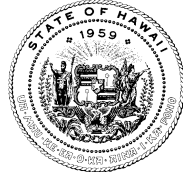


JOSH GREEN, M.D.
GOVERNOR
STATE OF HAWAII
*Ke Kia 'āina o ka Moku 'āina 'o
Hawai'i*

SYLVIA J. LUKE
LT. GOVERNOR
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'o Hawai'i*



KALI WATSON
CHAIRPERSON, HHC
Ka Luna Ho'okele

KATIE L. LAMBERT
DEPUTY TO THE CHAIR
Ka Hope Luna Ho'okele

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

Ka 'Oihana 'Āina Ho'opulapula Hawai'i

P. O. BOX 1879
HONOLULU, HAWAII 96805

November 1, 2025

ref: PO-25-103

Mary Alice Evans, Director
Office of Planning and Sustainable Development
Environmental Review Program (ERP)
235 S. Beretania Street, Room 702
Honolulu, Hawai'i 96813

SUBJECT: Wai'anae Coast Comprehensive Health Center 'Elepaio Food Campus
Master Plan, Final Environmental Assessment - Finding of No Significant
Impact (FEA-FONSI), Tax Map Key (TMK): [1] 8-6-001: 012, 024, 025, 026,
027, 028 (por.)

Dear Director Evans:

With this letter, the Department of Hawaiian Home Lands (DHHL) hereby transmits the Final Environmental Assessment – Finding of No Significant Impact (FEA- FONSI) for the Wai'anae Coast Comprehensive Health Center 'Elepaio Food Campus Master Plan, located at Tax Map Key (TMK): [1] 8-6-001: 012, 024, 025, 026, 027, 028 (por.), for publication in the next available edition of *The Environmental Notice*.

We have uploaded an electronic copy of this letter and a searchable PDF file of the FEA – FONSI compiled together to your online submittal site.

Should you have any questions, please contact Mr. John Griego at jgriego@wcchc.com or by phone at (808) 697-3704.

Aloha,

Kali Watson, Chairperson
Hawaiian Homes Commission

From: dbedt.opsd.erp@hawaii.gov
To: [DBEDT OPSD Environmental Review Program](#)
Subject: New online submission for The Environmental Notice
Date: Monday, November 3, 2025 2:14:28 PM

Action Name

'Elepaio Food Campus Master Plan

Type of Document/Determination

Final environmental assessment and finding of no significant impact (FEA-FONSI)

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds

Judicial district

Wai'anae, O'ahu

Tax Map Key(s) (TMK(s))

[1] 8-6-001: 012, 024, 025, 026, 027, 028

Action type

Applicant

Other required permits and approvals

BWS Building Approval, Grubbing Grading and Stockpiling, Building, Excavate Public Right-of-Way, Sustainable Communities Plan Amendment, Change of Zone, CUP, Sewer Connection, Street Usage, HFD Building Plan Review, Variance from Pollution Control, NPDES, Discharge Hydrotesting Water, DCAAB Approval, Historic Site Review ,

Discretionary consent required

Use of state land

Agency jurisdiction

State of Hawai'i

Approving agency

Department of Hawaiian Home Lands

Agency contact name

Lilliane Makaila

Agency contact email (for info about the action)

lilliane.k.makaila@hawaii.gov

Email address for receiving comments

lilliane.k.makaila@hawaii.gov

Agency contact phone

(808) 730-0346

Agency address

PO Box 1879
Honolulu, Hawaii 96805
United States
[Map It](#)

Applicant

Waianae Coast Comprehensive Health Center

Applicant contact name

John Griego

Applicant contact email

jgriego@wcchc.com

Applicant contact phone

(808) 697-3704

Applicant address

86-260 Farrington Highway
Waianae, Hawaii 96792
United States
[Map It](#)

Is there a consultant for this action?

Yes

Consultant

Gerald Park Urban Planner

Consultant contact name

Gerald Park

Consultant contact email

gpark@gpup.biz

Consultant contact phone

(808) 625-9626

Consultant address

95-595 Kaname'e Street #324
Mililani, Hawai'i 96789
United States
[Map It](#)

Action summary

'Elepaio Social Services, the social services arm of the Wai'anae Coast Comprehensive Health Center ("WCCHC"), proposes to develop a food campus and resiliency hub in the ahupua'a of Lualualei, District of Wa'ianae. The project will be developed on approximately 10.5 acres east of and adjoining the WCCHC. The area to be developed is part of 6 lots comprising 25.1 acres owned by the Department of Hawaiian Home Lands.

Proposed is the construction of a food warehouse, agriculture growing field, a multi-purpose building, a

teaching kitchen / dining area, and administration building. The project will be built in three phases over a projected seven years beginning in 2025 or 2026. Site work, infrastructure installation, road improvements, and construction of the food warehouse and growing field are proposed for Phase 1 construction. Construction costs for the improvements over the 3 phases of development are estimated at \$29.80 million. The cost will be funded by the WCCHC through Federal, State, and County grants, contributions from charitable foundations, corporate giving programs, and donations from community organizations and individuals.

Reasons supporting determination

Refer to Section 7 Determination of Significance

Attached documents (signed agency letter & EA/EIS)

- [FEA_Elepaio-Food-Campus-Master-Plan2.pdf](#)
- [PO-25-103_WCC-Elepaio-Food-Campus-MP-Final-EA-signed1.pdf](#)

ADA Compliance certification (HRS §368-1.5):

The authorized individual listed below acknowledges that they retain the responsibility for ADA compliance and are knowingly submitting documents that are unlocked, searchable, and may not be in an ADA compliant format for publication. Audio files do not include transcripts, captions, or alternative descriptions. The project files will be published without further ADA compliance changes from ERP, with the following statement included below the project summary in The Environmental Notice: "If you are experiencing any ADA compliance issues with the above project, please contact (authorized individual submitting the project at email)."

Shapefile

- The location map for this Final EA is the same as the location map for the associated Draft EA.

Action location map

- [Food-Campus-Conceptual-Master-Plan-_Figure-1a-Standard2.zip](#)

Authorized individual

Gerald Park

Authorized individual email

gpark@gpup.biz

Authorized individual phone

(808) 625-9626

Authorization

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

FINAL ENVIRONMENTAL ASSESSMENT

‘ELEPAIO FOOD CAMPUS MASTER PLAN

Ahupua‘a of Lualualei, District of Wai‘anae, O‘ahu



South View of Pu‘u Mā‘ili‘ili from Mā‘ili‘ili Road

Prepared For

‘Elepaio Social Services
86-260 Farrington Highway
Wai‘anae, O‘ahu, Hawai‘i 96792

September 2025

FINAL ENVIRONMENTAL ASSESSMENT

'ELEPAIO FOOD CAMPUS MASTER PLAN

Ahupua'a of Lualualei, District of Wai'anae, O'ahu

Prepared in Partial Fulfillment of Chapter 343, Hawai'i Revised Statutes and Hawai'i Administrative Rules Chapter 11-200.1, Department of Health, State of Hawai'i

Prepared For

'Elepaio Social Services
86-260 Farrington Highway
Wai'anae, O'ahu, Hawai'i 96792

Prepared By

Gerald Park Urban Planner
95-595 Kaname'e Street #324
Mililani, Hawai'i 96789

And

Office of Facilities Planning and Design
Wai'anae Coast Comprehensive Health Center
96-260 Farrington Highway
Wai'anae, O'ahu, Hawai'i 96792

September 2025

PROJECT PROFILE

Proposed Action:	Food Campus Conceptual Master Site Plan																					
Location:	Ahupua'a of Lualualei District of Wai'anae, O'ahu, Hawai'i																					
Street Address:	86-134 Mā'ilī'ili Road Wai'anae, O'ahu, Hawai'i																					
Tax Map Key:	[1] 8-6-001: 012, 024, 025, 026, 027, 028																					
Land Area:	<table border="0" style="margin-left: 40px;"> <tr> <td>012:</td> <td>7,405</td> <td>0.17</td> </tr> <tr> <td>024:</td> <td>215,186</td> <td>4.94</td> </tr> <tr> <td>025:</td> <td>217,800</td> <td>5.0</td> </tr> <tr> <td>026:</td> <td>217,800</td> <td>5.0</td> </tr> <tr> <td>027:</td> <td>217,800</td> <td>5.0</td> </tr> <tr> <td>028:</td> <td><u>217,800</u></td> <td><u>5.0</u></td> </tr> <tr> <td></td> <td>1,093,791 SF</td> <td>25.11 AC</td> </tr> </table>	012:	7,405	0.17	024:	215,186	4.94	025:	217,800	5.0	026:	217,800	5.0	027:	217,800	5.0	028:	<u>217,800</u>	<u>5.0</u>		1,093,791 SF	25.11 AC
012:	7,405	0.17																				
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027:	217,800	5.0																				
028:	<u>217,800</u>	<u>5.0</u>																				
	1,093,791 SF	25.11 AC																				
Landowner:	Department of Hawaiian Home Lands State of Hawai'i																					
Existing Use:	Lot 012: Shade House, Collection Area Lot 024: Parking, Workshops, Culture Area Lots 025,026,027,028: Vacant																					
State Land Use Designation:	Urban (U) and Conservation (C)																					
General Plan for O'ahu:	Rural																					
Sustainable Communities Plan (SCP):	Wai'anae																					
<i>SCP Land Use Map / C&C Zoning</i>	<i>Preservation / P-1 Restricted Preservation</i>																					
<i>SCP Open Space Map:</i>	<i>Agriculture / P-2 General Preservation</i>																					
Department of Hawaiian Home Lands	<i>Agriculture / Preservation</i>																					
Wai'anae and Lualualei Regional Plan:	Community Use Public																					
Special Management Area:	Outside Special Management Area																					
Contact Person:	John Griego, AIA, Director Facilities Planning and Design Wai'anae Coast Comprehensive Health Center 86-260 Farrington Highway Waianae, Hawaii 96792 Telephone: (808) 697-3704 E: jgriego@wcchc.com																					

Note: Substantive revisions to the text of the Draft Environmental Assessment are in ***bold italic type***. Deleted text is bracketed with a ~~[strikethrough]~~.

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SECTION 1 DESCRIPTION OF THE PROPOSED ACTION

‘Elepaio Social Services, a non-profit subsidiary of the Wai‘anae Coast Comprehensive Health Center (“WCCHC” or COMP”), proposes to construct a resiliency hub for the community to be located in the *ahupua‘a* of Lualualei, District of Wai‘anae, O‘ahu, Hawai‘i.

‘Elepaio Social Services (“Elepaio”) has prepared a master plan for new facilities and structures to be located on partially improved land to the north and east of the COMP. Consisting of 6 lots, the land is bounded by Pu‘u Mā‘ili‘ili on the north, agricultural / residential lots and Pu‘u Mā‘ili‘ili on the east, Mā‘ili‘ili Road and Mā‘ili‘ili Drainage Channel on the south, and the COMP on the west. A Vicinity Map is shown as Figure 1.

A Tax Map shown as Figure 2 and Table 1 summarize the area of the six lots. All lots are owned by the Department of Hawaiian Home Lands (“DHHL”). The COMP currently is allowed use of TMK 8-6-001: 012 and 024 under Department of Hawaiian Home Lands Revocable Permit No. 407. The permit expired in June 2007 but was continued on a month-to-month basis. In April 2024, the DHHL issued Right of Entry No. 728 (“ROE 728”) to the COMP for lots 012, 024, 025, 026, 027, and 028. The ROE expires one year from commencement but can be extended for additional one-year periods (ROE No. 728).

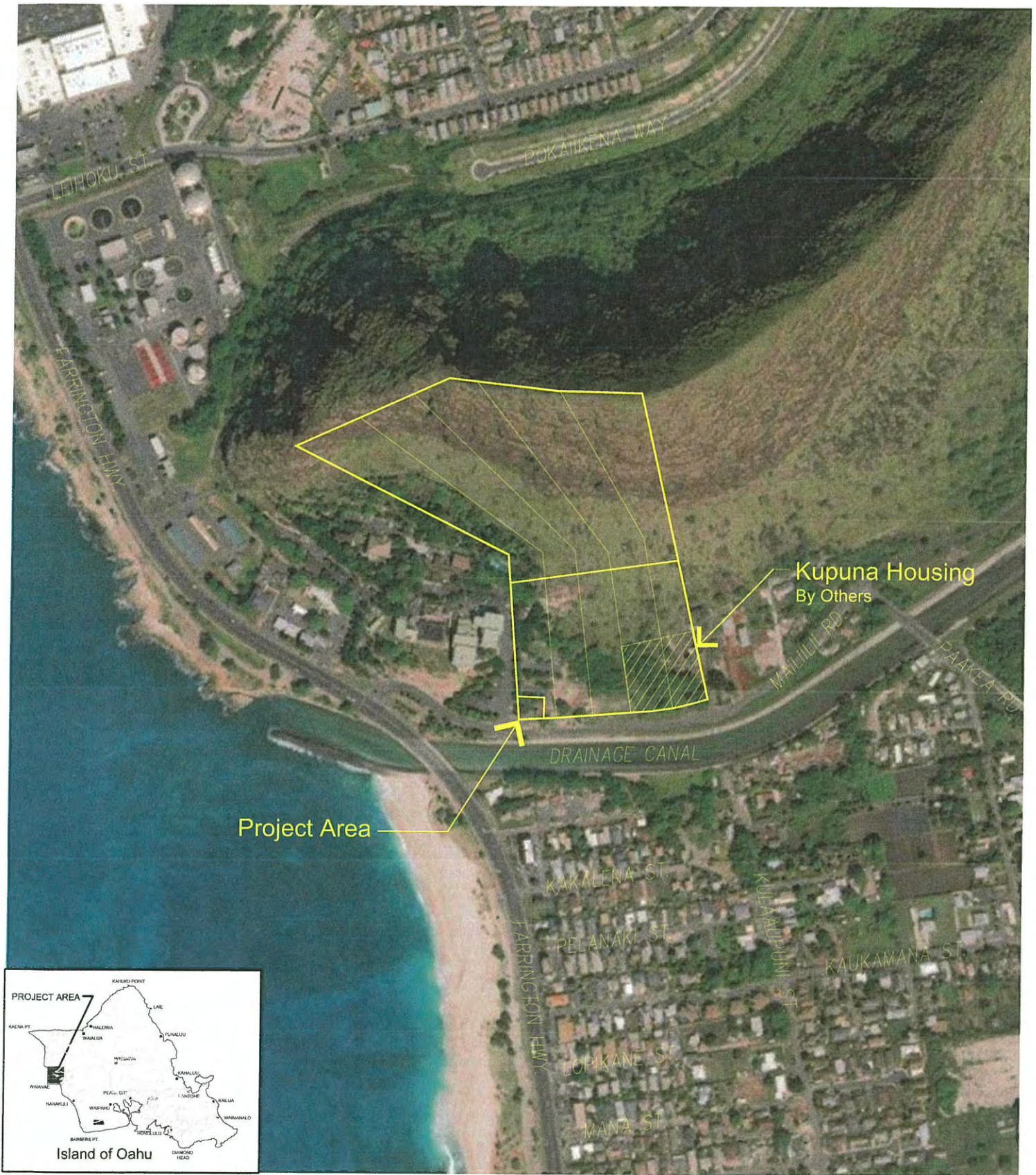
Table 1. Parcel Data

Tax Map Key	Square Feet	Acres	Use
8-6-001: 012	7,504	0.17	Shade House, Collection Area
8-6-001: 024	215,186	4.94	Workshops, Parking, Culture Center
8-6-001: 025	217,800	5	Vacant
8-6-001: 026	217,800	5	Vacant
8-6-001: 027	217,800	5	Vacant
8-6-001: 028	217,800	5	Vacant
Total	1,093, 791	25.1	

Source: O‘ahu Tax Map; ROE No. 728.

The project is proposed on land comprising the southern portion of the lots fronting Mā‘ili‘ili Road. The area to be developed is shown on Figure 3 and comprises approximately 10.5 acres with the remainder dedicated to nature trails and fire mitigation.

Approximately 3.5 acres in the lower sections of lots 027 and 028 are set aside for *kupuna* housing. The housing project is proposed by the King Lunalilo Trust and use of the land has been approved by the Department of Hawaiian Homelands. The *kupuna* housing area is outlined on Figure 1 Vicinity Map and called out as Kupuna Housing. The Kupuna Housing project is a separate action and not included in this environmental assessment.



Source: Google Maps 2020 Imagery



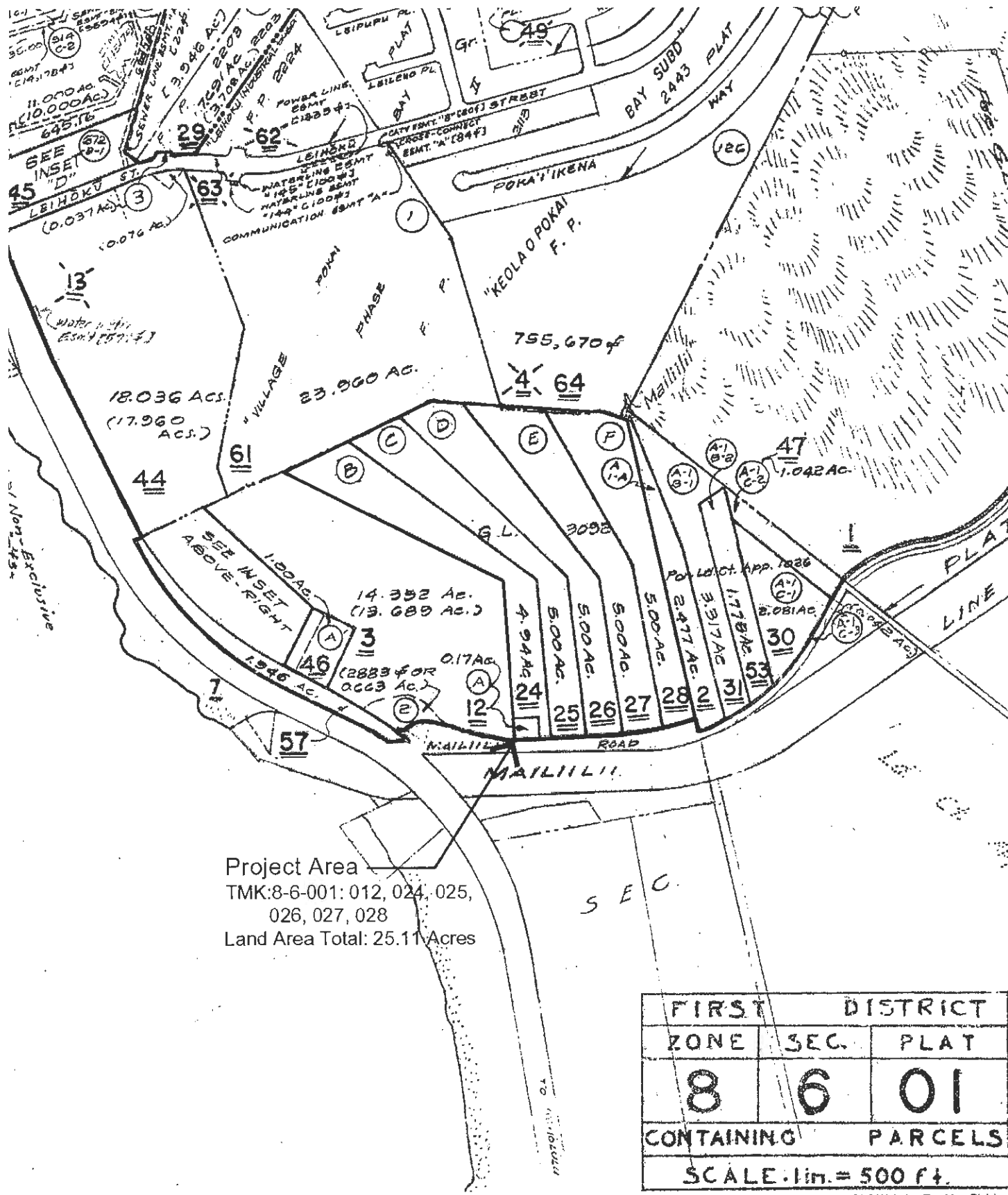
Gerald Park
Urban Planner
December 2024

LINEAL SCALE (FEET)



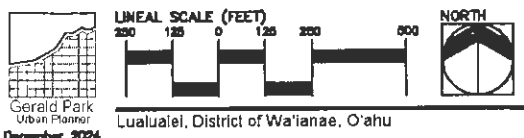
Luialualei, District of Wa'ianae, O'ahu

Figure 1
Vicinity Map
Food Campus Conceptual
Master Site Plan



Source: C&C Website, Tax Map Division

Figure 2
 Tax Map
 'Elepaio Food Campus
 Master Plan



A. Scope of the Master Plan

The Waiʻanae Coast Comprehensive Health Center has been providing medical and emergency services to Leeward Coast residents since 1972. For 50+ years, its focus has been on physical and behavioral health care. The Covid 19 pandemic of 2020 was a game changer. “During the COVID epidemic, the Health Center diversified its service mix and began addressing the basic human needs of its the broader community through major food distribution systems, while also integrating a wider range of social service coordination through its recently launched ‘Elepaio Social Services. The center acquired temporary food storage space at Waianae Mall and would regularly distribute food through drive-through food delivery reaching more than 10,000 people a month and through home delivery to Kupuna and other high-risk families.” (WCCHC, 2024).

