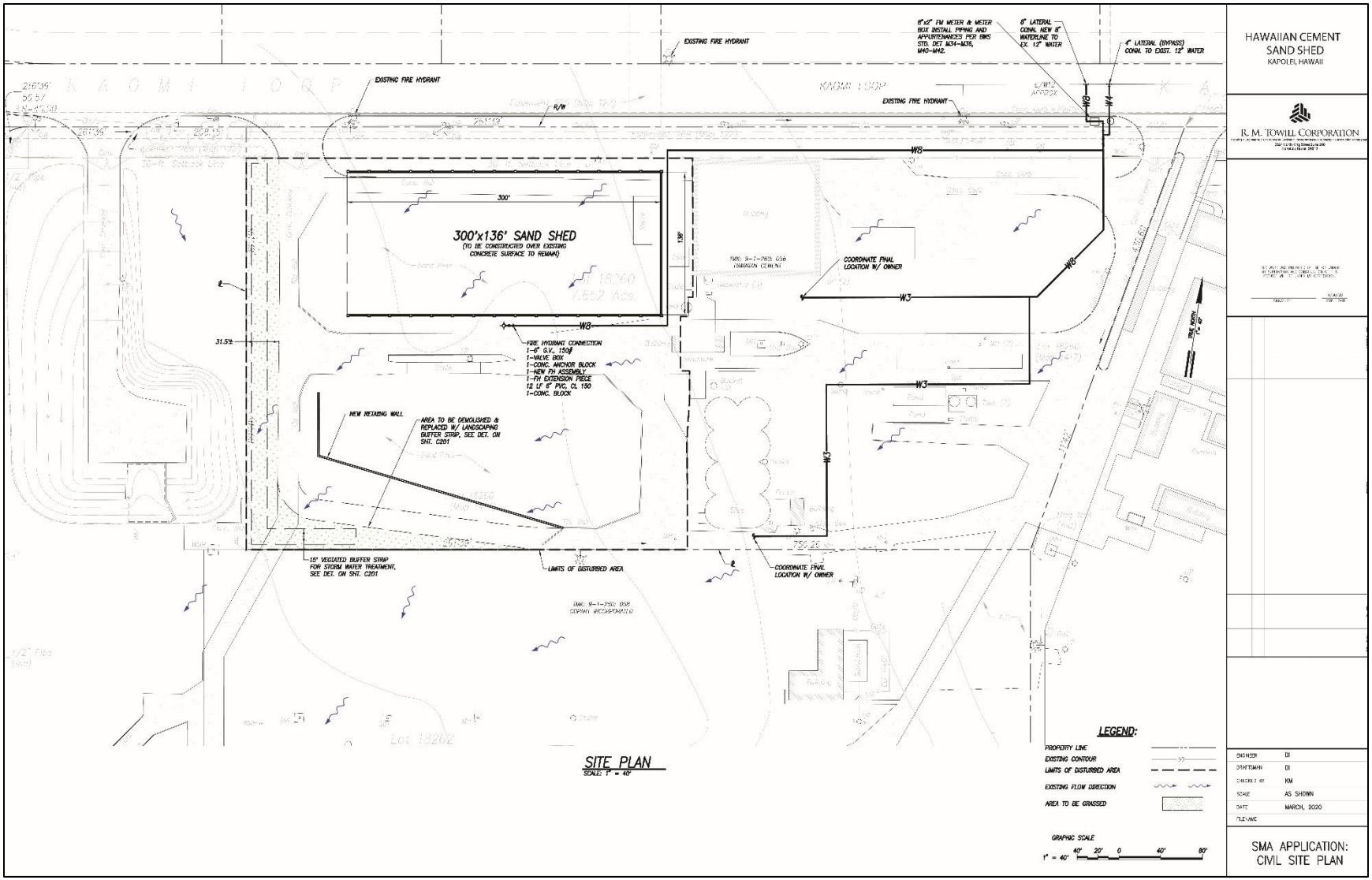

Figure 4. Site Plan for the proposed sand shed (northwest corner), new retaining wall (southwest corner), and utilities

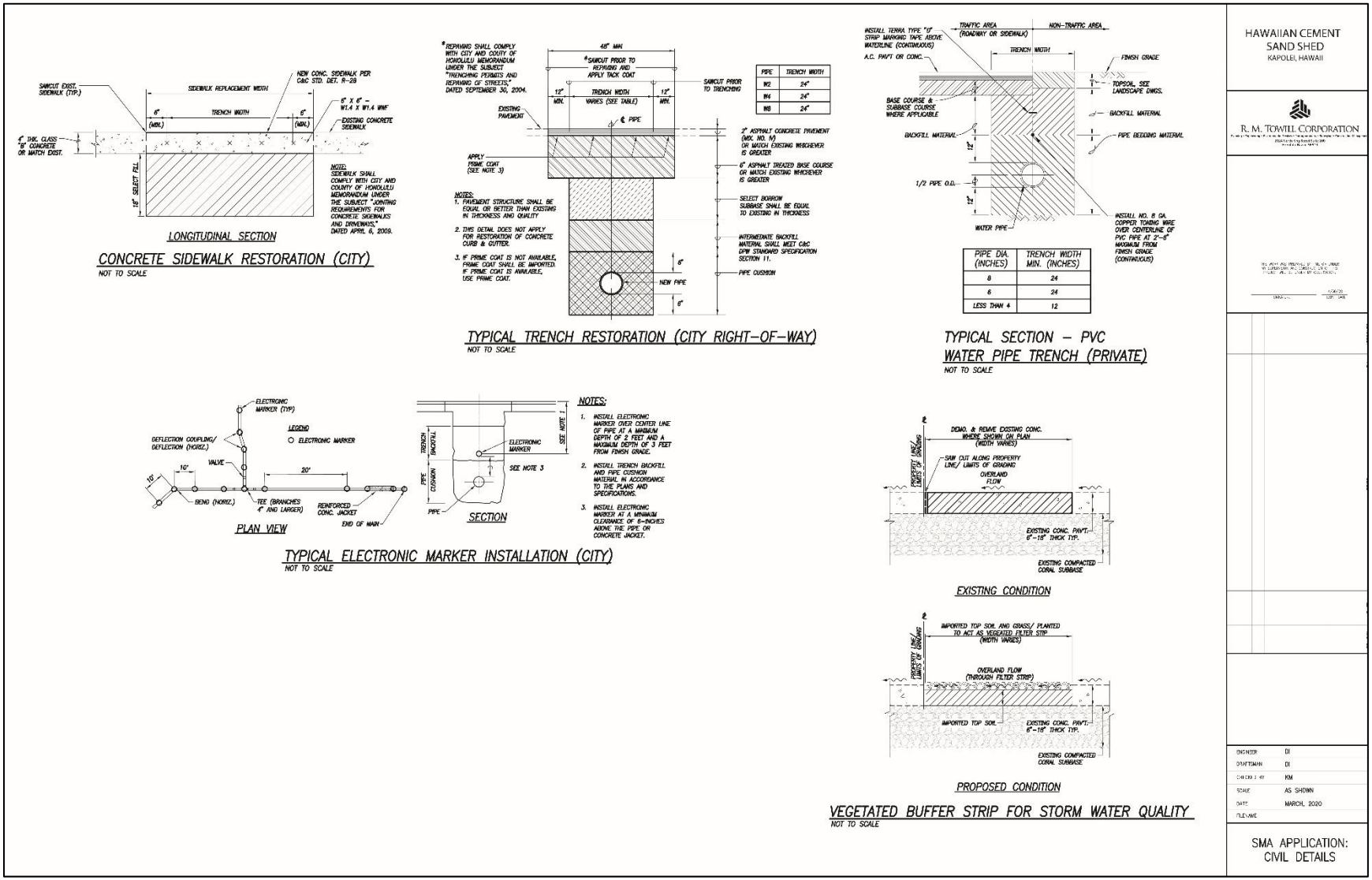

Figure 5. Site Plans showing typical excavations for utilities

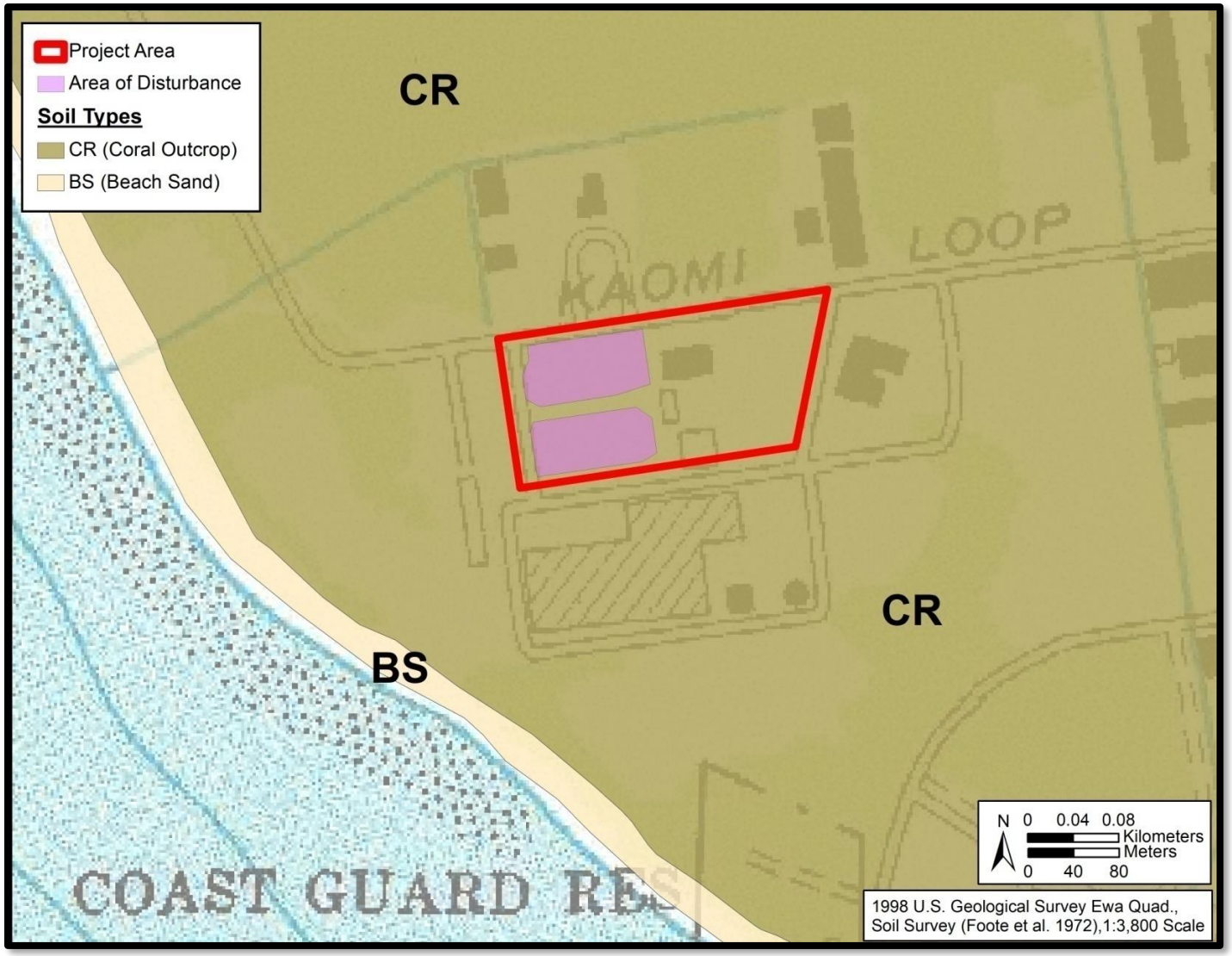

Figure 6. Portion of a 1998 ‘Ewa USGS overlaid with Soil Series Data showing soil types within the project area and proposed area of disturbance (Foote et al. 1972)

for military installations, quarries, and urban development and is typically covered by koa haole (*Leucaena* sp.), kiawe (*Prosopis pallida*), and finger grass (*Chloris* sp.) (Foote et al. 1972:29).