As the social services arm of the COMP, ‘Elepaio has as its goals:

Goal 1. To strengthen community preparedness and response through the creation of the first emergency food warehouse facility on the Waiʻanae Coast as part of its community resilience hub.

Goal 2. To improve food banking optimization by streamlining and shifting the supply chain focus to local food systems, thereby strengthening the Waʻianae food system and food security for its community.

Goal 3. To develop a dynamic workforce to support the emergency food warehouse which will create more jobs for the community.

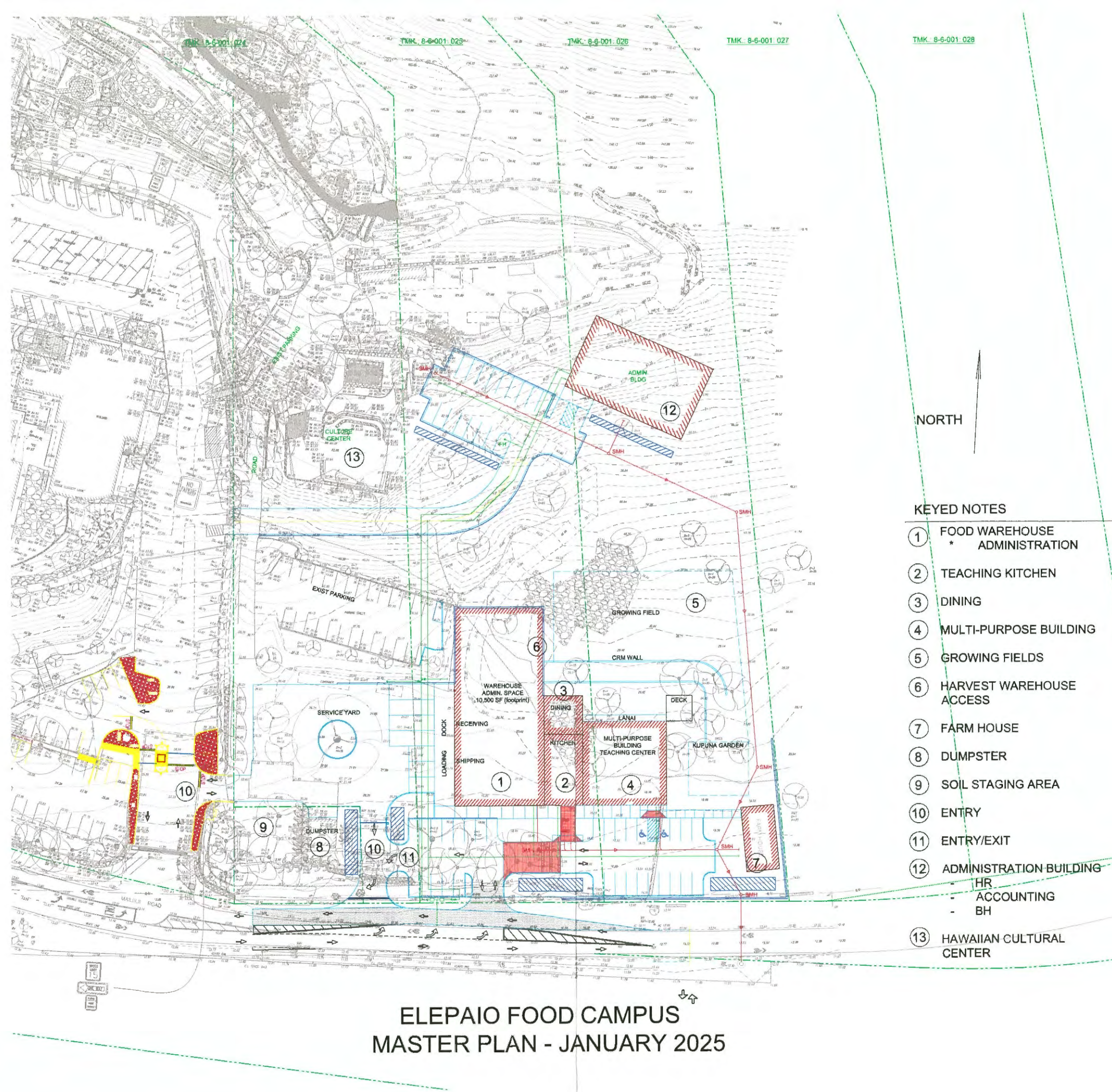
Goal 4. To provide food and minimize hunger by merging different systems from food growing and harvesting, processing and packing, cooking, and distributing foodstuffs to the community from a centralized food hub.

Goal 5. To teach the cultural significance of food as medicine.

The proposed Food Campus will physically expand ‘Elepaio’s current food storage and distribution network, grow food for security and sustainability, provide a community center that can shelter residents during emergencies, and offer training for future job opportunities.

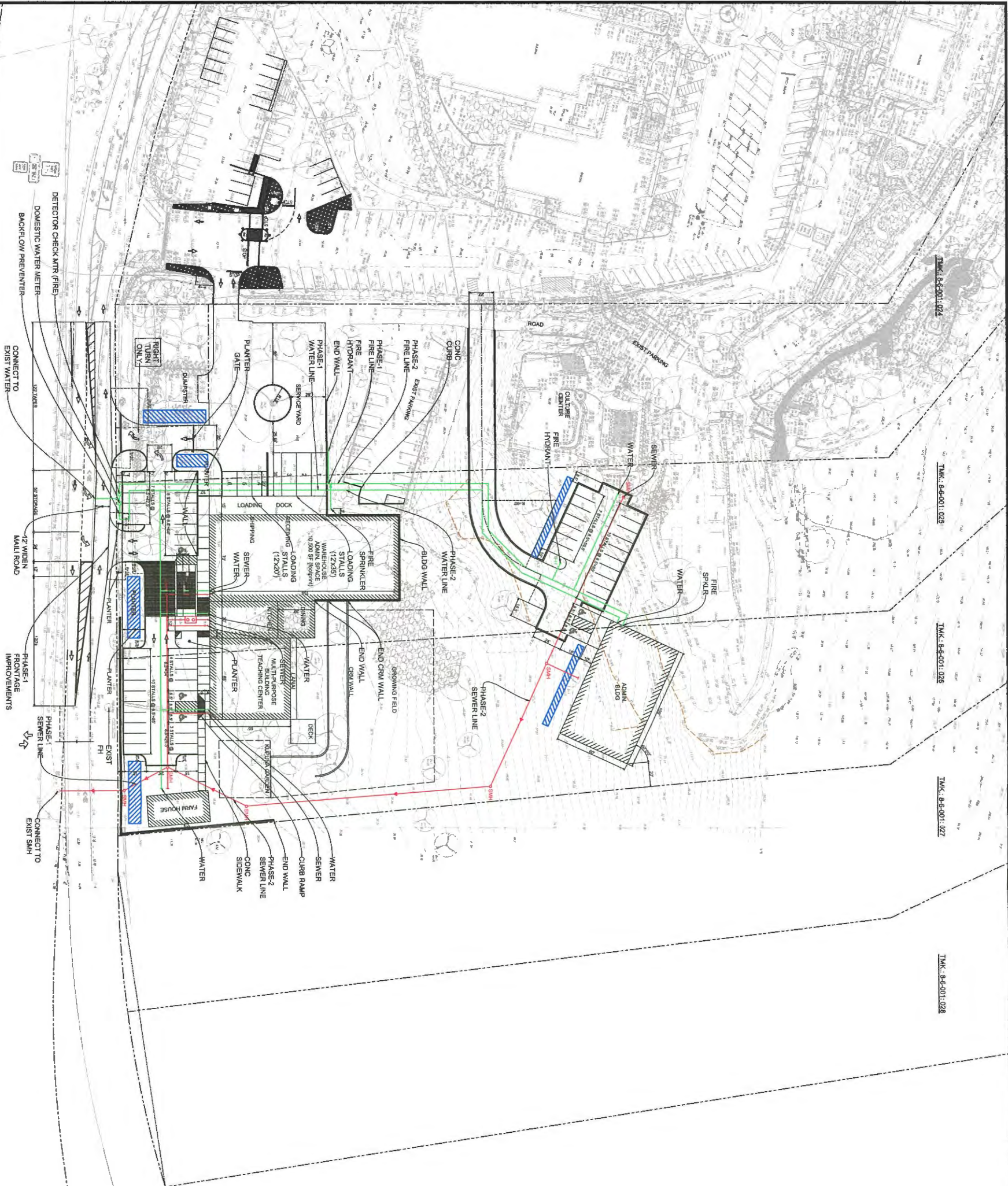
The ‘Elepaio Food Campus Master Plan (“Plan”) is shown as Figure 3. As indicated by its title, it is a conceptual plan depicting proposed uses, their respective locations, and building “footprints”. Further technical studies such as geotechnical investigation and engineering drawings such as a grading plan will help “fix” actual building locations. Architectural, structural, mechanical, and electrical plans for the respective structures have not been prepared for this early stage of the regulatory and development processes. Said drawings will evolve during the design development stage. A Conceptual Site and Utility Plan is shown as Sheet C101. The purpose of the Plan is to depict the layout of water and wastewater systems for the proposed uses, drainage improvements, and road improvements. It is also the basis for preliminary site improvement cost estimates.

The Food Campus Conceptual Master Plan is treated as the proposed action for this environmental assessment.





PLAN NORTH



LEGEND		
EXISTING	DESCRIPTION	NEW
W _b	WATERLINE	
S ₁₅	SEWER LINE	
D ₁₅	STORM WATER RETENTION SYSTEM	

Rev.	Date	Brief	Made By	Approved

WAIANAE COAST COMPREHENSIVE HEALTH CENTER
ENTRY IMPROVEMENTS
86-260 FARRINGTON HWY, WAIANAE, OAHU, HAWAII 96792
TAX MAP KEY: 8-6-001: 003
CONCEPTUAL SITE & UTILITY PLAN

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

Don L. Okamoto

SIGNATURE

JULY 2024

DATE

LICENSE EXPIRES: 30 APR 2025



HIDA, OKAMOTO & ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS
PACIFIC GUARDIAN TOWER
1440 KAPIOLANI BOULEVARD, SUITE 1120
HONOLULU, HAWAII 96814
PHONE: (808) 942-0066 FAX: (808) 947-7546



B. Development Phasing

The proposed Food Campus will be developed in three phases over a projected 6-7 years. Improvements associated with each phase are described below. The order of improvements listed for both phases is not a priority listing for construction.

1. Phase 1 (Year 2025 – 2027)

Phase 1 improvements will prepare the site for the improvements to follow, rough in water and wastewater systems, construct drainage improvements, and improve Mā'ilī'ili Road. The Food Warehouse will be constructed in this phase.

a. Sitework: Establish Grades and Infrastructure Easements

There are no permanent structures to be demolished on the lots proposed for the Food Campus.

Sitework will entail grubbing, grading, stockpiling and hauling, drilling, and rock hammering associated with rock removal. Blasting also may be required based on geo-technical conditions. When blasting, adjoining residents will be notified of the day and time of the occurrence. A warning siren will sound prior to blasting.

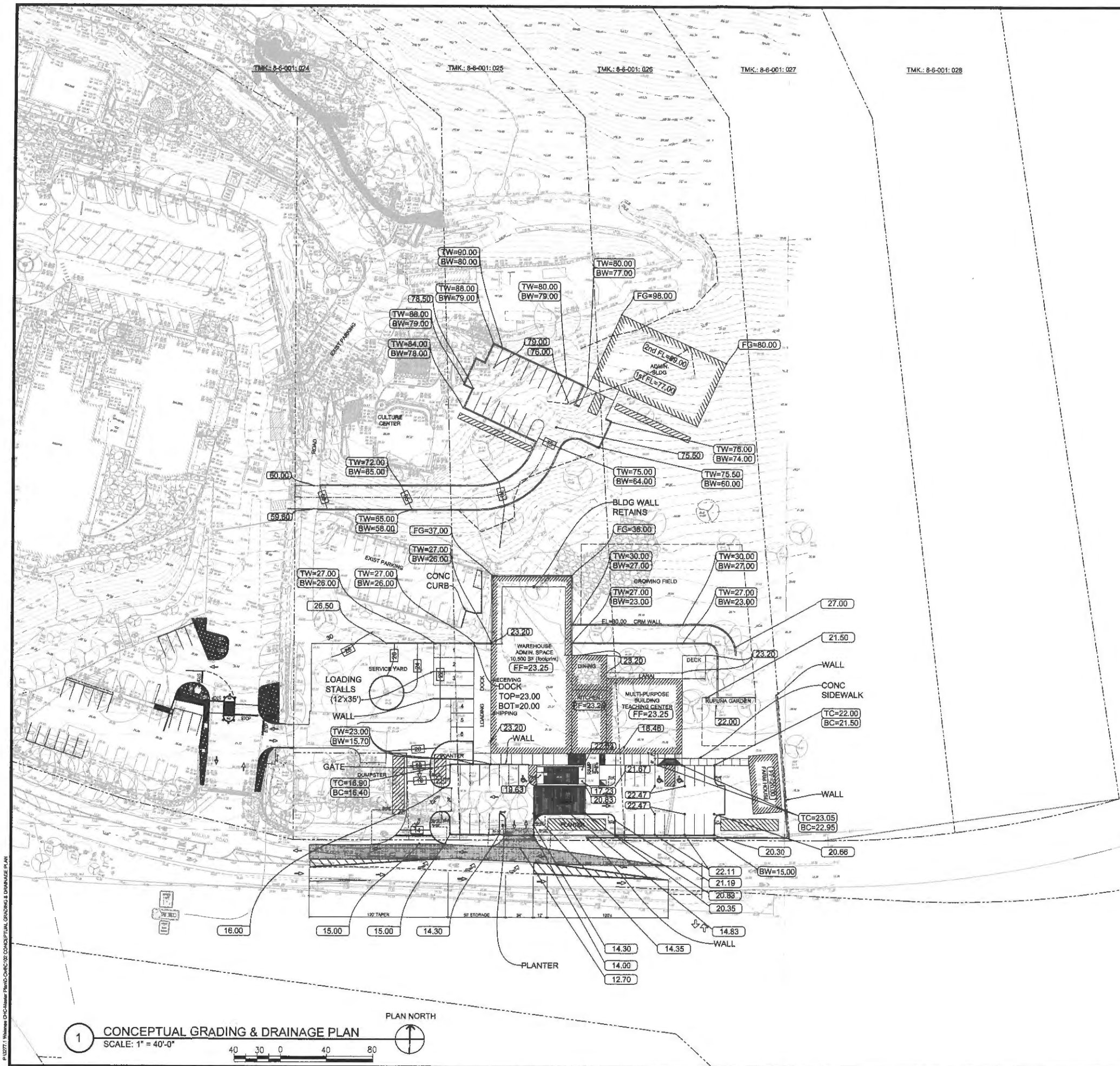
Approximately 2 acres (87,000 square feet) will be grubbed and graded for the improvements to follow. Because of the steep grades, earthwork is anticipated and will be specified relative to the building design and footprints. Earthwork quantities (excavation and embankment) will be quantified as construction plans and drawings for specific improvements are prepared. A Conceptual Grading and Drainage Plan is shown as Sheet C102.

b. Install Primary Infrastructure

There are no water and wastewater systems serving the lots to be developed. Two primary utility / infrastructure improvements are proposed for water and wastewater systems. A 4-inch water main (trunk main) will be installed along the west side of lot 025. The trunk main will connect to an existing Board of Water Supply service line in Mā'ilī'ili Road. Distribution lines (2-inch) from the trunk main will branch off and supply the respective Food Campus uses and users. Approximately 540 lineal feet of waterline will be installed.

The Food Campus will be built in 3 phases spanning 6 to 7 years (See Table 2 Construction Improvements). Phase I domestic water use is projected at 510 gallons per day (gpd), Phase II at 690 gpd, and Phase III at 1,830 gpd for a projected total of 3,030 gpd by 2032. ***The Board of Water Supply commented the existing water system is adequate to accommodate the food campus center master plan development. The availability of water will be confirmed when the building permit application is submitted for approval (BWS Comment).***

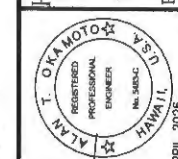
A trunk sewer (6-inch and 8-inch lines) will be installed along the east side of lot 026. Service laterals will connect the proposed buildings to the trunk main. Wastewater will gravity flow to the municipal sewer in Mā'ilī'ili Road. Approximately 400 lineal feet of sewer and 7 manholes will be constructed. A Conceptual Site and Utility Plan is shown as Sheet C101.