The project area is within the heavily developed James Campbell Industrial Park. There are numerous warehouse buildings and parking areas within the industrial park that are visible from the project area. Kaomi Loop, a well-trafficked paved road, is adjacent to the northern border of the project area. Within the project area are several concrete structures and parked machinery. The majority of the project area is unpaved.

Section 2 Traditional and Historical Background

Background research for the literature review was conducted using materials obtained from the State Historic Preservation Division (SHPD) library in Kapolei and the Honua Consulting, LLC. report library. On-line materials consulted included the Ulukau Electronic Hawaiian Database (www.ulukau.com, Soehren 2002-2010), Papakilo Database (www.papakilodatabase.com), the State Library on-line (http://www.librarieshawaii.org/Serials/databases.html), and Waihona ʻAina Māhele database (http://www.waihona.com). Hawaiian terms and place names were translated using the on-line Hawaiian Dictionary (Nā Puke Wehewehe ʻŌlelo Hawaiʻi, www.wehewehe.com) and Place Names of Hawaii (Pukui et al. 1974). Historic maps were obtained from the State Archives, State of Hawaiʻi Land Survey Division website (http://ags.hawaii.gov/survey/map-search/), and UH-Mānoa Maps, Aerial Photographs, and GIS (MAGIS) website (http://guides.library.manoa.hawaii.edu/magis). Maps were geo-referenced for this report using ArcGIS Pro desktop. GIS is not 100% precise and historic maps were created with inherent flaws; therefore, geo-referenced maps should be understood to have some built-in inaccuracy.

2.1 Place Names of Honouliuli Ahupuaʻa

The project area is located in the ahupuaʻa (traditional land division) of Honouliuli (translated as "dark bay") in the moku (district) of ʻEwa ("crooked") (Pukui et al. 1974:28, 51). The translation of Honouliuli as "dark bay" likely refers to the nature of West Loch (west side of Pearl Harbor or Puʻuloa ["long hill"]), which lies at the mouth of the Honouliuli Stream (Pukui et al. 1974:201). Honouliuli Ahupuaʻa is the largest and western most ahupuaʻa in ʻEwa. Honouliuli contains uka (upland), waena (middle), and kahakai (sea/beach) lands, which provided diverse subsistence resources including coastal fishponds and taro planting on the ʻEwa Plain. The western boundaries of the ahupuaʼa follow the ridgeline from Palikea ("white cliff") in the Waiʻanae Mountain Range to the coast at Piliokahe ("clinging to Kahe"). The eastern boundary of the ahupuaʻa terminates at Puʻuloa, at the mauka (inland) side of West Loch.

Honouliuli and the ʻEwa Plains contain a multitude of traditional place names. The project area is on land traditionally referred to as Kalaeloa ("long point"), now named Barber's Point (Pukui et al. 1974:72). Kalaeloa traditionally contained several smaller land areas, each with a specific name. The current project area is situated within Kualakaʻi ("sea creature named Tethys") (Pukui et al. 1974:119). Kualakaʻi is known for a spring called Hoakalei ("lei reflection") and is where goddess Hiʻiaka picked lehua flowers to make lei (flower ornament) and saw her reflection in the water. Other important place names of the area include Puʻu o Kapolei ("the Hill of Kapolei") and the

plains of Kaupeʻa ("crisscross, interwoven") (Pukui et al. 1974:13, 103). Table 1 lists traditional place names discussed in this report.

Table 1. Table Listing Place Names in Honouliuli Ahupua'a

Place Names	Translation	References
ʻEwa	crooked	(Pukui et al. 1974:28)
Honouliuli	dark bay	(Pukui et al. 1974:51)
Kalaeloa	long point	(Pukui et al. 1974:72)
Kaupeʻa	crisscross or interwoven	(Pukui and Elbert 1986:13)
Kaupō	landing of canoes at night	(Pukui et al. 1974:96)
Keahi	the fire	(Pukui et al. 1974:100)
Kualakaʻi	Tethys (sea creature)	(Pukui et al. 1974:119)
Pālama	lama wood enclosure	(Pukui et al. 1974:176)
Puʻu o Kapolei	Hill of Kapolei	(Pukui et al. 1974:103)
Puʻuloa	long hill	(Pukui et al. 1974:201)
Palikea	white cliff	(Pukui and Elbert 1986:177)
Piliokahe	clinging to Kahe	(Pukui et al. 1974:185)
Waiʻanae	mullet water	(Pukui et al. 1974:220)

2.1.1 Puʻu o Kapolei

Puʻu o Kapolei is a hill in Honouliuli where several gods, goddesses, and legendary figures were associated (see Figure 8). The hill, located approximately 5 km (3 miles) from the current project area was the resting place of Hiʻiaka, the sister of the volcano goddess Pele, and Lohiau, Pele's lover, after Hiʻiaka returned from Kauai with Lohiau (Fornander 1919, Vol. V: 188, note 6).The hill was the place where Nihooleki who was a chief, originally named Keahaikiaholeha, and one of the greatest fisherman in Waianae, took a wife before being killed during a fishing trip (Fornander Vol. IV). Puʻu o Kapolei was also the location where Kamapuaʻa (pig-god), established his grandmother as queen after conquering most of Oʻahu from King ʻOlopana (Pukui et al. 1974:203; Sterling and Summers 1978:33; Kawaharada 2001). It is recorded "on this land is a certain noted hill, Puu-o-Kapolei, and it was here that Kamauluaniho (Kamaunuainiho) lived with her grandson, Kekeleaiku, the older brother of Kamapuaa" (Sterling and Summers 1978:33). Furthermore, Sterling and Summers (1978:34) stated:

> Kamapuaa subsequently conquered most of the island of Oahu, and, installing his grandmother as queen, took her to Puuokapolei, the lesser of the two hillocks forming the southeastern spur of the Waianae mountain range, and made her

> establish her court there. This was to compel the people who were to pay tribute to being all the necessities of life from a distance, to show his absolute power over all.
>
> Puukapolei is some little distance form Sisal, towards Waianae, and is a desolate a spot as could be picked out on the whole island. It is almost equally distant from the sea, from which came the fish supplies; from the taro and potato patches of ʻEwa, and from the mountain ravines containing the banana and sugar cane plantation.
>
> A very short time ago the foundation of Kamaunuaniho's house could still be seen at Puuokapolei; also the remains of the stone wall surrounding her home. It has even been said that her grave could then be identified, but since the extension of cane and sisal planting to the base of Puuokapolei, it is possible that the stones may have been removed for wall-making. (Emma Metcalf Nakuina 1904, cited in Sterling and Summers 1978:34)

Puʻu o Kapolei was often associated with the creation of the seasons. Hawaiian historian Samuel Kamakau was noted in Sterling and Summers as stating the following:

> When the sun reached the equator and (began to) move northward, it set right over (the islet of) Kaʻula and it moved on and set over Kawaihoa; and the Makaliʻi season when the sun set (kau) from Kaʻula to Kawaihoa was called Kau, and the Kau season was also called after the resting place of Kane (Kaulana a Kane). When it set (again) at Kauʻula and turned south the season was called Hoʻoilo. In the same way, the people of Oahu reckoned from the time when the sun set over Puʻuokapolei until it set in the hollow of Mahinaona and called this period Kau, and when it move south again from Puʻuokapolei and it grew cold and the time came when young sprouts started, the season was called from their generation (oilo) the season of Hoʻoilo. There were therefore two seasons, the season of MakaliʻI and the season of Hoʻoilo. (Kamakua n.d, cited in Sterling and Summers 1978:34)

2.2 Legends of Honouliuli Ahupuaʻa

Honouliuli is associated with several traditional stories affiliated with the volcano goddess Pele, her family, and the pig-man, demigod Kamapuaʻa. Other important legends of the area include the Legend of Lepeamoa the chicken-girl of Pālama ("lama wood enclosure") and the Legend of the Wandering Souls.

2.2.1 The Legend of Lepeamoa

Lepeamoa, the chicken-girl of Pālama, was the kupua (demigod) daughter of the high chief of Kauaʻi, Keahua ("the mound"), who was exiled to a remote mountain called Kawaikini ("the multitudinous water") on the island of Maui (Beckwith 1970, Pukui et al. 1974:98, 100). At Kawaikini, Kauhao ("the scooping"), wife of Keahua and daughter of the chiefess Kaplama of Oʻahu, gave birth to a child in the form of an egg. The egg was wrapped in tapa (bark cloth) and sweet-smelling plants until it hatched into Lepeamoa. Lepeamoa was brought up by her grandparents Kapalama and Honouliuli, which became names of ahupuaʻa (Beckwith 1970:429).

2.2.2 The Legend of the Wandering Souls

There are three spirit realms (ao) for the spirits of the dead: ao kuewa, the realm of the homeless souls; au ʻaumakua, the realm of the ancestral real; and ke ao o Milu, the realm of Milu (the underworld). Ao kuewa, also known as ao ʻauwana (the realm of the wandering souls), was where a man who has no rightful place in the ʻaumakua (family god) realm will wander. "On the plains of Kaupeʻa, beside Puʻuloa, wandering souls would go to catch moths and spiders" (Kamakau 1964:49; Sterling and Summers 1978:44). The souls were said to wander the wiliwili grove (*Erythrina sandwicensis*) from Kaupeʻa to Kānehili (Kamakau 1964:47; Sterling and Summers 1978:44). This places the plains of Kaupe'a between Kānehili, an inhospitable, open kula (pasture), and Puʻuloa.

2.3 Traditional Background History

Traditionally, ʻEwa and the districts of Waiʻanae and Waialua were ruled by chiefs and kings of the Maweke-Kumuhonua (Beckwith 1970, Fornander 1996). For a time, the royal center of ʻEwa was at Lihue in the uplands of Honouliuli. From the 1500s to 1700s, there were several political power shifts including the defeat of the ʻEwa chief by Peleioholani, a son of Kualiʻi, around 1740 AD. In 1778, Kahana who was from the ʻEwa line of chiefs, but who was raised in Kahekili's Maui court, took control of Oʻahu and ʻEwa, until King Kamehameha unified the islands around 1810 AD. Following Kamehameha's conquering of Oʻahu, at least two of his chiefs lived in Puʻuloa, and later, Liholiho (Kamehameha II) built a house in Puʻuloa (Kamakau 1961:255).

Background research indicates traditional settlements in Honouliuli were situated near irrigated taro fields located along West Loch and were concentrated around small marshes and wet sinks found throughout an otherwise semi-barren landscape. The wide coastal zone was dependent on mixed marine exploitation and agricultural cultivation. A network of established trails provided routes from the coast around West Loch through the Honouliuli lowlands to Puʻu o Kapolei, the Waiʻanae coast, and other parts of Oʻahu (ʻĪʻī 1959). The trail system was a major route joining coastal resources with inland areas. Several of these trails can be seen on the 1825 Malden map (Figure 7). The map indicates the project area is situated near a former coastal trail.