LEGEND		
EXISTING	DESCRIPTION	NEW
	SPOT GRADE	25.00
	CONTOUR	25
	DRAINAGE FLOW	
	DRAIN INLET (D.I.)	
	DRAIN MANHOLE (DMH)	DMH
	TRENCH DRAIN (TD)	
	STORM WATER RETENTION SYSTEM (SWRS)	
	FINISH FLOOR	FF
	FINISH GRADE	FG
	TOP WALL	TP
	BOTTOM WALL	BW
	SIDEWALK CULVERT (SC)	SC
	DRAIN LINE (DL)	D12



HDA, OKAMOTO & ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS
PACIFIC GUARDIAN TOWER
1440 KAPOLANI BOULEVARD, SUITE 1120
HONOLULU, HAWAII 96814
PHONE: (808) 942-4066 FAX: (808) 942-7546



THIS WORK WAS PREPARED
BY ME UNDER MY SUPERVISION
AND CONTROL AND I AM A LICENSED
PROFESSIONAL ENGINEER IN THE
STATE OF HAWAII.
Signature: Alan T. Okamoto
Date: JULY 2024
License Expires: 30 APRIL 2025

WAIANAE COAST COMPREHENSIVE HEALTH CENTER
ENTRY IMPROVEMENTS
86-260 FARRINGTON HWY, WAIANAE, OAHU, HAWAII 96792
TAX MAP KEY: 8-6-001: 003
CONCEPTUAL GRADING & DRAINAGE PLAN

Rev.	Date	By	Appr.

Designed: ATO
Drawn: OJP
Checked: TAA
Date: JULY 2024
Job No.: 21-3277.1
Drawing No.:

C102
Sheet - of - Sheets

Wastewater flow is projected at 470 gpd, 640 gpd, and 1,660 gpd for the 3 development phases, respectively, for a total flow of 2,770 gpd by 2032.

Irrigation water for the Growing Field and general site landscaping is estimated at 2,000 gallons per day for Phase I and part of Phase II. When completed water use is estimated at 4,000 gpd.

WCCHC is consulting with the Department of Environmental Services, City and County of Honolulu about drawing treated wastewater from the Wai'anae Wastewater Treatment Plant for irrigation and fire mitigation. The Plant provides secondary wastewater treatment which will have to undergo additional treatment per State Department of Health guidelines for the treatment and use of recycled water (State Department of Health, 20022). ***The Board of Water Supply recommended the developer investigate the feasibility of using non-potable water for irrigation of the proposed agricultural fields. If non-potable water is either unavailable or infeasible, a report of the investigation should be submitted to us before we will consider the use of potable water (BWS Comment).***

Permanent drainage structures are not proposed. The terrain will be sloped to convey runoff into swales and strategically placed percolation basins at different elevation where it can percolate into the ground. Landscaped areas and the Growing Field will also aid in collecting and retaining runoff on-site.

Aerial power and communication lines along Mā'ili'i Road will extend to the development and placed underground. Overhead systems along Mā'ili'i Road will remain intact.

On-site infrastructure piping and electrical conduits will be placed underground where they cannot be seen. The exceptions would be surface swales and retention basins for diverting and retaining on-site surface runoff and water system check valves and pressure reducers which would rise above grade.

Fire flow lines and fire hydrants will be installed within required distances from the proposed buildings.

c. Improve Mā'ili'i Road

Improvements to Mā'ili'i Road will be required. Said improvements would include striping a new left-turn storage lane at the new entry to the Food Warehouse parking area, widening a section of Mā'ili'i Road by 12 feet, and providing right-turn ingress / egress lanes at two intersections. Approximately 5,000 square feet of frontage improvements is proposed.

d. Access

The existing entry driveway to the COMP from Mā'ili'i Road will serve as the principal access route for trucks to the Food Warehouse. An existing two-way driveway to lots 012 and 024 just inside the entry will accommodate delivery vehicles. A Service Yard for vehicle maneuvering and a loading dock will be constructed on the west side of the Food Warehouse. Two truck stalls and one small vehicle access door will be provided at the loading dock.

From the Yard, delivery vehicles will egress via a new, 20-foot wide, one-way driveway, right turn only at Mā'ili'i Road. Vehicles from uses above the Warehouse and from the parking area fronting the Warehouse can also exit through this driveway.

A 24-foot wide driveway from Mā'ili'ili Road will access a parking area to be constructed in front of the Food Warehouse. The two-way entry and parking area can also function as a food pickup drive-thru.

The existing *mauka-makai* driveway on Lots 012 and 024 will be improved to accommodate increases in vehicle traffic. A 24-foot wide road will be constructed off the *mauka/makai* driveway to gain proposed uses and structures planned for the upper sections of the Project Area and provide access for a fire apparatus.

Parking for the various uses is estimated as follows. The parking formula used for determining the number of parking stalls was 1 stall / 200 square feet. The Food Warehouse and Multi-Purpose Building will share parking.

	Regular	Accessible
Food Warehouse	36	4
Farm House	2	0
Hawaiian Cultural Center	15	1
Kitchen	6	1
Dining Area	12	1
Multi-Purpose Building	Share with Food Warehouse	
Administration Building	32	2

e. Food Warehouse (Keyed Note 1)

The Food Warehouse is the principal use of the Food Campus and the key facility for food security and distribution. It is located in the center of the Food Campus with accessible routes from Mā'ili'ili Road for delivery vehicles, employees, volunteers, and the public

The Warehouse will be operated by the Hawai'i Food Bank. Space in the 10,500 square foot structure is allocated for a loading dock / receiving area, sorting and packaging, refrigerator and freezer cold storage, distribution, operations office, meeting room, breakroom, and restrooms. A wash area for vegetables harvested from the Growing Fields and space for a produce prescription program operated by 'Elepaio Social Services will be provided.

The Warehouse is situated adjacent to the growing fields, teaching kitchen, and dining . It will also function as a community pantry where residents can pick up packaged food.

f. Growing Fields (Keyed Note 5)

An approximately 2.0± acre site is planned as Growing Fields for raising produce, fruits, and Native Hawaiian staples. The crops to be grown will be determined by a Garden Manager and others. Produce grown on site will be harvested for use in the Teaching Kitchen, Farmers Market, Meals on Wheels, and food distribution events. Participants in the Teaching Kitchen will plant, tend, and harvest vegetables for use in the cooking program.

Livestock, fowl, and other animals will not be raised on the Food Campus

It is anticipated that the Growing Field will help increase fruit and vegetable consumption of WCCHC patients, improve health outcomes, reduce healthcare costs of program participants, and decrease food insecurity.

g. Farm House (Keyed Note 7)

The “Farm House” will house the Growing Field Manager and staff. The 1,000 square foot structure will provide office space, a meeting room, restrooms, and a tool room for storing garden tools, equipment, and irrigation supplies.

h. Hawaiian Cultural Center (Keyed Note 13)

The existing Hawaiian Cultural Center has been partially improved. Improvements include a Native Hawaiian open-sided thatched roof *hale* (Hale O’ Palani), stacked stone walls bounding a grass lawn used for small gatherings, hula performances, reflection / meditation, and a small garden for raising Native plants.

A hula mound and healing garden --- “Ka Aina Hoopulapula O’ Kamaki Kanahele” --- are proposed. Infrastructure improvements would include providing electrical power, wastewater, and irrigation lines. Approximately 1.5 acres is allocated for existing and proposed improvements.

2. Phase 2 (Year 2027 – 2029)

a. Teaching Kitchen and Dining Area (Keyed Note 2 and 3)

A certified Teaching Kitchen and Dining Area of approximately 3,500 square feet will be built adjoining the Food Warehouse. The Kitchen will teach hands-on skills and methods for cooking healthy and nourishing vegetable-based meals in the home. Participants will also plant, tend, and harvest vegetables from the Growing Field and cook them in the Kitchen, in effect a field to table learning experience.

The Dining Area is for food campus and COMP employees and workers and also a setting for teaching meal services. Meals may be made available from the Teaching Kitchen. The Kitchen also will prepare packaged meals for a Meals on Wheels program.

b. Multi-Purpose Building (Keyed Note 4)

A 6,500 square foot Multi-Purpose Building will be constructed as a place of assembly, a learning place, and a gathering place for non-emergency and emergencies. ‘Elepaio Social Services will use the building for promoting its community wellness programs and provide access to services, resources, and opportunities for the communities it serves. ‘Elepaio already has conducted workshops on emergency preparedness, financial literacy, and food preparation and these workshops are expected to continue. It is anticipated that the facility will be promoted as a safe, secure, gathering place for the community.

During emergencies, the building can function as an operations center for emergency responders and provide shelter and food for those in need. The shelter portion is sized to accommodate 100 persons.

3. Phase 3 (Year 2029 – 2032)

a. Administration Building (Keyed Note 12)

An approximately 10,000 square foot, two-level office building for ‘Elepaio Social Services.

The structure would provide space for administrative officers, operations support, community programs and staff, conference / meeting rooms, and training rooms.

Construction Improvements are summarized in Table 2.

Table 2. Construction Improvements

Food Campus Proposed Improvements		
	Area	Type of Construction
Phase 1		
Site Improvements	10.5± acres	Grubbing, grading, trenching Establish building pads and vehicle routes Infrastructure layout Conduit placement for service points
Food Warehouse	10,500 sf	Slab on grade w/ steel frame, metal siding and roof
Growing Field	2.0± acres	No structures proposed
Farm House	1,000 sf	2X wood framing with T1-11 prefinished exterior sheathing, metal roof
Hawaiian Cultural Center	1.5± acres	Healing garden, hula mound, infrastructure
Phase 2		
Teaching Kitchen and Dining Room	3,500 sf	Slab on grade w/steel frame, metal siding and roof
Multi-Purpose Building	4,500 sf	2X wood framing with T1-11 prefinished exterior sheathing, metal roof
Phase 3		
Administration Building	8,000 sf	Frame slab on grade

Source: 'Elepaio Food Campus Master Plan, 2025.

4. Associated Improvements

- The Food Warehouse would be approximately 30-feet in height. All other buildings will not exceed 25 feet in height.
- Planting areas around buildings / grounds will be landscaped for beautification, shade, screening, and drainage control. Irrigation system to be installed in landscaped areas
- WCCHC is in discussion with the City and County of Honolulu about the possibility of using treated, recycled water from the Wai'anae Wastewater Treatment Plan for irrigating the Growing Fields and landscape plantings. Recycled water will be pumped to below grade cisterns above the Food Campus and gravity flow to the Growing Fields below.

The Wai'anae WWTP treatment facilities would have to be retrofitted with a filtration system for irrigating vegetables (R-2 water), constructing a pump station and piping,

and constructing storage vessels. Costs associated with producing and piping irrigation water will be borne by the COMP.

The second option is to seek temporary use of potable water from the municipal system for irrigating the Growing Field until such time that a recycled water system is constructed and operational.

- The Administration Building, Teaching Kitchen, Dining Area, Multi-Purpose Building, and office spaces in the Food Warehouse will be air conditioned.
- Fire sprinklers will be installed in the Food Warehouse, Teaching Kitchen, Multi-Purpose Building, and Administration Building.

C. Economic Characteristics

Projected cost estimates for the proposed improvements and the build year(s) are summarized in Table 3.

Table 3. Projected Cost and Timeline

Project	Cost (\$M)	Year 1-2-3-4-5-6
Site Plan and Infrastructure	1	1 and 2
Fire Mitigation	0.5	1 and 2
Recycled Water System	1.5	1 and 2
Food Warehouse w/ Mezzanine	7.5	1 and 2
Growing Field	0.3	1 and 2
Hawaiian Cultural Center	0.25	1 and 2
Farm House	0.45	3 and 4
Teaching Kitchen / Dining Area	2.8	3 and 4
Multi-Purpose Building	3.5	3 and 4
Administration Building	12	4 to 6
TOTAL	\$29.80	7 Years

Source: 'Elepaio Food Campus Master Plan, 2025.

Construction will be funded primarily by the COMP through Federal, State, and County grants, contributions from charitable foundations, corporate giving programs, and donations from community organizations, and individuals. Site work and infrastructure costs may be shared with the Department of Hawaiian Home Lands.

Construction will commence after all permits and approvals are received. A 7-year buildout is projected.

The COMP and 'Elepaio Social Services have as their goal to provide economic opportunities in the community and provide job opportunities to achieve that goal. The COMP currently employs about 700 persons and 'Elepaio Social Services 18 persons.

Development of the Food Campus will create job opportunities for Leeward Coast residents and organizations well into the future. An employment study was not prepared for this environmental assessment. Forty full-time jobs are projected based on the opening and staffing of a facility. It is not a projection of long-term employment.

<u>Facility</u>	<u>FTE</u>
'Elepaio Food Campus Office	16
Food Warehouse	6
Growing Field / Farm House	6
Hawaiian Cultural Center	2
Teaching Kitchen / Dining Room	2
Multi-Purpose Building	<u>8</u>
Total:	40

SECTION 2 EXISTING CONDITIONS

For this environmental assessment, it was determined early on that field investigations would be limited in area by the land's topography, steep terrain, accessibility, and investigator safety. As such field surveys were based on the State land use district designations for each lot. All lots bear two land use designations: Urban and Conservation. Field surveys covered the areas designated Urban as these areas are designated for urban uses. Areas designated Conservation were not surveyed for reasons given above.

A. Existing Uses and Structures

Lots 012 and 024 have been partially improved for COMP use. Lot 012, the smaller of the two lots, has been partially grubbed, graded, and landscaped. Improvements are limited to a paved entry, a *mauka/makai* paved driveway to Lot 024, and an enclosure for trash bins, temporary green houses, and a collection area for construction debris and landscaping materials (Photograph 1).

Improvements on Lot 024 are more extensive. A large paved parking lot with 28 stripped stalls, several smaller areas for parking, a plant nursery and maintenance area with greenhouses, shipping containers used for workshops and material storage, and equipment parking areas have been constructed or placed on the site. A Cultural Area (Photograph 2) and associated parking are located on Lot 024.

Three of the four other lots are vacant, undeveloped, and free of structures. Photograph 3 shows the general location of the Food Warehouse on lot 025 as seen from above. The tree and grass covered rocky terrain is typical for the four lots.

The owner of TMK 8-6-001: 002 on the east of Lot 028 has built or caused to be built 2 or more structures overlapping into lot 028. It also appears that a portion of Lot 028 is used for parking large semi-trucks or for storage containers.



Photograph 1. East View of Lot 012.



Photograph 2. View of *Hale* and Portion of Hawaiian Cultural Center.



Photograph 3. South View of Food Warehouse Location From Above.

B. Environmental Characteristics

1. Climate

The climate of Wai'anae can be characterized as hot and dry. Annual rainfall averages less than 25 inches along the coastline to 80-100 inches at the higher elevations of the Wai'anae Mountain. Daily temperatures range between 72° and 80° Fahrenheit and can reach the low to mid-90's during the summer. Prevailing winds blow from the northeast direction at an average 10-13 miles per hour (Gerald Park Urban Planner, 2000).

2. Topography

The lots of interest form the north face of Puu Mā'ili'ili and front on approximately 1,000 lineal feet of Mā'ili'ili Road. Street frontage for the lots is estimated at Lot 012, 150 feet; Lot 024, 50 feet; Lots 025, 026, and 028, 200 feet; and Lot 027, 250 feet.

Ground elevation rises from 12 feet at Mā'ili'ili Road to about 235 feet at the top of parcel 028. Lower areas across the lots are relatively flat up to the 40 – 50-foot elevation. The terrain begins to steepen across the middle of the lots then rises sharply from about the 125-foot elevation .

Measured from street grade to the upper end of the Project Area, ground slope ranges from 19% at Lot 024, 25% at Lot 026, and 29% at Lot 028.

3. Soils

Soil Conservation Service (1972) soils map for the area identifies four soil types over the lots. The soils appear as bands stacked on each other crossing the lots in an east-west direction. Beginning at Mā'ili'ili Road the soils are "stacked" on top of each preceding layer.

- Pulehu clay loam 0 to 3 percent slopes (Symbol: PsA)

This soil occurs on the flat lands adjoining Mā'ili'ili Stream Channel, Mā'ili'ili Road, and the lower slopes of the lots. This soil is about 60" thick, loamy in its surface and subsurface layers, and rests on a bed of alluvium. Permeability is moderate, runoff is slow, and the erosion hazard is no more than slight.

- Keaau stony clay 2 to 6 percent slopes (Symbol: KmaB)

This soil generally occurs on lowlands of coastal plains. The soil is about 36" thick and sits on limestone and consolidated coral sand. Runoff is slow and the erosion hazard is slight.

- Lualualei extremely stony clay 3 to 35 percent slopes (Symbol: LPE)

This soil is about 50" thick and rests on coral and gravel sand. Runoff is medium to rapid, and the erosion hazard moderate to severe.

- Rockland (Symbol: RrK)

This soil is found on level or steep slopes. Where it occurs, it covers 25 to 90 percent of the ground surface. Outcrops are mainly basalt and andesite rock. This soil has a high shrink-swell potential and buildings are susceptible to sliding when the ground is saturated and foundations and retaining walls are subject to cracking.

4. Geology

The Waia'anae Range is the prominent geological feature spanning the Wai'anae Coast from Ka'ena Point on the west to Makakilo on the east. It is the oldest of the two volcano that gave rise to the island of O'ahu. The younger Ko'olau Range formed the Windward side and lava from both created the broad Schofield Plateau between both ranges.

Broad amphitheater shaped valleys (Nanakuli, Lualualei, Wai'anae, and Makaha) separated by discontinuous ridges---Kamalie'unu Ridge between Makaha and Wa'ianae Valleys and Pāhe'ehe'e Ridge between Wai'anae and Lualualei Valleys. Puu Mā'ilīlī at one time may have been part of Pāhe'ehe'e Ridge.

Another geological feature are valleys choked with enormous accumulations of alluvium deposited by streams that once emanated from dikes, gullies, and waterfalls in the Wai'anae Range. The accumulation is the result of not having sufficient water for transporting sedimentary material out of the valleys.

Alluvium, limestone, and coral sand underlying the soil "bands" comprising the project area relate the geological history of the area. Limestone and coral sand indicate that the ocean was much higher than existing and alluvium deposits are sedimentary material from weathering of the Waianae Range. Areas of Rockland are younger lavas consisting of andesite or basalt and have little to no soil cover.

5. Water Resources

a. Surface Water

There are no surface water features on the premises. Mā'ilīlī Stream flows from east to west within a concrete lined, trapezoid-shaped channel. The channel outlets into the Pacific Ocean through a boulder lined groin at Farrington Highway.

The stream was first channelized 1966-67 with additional unknown improvements completed in 1974 (Timbol & Maciolek, 1978; U.S. Senate, 1971).

b. Ground Water

According to groundwater maps prepared by Mink and Lau (1990), the lots overlie the Lualualei aquifer of the Wai'anae aquifer sector (See Table 4). The Lualualei aquifer is characterized by a confined sedimentary aquifer above a confined dike aquifer. The sedimentary aquifer is comprised of moderately brackish water, is currently being used (but not for drinking), and is highly vulnerable to contamination. The dike confined aquifer also is not used for drinking, is comprised of moderately brackish water, and has a low vulnerability to contamination.

Table 4. Aquifer Classification System

Aquifer Code	30302116	30302122
Island Code	3 - Oahu	3 - Oahu
Aquifer Sector	03 - Waianae	03 - Waianae
Aquifer system	02 - Lualualei	02 - Lualualei
Aquifer Type, hydrogeology	1 - Basal	1 - Basal
Aquifer Condition	1 - Confined	2 - Unconfined
Aquifer Type, geology	6 - Sedimentary	2 - Dike
Status Code	13311	23223
Developmental Stage	1 - Currently Used	2 - Potential Use
Utility	3 - Neither	3 - Neither
Salinity (in mg/L Cl ⁻)	3 - Moderate (1,000-5,000)	3 - Moderate (1,000-5000)
Uniqueness	1 - Irreplaceable	2 - Replaceable
Vulnerability to Contamination	1 - High	3 - Low

Source: Mink and Lau, 1990.

In the absence of soil borings, the depth to groundwater cannot be determined at this time.

c. Marine Waters

The State Department of Health Water Quality Standard Map for O'ahu (2014) classifies the ocean waters at the Mā'ili shoreline as Marine Waters Class A. Hawaii Administrative Rules, Title 11, Chapter 54 states the following:

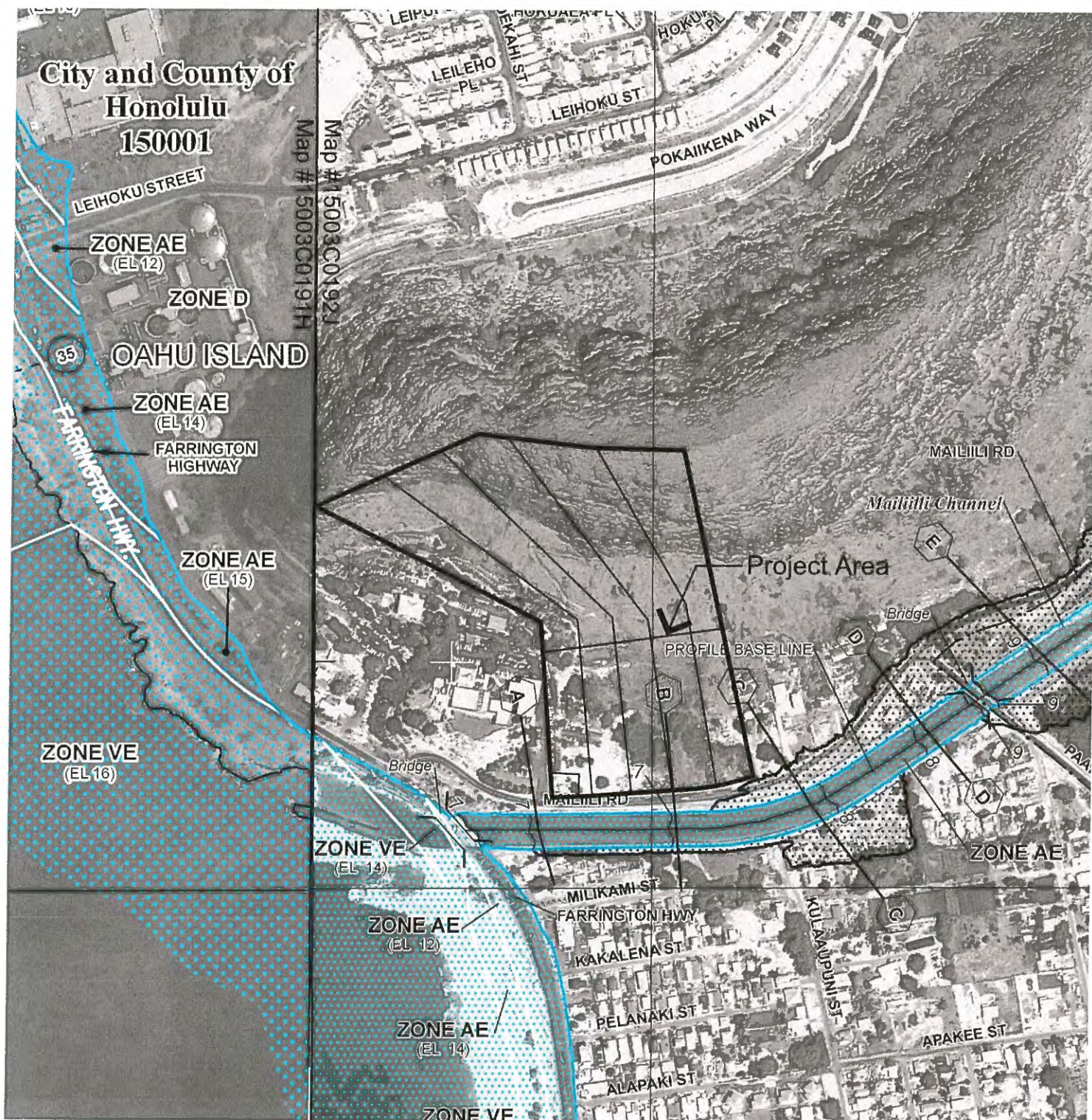
"It is the objective of Class A waters that their use for recreational purposes and aesthetic enjoyment be protected. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class. No new sewage discharge will be permitted within embayments. No new industrial discharges shall be permitted within embayments, with the exception of:" [Note: Industrial discharge is not associated with the Project].

The ocean and Mā'ili Beach are less than 1,000 feet from Lot 012 which is nearest to the ocean.

6. Flood Hazards

The Flood Insurance Rate Map ("FIRM") panel for this section of Wai'anae shows the lots to be in a Non-Special Flood Hazard Area which is "an area in a low to moderate risk flood zone". Within this area the lots are designated Zone X which is defined as "areas determined to be outside the 0.2% annual chance floodplain" (the 500-year floodplain). The FIRM panel is shown as Figure 4.

Although overland flooding poses a low to moderate risk low lying areas on both sides of Mā'ili'ili Road are inside a tsunami evacuation zone (Department of Emergency



Legend



Special Flood Hazard Zone Subject to Inundation by the 1% Annual Chance Flood

Zone AE Base Flood Elevation Determined.

Zone VE Coastal Flood Zone with Velocity Hazard (Wave Action); Base Flood Elevations Determined.



Floodway Areas in Zone AE



Other Flooded Areas

Zone X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.



Other Areas

Zone X Areas determined to be outside the 0.2% annual Chance Floodplain.

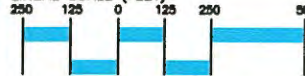
Zone D Areas in which flood hazards are undetermined, but possible.

Source: Federal Emergency Management Agency
Flood Insurance Rate Map
Map #15003C0192J, Jan. 19, 2011
Map #15003C0191H, Nov. 5, 2014



Gerald Park
Urban Planner
December 2024

LINEAL SCALE (FEET)



Lualualei, District of Wa'ianae, O'ahu

Figure 4
FIRM Map
'Elepaio Food Campus
Master Plan

Management Public Information System, TsunamiReady@honolulu.gov). Elevations along the road shoulder is approximately 12 feet above mean sea level.

A second zone called the Extreme Tsunami Evacuation zone extends inland from the Tsunami Evacuation Zone. Lot 024 is entirely within the Extreme Tsunami Evacuation Zone. For the remaining lots the boundary for this zone is the 60-foot contour (estimated). The boundary is slightly higher for Lots 027 and 028. Tsunami Evacuation Zones are shown as Figure 5.

Sea level rise in coastal areas affecting public and private properties is a concern for the City and County of Honolulu. Modeling and analyses of sea level rise specific to the project and property were not performed for this assessment. In lieu of intensive analyses, the Hawai'i Sea Level Rise Vulnerability and Adaptation Report (December, 2017) was reviewed and its companion tool, the Hawai'i Sea Level Rise Viewer, used to gauge potential sea level rise.

The Report models three hazards attributable to sea level rise for the state of Hawai'i---passive flooding, annual high wave flooding, and coastal erosion. The DHHL lots should not be affected by high wave flooding and coastal erosion because of their location away from the shoreline and Pacific Ocean. Passive flooding, however, could pose conditions in need of mitigation.

The Report projects sea level rise for four time periods (See Table 5). The projections are not hard and fast but provide parameters for identifying areas vulnerable to variations in sea level rise. Changes in global climate conditions can influence the projections.

Table 5. Upper Boundaries of Global Sea Level Rise Projections

Global Sea Level Rise Projection		
Year	Feet	Meters
2030	0.5	0.16601
2050	1.1	0.3224
2075	2	0.5991
2100	3.2	0.9767

Source: Hawai'i Sea Level Rise Vulnerability and Adaptation Report (December 2017)

The Sea Level Rise Viewer shows that the lots are outside the Sea Level Rise Exposure Area for a 3.2 foot rise in sea level resulting from passive and annual flooding (See Figure 6).

7. Natural Resources

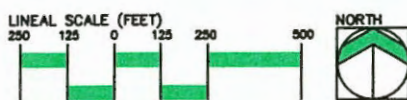
A natural resources assessment of the property did not reveal the presence of rare, threatened, or endangered flora or fauna (AECOS, 2019). Excerpts from the survey are presented below and the entire report is attached as Exhibit A. The survey did not span the entire acreage of the five lots. By design it was limited to below the 200-foot contour of Pu'u Mā'ili'ili because of the near-vertical cliff face and talus slope at the base.



Source: Tsunami Inundation Zones Website,
<https://tsunami.coast.noaa.gov/#/>

Legend

- | | |
|-----------------------|---------------------------------|
| Fire Station | Safe Zone |
| Hospital | Extreme Tsunami Evacuation Zone |
| EMS | Tsunami Evacuation Zone |
| Police | Major Street |
| Public/Private School | Street |



Lualualei, District of Waialae, Oahu

Figure 5
 Tsunami Inundation Zones
 'Elepaio Food Campus
 Master Plan



LEGEND

 APPROXIMATE AREA OF 3.2 FOOT RISE IN SEA LEVEL

Source: Hawaii Sea Level Rise Viewer,
<http://www.pacioos.hawaii.edu/shoreline/slr-hawaii/>

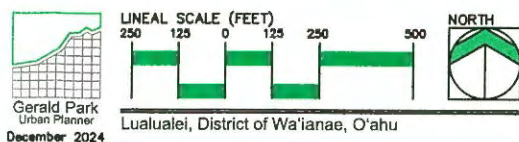


Figure 6
Sea Level Rise Exposure Area
'Elepaio Food Campus
Master Plan

Vegetation

Vegetation across the undeveloped lots comprises *kiawe* (*Prosopis pallida*) forest in the lowlands, becoming open savannah of *kiawe* and *buffle grass* (*Cenchrus ciliaris*) up the slope, and then grassland or grassland with widely scattered shrubs, mostly *koa haole* (*Leucaena leucocephala*) and *klu* (*Vachellia farnesiana*) near the top of the talus apron. Sparse evidence of wildfire damage to vegetation was seen in a few places.

A total of 134 taxa are included in the listing. These break down as 47 ornamentals (plants not naturalized; another 31 or so are native or Polynesian introduced species planted as ornamentals), 14 are native (12 indigenous and 2 endemic), and 8 are early Polynesian introductions. Of potential conservation concern would be the two endemics: *koki'o ke'oke'o* (*Hibiscus arnottianus*) and *lo'ulu* (*Pritchardia* sp.). *Koki'o ke'oke'o* is a common landscape plant. **The two endemic species are not found on the proposed 'Elepaio Food Campus but are located in a garden and walking trails above the COMP.** All of the indigenous natives are common plants in the Islands.

Birds

A total of 190 individual birds of 18 species representing 11 separate families was recorded. All of the species detected during the course of this survey are alien to the Hawaiian Islands. Avian diversity and densities were in keeping with the habitats present on the site. Three species: *Red-vented Bulbul* (*Pycnonotus cafer*), *Zebra Dove* (*Geopelia striata*), and *Japanese White-eye* (*Zosterops janonicas*) accounted for 56 percent of all birds recorded. The most frequently counted species was *Red-vented Bulbul*.

Mammals

Barking dogs were heard from an area on the eastern side of the site and from areas within a housing area south of Mā'ili'ili Stream. Additionally tracks and scat of dogs were encountered within the undeveloped portion of the study area. Several small *Indian mongoose* (*Herpestes javanicus*) were seen. No other mammals were recorded though it is highly probable that one or more of the four alien Muridae species currently established on the Island of O'ahu---roof rat (*Rattus rattus*), brown rat (*Rattus norvegicus*), Polynesian rat (*Rattus exulans hawaiiensis*) and European house mouse (*Mus Musculus*)---uses resources on the property on a seasonal and temporal basis.

It is possible that the endangered Hawaiian Petrel (*Pterodroma sandwichensis*) and the threatened Newell's Shearwater (*Puffinus newelli*) may overfly the site during the nesting season. These two species have recently been deterred over the Island of Oahu. Additionally, *Wedge-tailed Shearwaters* (*Ardenna pacifica*), a coastal nesting non-listed indigenous seabird could also potentially overfly the site on a seasonal basis; no suitable nesting habitat for any of these three seabird species is found on the Project site.

The O'ahu population of *White-Tern* (*Gygis alba*) is listed as an endangered species by the State of Hawai'i; it is not listed under federal statute. This ephemeral species was not recorded during this survey nor was it expected. The current resident population of *White-Terns* on O'ahu is found on the leeward side of the island concentrated in the Waikiki area.

No owl species were recorded during this survey. Two resident owl species occur on O'ahu: the introduced *Barn Owl* (*Tyto alba*) and the endemic sub-species of the *Short-eared Owl* or

Pue'o (Asia flammeus sandwichensis). This latter species has become increasingly scarce on the Island and the O'ahu population is listed as an endangered species by the State of Hawai'i (it is not listed under federal statute). Pue'o is a ground nesting diurnal species and does nest in the greater Wai'anae area. Grassland occupies much of the undeveloped portion of the Project site and could be used by Short-eared Owls.

It is possible that Hawaiian hoary bats overfly the project area.

8. Archaeological Resources

A Field Inspection of the properties was performed to document the presence or absence of historical features on the ground surface and to assist in future planning endeavors. Excerpts of the inspection report are presented below and the entire report is attached as Exhibit B. Three potential archaeological historic properties were identified. The features are described below and their locations shown on Figure 7.

- CSH 1 comprises a basalt and concrete mortared structural remnant in relatively poor condition. The observable intact portion is approximately 2.86 m long by 1.5 m wide with a maximum height of 70 cm. CSH 1 is two to three courses high and one course wide. A rectangular post hole was observed within the feature. Piles of large tires and trash hindered investigation of the immediate vicinity.
- CSH 2 comprises a circular basalt and concrete mortared structural remnant. It is 4.3 m in diameter, with a maximum height of 1.2 m. and a maximum width of 75 cm. CSH 2 is five to seven courses high and one to two courses wide. A post hole or chimney-like structure is within the southwest portion of the feature with an abutment of basalt and concrete mortar adjacent to the hole on the interior of the feature. Thick wire extends from portions of the concrete mortar near the hole. What appears to be a clean edge, four courses high, may represent an entrance or doorway to the enclosed circular area. CSH 2 exhibits similar construction style and materials to the CSH! Structural remnant. CSH 2 is in overall fair condition with some collapse of the northeast portion and cracking of the concrete mortar throughout the feature.
- CSH 3 is an L-shaped basalt boulder alignment in good condition. The long axis is 11 m long and extends northeast to southwest. The short axis is 2.4 m long and extends southeast from the southwest end of the long axis. The maximum height of the boulders is 72 cm. The northeast end of CSH 3 is 1.8 m from the post hole/chimney structure of CSH 2.

In addition to the potential historic properties, a boulder-filled limestone sinkhole and walking trails were also identified. The sinkhole may be modified, as the observable portion appeared vertical and straight; however; portions of the sinkhole were obscured by boulders and vegetation. The sinkhole is approximately 3 m long by 2.3 m wide with a maximum observable depth of 180 cm below surface.

Based on background research the potential for traditional Hawaiian subsurface archaeological historic properties is low. No LCAs were awarded with or in the vicinity of the project area, and two previous archaeological surveys adjacent to the current project area yielded negative results.



LEGEND

ARCHAEOLOGICAL SITE

Source: Cultural Surveys Hawaii, Inc.

The trails are maximum 3 m wide and are likely modern and associated with development of the Health Center.

Three houses with adjacent parking areas were documented along the eastern boundary of the project area. Two buildings partially within the project area are over fifty years old. These buildings, which appear to “straddle” the boundary between TMKs [1] 8-6-001: 028 (within the project area) and [1] 8-6-001: 002 (outside the project area). Both buildings may need to be assessed as architectural historic properties.

9. Cultural Resources

Cultural Surveys Hawai'i (2020) prepared a cultural assessment for the COMP which broadly covered the entire *ahupua'a* of Lualualei. The purpose of the assessment was to investigate and compile information of traditional cultural practices associated with the area. The investigative phase included a literature review, archaeological survey and reports for the site and adjoining areas, informant interviews and written testimonies.

The description of cultural resources presented below is excerpted from Section 7 Traditional Cultural Practices of the cultural assessment. The description has been paraphrased for brevity. Italicized names are that of individuals who shared their knowledge of traditional cultural gathering practices both past and ongoing, cultural sites, and cultural associations. The cultural assessment is attached as Exhibit C.

Habitation and Subsistence

- The eastward slopes of the southern end of the Wai'anae Mountains were famous for cultivating *'uala* (sweet potato). Sweet potatoes were also cultivated on the “the other side of the Wai'anae Mountains on the dry slopes of Nānākulii, Lualualei, and Wai'anae-kai, and other small valleys as far as Makua” (Handy 1940:15). Although there was some *kalo* (taro) cultivated in the valleys of Wai'anae-uka, sweet potatoes grown on the *kula* lands were the main food of the people there; with the exception of Wai'anae-kai, the sweet potato was the staple for the inhabitants of this area. The lowlands of Wai'anae District provided *uala* and *niu* (coconut) and the inland valley was planted in *kalo* and *wauke* (paper mulberry). The upland forest regions provided various woods needed for weapons and canoes. By the 1790s, a variety of introduced vegetables were likely planted in the valley as well.
- Lualualei was a region of importance in the sandalwood trade. Shortly after 1800, the Hawaiian Islands began exporting sandalwood to Asia. The demands placed on the *maka'āinana* to harvest wood for trade caused many agricultural fields to be fallow and unused. By 1811, sandalwood merchants began actively exploiting the Hawai'i market and huge amounts of sandalwood were shipped to China. Traditionally, Hawaiians used sandalwood for medicinal purposes and as a scent to perfume their *kapa*. The bulk of the sandalwood trade was controlled by Kamehameha I and few other chiefs. By 1829, the bottom fell out of the trade business, as the majority of the sandalwood trees had been harvested. The population of Lualualei would undoubtedly have been affected by the population shifts and disruption of traditional lifestyles and subsistence patterns caused by sandalwood gathering.
- *James Brito* and *Maile Keli'ipio-Acoba* mentioned that the area where WCCHC is located is known as Green Lanterns which is named after a bar known as Green Lanterns which

was formerly located in the vicinity of where the bus stop is. People refer to the beach [Mā'ili Beach?] as Green Lanterns and the middle of the beach as Tumble Lands.

- *Brito* stated Pōka'i Bay was "one of the best places for learning how surf, however, he added that Pōka'i Bay cannot surf no more. They built that breakwater wall."
- *Brito* also recalled hunting for pig on Mount Ka'ala and goats on the mountain near Makaha.