2.4 Historic Background

2.4.1 Late-18th Century

Kalaeloa, also known as Barber's Point, was named for Captain Henry Barber, captain of the British ship Arthur. On October 31, 1796, the ship was in-route to China to trade yams when the ship was caught in a tropical storm. The ship ran aground just off the southwest corner of Oʻahu at the entrance to Pearl Harbor, approximately 15 kilometers (km) (6 miles) east of the current project area (Schumacher 1976:343).

Early written accounts of the ʻEwa Plain describe the area as unpopular. When the English officer of the Royal Navy, Captain George Vancouver, anchored off the coast in 1796, he observed "this tract of land was of some extent but did not seem to be populous, nor to possess any great degree of natural fertility; although we were told that, at a little distance from the sea, the soil is rich, and all necessaries of life are abundantly produced" (cited in Sterling and Summers 1978:36). The 1825 map illustrated by Lieutenant Malden, labels the area as "low uncultivated plain" and

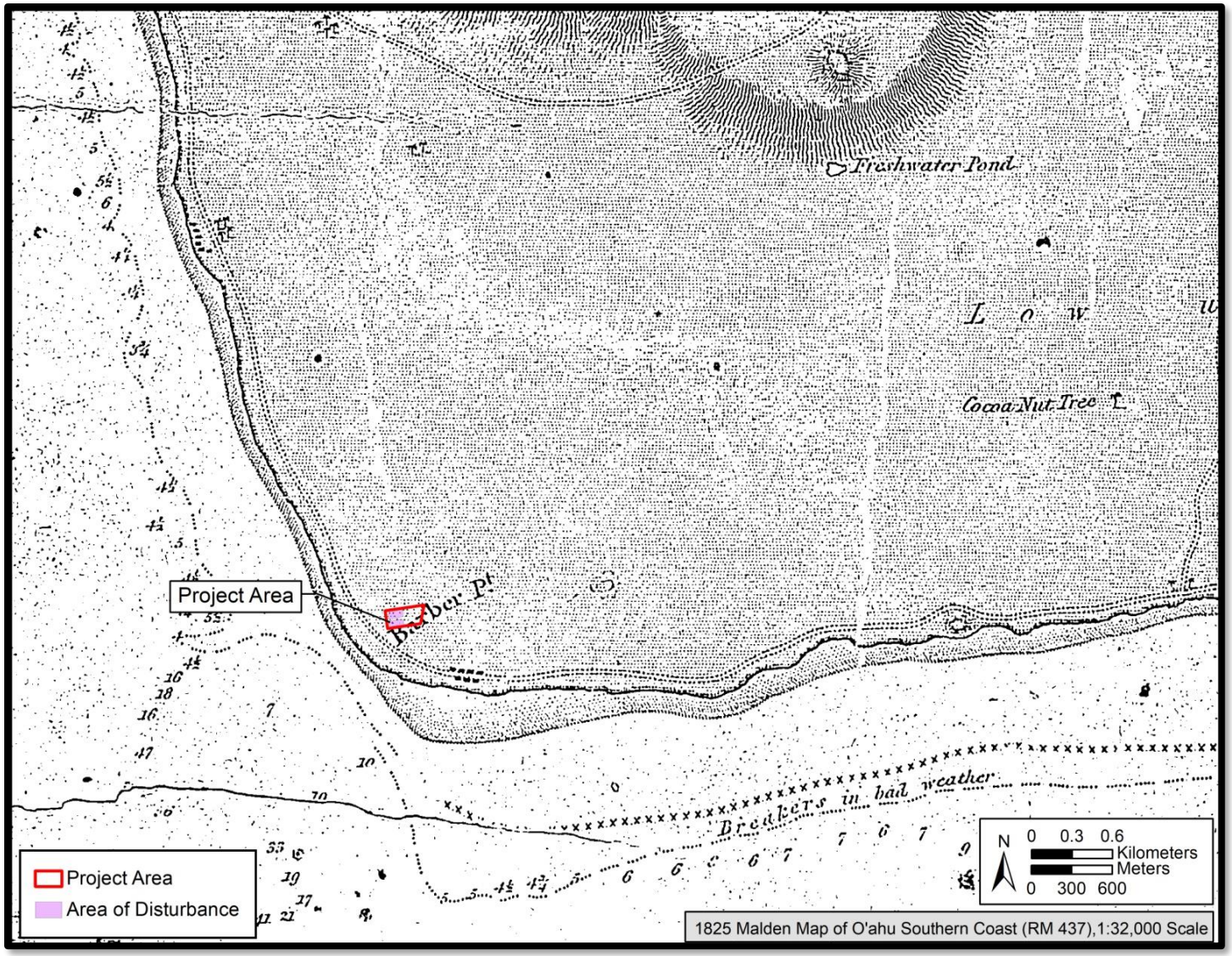

Figure 7. Portion of an 1825 Malden Map of O'ahu showing the project area and the proposed area of disturbance (Registered Map [RM] 437)

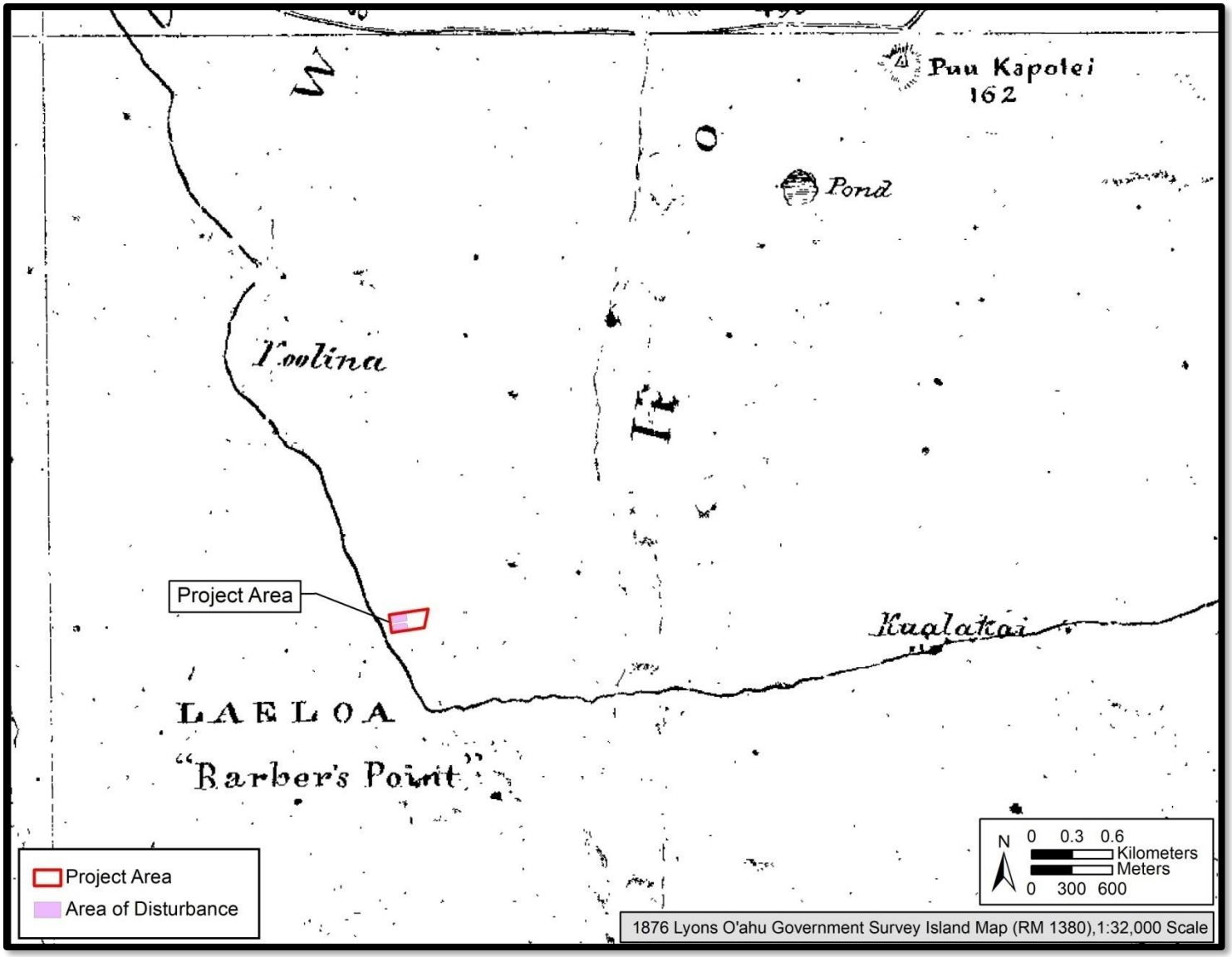

Figure 8. Portion of an 1876 Lyons Government Survey Map showing the project area and proposed area of disturbance (RM 1380)

shows a coastal trail (refer to Figure 7). An 1876 Government Survey Map of Oʻahu does not show any habitation or features of the landscape in the vicinity of the project area (Figure 8). These early historic accounts and maps suggest Kalaeloa, in the vicinity of the current project area, was not a heavily populated area during the early post-contact time period.

2.4.2 19th Century

During the early 19th century, the traditional Hawaiian population was in decline due to disease and migration to more populated areas. This opened the land for new pursuits. In the mid-to late-1800s, the lands of ʻEwa greatly changed as the uplands became heavily utilized to harvest sandalwood, and the lowlands were utilized for cattle ranching. Cattle ranching was so predominant that by this period, the ʻEwa Plain held an estimated population of 12,000 heads of cattle (Cuddihy and Stone 1990:59). Exotic plants began being cultivated to support commercial ventures, which also dramatically altered the landscape.

2.4.2.1 The Great Māhele

In the years between 1847 and 1855, land was divided under the Great Māhele. Lands were given to the Crown (the occupant of the throne), government, konohiki (headman of an ahupuaʻa), and hoaʻāina (native tenants). Kuleana (right or privilege) Land Commission Awards (LCAs) were awarded to natives who actively lived and worked their lands. LCAs can be researched to provide information on how the land was utilized and its contents. Ninety-eight (98) kuleana LCAs were granted in Honouliuli Ahupuaʻa. The majority of the LCAs were concentrated in areas containing water resources near Puʻuloa. Land claims included references to alahele (trails), ʻauwai (irrigation channel), kahakai (beach or shoreline), kihāpai (garden), kula (field), loʻi (irrigated field), various types of ponds and fishponds, and walls and house sites (HCF 2012). Resources cultivated and grown on the lands were recorded, including kalo (taro, *Colocasia esculenta*), ʻuala (sweet potato, *Ipomoea batatas*), ʻulu (breadfruit tree, *Artocarpus altilis*), ulu niu (coconut grove, *Cocos nucifera*), hala (*Pandanus tectorius*), kou (*Cordia subcordata*), ʻakaʻakai (bulrushes, *Schoenoplectus lacustris*), and paʻakai (salt) and kula ālialia (salt beds). No kuleana claims were made within the current project area therefore, little information on land use prior to its historic use is known.

In January of 1848, LCA 11216 (Royal Patent [RP] 6071), to Mikahela Keʻahi-Kuni Kekauʻōnohi, was awarded and consisted of all unclaimed lands throughout Honouliuli Ahupuaʻa. Mikahela Keʻahi-Kuni Kekauʻōnohi was the granddaughter of Kamehameha I, niece of Kamehameha III, daughter of Wahinepiʻo (sister of Kalanimoku), and wife of Aarona Kealiiahonui (son of the last sovereign king of Kauaʻi Island). Kekaʻōnohi acquired a total of 43,250 acres from her mother Wahinepiʻo, who had been awarded Honouliuli Ahupuaʻa after the unification of Oʻahu by Kamehameha I. Upon the death of her husband Aaeona Kealiiahonui, she married Chief Levi Haʻalelea. After her death in 1851, her properties were transferred to her husband.