Marine Resources

- Wai'anae District was renowned for its ocean resources, especially for deep sea fishing off Ka'ena Point, where the ocean currents meet. The meaning of Wai'anae ("mullet water") also implies an abundance of fish—hence the word *'anae*, which is the full-grown mullet. Today Wai'anae is still considered to be one of the best fishing grounds on O'ahu.
- The informants talked about area beaches as a traditional and current place for gatherings, camping, and fishing. They also mentioned the many species of fish ---*'anae*, *moi*, *awa*, *tilapia*, *kala*, *āholehole*, *menpachi*, and *āweoweo*— found in ocean and fresh waters and certain locations.
- *Carl Jennings* mentioned there was a "fishing Koa [shrine] fronting this area." He also stated that prior to aircraft being used for spotting fish such as *akule* and *'anae*, the "Mauna (mountain)" that the WCCHC was built upon was a *kilo i'a* site that Hawaiians used "as a visual vantage point to spot fish." He added that "in the old days the Kilo site is that second ledge at the very front of the Mauna roughly 150 feet elevation." He also noted that "till today fishermen drive up to the Comp area and walk out fronting the Hospital Building and use the old hele [helicopter] pad sight [site] as a Kilo to spot *akule*."
- *Brito and Keliipio-Acoba* recalled gathering *limu* along the shores to include *limu kohu*, *limu wawae'iole*, *limu kala*, *limu līpe'epe'e*, and *ogo*. *Keliipio-Acoba* noted that "I think the *ogo* is gone, *limu kohu* is gone, I haven't see *wawa'eiole* for long tim.e"

Mo'olelo and Wahi Pana

- Numerous *mo'olelo* attest to Lualualei Ahupua'a's important place in Hawaiian history. The demigod Māui is connected with the arid, leeward side of the island. Māui and his mother, Hina, are associated with Heleakalā in Lualualei and with Haleakalā on the island of Maui. The sun passes over Haleakalā every morning, thus "the house of the rising sun." Heleakalā, in contrast, is on the west side of O'ahu, where the peaks receive the "ray of the setting of the sun", this is the path the sun takes before it sets in the west. Here, the west side of Heleakalā is burnt; the sun setting, which is the reason Māui had to slow down or snare the sun for his mother, who was drying her *kapa*. The Māui legends on both islands are manifested in the landscape. These two mount peaks are very prominent, with no obstruction blocking the sunrise and sunset.
- Mr. Jennings mentioned that the "Mauna" where the WCCHC is located, which is known as Pu'u Mā'ilī'ili, was "named by the old timers as one of the Twin Mountains." Ms. *Keliipio-Acoba* also stated that Pu'u Mā'ilī'ili is associated with the *mo'olelo* about Puu o

Hulu and the Legend of the Twin Sisters. Pu'u Mā'ilī'ili is one of the twin sisters, Mā'ilī'ili from the legend.

- A myriad of cultural sites, or wahi pana, exist for Waianae Moku; however, for the ahupuaa of Lualualei, pēaks, pohaku, and temples were of particular importance. Various mountain peaks surround Lualualei Ahupuaa, including Puu Heleaka, the puu that separated Nanakuli from Lualualei. Pukui and Ebert (1986) define Heleakala as "where the sun is snared." This translation is fitting, since the mountain peak faces the sunset. It is also the location where Hina, the moon goddess and demigod Maui's mother, once lived in a cave and made kapa (Sterling and Summer, 1978:62).
- Two *pōhaku* of importance can be found in Lualualei; a large rock said to be Māui (McAllister Site 148) and a petroglyph stone. The Māui Pōhaku is in the vicinity of Pu'u o Hulu. A shelter and spring northeast of the rock was supposedly where Māui the demigod lived and obtained water. The petroglyph stone is near a dried swamp in a public park at the edge of a beach. The stone was removed and stored by the Bishop Museum.
- *Jan Becket* led CSH to the remnant of a *hōlua* on Pāhe'ehe'e Ridge, *mauka* of Pu'upāhe'ehe'e Heiau. The site may have been associated with ceremonial or religious practices.

Religious Practices

- McAllister (1933) identified five *heiau*, or possible *heiau*, in the vicinity of the *ahupua'a* of Lualualei. These include Nīoi'ula Heiau (Site 149), Kakioe Heiau (Site 151), Pu'upāhe'ehe'e Heiau (Site 152), Kū'īlioloa Heiau (Site 153) and Site 150 (house sites or a possible *heiau* in the middle of Lualualei at the foot of the cliffs of Pāhoa).
- *Glen Kila* was not aware of any *heiau* in the vicinity of the project area.
- *Ms. Keli'ipio-Acoba* talked about Nīoi'ula Heiau and Kolekole Pass and their association with Night Marchers. She stated "there are stories of night marchers because this valley was actually a valley of a lot of battles going up and over Kolekole Pass." She also noted "Nīoi'ula was a sacrificial *heiau*."
- *Becket* led CSH on a *huaka'i* to Pu'upāhe'ehe'e Heiau, located on the Wai'anae side of Pu'upāhe'ehe'e Ridge and Kū'īlioloa Heiau at the tip of Kāne'īlio Point. He pointed out remnant features at each and the association with Hawaiian gods.

Land Commission Awards

Land Commission Awards in Lualualei are shown as Figure 5 in the Cultural Impact Assessment (Exhibit C). There are no LCAs in the vicinity of the subject DHHL lots.

10. Visual Resources

The Coastal View Study (Chu and Jones, 1987) "address the issue of "preserving, maintaining, and where desirable improving and restoring shoreline open spaces and scenic resources". The scope of the study "includes an inventory of significant coastal views and

coastal land forms which together, make up the shoreline scenic resources on Oahu". Coastal areas are categorized by viewsheds generally corresponding to geographic locale.

Coastal views in the Wai'anae Viewshed are separated into Section A, Makaha and Section B, Pokai Bay. The five lots are in the Pokai Bay section extending from Maili Point on the east to Lahilahi Point on the west a distance of approximately 5.0 miles.

Although much of the coastal land in the Pokai Bay section consists of beach parks (Pokai Bay, Lualualei, and Mā'ili) and public property (Wai'anae Boat Harbor, Wai'anae High School, Wai'anae Regional Park (undeveloped), Military, and other PF (Public Facility) designations), surprisingly "few coastal views from the highway can be found due to building placement and strands of vegetation. Roadway views are generally oriented *mauka* in the direction of the Waianae Mountains".

"Pedestrian coastal views are numerous from all beach areas. Important pedestrian viewing points include the Waianae Boat Harbor, Pokai Bay, Lualualei and Lahilahi Beach Parks". Puu Mailili is described as a vivid landmark and one of the prominent landforms in the viewshed.

The Study also mentioned "lateral and mauka views may be vulnerable to the industrial, Commercial, and Public Facilities designated at the base of significant land formations along the Waianae coast, especially in the area opposite Lualualei Beach Park (Puu Mailili). As a positive example The Comprehensive Health Center, which is tucked into the Puu Mailili land form, represents a well-conceived design solution and should serve as a prototype in similar situation."

C. Land Use Controls

State Land Use District:	Urban (U) and Conservation (C)
O'ahu General Plan	Rural (Wai'anae District)
Development Plan Area:	Wai'anae
Sustainable Communities Plan (SCP):	Wai'anae
<i>Community Growth Boundary:</i>	<i>Outside Community Growth Boundary</i>
<i>SCP Land Use Map:</i>	<i>Agriculture and Preservation</i>
<i>SCP Open Space Map:</i>	<i>Agriculture and Preservation</i>
Public Infrastructure Map:	Emergency Alternate Route
Zoning:	P-1 Restricted Preservation
	P-2 General Preservation
DHHL Waianae and Lualualei Regional Plan:	Community Use Public
Special Management Area:	Outside Special Management Area

The State Land Use Commission under the authority of Chapter 205, Hawai'i Revised Statutes classifies all land in the State of Hawaii as Agricultural, Conservation, Rural, and Urban. Uses in the Agricultural District are regulated by the Land Use Commission; uses in the Conservation District by the Board of Land and Natural Resources, uses in the Rural District by the Land Use Commission, and uses in the Urban District by the respective county government. The zoning powers of the respective counties also govern uses in other than the Conservation District.

- The 6 lots individually bear dual classifications of Urban and Conservation. The boundary between land use districts generally follows where the property lines for all

lots “bend” in the *makai* direction towards Wai‘anae Town.. The “bend” does not follow a single contour but ranges from a high elevation of 200’ at lot 028 to a low of 135’ at lot 024. Land below the “bend” and facing the direction of Mā‘ili is designated Urban. Land above the “bend” and facing the direction of Wai‘anae is designated Conservation (See Figure 8).

Land designated Urban is under the authority of the City and County of Honolulu and its applicable plans, ordinances, and regulations. Land in the Conservation District is in the Limited Subzone. The Board of Land and Natural Resources, State of Hawai‘i has jurisdiction over Conservation designated land.

City land use policies and controls for O‘ahu are vertically aligned or tiered for managing growth and land uses beginning with the O‘ahu General Plan, community development plans and sustainable community plans, and zoning. Special districts and special management area rules provide supplementary controls for defined areas where natural resources and man-made features should be protected and managed.

The O‘ahu General Plan (2022) is the first tier. It sets forth broad objectives and policies in eleven key areas to include Population, Natural Environment and Resource Stewardship, Transportation and Utilities, Physical Development and Urban Design, and Public Safety and Community Resilience. The Population component and its objectives and policies are key to managing growth. The component establishes a population distribution pattern for eight geographic regions comprising the county. Each region has an upper and lower limit (percentage) of the island wide population for a targeted year (currently 2025). The General Plan also includes a Conceptual Development Pattern on Oahu (Figure 3) map depicting the eight districts and the desired development pattern for and within the respective district.

- The Conceptual Development Pattern Map designates developed areas within the District of Wai‘anae “Rural”. The designation is based on the distribution of resident population described in the key area of Population Objective B, Policies 3 and 4 and Table 1. Distribution of Resident Population.
- The Wai‘anae District is a Policy 3 area.
- Mountainous areas are labeled Non-Designated Areas.

Development Plans or Sustainable Communities Plans prepared for the eight geographic regions in the County comprise the second tier. Although encompassing eight regions where each area’s values, vision, and policies for accommodating growth are different, the plans collectively support the General Plan. The Wai‘anae Sustainable Communities Plan (2012) 1) describes the role of the district in Oahu’s development pattern, 2) articulates a vision for the near-term future, 3) prescribes policies, planning principles, and guidelines for land use and infrastructure, and 4) identifies measures for implementing the plan. The key plan feature is its vision statement:

“The Vision for the future of the Wai‘anae District is that all members of our community from the *Kūpuna* (Grandparents/Elders) to the *Mo‘om‘o‘* (children, including those yet unborn) have their essential needs met.”

The vision comprises ten elements or goals. The elements (paraphrased) are:

- Adapt the concept of ahupua‘a as the framework for land use planning



Source: Department of State Land Use-Website
<https://hlistategis.maps.arcgis.com>

LEGEND

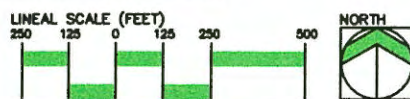
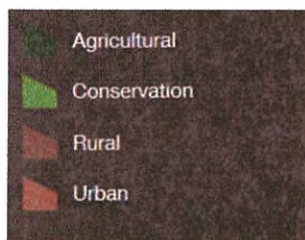


Figure 8
 State Land Use
 'Elepaio Food Campus
 Master Plan

- Delineate four major land use categories
- Restrict coastal development *makai* of Farrington Highway
- Preserve land north of Kepuhi Point as open space
- Restore streams and stream corridors
- Preserve cultural sites and landscapes
- Improve transportation systems
- Plan and develop town centers and community gathering places
- Develop and support community-based businesses
- Partner with government agencies to better manage natural and cultural resources.

Collectively and with supporting policies and guidelines the vision seeks to preserve and protect the physical environment from degradation, provide access to the mountain, valley, and sea, and provide residents with economic opportunities.

The Wai'anae Sustainable Communities Plan ("WSCP") reaffirms the Rural designation of the General Plan. The Plan acknowledges that growth will take place and establishes a Community Growth Boundary spanning the district. The boundary identifies areas where growth and infill can occur (inside the boundary) and areas where agriculture, open space, and natural resources should be maintained and preserved (areas outside the boundary).

- The DHHL lots are outside the Community Growth Boundary.

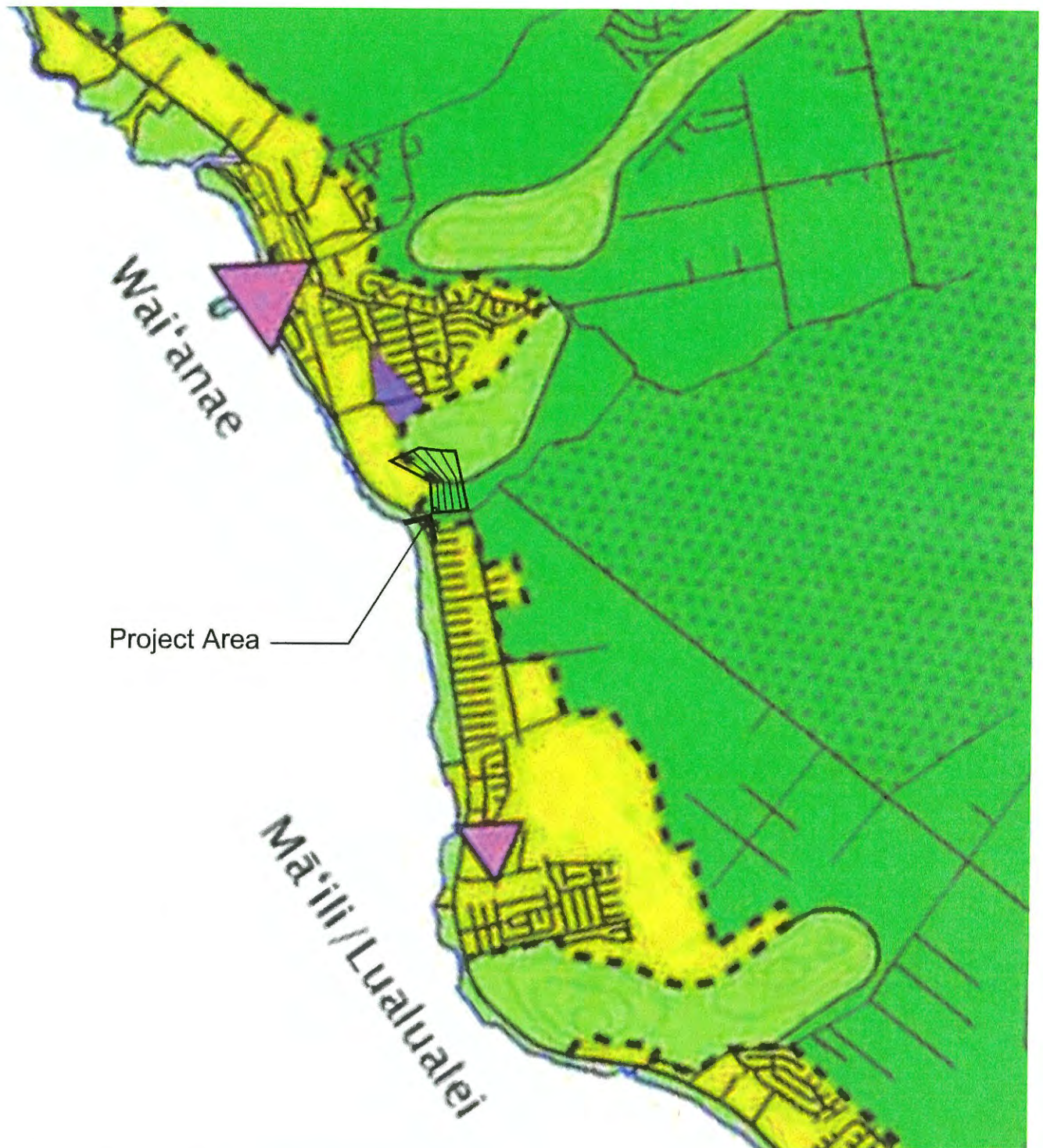
The Plan also prescribes land uses by category, policies, and guidelines applicable for the District. The categories are Rural Residential, Medium Density Residential, Resort, Industrial, Golf Course, Agriculture, Preservation, and Military. Two symbols---Country Town and Rural Community Commercial Center---denote commercial areas.

- The land use categories for the DHHL lots are Agriculture and Preservation as shown on Exhibit A-1 Land Use (See Figure 9).
- Land in the state land use Urban district is designated Agriculture and land in the Conservation District is designated Preservation.

"The Preservation lands consist generally of the steeper lands, mountainous lands, coastal ridges, and pu'u, including such prominent coastal features as as Pu'u Heleakalā, Pu'u o Hulu, Pu'u Mā'ilī'ilī, Pu'u Pāhe'ehe'e, Pu'u Kamaile'unu, and Mauna Lanhilahi. Land uses within these areas should be limited to those uses that are compatible with the preservation and conservation of natural ecosystems and traditional and cultural sites and resources. Access to preservation lands should be ensured for cultural practices."

- The Wai'anae Sustainable Communities Plan Land Use Map (Exhibit A-1) designates the entirety of the DHHL lots Agriculture and Preservation (See Figure 9).
- The Wai'anae Sustainable Communities Plan Open Space Map (Exhibit A-2) designates the entirety of the DHHL lots Agriculture and Preservation. The Open Space Map designations apply to the same land area as the Land Use Map designations.

The Wai'anae Sustainable Communities Plan Public Infrastructure Map ("PIM") symbolizes an "Alternate Emergency Route" between Nānākuli and Mā'ili (Symbol R018). Located *mauka* of Farrington Highway and Pu'u O Hulu the approximately 5-mile long Emergency



Source: City & County of Website
<http://honolulu.gov/planning/Portals/0/pdfs/planning/Waianae/2012WaianaeSCPReduced.pdf>

LEGEND

-----	Community Growth Boundary		Golf Course
.....	Special Area Plan Boundary		Agriculture
	Rural Residential		Preservation
	Medium Density Residential		Military
	Resort		Country Town
	Industrial		Rural Community Commercial Center

Figure 9
 Waianae Sustainable Community-
 Land Use Plan
 'Elepaio Food Campus
 Master Plan

Route traverses Lualualei Naval, Pa'ale'a, and Mā'ilī'ili Roads. The Route connects with Farrington Highway at both ends.

Zoning comprises the third tier of the City's land use management system. As shown on city zoning maps, land is zoned by use and density (for example AG-1 Restricted Agriculture with a minimum lot size of 5 acres). The Land Use Ordinance (which incorporates the zoning maps) prescribes the types of uses permitted in zoning districts and associated development standards. The LUO also establishes requirements for parking, specific use standards, signs, development in flood districts and special districts, and administration and enforcement procedures.

- The DHHL lots are zoned P-1 Restricted Preservation and P-2 General Preservation(See Figure 10).
- The P-1 zoning applies to land in the state Conservation District and WSCP Preservation designated area. The P-2 zoning applies to land in the state Urban District and WSCP Agriculture designated area.

Oahu's shoreline and coastal areas are located within a Special Management Area ("SMA") and developments in the SMA are subject to County review and permitting. The SMA is defined generally as land extending inland from the shoreline supporting valuable coastal resources that need to be preserved, protected, and where possible restored. Development in the SMA is reviewed and approved by the City and County of Honolulu through Chapter 25, Special Management Area, Revised Ordinances of Honolulu.

- The lots are located outside the SMA thus SMA permitting does not apply.

The Department of Hawaiian Home Lands Waianae and Lualualei Regional Plan 2018 designates the DHHL lots Community Use Public (Figure 11). The Plan, which does not identify uses for this land use designation, talks about Community Uses thusly:

"There are approximately 85 acres proposed for Community Use. These include Community Use lands benefitting the community as a whole as well as uses benefitting the homesteaded communities specifically".

Approximately 57 acres will benefit the community as a whole. These include existing uses that will be retained with no changes such as the Wai'anāe Coast Comprehensive Health, a church, and a water storage facility as well as the Kamehameha School's Learning Center (Ka Pua) in Mā'ilī....."

- The proposed Food Campus appears consistent with the Community Use land use designation.

D. Public Facilities and Services

1. Circulation

Mā'ilī'ili Road, a paved, all-weather surface, two-way road connects the interior of Lualualei Valley with Farrington Highway. The 20-foot wide driving surface features two ten-foot wide lanes. There are no paved shoulders, curbs, gutters, and sidewalks. Speed limit signs were



LEGEND

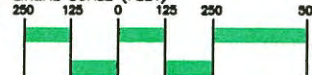
B-1	BUSINESS (NEIGHBORHOOD)	I-2	INDUSTRIAL (GENERAL)
B-2	BUSINESS (GENERAL)	P-1	PRESERVATION (RESTRICTED)
R-5	RESIDENTIAL (5,000 SF. LOT.)	P-2	PRESERVATION (GENERAL)
Country	COUNTRY	F-1	MILITARY

Source: City & County of Honolulu-Website,
<http://cchnl.maps.arcgis.com/apps/webappviewer/index.html?id=31b9607333e94c64ba581461892f32e8>



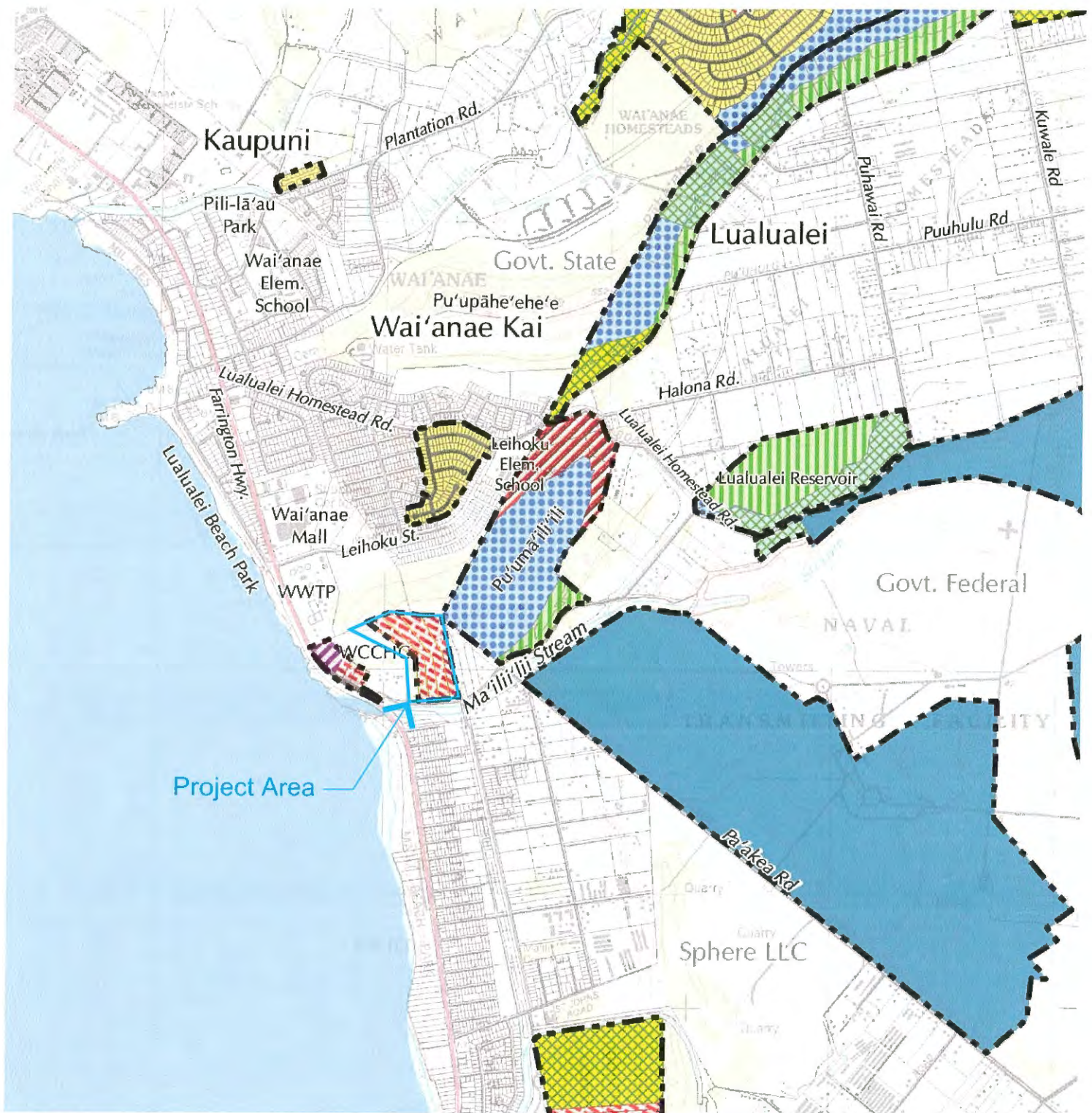
Gerald Park
Urban Planner
December 2024

LINEAL SCALE (FEET)



Lualualei, District of Wa'ianae, O'ahu

Figure 10
Zoning
'Elepaio Food Campus
Master Plan



LEGEND

DHHL Parcels

Proposed Land Use Designations

Commercial

Community Use - Homestead

Community Use - Public

Conservation

Industrial

General Agriculture

Special District

Homestead - Existing Residential

Homestead

Homestead - Existing Agriculture

Other

Road



Gerald Park
Urban Planner
December 2024

LINEAL SCALE (FEET)



Lualualei, District of Wa'ianae, O'ahu

Source: DHHL Website,
https://dhhl.hawaii.gov/wp-content/uploads/2013/04/Handout_Waianae-Waianae-Kai-Lualualei-Land-Use.pdf

Figure 11
DHHL Land Use Designations
Wai'anae & Lualualei
'Elepaio Food Campus
Master Plan

not observed but a 25 mph is assumed. The outbound travel lane is marked for "sharrow" use. Vehicle movement at its intersection with Farrington Highway is controlled by traffic signals.

2. Water System

Domestic water is provided by the Honolulu Board of Water Supply (BWS). BWS maps show a 12" service line in the Mā'ili'ili Road right-of-way. The service line connects to a 12" main in Farrington Highway. There are no service laterals or water meters at the undeveloped lots.

A fire service line is located within the outbound lane shoulder. Fire hydrants were noted near the entrance to the COMP and the boundary of Lot 025 and 026.

3. Wastewater System

The six lots are not sewerred. Water use and sewer flow estimates are shown in Table 6.

Table 6. Water Use and Sewer Flow Estimates

FOOD CAMPUS MASTER PLANNING								
PHASE	BUILDING	FOR DESIGN				FOR DPP SEWER CONNECTION APPLICATION		
		SEWER Gallon per min	Gallon per day	WATER Gallon per min	Gallon per day	Category	Units	Quantity
I	Food Warehouse (Comm)	32.4	150	36	160	Warehouse	No of Employees	6
	Mezzanine Office (Comm)	27	320	30	350	Office	No of Employees	16
II	Teaching Kitchen (Comm)	5.4	300	6	330	School	No of Students	12
	Dining (Comm)	0	60	0	60	Restaurant	No of Seats per day	12
	Multi Purpose Facility (Comm)	23.4	160	26	170	Office	No of Employees	8
	Farm House (Res)	4.5	120	5	130	Office	No of Employees	4
III	Teaching Center (Comm)	33.3	1000	37	1110	School	No of Students	40
	Admin (Comm)	32.4	600	36	660	Office	No of Employees	30
	Hawaiian Cultural Center (Comm)	3.6	60	4	60	Office	No of Employees	4
	Total	162	2770	180	3030			
	Commercial				2900	gpd		
	Residential				130	gpd		

4. Underground Injection Control

Underground Injection Wells are used for injecting water or other fluids into a groundwater aquifer. State Department of Health rules (Hawaii Administrative Rules, Title 11, Chapter 23) stipulate conditions governing the location, construction, and operation of injection wells so that injected fluids do not migrate and pollute underground sources of drinking water. Chapter 23 also states criteria for classifying aquifers into those that are designated underground sources of drinking water (USDW) and those that are not (or exempted).

The boundary between USDW and exempt aquifers is generally referred to as the "UIC Line". The UIC Line is delineated for all islands for general information purposes only. Restrictions on injection wells differ, depending on whether the area is inland (*mauka*) or seaward (*makai*) of the UIC line (<http://health.hawaii.gov/sdwb>).

The lots are below or *makai* of the UIC line.

5. Drainage

A Drainage Master Plan Report (Hida, Okamoto & Associates, 2020) was prepared for the COMP and the adjoining DHHL properties. The Master Plan demarcated the entire area into 26 Tributary Areas (See Exhibit 1 Existing Condition Run-Off Map). Tributary Areas 19 to 26 are the DHHL lands most likely to be developed.

This area is covered by rock and grass. There are no drainage improvements present except for temporary features such as exposed, shallow culverts constructed on lots 12 and 24 Tributary Area 23). Stormwater runoff from Tributary Areas 19 to 24 ($Q=46.58$ cfs), flows to Mā'ilī'ili Road and Mā'ilī'ili Stream Channel. Stormwater from Tributary Areas 25 and 26 ($Q=25.05$ cfs) flows to Mā'ilī'ili Road and Mā'ilī'ili Stream Channel.

Drainage and ponding conditions on Mailili Road have not been observed for a rain event during preparation of this report. More than likely, runoff ponds at low road sections until draining into Mā'ilī'ili Stream Channel or evaporating / percolating into the ground. ***The Drainage Master Plan is attached as Exhibit D.***

6. Solid Waste Facilities

Residential solid waste collection and disposal is provided by the City and County of Honolulu. There is no refuse collection for the undeveloped lots..

7. Healthcare Facilities

The Wai'anae Coast Comprehensive Health Center in Waianae and Kaiser Permanente in Nanakuli are the major health care providers on the Waianae Coast. Both provide primary health care, behavioral health, specialty care, and patient and community services. The Waianae Coast Comprehensive Health Center also operates a 24-hour emergency room and imaging services.

There is no hospital on the Wai'anae Coast, Queen's Hospital West located off Fort Weaver Road in the town of Waipahu about 16± miles to the east is the nearest hospital.

8. Protective Services

Police and Fire services originate from stations located on the west side of Wai'anae Town. Police service is based at the Wai'anae Sub-station near the corner of Farrington Highway and Pokai Bay Drive about 1.0 miles away.

The Wai'anae Fire Station (Station 26) is located on Farrington Highway about 0.5 mile past the Police Station. An Engine Company and Ladder Company are based at the station.

9. Recreation Facilities

There are no ocean or mountain recreation areas on the subject parcels. The archaeological study noted the presence of several walking trails in the upper elevations. The trails are associated with a 1.5 mile network of trails and gardens at the COMP. The trail is for use by COMP patients and also open to the public.

SECTION 3

SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS

A. Assessment Process

The scope of the project was discussed with the Waianae Coast Comprehensive Health Center Office of Planning and Design, Department of Hawaiian Home Lands planning office staff, consulting engineers, and resource consultants. State and County agencies were contacted for information relative to their jurisdiction and expertise. Time was spent in the field noting site and nearby conditions and features. Pre-assessment consultation with agencies, organizations, food growers along the Wai'anāe coast, and adjoining property owners sought input for preparing the environmental assessment. From the discussions, field investigations, and consults existing conditions and features that could be affected by or affect the project were identified. These influencing conditions are:

- The lots are owned by the Department of Hawaiian Home Lands;
- The site is generally unimproved land of varying slope;
- There are no rare, threatened or endangered flora or fauna present;
- Three historical features were discovered;
- The properties are not in a flood hazard area;
- The properties are not within a sea level rise exposure area;
- The properties are in an Extreme Tsunami Evacuation Zone;
- There is no on-site water, wastewater, and drainage systems;
- Potable water, wastewater, and power systems are available from Mā'ili'ili Road;
- There is a need for irrigation water; and
- There is no direct vehicle access to the properties from Mā'ili'ili Road.

The land conversion process and associated improvements will be carried out in three phases over 6-7 years. It is anticipated that 'Elepaio can commence and build out the improvements within the time frame subject to funding, availability of construction labor, material costs, and other externalities. Short-term or construction related impacts will be repeated for each of the proposed improvements. The improvements, their location, the duration of construction, and mitigating measures should minimize adverse environmental impacts disclosed in this assessment.

B, Short-term Impacts

1. Air Quality

Construction will temporarily affect air quality and the acoustical environment. Demolition, grubbing, grading, stockpiling, backfilling and associated earth moving activities will raise fugitive dust that can settle in adjoining areas. Windy conditions coupled with cleared areas of exposed soil can create severe dust problems. The general contractor will employ dust control measures to prevent the work site and construction equipment and activities from becoming significant dust generators. Frequent water sprinkling and erecting dust screens around the perimeter of the work site are commonly employed for dust control. The site work contractor may implement alternative methods adaptable to the scope of the improvements

and site features and conditions. Control measures will comply with Chapter 60.1, Air Pollution Control, Title 11, Department of Health, State of Hawaii (and revisions thereto).

Most construction equipment and vehicles are diesel powered and emit exhaust emissions typically high in nitrogen dioxide and low in carbon monoxide. The Federal and State nitrogen dioxide standard ---100mg/m³ per annum---which is an annual standard, is not likely to be exceeded during construction. Carbon dioxide emissions should be less than that generated by passing automobiles. Aldehyde odors from diesel equipment may be detected but should be dispersed by the prevailing winds.

2. Noise

Construction noise, like fugitive dust, cannot be avoided. Exposure to noise will vary by construction phase, the duration of each phase, the type of activity, and equipment used during the different phases. Maximum sound levels in the range of 82-96 db(A) measured at 50 feet from the source will be generated by heavy machinery during the site work phase. After this phase is completed, reductions in sound levels, frequency, and duration can be expected as the building walls, roof, parking area, and interior improvements are constructed.

Layers of rock will be encountered on and below the ground surface. Dislodging / breaking up rocky material may require limited blasting, drilling, and rock hammering.

Community Noise Control regulations establish maximum permissible sound levels for construction activities occurring within "acoustical" zoning districts. Based on the preservation zoning for the site, it is classified a Class A zoning district for noise control purposes. The maximum permissible daytime sound level in the district attributable to stationary noise sources and equipment related to construction activities is 55 dBA during daytime (7:00 AM to 10:00 PM) and 45 dBA during nighttime (10:00 PM to 7:00 AM) (Chapter 46, Community Noise Control, 1996). As disclosed above, construction noise will exceed the 55 dBA threshold during sitework.

In general, construction activities cannot exceed the permissible noise levels for more than ten percent of the time within any twenty-minute period except by permit or variance. Any noise source that emits noise levels in excess of the maximum permissible sound levels cannot be operated without first obtaining a noise permit from the State Department of Health. Although the permit does not attenuate noise per se it regulates the hours during which excessive noise is allowed.

The general contractor will be responsible for obtaining and complying with conditions attached to the permit. Work will be scheduled between the hours of 7:00 AM to 3:30 PM Mondays through Fridays. The contractor will also ensure that construction equipment with motors is equipped with mufflers in proper operating condition.

Noise will be audible over the entire construction period. All construction activities will comply with Chapter 46 Community Noise Control, Title 11, Administrative Rules, Department of Health, State of Hawaii (and revisions thereto).

Residents living adjacent to the project area and across Mā'ili'ili Stream Channel will be exposed to noise for the duration of construction. Noise will be "loudest" during site work and diminish as structures are erected. The structure and its walls should confine noise to inside

the building as interiors are built out. Physical separation between the various job sites and the aforementioned residential areas also will aid in noise attenuation.

3. Erosion

Site work will create opportunities for erosion (fugitive dust and suspended sediment in runoff). Grubbing, grading, and stockpiling of excavated and imported material will be performed in accordance with the erosion control ordinance of the City and County of Honolulu and grading and erosion control plans approved by the Department of Planning and Permitting, City and County of Honolulu.

The project will comply with construction and post-construction BMP requirements pursuant to the City and County of Honolulu "Rules Relating to Water Quality".

Construction work will exceed one (1) acre thus a NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activity will be required from the State Department of Health. A Notice of Intent to discharge hydrotesting water effluent for the water system will be submitted to the State Department of Health for review and approval prior to the discharge.

4. Natural Resources

Adverse effects on plant species are not anticipated. Site work will cut into the toe of the slope and trees, shrubs, and ground cover will be removed. Plant species in this area are common to O'ahu and the State of Hawai'i. None of the species observed are rare, threatened, or endangered or proposed for said status. Two endemic species were identified but both are common to the islands.

Terrestrial mammals (except for a cat) were not observed during the field survey. The Hawaiian hoary bat, the only native terrestrial mammal was neither observed nor effort made to record them at night. ***Woody trees over 15 feet in height will not be removed during the hoary bat pupping season (June 1 to September 15). Barbed wire will not be used for fencing.***

Endangered seabirds may overfly the project area. Night lights can disorient seabirds resulting in their downing and harm from collision and predation from dogs and cats if downed. Security lights mounted on building exteriors will be activated by motion sensors, shielded with light reflectors, and light directed downward to illuminate the ground and not the sky. Night-time construction is not proposed.

Prior to clearing and grubbing activities, a Short-eared Owl nesting survey should be conducted by a qualified biologist.

5. Archaeological Resources

The State Historic Preservation Division ("SHPD") will be consulted about the findings of the archaeological field investigation and measures for mitigating effects on the three features.

Should site work activities encounter human remains or subsurface deposits, all work in the immediate area will stop and historic authorities promptly notified of the finds. If human

remains are uncovered and appear to be of recent origin, the Honolulu Police Department will be summoned to inspect the finds.

6. Traffic

On and off-site construction will affect traffic flow on Mā'ili'ili Road and Farrington Highway. The contractor will implement measures to minimize inconvenience to motorists, buses, pedestrians, and bicyclists during construction. These measures include but are not limited to:

- Keeping one traffic lane open at all times when working in the roadway;
- Posting warning signs on both ends of the work area to alert motorists of road work and to slow traffic speed;
- Positioning barricades, traffic cones and / or other directional devices in the roadway to guide vehicles around work areas;
- Posting off-duty police officers for traffic control;
- Limiting construction to the hours between 7:30 AM and 3:00 PM, Monday through Friday;
- Covering open trenches with steel plates at the end of the work day;
- Posting lighted safety devices during night hours.; and
- Preparing a Traffic Management Plan if required.