In 1863, the owners of the kuleana lands deeded their lands back to Chief Haʻalelea to pay off debts owed to him (Frierson 1972:12). Upon his death, the deed was transferred over to his surviving wife Anadelia Amoe. Anadelia Amoe deeded the entire ahupuaʻa to John H. Coney. John Coney rented lands to James Dowsett and John Meek in 1871 for cattle ranching. In 1877, he sold the entire ahupuaʻa to John Campbell for approximately $95,000 (Indices 1929). Approximately 10,000 acres were converted for cattle ranching and agriculture and artesian wells

were installed for irrigation. By 1889, Campbell leased several acres to Benjamin Dillingham for the Oahu Railway and Land Company (OR&L).

2.4.2.2 OR&L Company

The OR&L Company laid rail through the ‘Ewa Plains from Wai‘anae to Honolulu (Chiddix and Simpson 2004). By 1899, the railroad traversed the west coast of O‘ahu and stretched to the northern tip of O‘ahu at Kahuku. The railroad was initially designed for use as a passenger train and to cart agricultural goods to Honolulu (Hungerford 1963, Treiber 2005). It was constructed adjacent to what later became Naval Air Station Barbers Point (NASBP) and was utilized during war efforts. Following the war, there was a decline in passenger use with the popularity of automobiles on the rise and other misfortunes, including a tidal wave, which destroyed the tracks along the west coast of O‘ahu (Hungerford 1963). OR&L passenger service ended in 1947 and most of the track was dismantled. The OR&L railroad was approximately 3.4 km (2.1 miles) north of the current project area.

2.4.2.3 Commercial Agriculture

From 1890 to 1892, the Ranch Department of the OR&L constructed plantation flumes and cultivated sisal (*Agave sisalana*). The Hawaiian Fibre Company was established in 1898 and extended within the limits of NASBP, particularly within the modern boundaries of Kalaeloa Airport. To attract more business, Dillingham leased all of his property below 200 feet in elevation to the O‘ahu Sugar Company and William Castle who in turn, sublet to the ‘Ewa Plantation Company for sugar cane cultivation (Frierson 1972:15). The ‘Ewa Plantation Company began operations in 1890. Artesian wells were built to tap underground water supplies and as a means to generate more soil deposition and create more arable land in the lowlands, and ditches were installed from the lower slopes of the mountain ranges to the lowlands (Frierson 1972). The company was later incorporated into the O‘ahu Sugar Company in 1970 and was in operation until the 1990s.

2.4.2.4 James Campbell

The current project area is within the James Campbell Industrial Park, the largest industrial park in Hawai‘i. The 1,096-acre park is named after James Campbell, Esq., an irish industrialist who arrived on Maui in 1850 on a whaling vessel and later made his fortune in the sugar industry (Estate of James Campbell 2003:2,4). In 1877, Campbell acquired 41,000 acres in Honouliuli on O‘ahu. He and his wife, Abigail Kuaihelani Maipinepine (a member of the nobility of the Kingdom of Hawai‘i), moved to Honolulu in 1878 (Estate of James Campbell 2003:9). Although the Honouliuli lands were dry and considered by many to not be ideal for agriculture, Campbell successfully built an artisan well system across the Ewa Plain that provided water to the lower areas of Honouliuli, making much of the land fertile. In 1889, Campbell leased his Honouliuli lands to Benjamin F. Dillingham who subleased his lands below the 200 ft elevation level to W.R. Castle in 1890. Castle, of Castle & Cooke started the ‘Ewa Plantation Company (Estate of James Campbell 2003:17). Dillingham’s lands above the 200 ft elevation line were developed with the O‘ahu Sugar Company in 1897 (Estate of James Campbell 2003:17). Both plantation companies were successful into the 1970’s and later the ‘Ewa Plantation Company and the O‘ahu Sugar Company joined as one company (Estate of James Campbell 2003:17).

2.4.3 20th Century to the Present

In the early 1900s, much of the mauka lands of Honouliuli were still unsuitable for commercial sugar cultivation or cattle ranching. Therefore, the construction of a reservoir in 1919 allowed for the growth of commercial agriculture, such as sugar cane, and residential growth. By the early 1920s, the main residential community, Honouliuli Village, was built along the northeast plains of ʻEwa. Honouliuli Village was primarily a plantation town that depended on the sugar mill for economic growth. Land near the project area was not heavily utilized at this time. A 1902 Wall map shows an inland road leading to a coastal lighthouse south of the project area, no other features of the landscape in the vicinity of the project area are noted (Figure 9).

2.4.3.1 Military Presence in Honouliuli

Aside from residential growth, there was also an increase of military activities. In the 1920s, the U.S. Navy leased 206 acres of land on the ʻEwa Plains from the Campbell Estate and a Honolulu contractor was hired by the Navy to clear the land to build a Mooring Mast and Emergency Landing Field for dirigibles (Helber Hastert & Fee 2008). This facility was used until the early 1930s and then was dismantled and became part of the ʻEwa Marine Corps Air Station at Barbers Point (MCAS Ewa) (Tuggle et al. 1997). On December 7, 1941, the MCAS Ewa was one of the first military targets that were bombed by the Japanese in Hawaiʻi (NPS n.d.). Numerous aircraft were destroyed; however, other facilities of MCAS Ewa were largely unharmed (U.S. Navy, BuDocks 1947:139, cited in Helber Hastert & Fee 2008). This location, referred to as the ʻEwa Plain Battlefield, became a National Register site in 2016 (Reference #16000273). It is approximately 4.2 km (2.6 miles) northeast of the current project area.

Between 1921 and 1944, the U.S. Military acquired an additional 3,500 acres of land from the Campbell Estate and constructed the Barbers Point Military Reservation (Battery Barbers Point) as a training area, which included multiple locations including Camp Malakole Military Reservation (Honouliuli Military Reservation) and Gilbert Military Reservation. Fort Barrett (Kapolei Military Reservation and Battery Hatch) was built on top of Puʻu Kapolei as a coastal defense station. Fire control stations were established on top of Puʻu Makakilo (Fire Control Station A) and Puʻu Pālailai (Fire Control Station B), as well as Mooring Mast Field, which was an auxiliary airfield for the Marine Corps Air Station and the Naval Air Station at Barbers Point (NASBP) (Tuggle et al. 1997). The NASBP is located approximately 3.5 km (2.1 miles) east of the current project area.

The NASBP was built in three stages: pre-war (pre-1939), WWII (1939-1945), and Cold War (1946-1989) (Helber Hastert & Fee 2008). Pre-war construction largely consisted of the Mooring Mast and Emergency Landing Field previously described. During WWII, NASBP greatly expanded their airfield and naval aviation capabilities. NASBP became the primary facility for operations of four carrier groups, an important air station, a staging ground for repairing aircrafts, and a technical training school (Helber Hastert & Fee 2008). Toward the end of the war, more than 12,000 military personnel were stationed at NASBP and the U.S. military took over use of the OR&L tracks to transport materials and personnel throughout the island. Although the OR&L closed in 1947, a large section of the OR&L track and right-of-way was sold to the U.S. Navy, extending 30 miles from the west limits of Pearl Harbor Reservation to a Lualualei ammunition depot (Hungerford 1963). The track was used to transport munitions until 1968 (Trieber 2005).

After WWII, during the Cold War building period, activities increased at NASBP and it became famous for its Navy patrol squadrons, including Rainbow Fleet and Pineapple Airlines (Helber Hastert & Fee 2008). NASBP was used as the main Pacific Air Station responsible for all Pacific Naval air operations (Tuggle et al. 1997). In 1949, the MCAS Ewa was absorbed into the NASBP and all marine activities moved to Kāneʻohe.

During the mid-twentieth century, several buildings were constructed within NASBP. In 1965, the formal U.S. Coast Guard Air Station Barbers Point was established. Several recreational facilities were erected to serve the base's diverse roles, including a large airplane parking apron, residential communities, a golf course, and beach cabins along Nimitz Beach (Tuggle et al. 1997). NASBP reached a maximum size of 3,679 acres before it closed in 1999 (Helber Hastert & Fee 2008). The base is now referred to as the traditional place name, Kalaeloa, and includes only 1,166 acres of land in five noncontiguous areas.

Since the deactivation of NASBP, the State Department of Defense (DOD), Department of Transportation (DOT), Department of Hawaiian Homeland (DHH), and the University of Hawai'i have acquired several acres of land in the area. The airfield was reopened in 1999 as a state regional airport and is now referred to as both Kalaeloa Airport and John Rodgers Field. The airport is used by the U.S. Coast Guard (Air Station Barbers Point), Hawaii Community College Flight Program, Hawaiʻi National Guard, and the general aviation community. The airport also serves as the base for HC-130 "Hercules" long-range surveillance aircraft, HH-65 short-ranger recovery helicopter, search and rescue, and emergency response operations (USCG 2016).

2.4.4 Hawaiian Cement

The project area remained undeveloped and dominated by vegetation until the mid-1900s (Figure 10 and Figure 11). A 1951 aerial image shows the project area covered in vegetation (likely koa haole, kiawe, and various grasses) with a road running through the project area from the northwest to southeast corner (refer to Figure 10). In the early 1960s the area began to be developed into an industrial park. Hawaiian Cement purchased lands within and adjacent to the project area in 1961. A City and County of Honolulu Property Records Search for the project area (TMK: [1] 9-1-026:056) found mention of an existing Pack House/Warehouse built in 1961 (City and County of Honolulu 2020). Aerial images from 1962 and 1977 show the project area to contain industrial infrastructure associated with operations of Hawaiian Cement (Figure 12, Figure 13). An early 2000s Land Court Application (LCApp) map shows the project area labeled as Lot 18260 and lands to the south, east, and west also being owned by Hawaiian Cement (Figure 14).

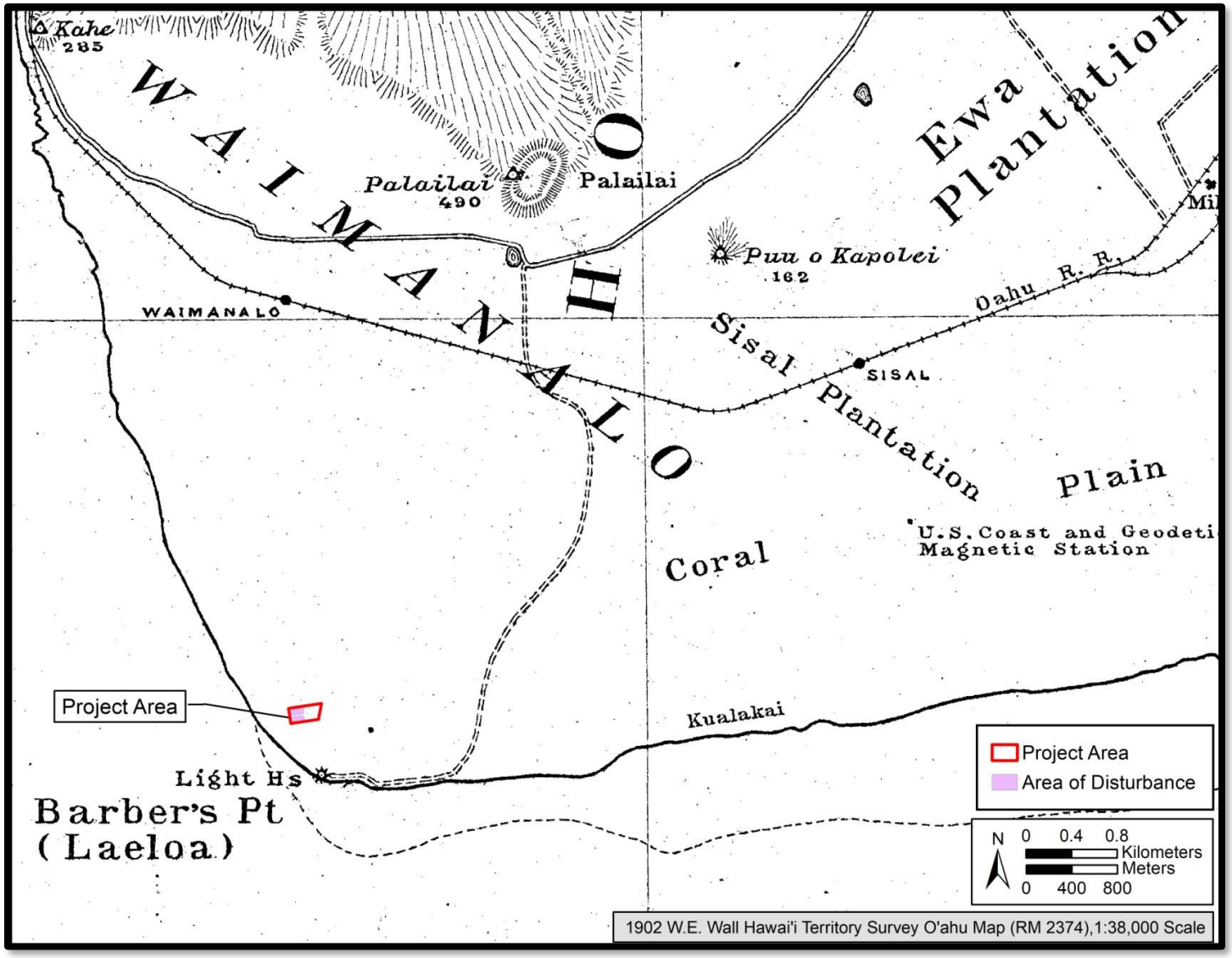

Figure 9. Portion of a 1902 Wall Map showing the project area and area of disturbance (RM 2374)

Figure 10. A 1951 'Ewa USGS aerial image showing the project area and area of disturbance, notice the undeveloped parcel with a road running through

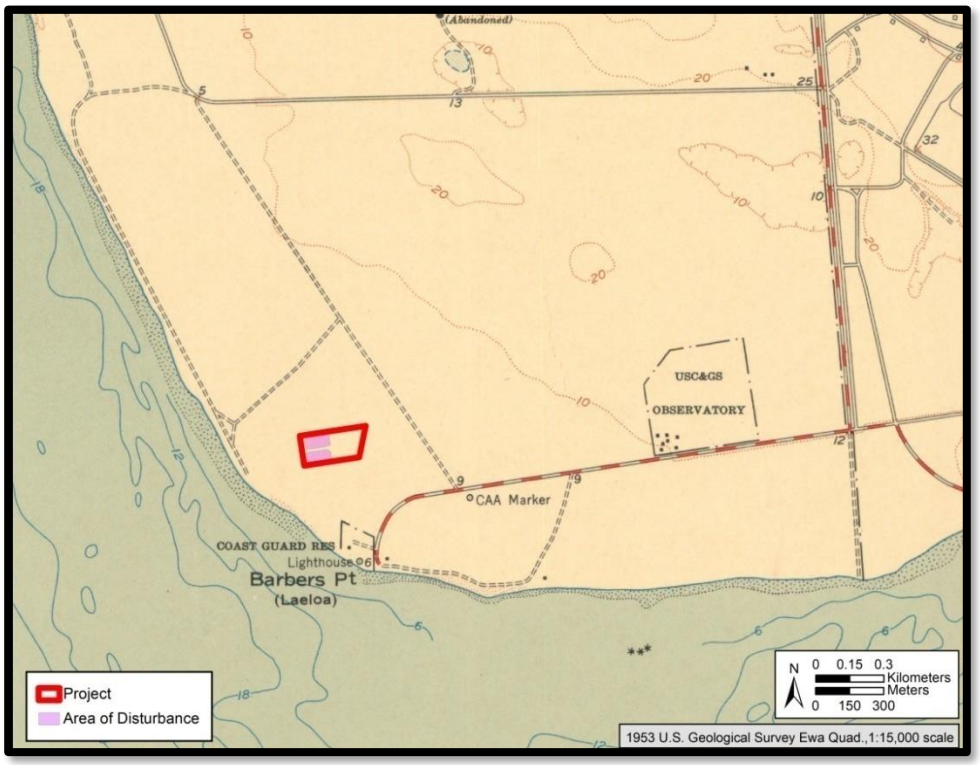

Figure 11. Portion of a 1953 'Ewa USGS topographic map showing the project area and area of disturbance, notice the undeveloped parcel

Figure 12. A 1962 ‘Ewa USGS aerial image showing the project area and area of disturbance, notice development within the parcel

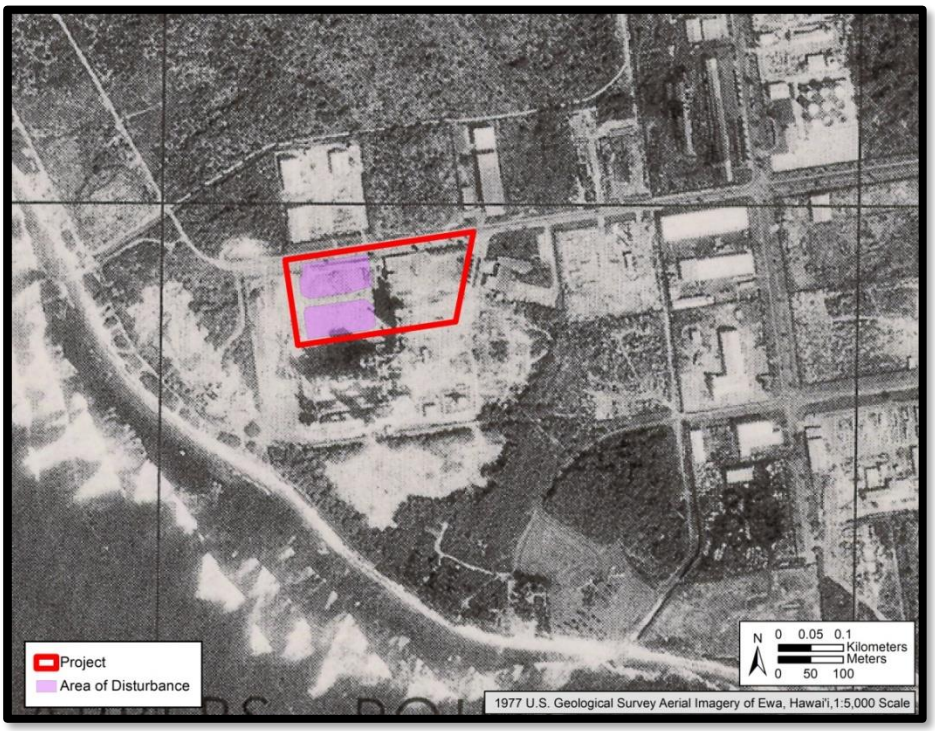

Figure 13. A 1977 ‘Ewa USGS aerial image showing the project area and area of disturbance, notice grading and development of the project area

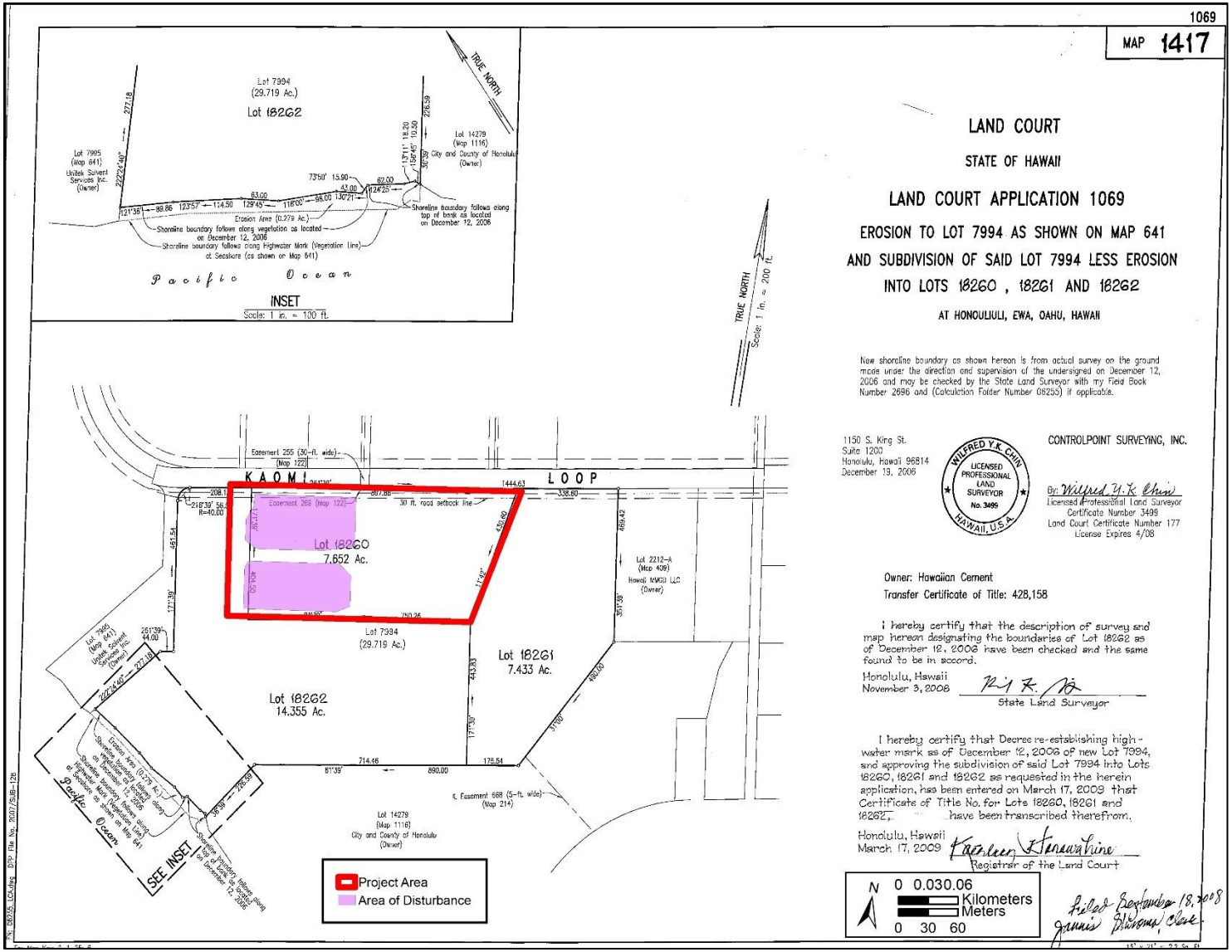

Figure 14. 2009 Land Court Application Map showing the project area (LCApp 1069, Map 1417)

Section 3 Previous Archaeological Studies

There have been no previous archaeological projects conducted adjacent to or within the current project area and no archaeological sites have been previously identified within or adjacent to the current project area. However, there have been numerous archaeological projects conducted within Honouliuli Ahupuaʻa that have documented archaeological sites within the vicinity of the current project area (Figure 15, Figure 16, and Table 2). For this project, studies conducted within 1.5 miles of the project area within the southwest portion of Honouliuli Ahupuaʻa are discussed.