Construction vehicles hauling workers and material will contribute traffic to roads leading to/from the project site. Material deliveries will be scheduled at times that would minimize impacts on local traffic. Materials will be off-loaded on-site. Appropriate traffic control measures will be implemented should materials be unloaded in or adjoining the right-of-way.

It is anticipated that Food Campus Phase 1 improvements to include site work and infrastructure, the Food Warehouse, and the Growing Field will precede construction of the Kupuna Housing project. Construction impacts associated with these improvements will not affect the housing project if there is none.

C. Long-term Outcomes

'Elepaio will manage the Food Campus. Until space is made available for its operations 'Elepaio will continue leasing space at the Waianae Mall. They currently deliver meals and food to eleven schools (keiki pantries) serving 5,000 *keiki* per week and four drive-through *kupuna* pantries serving 1,100 persons per week.

Long-term 'social welfare' impacts below are not original for this assessment. The outcomes have been expressed by others in print or other media. The outcomes, however, are anticipated outcomes of 'Elepaio Social Services' objectives for the Food Campus, their vision and activities for community resiliency, providing food and reducing hunger, and sustaining the health and welfare of Leeward Coast households.

Social Welfare / Community

- The Food Campus is a non-profit community-based center.
- Achieve the goals set forth for the project.
- Reduce hunger for Leeward Coast households.
- Strive to improve the health and well-being of Leeward Coast households.
- Provide a resilience hub supportive of city plans and policies for community resiliency.

- Contribute to food security and control with on-site growing fields.
- Develop a sustainable farm-kitchen-table system to withstand food shortages and economic downturns.
- Promote food nutrition and food as medicine.
- Provide food assistance to *kupuna*, *keiki*, and households.
- Establish a food banking program in partnership with the Hawaii Food Bank.
- Raise Native Hawaiian staple foods.
- Teach cooking using vegetables as a staple ingredient.
- Provide food for non-emergency and emergency scenarios.
- Shelter residents during emergencies and / or natural disasters.
- Provide a meeting facility for community outreach programs, family, and community activities.
- Continue community outreach programs in communities and at the Food Campus.
- Integrate food distribution with healthcare services (provided at the COMP).

Environmental

- Soil management will minimize erosion and dust generation from the Growing Field.
- The proposed activities are not significant noise generators and long-term impacts are not anticipated.
- Post-construction best management practices and maintenance, repair, or replacement of same should retain storm runoff on site.
- Follow up archaeological work would determine the significance of the three identified archaeological features and appropriate measures for mitigating impacts to the features.
- Adverse long-term impacts on natural resources are not anticipated.
- ***Exterior lights should be shielded to minimize interaction with nocturnally flying seabirds.***
- ***The Endangered Species Act status of any lo'ulu palm should be determined in the event of or prior to removal.***
- There are no traditional cultural practices associated with the Food Campus.
- COMP maintenance personnel will continue on-going vegetation management of grasslands above the COMP and Food Campus.
- Recycled water use will promote water conservation and minimize demand for potable water.

Economic

- Relocate 'Elepaio from the Wai'anae Mall to the Food Campus thereby vacating rental costs. 'Elepaio would occupy the mezzanine floor in the Food Warehouse and relocate to the Administration Building when it is completed.
- Provide job training and employment opportunities for Leeward Coast residents.
- Hire full and part-time workers to staff current and future 'Elepaio programs and Food Campus operations.

Visual

- The structures will present new objects to be seen from Mā'ili'ili Road, residential areas across Mā'ili'ili Stream Channel, from locations along Farrington Highway approaching the COMP, and from Mā'ili Beach Park. The buildings will be designed to resemble existing structures at the COMP.
- Structures close to Mā'ili'ili Road will appear to be lower in height because of the lower ground elevation. Landscaping along the Road and in the parking area

- should aid in screening the buildings from view.
- The two-level Administration Building will be clearly visible because of its location at a higher elevation. In architectural scale and form it should resemble the exterior design of the newer medical buildings at the COMP (Emergency, Family Medical, and Adult Medical).
- On-site and perimeter landscaping will screen or partially screen structures from public view.
- Structures will not exceed the building height for the zoning district thus minimizing visual impacts associated with heights.
- Buildings are clustered near the center of the Campus providing view corridors towards Puu Mā'ili'ili and preserving open space on both sides of the cluster.

Vehicle Traffic

- According to the Hawaii Food Bank, the proposed Food Warehouse is similar in size to their facilities on the Neighbor Islands. It is projected that two to four "box" trucks operating daily is sufficient for distributing food in the mornings and picking up food from suppliers in the afternoon before returning to the Warehouse. Four to eight vehicle trips per day (2 per truck) is not expected to adversely affect vehicle circulation on Mā'ili'ili Road. The vehicle fleet can be adjusted based on supply and demand.
- Suppliers delivering food to the Warehouse will contribute minimal traffic to the area. Deliveries are projected at 4-5 times per week.
- Traffic queuing on Mā'ili'ili Road can be expected during drive-up food distribution drives to be conducted once or twice per month. Off duty police officers can be hired for off-site traffic control with on-site assistance from volunteers.
- 'Elepaio Social Services will prepare a traffic management plan for food distribution days if required.
- The Food Campus should not adversely affect traffic circulation on Mā'ili'ili Road. Proposed improvements should provide for safe ingress / egress from the Food Campus and provide for safe north and south bound traffic movement. The street frontage will be widened 12-feet on the *mauka* side of the public entry to the Food Campus. The widening provides a left turn storage land into the Food Campus for northbound traffic and unimpeded through access to Farrington Highway for southbound traffic.

Facilities

- Regularly scheduled maintenance will sustain the useful life of the buildings and its components, equipment, and operational systems.
- Repair, renovation, painting, and replacement of building elements and systems can be expected over the building life cycle.
- Long-term costs for building maintenance will be funded by the Wai'anae Coast Comprehensive Health Center.

Land Use

- Convert underused, vacant land to beneficial uses proposed by the 'Elepaio Food Campus Master Plan.
- The development would Infill the area if the Community Growth Boundary is modified to comport with the state land use Urban district.
- The DHHL lands are designated for Agriculture by the WSCP but not rated for productive agricultural uses by Agricultural Lands of Importance to the State of Hawaii ("ALISH") and Important Agricultural Lands ("IAL") for O'ahu maps. Lands in the state land use

Urban district are not eligible for IAL consideration.

- The project would not achieve its objectives without proper WSCP and zoning amendments.

As discussed in a previous section of this assessment State and County land use controls are not vertically aligned and consistent for the six lots. The Master Plan improvements are allowed in the State land use Urban District but the Growing Field is not. Additionally, the Master Plan uses are not expressly allowed under the current City and County of Honolulu Wai'anae Sustainable Communities Plan Land Use Map and County zoning.

Two amendments to the Wai'anae Sustainable Communities Plan are needed to implement the Master Plan. The amendments would be limited to land in the state land use Urban district. One amendment would be to adjust the Community Growth Boundary for the area to be consistent with the Urban district boundary. The second amendment would be to revise the Land Use Map Agriculture designation to Rural Residential but excluding the area set aside for the Kupuna Housing project. Although designated agriculture, the property is not identified as agricultural land important to the State of Hawaii or important agricultural land by the City and County of Honolulu's Important Agricultural Lands study.

The Food Campus is not a residential use but a small scale, food-based, low intensity use suitable for the location and land area on which it is proposed. It is not likely that an alternative WSCP designation that allows for development---Resort, Medium Density Residential, Industrial, Country Town, or Rural Community Commercial Center and the uses associated with said designations would be appropriate for this location.

The Wai'anae Coast Comprehensive Health Center is designated Rural Residential and the proposed amendment would extend this land use pattern to residential areas across Mā'ilī'ili Stream Channel. It is unknown what land use designation would be sought for the Kupuna Housing project.

The Food Campus is not a permitted use *per se* in a Rural Residential area. However, it is postulated that the proposal is a low-density community support facility that should be allowed. Said designation would preclude high density residential uses or uses that are not compatible with the area. The WSCP includes the following statements which are interpreted as supportive for a Rural Residential designation with an agriculture component.

"Future urban and suburban development in the Wai'anae District shall be limited to the Rural Residential areas, and shall not be allowed to intrude into the Agricultural area or the Preservation area. (see Land Use Map in Appendix A), nor *makai* of Farrington Highway."

"Continued small-scale agriculture uses on small farm lots within the Community Growth boundary should be encouraged".

Zoning for the area to be developed needs to be changed from P-2 General Preservation to a zone that permits the proposed uses. Based on the urban type uses and development components a change of zone to the B-2 Community Business District will be sought. The Food Warehouse, Teaching Kitchen / Dining Area, Multi-purpose Building, and the Administration Building are permitted under B-2 zoning. The Food Campus will operate as a non-profit, food-based resiliency hub not a profit motivated commercial enterprise.

The Growing Field poses a zoning challenge because agricultural activities are not a permitted use in the B-2 zoning district. Instead of dismissing this issue or disallowing this use, 'Elepaio Social Services will develop and implement agricultural performance standards for mitigating environmental impacts on adjoining areas resulting from small scale agricultural use.

The question for the Growing Field should be would small scale agricultural use promote a greater public good in the context of the total project and its goals? The arching public good is fighting hunger in the community and the Food Campus is the vehicle for creating a resilience hub on the Leeward Coast.

Resolution of the above land use issues is provided by a statement from the Department of Hawaiian Lands. The statement reads:

Pursuant to the Hawaiian Homes Commission Act of 1921, as amended, the Hawaiian Homes Commission exercises land use authority over Hawaiian Home Lands. The proposed project is located on Hawaiian Home Lands and is therefore not subject to the regulatory authority of the State Land Use Commission or the City and County of Honolulu. The proposed project will comply with any land use requirements set forth by the Hawaiian Homes Commission.

Department of Hawaiian Home Lands authority to exempt development of its lands from County land use controls is referenced in the Wai'anae Sustainable Communities Plan as such:

"Overall, the timing and conditions for the development of DHHL's Wai'anae lands are not subject to the Policies of the Wai'anae Sustainable Communities Plan, nor to review and approval by the City Council because DHHL is exempt from City and County zoning and land use regulations (Section 3.8.2.2)".

SECTION 4

ALTERNATIVES TO THE PROPOSED ACTION

A. No Action

A No Action alternative will maintain the environmental status quo of the six lots, their existing uses (or nonuse), and preclude the occurrence of all impacts, short and long term, beneficial and adverse disclosed in this Assessment.

B. Alternate Locations for the Proposed Uses

The COMP's Board of Directors have approved the Master Plan for the Project. Siting the proposed improvements at alternate locations would not result in environmental impacts significantly different from what is disclosed in this Assessment.

Locating the Growing Field near the Kupuna Housing project cannot be avoided because of the interface between the other uses. It is anticipated that acceptable agricultural practices can mitigate potential environmental impacts on the Kupuna Housing project.

SECTION 5 PERMITS AND APPROVALS

Permits and approvals that may be required for the proposed project are listed below. Additional construction permits and approvals may be required depending on the final design and construction plans.

City and County of Honolulu

Board of Water Supply

Building Permit Application

Department of Planning and Permitting

Grubbing, Grading, and Stockpiling Permit

Building Permit for Building, Electrical, Plumbing, Sidewalk/Driveway, and Demolition

Permit to Excavate Public Right-of-Way (Trenching)

Sustainable Communities Plan Land Use Amendment

Change of Zone

Conditional Use Permit (Joint Development)

Sewer [Connection] ***Application [Department of Environmental Services Comment]***

Department of Transportation Services

Street Usage Permit

Honolulu Fire Department

Building Plan Review

State of Hawaii

Department of Health

Variance from Pollution Controls (Noise Permit)

Disability and Communication Access Board Approval

National Pollutant Discharge Elimination System General Permit

Permit to Discharge Hydrotesting Water

Department of Land and Natural Resources

Historic Site Review (Chapter 6E)

SECTION 6 CONSULTATION

A. Pre-Assessment Consultation

Pre-assessment consultation for this environmental assessment was conducted from August 1, 2024 to September 3, 2024. The purpose of the outreach program was to solicit input from stakeholders with an interest in the project. The request was mailed to state, county, and federal agencies, organizations, elected officials, neighboring landowners, and food growers along the Wai'anae coast.

A sample outreach letter, list of stakeholders, and comments received are found in Exhibit B.

B. Agencies and Organizations to Be Consulted in the Environmental Review Process

*The Draft Environmental Assessment for the 'Elepaio Food Campus Master Plan was published in the Environmental Review Program's Environmental Notice of June 8, 2025. Publication commenced a 30-day public review period ending on July 8, 2025. Notice of the availability of the Draft Environmental Assessment in the Environmental Notice was mailed to the parties listed below requesting their comments. An asterisk * identifies those that submitted written comments during the review period. All comment letters and responses are reproduced in Exhibit C.*

State of Hawai'i

Department of Health

***Clean Air Branch**

*Department of Land and Natural Resources

State Historic Preservation Division

***Office of Conservation and Coastal Lands**

***Commission on Water Resources Management**

***Division of Forestry and Wildlife**

Department of Transportation, Highways Division

*Office of Hawaiian Affairs

Office of Planning and Sustainable Development

City and County of Honolulu

*Board of Water Supply

Department of Emergency Management

*Department of Environmental Services

*Department of Facilities Management

Department of Land Management

*Department of Planning and Permitting

Department of Transportation Services

*Honolulu Fire Department

Honolulu Police Department

Office of Climate Change, Sustainability and Resilience

Office of Economic Revitalization

United States of America

U.S. Army Corps of Engineers, Pacific Ocean Division

U.S. Department of the Interior

*Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office

Elected Officials

The Honorable Darius K. Kila, Representation 44th Representative District

~~[The Honorable Cedric A. Gates, Representative 45th Representative District]~~

The Honorable Christopher Muraoka, Representative 45th Representative District

The Honorable Samantha DeCorte, Senator, 22nd Senatorial District

The Honorable Andria Tupola, Councilmember, District 1

Utilities

Hawaiian Electric Co.

*Hawaiian Telcom

Hawai'i Gas

Organizations

Hawaii Food Bank

King Lunalilo Trust

Wai'anae Coast Neighborhood Board No. 24

Nānākuli-Mā'ili Neighborhood Board No. 36

MA'O Organic Farm

Hoa 'Āina O Mākaha

Ka'ala Farm

Kahumana Organic Farm

Native Hawaiian Organizations

'Āina Momona

Association of Hawaiian Civic Clubs

Association of Hawaiians for Homestead Lands

Au Puni O Hawaii

Council for Native Hawaiian Advancement

Kamealoha

Koa Ike

Makaha Hawaiian Civic Club

Native Hawaiian Church

Wai'anae Hawaiian Civic Club

Wai'anae Kai Homestead Association

Wai'anae Valley Homestead Association

Princess Kahanu Estates Association

Ahupua'a o Nānākuli Hawaiian Homestead Association

Nānākuli Hawaiian Homestead Community Association

Property Owners (East Side)

Guoming Li (8-6-001: 002)

Walter Durapan and Meldene Balecha TR (8-6-001: 031)

Min Gun Choi TR (8-6-001: 053)

Alexander and Victoria Agustin (8-6-001: 030)

Jo Anne Cariaga (8-6-001: 047)

Maile Point Properties (8-7-003: 004)

SECTION 7 DETERMINATION OF SIGNIFICANCE

Hawai'i Administrative Rules, Title 11, Department of Health, Chapter 200.1 (Environmental Impact Statement Rules) establishes criteria for determining whether an action may have significant effects on the environment (§11-200.1-13). The relationship of the proposed project to these criteria is summarized below.

- 1) Irrevocably commit a natural, cultural, or historic resource;

Three surface historic features were recorded in the Project Area. Two of the features are in the general location of the proposed Food Warehouse. The third feature is on a lot to be developed by others. The COMP will consult with the State Historic Preservation Division for disposition of the sites and appropriate mitigation measures to minimize potential impacts.

Should subsurface features be unearthed, work in the immediate area will cease and historic authorities notified for proper treatment of the finds.

The cultural assessment did not disclose on-going traditional and customary cultural practices associated with the lots.

- 2) Curtail the range of beneficial uses of the environment;

Most of the area is vacant and unused land. The proposed project will develop a food-based resiliency hub. In total, the Food Campus will help residents cope with hunger, raise produce, distribute food, and provide a shelter during emergencies.

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

The project will not conflict with the State's environmental policies or long-term environmental goals. The resiliency hub supports City plans for constructing hubs in all of Oahu's communities.

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

The project will not result in substantial adverse effect on the economic welfare, social welfare, and cultural practices of the community and the state. Conversely, reducing hunger and providing food to those in need, providing training and classes for job opportunities, and building facilities for community use and emergency sheltering would benefit Leeward Coast households.

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

Public health will not be adversely affected during construction. Construction related impacts on public health can and will be mitigated through public health regulations,

best management practices, other measures adaptable to the site and scale of a particular improvement.

In the long term, growing, teaching, and distributing food provides residents with the tools and outreach for positively improving their health. It is anticipated that actions by individual households to improve their lot, collectively improves overall public health in the community.

- 6) Involve adverse secondary impacts, such as population changes or effects on public facilities;

Adverse secondary impacts on population and effects on public facilities are not anticipated.

Irrigation water

- 7) Involve a substantial degradation of environmental quality;

Environmental quality will not be substantially degraded.

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

Cumulative adverse environmental effects are neither anticipated nor a commitment for larger actions are not expected beyond the Master Plan timeframe. Should the time come and there is pressing community need to physically add or expand the Food Campus, said action should be subject to environmental assessment.

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

Rare, threatened, or endangered flora and fauna were not observed on the properties. In the event said type of species or habitat are discovered during site work, work in the immediate area will cease and a botanist or wildlife specialist summoned to examine the finds.

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

Substantial adverse effects on air, water quality, ambient noise levels are not anticipated in the short and long term.

- 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;

Based on available information, the project is not located in an environmentally sensitive area as cited in this criterion. The environmental assessment disclosed that lower sections of the development are located in an Extreme Tsunami Evacuation Zone.

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

Buildings at the Food Campus will not totally block views of Puu Mailili thus substantial effect on views is not anticipated. Depending on viewing location, some structures and trees may interfered with views of its lower south facing slope but not views of its sheer cliff face and top ridgeline.

Structures or portions thereof (a roof for example) would be visible from nearby residential areas and roadways crossing this part of Maili. This impact cannot be avoided and over time the proposed improvements succeed vacant land becoming an urban landscape.

- 13) Require substantial energy consumption or emit substantial greenhouse gases.

Substantial energy consumption or emission of greenhouse gases are not anticipated.