3.1 Previous Archaeological Studies in the Near Vicinity

Multiple archaeological projects have been conducted within the vicinity of the project area that have documented archaeological sites (Figure 15, Figure 16). Studies within 1.5 miles of the project area have documented numerous sinkhole sites containing human burials as well as archaeological and paleontological deposits, traditional habitation sites, stone walls and enclosures associated with historic ranching and commercial agriculture, and the historic OR&L railroad right-of-way.

The closest documented sites to the current project are located approximately 2 kilometers (1.2 miles) east of the current project area and were recorded during investigation of a burial find encountered in a sinkhole (Kawachi 1990) and a subsequent archaeological inventory survey (AIS) (Sinoto and Tichenal 2002). Sites documented during those studies included one human burial, identified as a reburial and designated as SIHP #50-80-12-4209 (Kawachi 1990). Three sites within the same area were recorded by Sinoto and Tichenal (2002), the sites included a small three feature complex (SIHP #50-80-12-6377), two large adjoining sinkholes (SIHP #50-80-12-6374), and a complex of thirteen paleontological sinkholes (SIHP #50-80-12-6375). Excavation within the sinkholes recovered faunal bones, midden material, and a bone toggle artifact (Sinoto and Tichenal 2002). Review of archaeological finds within the vicinity of the project area indicates the area was an important traditional Hawaiian landscape.

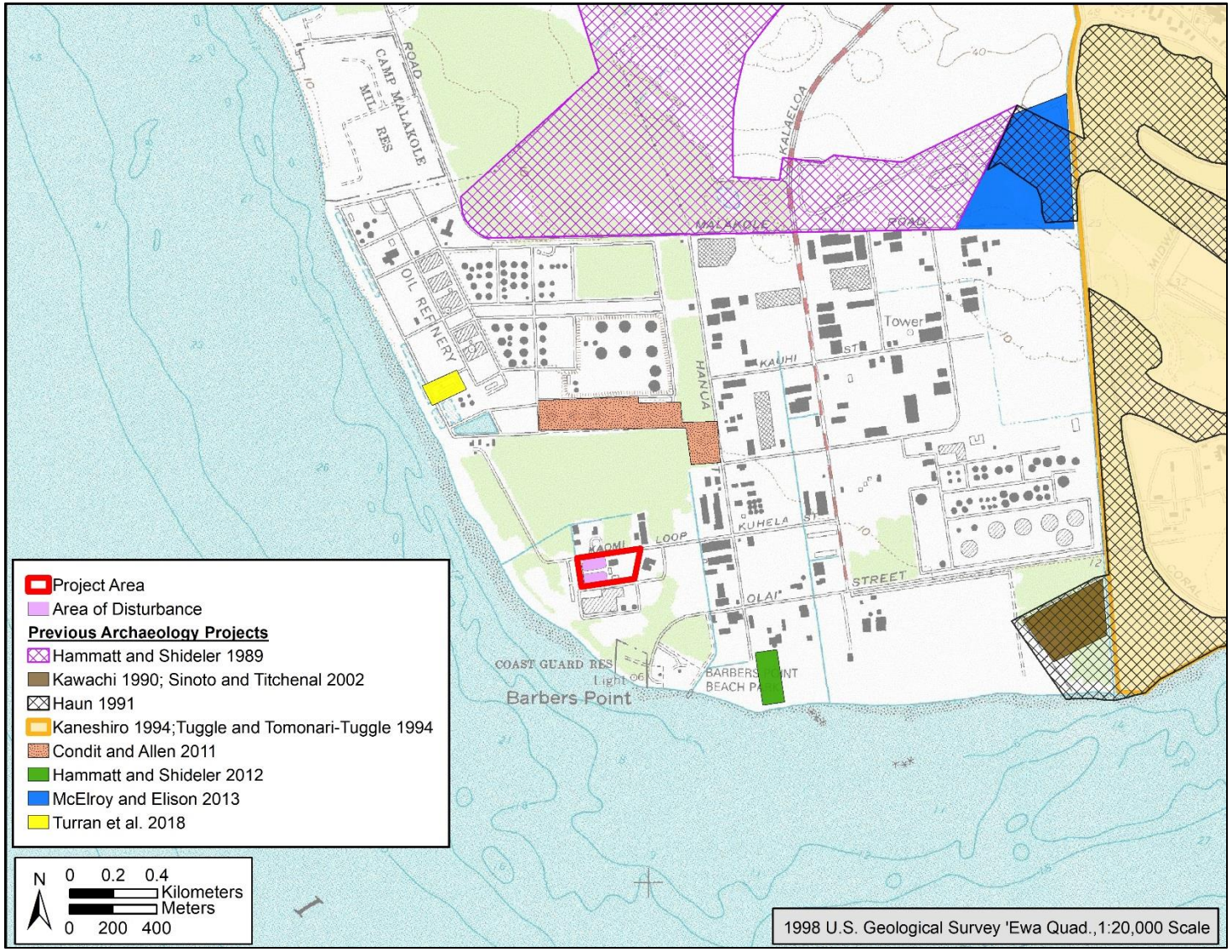

Figure 15. Portion of a 1998 Ewa USGS showing previous archaeological studies within 1.5 miles of the project area

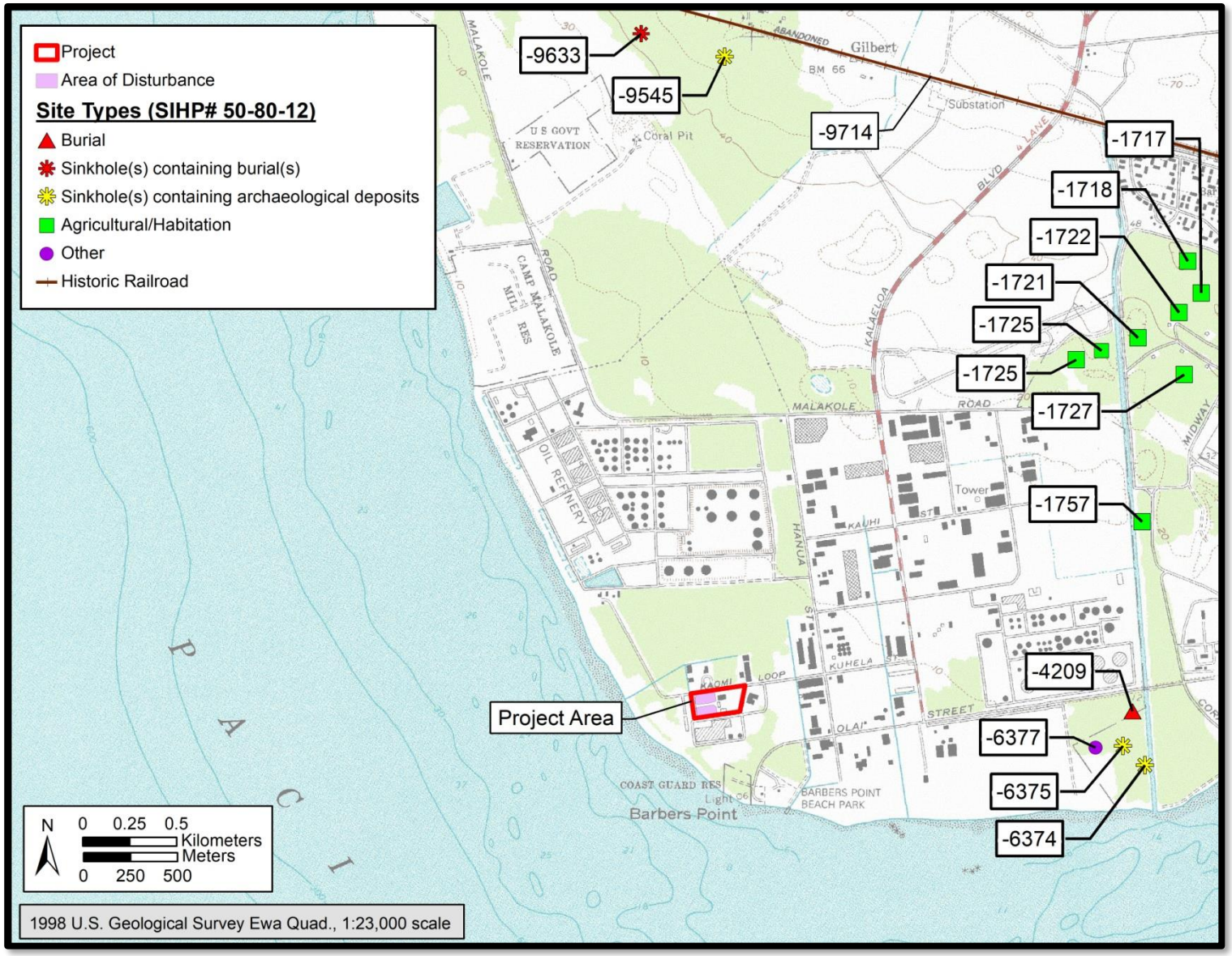

Figure 16. Portion of a 1998 ‘Ewa USGS showing documented historic properties within 1.5 miles of the project area

Table 2. Table Listing Previous Archaeological Studies in the Vicinity of the Property area

Author(s)	**Study Type/ Location**	**TMK**	**Findings (SIHP #50-80-12)**
Hammatt and Shideler 1989	Archaeological Assessment (1.4 km north of project area)	Kapolei Business/Industrial Park, TMK: [1] 9-1-014 (002 por.) and 9-1-015:001, 012, 013, 015, and 016	SIHP # -9545 (sinkhole containing archaeological deposits and bird bones), SIHP # -9633 (sinkhole containing one human burial), SIHP # -9714 (OR&L railroad right-of-way), and a Homestead Area (No SIHP)
Kawachi 1990	Inadvertent Burial Discovery (1.8 km east-southeast of the project area)	Campbell Industrial Park, TMK: [1] 9-1-13:028	One (1) inadvertent burial discovery, SIHP # -4209, identified as a reburial
Haun 1991	Archaeological Inventory Survey (project boundary is 2.1 km east of the project area)	Naval Air Station, Barbers Point, TMK: [1] 9-1-12:063	Forty-three (43) sites comprised of 385 features, SIHP # -1717 to -1757, -532, and -2220, sites included habitation and agricultural complexes, historic ranching, and military infrastructure; radiocarbon dates from SIHP # -532 (burial) were less than 160 years BP and from a nearby cultural deposit (later designated as SIHP # -2220) radiocarbon results dated between AD 1415-1815; abundant midden and traditional artifacts found; (only sites documented within the far west portion of the project area are shown on the previous archaeology sites map [Figure 16] for this project)
Kaneshiro 1994	Archaeological Inventory Survey (project boundary is 2.1 km east of the project area)	Naval Air Station, Barbers Point, TMK: [1] 9-1-013:063	No archaeological sites recorded

Author(s)	Study Type/ Location	TMK	Findings (SIHP #50-80-12)
Tuggle and Tomonari-Tuggle 1994	Archaeological Assessment & Research Design (project boundary is 2.1 km east of the project area)	Naval Air Station, Barbers Point, TMK: [1] 9-1-013:063	Review of archaeological sites and historic structures documented throughout NASBP; no sites recorded in current APE
Sinoto and Tichenal 2002	Archaeological Inventory Survey (1.8 km east-southeast of the project area)	Desalination Facility, Barbers Point	Three (3) sites recorded, SIHP # -6377 (small three feature complex), SIHP # -6374 (two large adjoining sinkholes), and SIHP # -6375 (a complex of thirteen paleontological sinkholes); excavation within sinkholes recovered faunal bones, midden material, and a bone toggle artifact
Condit and Allen 2011	Archaeological Monitoring (0.5 km north of the project area)	Campbell Industrial Park, TMK [1] 9-1-014:014, 026, and 038	No archaeological sites recorded
Hammatt and Shideler 2012	Archaeological Assessment (0.9 km southeast of the project area)	Chevron Refinery, Kalaeloa, TMK [1] 9-1-014:010 por.	No archaeological sites recorded
McElroy and Elison 2013	Archaeological Inventory Survey (2.1 km northeast of the project area)	Kalaeloa, TMK: [1] 9-1-013:001	Located previously recorded SIHP # -1725 (27 features, 17 of which were previously recorded, 10 were newly recorded), features included multiple walls, terraces, sinkholes, platforms, enclosures, mounds and cairns
Turran et al. 2018	Literature Review and Field Inspection (0.9 km northwest of the PA)	Kapolei Refinery Acid Plant, Kalealoa, TMK: [1] 9-1-014:010 (por.)	No archaeological sites recorded

Hammatt and Shideler 1989

In 1989, Cultural Surveys Hawai‘i (CSH) conducted an archaeological assessment of the proposed Kapolei Business/Industrial Park located approximately 1.4km north of current project area (Hammatt and Shideler 1989). The archaeological assessment included the area for the proposed drainage right-of-way within the park (Hammatt and Shideler 1989). During the project several previously documented sinkhole sites were observed including sinkhole SIHP #50-80-12-9545 (sinkhole containing archaeological deposits and bird bones) and SIHP #50-80-12-9633 (sinkhole containing one human burial). The northern project boundary is the former OR&L railroad right-of-way (SIHP #50-80-12-9714) which was documented during the project in addition to a historic homestead area which was not given an SIHP number (Hammatt and Shideler 1989).

Kawachi 1990

In 1990, a human burial was discovered at the Campbell Industrial Park in a sinkhole during excavation for a storm drain (Kawachi 1990). The site is approximately 1.8km east-southeast of the current project area and was found approximately 374 meters (m) (1153.5 ft) from the coast. The burial, SIHP #50-80-12-4209, was identified as a reburial that had been repeatedly uncovered and reported. The burial consisted of a skull and several bone pieces. The burial was preserved in place and sealed with large coral boulders (Kawachi 1990).

Haun 1991

The Department of Anthropology at the Bernice Pauahi Bishop Museum (BPBM) and the Pacific Division of the Naval Facilities Engineering Command conducted an archaeological inventory survey (AIS) of the NASBP, O‘ahu, TMK: [1] 9-1-013 (Haun 1991). The project included 1,230 acres and the western project boundary is approximately 2.1km east of the current project area. A total of 43 archaeological sites comprised of 385 features were recorded, SIHP #50-80-12-1717 to -1757, as well as SIHP #50-80-12-532, and a cultural deposit later designated as SIHP #50-80-12-2220. Of the 43 documented sites, 73% of the features were identified as semi-permanent pre-contact habitation and agricultural sites, and 27% were historic sites associated with 19th and 20th century ranching and military activities. Only sites documented within the far west portion of the Haun (1991) project area are shown on the previous archaeology sites map (Figure 15) for this project. These sites include SIHP -1717 (small habitation complex with four features), -1718 (habitation complex with six features), -1721 (habitation complex with five features), -1722 (habitation complex with ten features),), -1725 (pre-Contact to early historic habitation/agriculture/burial/ranching complex), -1727 (modified sinkhole with an internal platform), and -1757 (habitation site).

Four (4) previously recorded archaeological sites were revisited and studied in more depth: SIHP # -532 (human burial and fire pit), -1753 (sinkhole containing a human burial), -1725, and McAllister’s Site 146. Site 146 referred to the entire ‘Ewa Plain and was much too broad to be of any practical significance. SIHP # -532 was found to include a single, flexed human burial, found approximately 20 cm (0.6 ft) below the ground surface, eroding from the sand dune along Nimitz Beach. Several fire effected stones were found near the burial; however, the nearby fire pit was not considered to be associated with the burial. A radiocarbon date obtained from SIHP # -532 was found to be less than 160 years B.P (Before Present to 1950). SIHP # -1753 consisted of a secondary burial in a coral sinkhole. SIHP # -1725, the closest of the investigated sites to the

current project area, consisted of nine features including three sinkholes, two coral vaults, a quadrangular coral alignment, and several features associated with historic ranching and military occupation. The coral vaults and the two sinkholes contained bird and fish bones and charcoal fragments (Haun 1991).

Along Nimitz Beach, near SIHP # -532 (burial and fire pit), culturally-rich subsurface deposits were found (later designated as SIHP # -2220). Three (3) subsurface probes were conducted to assess the deposits and recover datable materials. The deposits contained charcoal fragments, charcoal-stained sand, burned limestone pebbles, small cobbles, fire-cracked vesicular basalt pebbles, and midden of fish bone, marine shell, echinoderm (sea urchin), and crustacean. A total of ten mollusks were identified including seven gastropods and three bivalves. *Nerita* species (sp) (pipipi) was the most common gastropod species recorded followed by *Cypraea* (cowrie), *Turbo*, *Littorina*, *Morula*, *Trochus*, and *Theodoxus*. The three bivalve species consisted of *Brachidontes*, *Tellina*, and *Isognomon*. Fish remains included scales and bones of *Balistidae* (trigger fish). Two (2) radiocarbon dates were obtained providing dates ranging from A.D. 1415-1815 (Haun 1991).

During Haun's (1991) study of the NASBP, a total of nineteen artifacts were collected consisting of tapa beaters, a stone mortar, a coffee-bean sinker, grindstone fragments, a coral file/abrader, stone flakes, and historic slate material. Additional artifacts not collected consisted of a hammerstone, coral abrader, scoria abrader, sandstone grindstone, bone pick/awl, a perforated conus shell, several additional basalt, volcanic, and chert flakes, and various historic artifacts such as glass bottles, various metal objects, and military-related debris, such as barbed wire and unexploded ordinances.

Kaneshiro 1994

Ogden Environmental and Energy Service was contracted by the United States Navy to complete an archaeological inventory survey in support of the Comprehensive Long-term Environmental Action Navy (CLEAN) program (Kaneshiro 1994). The project included 47 acres of NASBP, located approximately 2.1km east of the current project area. Investigated areas included Coral Pit No. 3, a Storm-Water Drainage Ditch, a Sanitary Landfill, Ordy Pond, Oily Waste Landfarm, a former Sewage Treatment Plant, and several other facilities. No cultural resources were identified.

Tuggle and Tomonari-Tuggle 1994

In 1994, International Archaeological Research Institute, Inc. (IARII) prepared an assessment and research design summarizing the cultural resources of the NASBP, located approximately 2.1km east of the current project area (Tuggle and Tomonari-Tuggle 1994). Previously recorded sites were discussed (Welch 1987, Haun 1991, Jones 1993), including documented burials, late 19th to early 20th century stone walls associated with the ranching period and sisal planation, military related sites (primarily WWII-era), and registered historic buildings. Due to the abundance of historic sites on the NASBP base, IARII suggested a likelihood that traditional Hawaiian sites were destroyed during military-related construction activities, and little information could be obtained concerning traditional practices and land use of the area (Tuggle and Tomonari-Tuggle 1994). No new sites were documented during the project.

Sinoto and Titchenal 2002

Aki Sinoto Consulting conducted an archaeological inventory survey for the proposed Desalination Facility at Barbers Point, TMK [1] 9-1-3:28 (Sinoto and Titchenal 2002). The project consisted of an evaluation area of 20 acres of land located approximately 1.8km east-southeast of the current project area. Three (3) archaeological sites were recorded, consisting of two cultural sites (SIHP #50-80-12-6374 and -6377) and one paleontological site (SIHP #50-80-12-6375). SIHP # -6374 consists of two large adjoining sinkholes measuring approximately 4 m (13 ft) wide by 1 m (3.2 ft) deep. SIHP # -6377 is a small three feature complex consisting of a deteriorated circular enclosure, a capped sinkhole, and an unusual structure comprised of leaning, limestone slabs. The paleontological site, SIHP # -6375, includes a complex of thirteen sinkholes. Subsurface testing in eight of the sinkholes recovered identified avi-faunal remains, including some prehistorically extinct ones. One artifact was recorded consisting of a traditional Hawaiian bone toggle. Collected midden consisted of a small amount of marine shell (mollusks, gastropods, and bivalves), fish bone, crustacean, small reptiles such as lizards, and faunal remains including *Rattus exulans* (Polnesian rat), *Rattus norvegicus*/*rattus* (brown rat), *Mus musculus* (mouse), *Felis catus* (cat), bat, and other small and medium sized mammals.

Condit and Allen 2011

In 2008 and 2009, IARII conducted archaeological monitoring at an Hawaiian Electric Company generator and substation sites within Campbell Industrial Park (Condit and Allen 2011). The project was approximately 0.5km north of the current project area. Archaeologists monitored five locations within the project area that were excavated for the placement of utilities and building foundations (Condit and Allen 2011). Several natural sinkholes were observed during monitoring, none of which contained cultural deposits. No sites were recorded during the project (Condit and Allen 2011).

Hammatt and Shideler 2012

In 2012, Cultural Surveys Hawai‘i (CSH) conducted an archaeological assessment for the proposed Solar Site at the Chevron Refinery, located approximately 0.9km southeast of the current project area (Hammatt and Shideler 2012). A pedestrian inspection of the property was conducted and no historic proterties were observed or recorded (Hammatt and Shideler 2012).

McElroy and Elison 2013

In 2013, Keala Pono completed an archaeological inventory survey of a 43-acre proposed solar farm property, located approximately 2.1km northeast of the current project area (McElroy and Elison 2013). During the project, one previously identified site was observed, SIHP # 50-80-12-1725 (a traditional to early-historic multi-use complex). SIHP # -1725 included 27 features; 17 of which were previously recorded, and 10 that were newly recorded. Features within the site included multiple walls, terraces, sinkholes, platforms, enclosures, mounds and cairns (McElroy and Elison 2013). Site NL-25 (a 20th century house site) had been previously documented within the project area however it was not located during this project, likely due to the presence of dense vegetation that dominated much of the project area (McElroy and Elison 2013).

Turran et al. 2018

In 2018, CSH conducted an archaeological literature review and field inspection for proposed Island Energy Services (IES) at the Kapolei Refinery Acid Plant, located approximately 0.9km

northwest of the current project area (Turran et al. 2018). The project involved the proposed installation of a new SO2 scrubbing system and replacement of an existing karbate gas cooling system that required subsurface excavation. No cultural materials or deposits were documented during the project.

Section 4 Archaeological Field Inspection

Fieldwork for this project was conducted on August 20, 2020 by archaeologist Fredrick LaChance, B.A., under the supervision of Rosanna Thurman, M.A. (principal investigator). Fieldwork for this project was performed under the archaeological permit number 19-22 issued to Honua Consulting by the SHPD/DLNR in accordance with HAR Chapter 13-282.

4.1 Methodology

Fieldwork for the project consisted of a 100% pedestrian survey of the western portion of the project area, referred to as the proposed area of disturbance (Figure 17). This portion of the project area was walked with the landowner and project plans were discussed. The eastern half of the project area is an active manufacturing area and therefore, only photos were taken of that area.

Due to the lack of vegetation within the project area, ground visibility was excellent and a thorough visual inspection of the ground surface was possible. The pedestrian survey consisted of north/south trending transects spaced 5 m apart. Survey transects were recorded using a Garmin handheld GPS device and representative photographs were taken. No cultural materials, deposits, or materials of archaeological significance were observed or collected during the project.

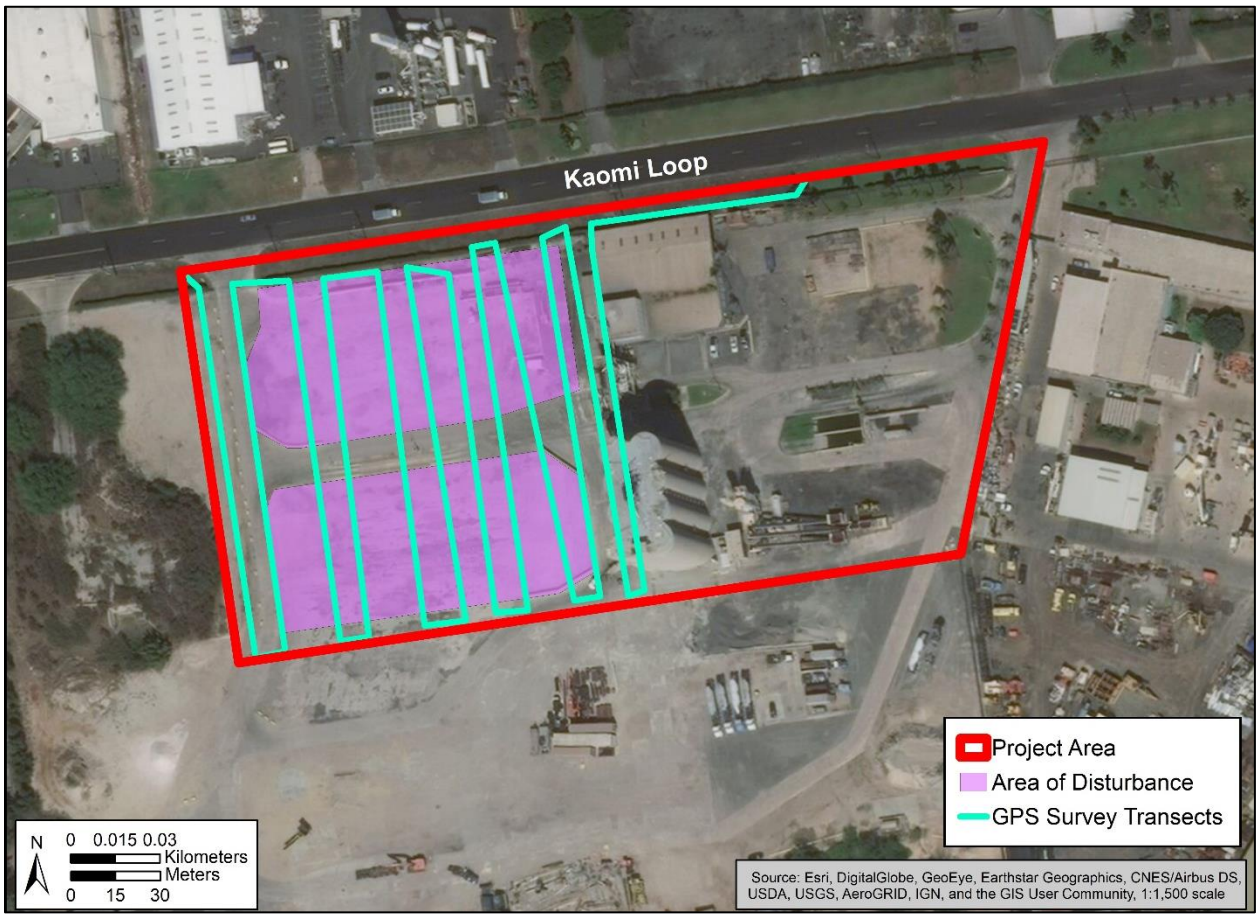

Figure 17. Aerial image showing the project area, area of disturbance, and GPS survey transects within the western portion of the project area (Esri Imagery)

4.2 Survey Results

The archaeological field inspection conducted for the current project included a pedestrian survey of the western half of the project area in the area of proposed construction for the sand storage facility and new retaining wall. For this report, the surveyed area is divided into two areas (northern and southern) for ease in discussion. The two areas have been heavily impacted by past activities associated with concrete manufacturing and processing, showing no evidence of intact natural soils or significant historic or pre-contact land use on the ground surface.

The survey area was accessed through the main gate located in the northwestern corner of the project area, along Kaomi Loop (Figure 18). The transects began at the northwestern corner of the property, just outside of the northern area of proposed ground disturbance to ensure complete coverage (Figure 19). The ground surface in this area included an asphalt driveway which provides access to the interior of the property (Figure 20). The survey continued along north/south transects from one side of the project area to the other, moving towards the east. The entire project area was found to be graded and leveled and containing infrastructure related to concrete manufacturing and processing.

The survey in the western portion of the project area encountered a dilapidated CMU wall defining the northern edge of the northern area of disturbance (Figure 21), a large truck scale was observed between the northern and southern areas of disturbance (Figure 22), a modern concrete block wall defined the southern extent of the southern area of disturbance (Figure 23), and a large rocksorter was observed in the northeastern corner of the northern area of disturbance (Figure 24). The survey ended with the inspection of a proposed utility tie-in area running parallel to the northern easement of the property, along Kaomi Loop (Figure 25). The survey found that the entire project area has been heavily modified by historic and modern development with infrastructure supporting concrete manufacturing and processing. No significant cultural materials or deposits were observed.

The project includes a warehouse along the northern property border, near the center of the project area. It is likely the warehouse is historic in age. A City and County of Honolulu Property Records Search for the project area found mention of an existing Pack House/Warehouse that was built in 1961 (City and County of Honolulu 2020). Evaluation of the warehouse is beyond the scope of the current project and may be subject to assessment by the Architectural Branch of the State Historic Preservation Division (SHPD). The proposed project does not plan to disturb or alter the existing warehouse.

Google Earth images are included to show the eastern half of the project area as well as the potential historic warehouse (Figure 26 through Figure 28). The eastern half of the project area was not surveyed during this study, as it is an active manufacturing area. However, it was apparent that it was heavily utilized and in the same general condition as the west half of the project area.

Figure 18. Photo showing the project area from the main access gate off Kaomi Loop, view south

Figure 19. Photo showing the proposed northern area of disturbance, view to southeast

Figure 20. Photo showing the proposed southern area of disturbance, view to northeast

Figure 21. Photo showing a dilapidated CMU wall defining the northern edge of the proposed northern area of disturbance, view to southeast

Figure 22. Photo showing a truck scale between the proposed areas of disturbance, view to east

Figure 23. Photo showing a modern concrete block wall defining the southern extent of the proposed southern area of disturbance, view to east

Figure 24. Photo showing a rock-sorter in the northeastern corner of the proposed northern area of disturbance, view to north

Figure 25. Photo showing a proposed utility tie-in area running parallel to the northern easement of the property, view to west (notice Kaomi Loop road on the right)

Figure 26. Aerial image showing the project area, the western half (on left) was surveyed in full and the eastern half (on right) was not surveyed, view to northeast (Google Earth 2020)

Figure 27. Aerial image showing the project area, view to southwest (Google Earth 2020)

Figure 28. Aerial image showing the project area, view to south (Google Earth 2020)

Section 5 Summary and Recommendations

This Literature Review and Field Inspection (LRFI) was completed for the proposed Hawaiian Cement Sand Shed project at 91-055 Kaomi Loop located in Honouliuli Ahupuaʻa, Ewa District, Island of Oʻahu TMK: [1] 9-1-026:056. The land within the project area is privately owned by Hawaiian Cement. The project encompasses an approximate 8.8-acre project area.

The project includes the proposed construction of a sand storage building, new retaining wall, and excavation for new utility lines. The sand storage building and retaining wall will be constructed in the western portion of the project area, referred to as the proposed area of disturbance, and totaling approximately 2.6 acres. Utility lines are proposed to extend through the eastern half of the project area. The utility lines are proposed to consist of shallow water lines, extending between approximately 6-18 inches (15-46 centimeters) in depth. The water lines will connect to a 12" water line along Kaomi Loop at the northeast corner of the project area, where it will be required to excavate to approximately 5 feet (1.5 meters) in depth. Proposed construction for the project will remain within the extent of the 8.8-acre project area. Existing buildings within the project area are proposed to remain.

Background research indicates traditional settlements in Honouliuli were situated near irrigated taro fields located along West Loch and were concentrated around small marshes and wet sinks found throughout an otherwise semi-barren landscape. The wide coastal zone was dependent on mixed marine exploitation and agricultural cultivation. A network of established trails provided routes from the coast around West Loch through the Honouliuli lowlands to Puʻu o Kapolei, the Waiʻanae coast, and other parts of Oʻahu (ʻĪʻī 1959). The trail system was a major route joining coastal resources with inland areas. An 1825 Malden map (refer to Figure 7) shows the project area is situated near a former coastal trail. No kuleana claims were made within or near to the project area, therefore, little information on land use prior to its historic use is known. Early historic accounts and maps suggest Kalaeloa, in the vicinity of the current project area, was not traditionally a heavily populated area. The project area remained undeveloped and dominated by vegetation until the mid-1900s when it was purchased and developed by Hawaiian Cement, circa 1961.

No previous archaeological studies or sites have been documented within the project area. However, several archaeological studies are presented within 1.5 miles of the project area. Sites documented within those studies numerous sinkhole sites containing human burials as well as archaeological and paleontological deposits, semi-permanent traditional habitation sites, stone walls and enclosures associated with historic ranching and commercial agriculture, and the historic OR&L railroad right-of-way.

The purpose of the literature review and field inspection is to research historic resources in the area and identify potential cultural deposits and artifacts within the project area. This study is not an archaeological inventory survey (AIS), however, this report was written using standards outlined within HAR 13-276 for AIS studies and is intended to assist with historic preservation efforts for the proposed construction within the project area.

The archaeological field inspection conducted for the current project included a pedestrian survey of the western half of the project area in the area of proposed construction for the sand storage facility and new retaining wall. The eastern half of the project area is an active manufacturing area and therefore, only photos were taken of that area. The field inspection found

the project area to be heavily developed with infrastructure supporting concrete manufacturing and processing. No natural soils or significant cultural materials or deposits were observed or collected.

The project area includes a warehouse which may be historic in age (potentially circa 1961). Evaluation of the warehouse is beyond the scope of the current project and may be subject to assessment by the Architectural Branch of the State Historic Preservation Division (SHPD). The proposed project does not plan to disturb or alter the existing warehouse.

This study found that the proposed project has an effect determination of "no historic properties affected". Due to significant historic properties documented in the vicinity, consisting of human burials and cultural deposits within sinkholes and semi-permanent traditional habitation sites, it is recommended that the proposed project proceed under an archaeological monitoring program to be conducted in accordance with Hawaiʻi Administrative Rules (HAR) 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports).

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