REFERENCES

- AECOS, Inc. December 2019. *Natural resources assessment for future expansion lots [TMKs 8-6-01: 012, 024, 025, 026, 027, and 028] Wai'anae Coast Comprehensive Health Center [WCCHC] Mā'ili, Wai'anae District, Island of O'ahu*. AECOS No. 1594.
- Cultural Surveys Hawai'i. November 2019. *Draft Archaeological Literature Review and Field Inspection Report for the Wai'anae Coast Comprehensive Health Center Project, Lualualei Ahupua'a, Wai'anae District, O'ahu TMKs: [1] 8-6-001: 012, 024, 025, 026, 027, and 028*. Prepared for Gerald Park Urban Planner on behalf of the Waianae Coast Comprehensive Health Center.
- Cultural Surveys Hawai'i. May 2020. *Draft Cultural Assessment for the Wai'anae Coast Comprehensive Health Center Project, Lualualei Ahupua'a, Wai'anae District, O'ahu TMKs: [1] 8-6-001: 012 and 024 - 028*.
- Chu, Michael S. and Robert B. Jones. 1987. *Coastal View Study*. Prepared for City and County of Honolulu, Department of Land Utilization.
- Department of General Planning, City and County of Honolulu. November 2021. *O'ahu General Plan*. Adopted as Ordinance 21-23, CD1, January 2022.
- Department of Planning and Permitting, City and County of Honolulu. March 2012. *Wai'anae Sustainable Communities Plan*.
- _____. August 2000. *Public Infrastructure Map Waianae*. Resolution No. 2000-121.
- Department of Geography, University of Hawai'i at Hilo. 1998. *Atlas of Hawai'i Third Edition*. University of Hawai'i Press. Honolulu.
- Department of Hawaiian Home Lands. April 2024. *Right of Entry No. 728*.
- Department of Hawaiian Home Lands. July 2010. *Wai'anae and Lualualei Regional Plan*.
- Department of Hawaiian Home Lands. *Wai'anae and Lualualei Regional Plan 2018*. Hawaiian Homes Commission, Department of Hawaiian Home Lands.
- Department of Land and Natural Resources, Engineering Division, State of Hawai'i. November 2014. *Flood Hazard Assessment Report*. FEMA FIRM PANEL 15003C0192J.
- Hida, Okamoto & Associates, Inc. June 2020. *Drainage Master Plan Study Draft. Waianae Coast Comprehensive Health Center*.**
- McDonald, Gordon A. and Agatin T. Abbott. 1970, 1983. *Volcanoes in the Sea The Geology of Hawaii. Second Edition*. University of Hawaii Press. Honolulu.

Mink, John F. and L. Stephen Lau. February 1990. *Aquifer Identification and Classification for O'ahu: Groundwater Protection Strategy for Hawai'i*. Technical Report No. 179. Water Resources Research Center, University of Hawaii at Manoa.

Park, Gerald Urban Planner. April 2020. May 2024. *Field Observation*.

Tmbol, Amadeo S. and John A. Maciolek. April 1978. *Stream Channel Modification in Hawaii Part A Statewide Inventory of Streams, Habitat Factors, and Associated Biota*. Prepared for Office of Biological Services, U.S. Fish and Wildlife Service, U.S. Department of the Interior.

U.S. Department of Agriculture, Soil Conservation Service. August 1972. *Soil Survey Report for Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*. In Cooperation with the University of Hawaii Agricultural Experiment Station.

Waianae Coast Comprehensive Health Center. June 2024. *Prospectus for the Development of the DHHL Properties, TMK 12, TMK 24, TMK 25-26*.

EXHIBIT A

Natural Resources Assessment

Natural resources assessment for future expansion lots (TMKs 8-6-01:012, 024, 025, 026, 027, and 028) Wai‘anae Coast Comprehensive Health Center (WCCHC) Mā‘ili, Wai‘anae District, Island of O‘ahu

December 19, 2019

DRAFT

AECOS No. 1594

Eric B. Guinther and Reginald David¹

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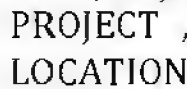
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Introduction

The Waianae Coast Comprehensive Health Center (WCCHC), located at the north end of Mā‘ili on leeward O‘ahu (Figure 1), is in the process of developing expansion plans potentially involving six adjacent lots: TMKs 8-6-01:012, 024, 025, 026, 027, and 028. This report presents results of a natural resources survey of these adjacent parcels on the south slope of Pu‘umā‘ili‘ili, an isolated ridge separating Mā‘ili from Wai‘anae (actually from a separate small valley at the south end of Wai‘anae Valley).

The remnant ridge named Pu‘umā‘ili‘ili is steep, cliffed along much of its face and bordered by a steep talus apron. The expansion lots all border on Mailiili Road, which runs up into Lualualei Valley along Mā‘ili‘ili Stream. The properties extend up the slope of Pu‘umā‘ili‘ili to the very ridge top (see Figure 2). Much of this land, therefore, is too steep to be developed.

¹ Rana Biological Consulting, Kailua-Kona, Hawai‘i.



Methods

A survey area map was loaded on a Trimble 6000 Series GNSS unit (GeoXH) for use during the botanical survey conducted by Eric Guinther on November 19, 2019. The GNSS unit recorded the progress track of the botanist, providing real time feedback on location and adequacy of coverage during a wandering (pedestrian) transect survey. Because much of the area as defined by the property lines is inaccessible terrain, the survey area was limited to those places that could be traversed: namely the talus slope below the cliff face. No attempt was made to examine or record plants growing on the cliff face or ridgetop as these areas would not be included in any site development plans. The southeast corner of the eastern-most parcel is occupied by a development

presumably not associated with the WCCHC. Highly disturbed, this area would not harbor plants of conservation concern.



Figure 2. Area surveyed (white circles) for the Wai'anae Coast Comprehensive Health Center expansion lots (outlined in red). Contour interval in feet.

Because much of the land behind (*mauka*) of the WCCHC buildings and parking lots is given over to a garden and various maintenance facilities, the plant survey was divided into two phases: (1) the undeveloped land of the subject parcels and (2) the landscaped garden setting in back of the highest health center buildings on parcel TMK: 8-6-01:024. Plant species encountered in the Phase 1 area were identified and notes taken to develop a relative abundance for each species. Plants encountered in the Phase 2 survey were only identified for the reason that relative abundances of planted specimens is of minimal descriptive interest. Any plant not immediately recognized during either survey phase was photographed and/or a representative feature (flower, fruit, etc.) collected for later identification at the laboratory.



Figure 3. The surveyed parcels are moderately sloping at the low end, but eventually include these cliffs all the way to the top of Pu'umā'ili'ili.

Plant species names in this report follow *Manual of the Flowering Plants of Hawai'i* (Wagner, Herbst, & Sohmer, 1990; Wagner & Herbst, 1999) for native and naturalized flowering plants, *Hawai'i's Ferns and Fern Allies* (Palmer, 2003) for ferns, and *A Tropical Garden Flora* (Staples & Herbst, 2005) for ornamental

plants. More recent name changes for naturalized plant species follow Imada (2012).

Bird and Mammal Survey

Reginald David conducted the birds and mammals survey during the morning of November 19, 2019. Six roughly equidistant, avian point-count stations were sited within the survey area. A single eight-minute avian point-count was made at each of the stations. The avian counts were conducted in the early morning hours with the aid of Leica 8 X 42 binoculars and by listening for vocalizations. Weather conditions were ideal, with unlimited visibility and winds between 2 and 15 kilometers-per-hour. Avian phylogenetic order and nomenclature used in this report follows the AOS Check-List of North and Middle American Birds 2018 and the Sixtieth Supplement to the American Ornithological Society's Check-List of North American Birds (Chesser et al., 2018, 2019).



Figure 4. The steepness of the upper slope of the talus apron is evident in the picture of the WCCHC taken from the far northeast end of the survey. This upper slope of the talus apron supports mostly buffelgrass.

The survey of mammals was limited to visual and auditory detection, coupled with visual observation of scat, tracks, and other animal sign. A running tally was kept of all terrestrial vertebrate mammalian species detected within the survey area. Mammal scientific names follow *Mammal species of the world: a taxonomic and geographic reference* (Wilson and Reeder, 2005).

Results

Vegetation

Vegetation across the undeveloped lots comprises *kiawe* (*Prosopis pallida*) forest in the lowland (Figure 5), becoming open savannah of *kiawe* and buffel grass (*Cenchrus ciliaris*) up the slope (see Figure 4, above) , and then grassland or grassland with widely scattered shrubs, mostly *koa haole* (*Leucaena leucocephala*) and *klu* (*Vachellia farnesiana*) near the top of the talus apron (Figure 3, above). Sparse evidence of wildfire damage to vegetation was seen in a few places. The lowest parts of parcels TMK: 8-6-01: 012 & 024 is a graded empty lot used for overflow parking.



Figure 5. The lowest part of the subject parcels supports a *kiawe* forest where buffelgrass and Guinea grass are co-dominants in the understory.

Flora

Table 1 is a listing of all the species of flowering plants observed during the survey. A total of 134 taxa are included in the listing. These break down as

Table 1. Flora listing for WCCHC expansion lots at Mā'ili, O'ahu.

Species listed by family	Common name	Status	Abundance	Notes
<i>FERNS AND FERN ALLIES</i>				
NEPHROLEPIDACEAE				
<i>Nephrolepis multiflora</i> (Roxb.) F.M. Jarrett ex C.V. Morton	sword fern	Nat	--	<2>
<i>GYMNOSPERMS</i>				
ARAUCARIACEAE				
<i>Araucaria columnaris</i> (G. Forst.) J.D. Hook.	Cook-pine	Nat	--	<2>
CUPRESSACEAE				
<i>Cupressus sempervirens</i> L.	Italian cypress	Orn	--	<2>
CYCADACEAE				
<i>Cycas</i> sp.	sago palm	Orn	--	<2>
<i>FLOWERING PLANTS</i>				
DICOTYLEDONES				
ACANTHACEAE				
<i>Graptophyllum pictum</i> (L.) Griff.	caricature plant	Orn	--	<2>
<i>Barleria repens</i> C. Nees	pink-ruellia	Nat	--	<2>
AIZOACEAE				
<i>Trianthema tetragonioides</i> (Pall.) Kuntze	---	Nat	Oa	<1>
AMARANTHACEAE				
<i>Alternanthera pungens</i> Kunth	khaki weed	Nat	U	
<i>Amaranthus viridis</i> L.	slender amaranth	Nat	O	<1>
<i>Amaranthus spinosa</i> L.	spiny amaranth	Nat	R	
ANACARDIACEAE				
<i>Mangifera indica</i> L.	mango	Nat	--	<2>
ANNONACEAE				
<i>Annona</i> sp.	---	Orn	--	<2, 3>
APOCYNACEAE				
<i>Allamanda cathartica</i> L.	bush allamanda	Orn	--	<2>
<i>Catharanthus roseus</i> (L.) G. Don	Madagascar periwinkle	Nat	--	<2>
<i>Plumeria obtusa</i> L.	Singapore plumeria	Orn	--	<2>
<i>Plumeria rubra</i> L.	graveyard flower	Orn	R	<2>
ASCLEPIADACEAE				
<i>Calotropis gigantea</i> (L.) W.T. Aiton	crownflower	Orn	--	<2>
<i>Stapelia gigantea</i> N.E. Brown	giant toad plant	Nat	U	

Table 1 (continued).

Species listed by family	Common name	Status	Abundance	Notes
ASTERACEAE (COMPOSITAE)				
<i>Calyptocarpus vialis</i> Less.	---	Nat	U	<2>
<i>Tridax procumbans</i> L.	coat buttons	Nat	--	<2>
<i>Youngia japonica</i> (L.) DC.	Oriental hawksbeard	Nat	--	<2>
BIGNONIACEAE				
<i>Jacaranda mimosifolia</i> D. Don	jacaranda	Orn	--	<2>
<i>Tecoma castanifolia</i> (D. Don) Melchior	---	Orn	R	
BORAGINACEAE				
<i>Cordia subcordata</i> Lam.	<i>kou</i>	Ind	--	<2>
CAPPARACEAE				
<i>Cleome gynandra</i> L.	wild spider flower	Nat	R	
CARICACEAE				
<i>Carica papaya</i> L.	papaya, <i>mīkana</i>	Nat	--	<2>
CASUARINACEAE				
<i>Casuarina equisetifolia</i> L.	coast ironwood	Nat	--	<2>
<i>Casuarina glauca</i> Spreng.	long-leaf ironwood	Nat	--	<2>
CLUSIACEAE				
<i>Clusia rosea</i> N. Jacq.	autograph tree	Nat	--	<2>
CONVOLVULACEAE				
<i>Ipomoea obscura</i> (L.) Ker-Gawl	---	Nat	--	<2>
<i>Merremia aegyptia</i> (L.) Urb.	hairy merremia	?Pol	U	
CUCURBITACEAE				
<i>Coccinia grandis</i> (L.) Voigt	scarlet-fruited gourd	Nat	R	
<i>Momordica charantia</i> L.	balsam pear	Nat	U	
EBENACEAE				
<i>Diospyros blancoi</i> A. de Cand.	velvet apple, <i>comagong</i>	Orn	--	<2>
EUPHORBIACEAE				
<i>Aleurites moluccana</i> (L.) Willd.	<i>kukui</i>	Pol	--	<2>
<i>Codiaeum variegatum</i> (L.) Blume	croton	Orn	--	<2>
<i>Euphorbia heterophylla</i> L.	<i>kaliko</i>	Nat	--	<2>
<i>Euphorbia hirta</i> L.	garden spurge	Nat	U	<2>
<i>Phyllanthus debilis</i> Klein ex Willd.	niruri	Nat	--	<2>
FABACEAE				
<i>Albizia lebbbeck</i> (L.) Benth.	siris tree	Nat	--	<2>
<i>Albizia saman</i> (Jacq.) F. Muell.	monkeypod, rain tree	Nat	R	<2>
<i>Caesalpinia pulcherrima</i> (L.) Swartz	'ohai ali'i	Orn	R	<2>

Table 1 (continued).

Species listed by family	Common name	Status	Abundance	Notes
FABACEAE (cont.)				
<i>Desmanthus pernamibucanus</i> (L.) Thellung	virgate mimosa	Nat	Oa	
<i>Indigofera spicata</i> Forssk.	creeping indigo	Nat	--	<2>
<i>Leucaena leucocephala</i> (Lam.) deWit	koa haole	Nat	Oc	
<i>Macroptilium lathyroides</i> (L.) Urb.	cow pea	Nat	--	<2>
<i>Prosopis pallida</i> (Humb. & Bonpl. ex Willd.) Kunth	kiawe	Nat	AA	
<i>Tamarindus indica</i> L.	tamarind	Orn	--	<2>
<i>Vachellia farnesiana</i> (L.) Willd.	klu	Nat	O	
GOODENIACEAE				
<i>Scaevola taccada</i> (J. Gaertn.) Roxb.	naupaka kahakai	Ind	--	<2>
LAMIACEAE				
<i>Leonotis nepetifolia</i> (L.) R. Br.	lion's ear	Nat	U	<2>
MAGNOLIACEAE				
<i>Magnolia grandiflora</i> L.	magnolia	Orn	--	<2>
MALVACEAE				
<i>Abelmoschus exculentus</i> (L.) Moench	okra	Orn	--	<2>
<i>Abutilon grandifolium</i> (Willd.) Sweet	hairy abutilon	Nat	--	<2>
<i>Abutilon incanum</i> (Link) Sweet	ko'oloa keokeo	Ind	Ca	<2>
<i>Hibiscus arnottianus</i> A. Gray	koki'o ke'oke'o	End	--	<2>
<i>Hibiscus rosa-sinensis</i> L.	Chinese hibiscus	Orn	--	<2>
<i>Malvastrum coromandelianum</i> (L.) Garcke	false mallow	Nat	U	
<i>Sida ciliaris</i> L.	---	Nat	--	<2>
<i>Sida fallax</i> Walp.	'ilima	Ind	O	<2>
<i>Sida rhombifolia</i>	Cuba jute	Nat	--	<2>
<i>Thespesia populnea</i> (L.) Sol. ex Corrêa	milo	Ind	O	
<i>Waltheria indica</i> L.	'uhaloa	Ind	Ca	<1, 2>
MELIACEAE				
<i>Azadirachta indica</i> Adr. Juss.	neem	Orn	--	<2>
<i>Toona ciliata</i> M. Roem.	Australian red cedar	Nat	--	<2>
MORACEAE				
<i>Artocarpus altilis</i> (Z.) Fosb.	breadfruit, 'ulu	Orn	--	<2>

Table 1 (continued).

Species listed by family	Common name	Status	Abundance	Notes
FABACEAE (cont.)				
<i>Ficus carica</i> L.	edible fig	Orn	--	<2, 3>
<i>Ficus microcarpa</i> L. fil.	Chinese banyan	Nat	--	<2>
<i>Ficus religiosa</i> L.	bo tree	Orn	--	<2>
MORINGACEAE				
<i>Moringa oleifera</i> Lam.	horseradish tree, <i>malunggay</i>	Orn	--	<2>
MYRTACEAE				
<i>Psidium guajava</i> L.	common guava	Nat	--	<2>
NYCTAGINACEAE				
<i>Boerhavia coccinea</i> Mill.	false <i>alena</i>	Nat	O	<1>
<i>Boerhavia glabrata</i> Blume	<i>alena</i>	Ind	R	
<i>Bougainvillea spectabilis</i> Wild.	bougainvillea	Orn	O	<2>
OLEACEAE				
<i>Jasminum sambac</i> (L.) W. Aiton	<i>pikake</i>	Orn	--	<2, 3>
OXALIDACEAE				
<i>Oxalis corniculata</i> L.	yellow wood sorrel	Pol	--	<2>
PASSIFLORACEAE				
<i>Passiflora</i> sp.	---	Nat	--	<2, 3>
PLUMBAGINACEAE				
<i>Plumbago auriculata</i> Lam.	blue plumbago	Orn	--	<2>
PORTULACAEAE				
<i>Portulaca oleracea</i> L.	pigweed	Nat	--	<2>
ROSACEAE				
<i>Rosa</i> sp.	<i>lokelani</i>	Orn	--	<2, 3>
RUBIACEAE				
<i>Ixora</i> sp.	ixora	Orn	--	<2>
<i>Morinda citrifolia</i> L.	<i>noni</i>	Nat	--	<2>
RUTACEAE				
<i>xCitrofortunella microcarpa</i> (Bunge) Wijnands	<i>kalamansi</i>	Orn	--	<2>
<i>Citrus aurantiifolia</i> (Christm.) Swingle	lime	Orn	--	<2>
<i>Citrus reticulata</i> Blanco	Mandarin orange	Orn	--	<2>
<i>Citrus sinensis</i> (L.) Osbeck	sweet orange	Orn	--	<2>
<i>Murraya paniculata</i> (L.) W. Jack	mock orange	Nat	--	<2>
SAPOTACEAE				
<i>Chrysophyllum oliviforme</i> L.	satinleaf	Nat	--	<2>

Table 1 (continued).

Species listed by family	Common name	Status	Abundance	Notes
SOLANACEAE				
<i>Capsicum annuum</i> L.	<i>nīoi</i>	Nat	--	<2>
VERBENACEAE				
<i>Vitex rotundifolia</i> L. fil.	<i>pōhinahina</i>	Ind	R	<2>
FLOWERING PLANTS				
MONOCOTYLEDONES				
AGAVACEAE				
<i>Cordyline fruticosa</i> (L.) A. Chev.	<i>ki, ti</i>	?Ind	--	<2>
<i>Dracaena fragrans</i> (L.) Ker Gawl.	fragrant dracaena	Orn	--	<2>
<i>Dracaena sanderiana</i> M.T. Masters	sanderiana	Orn	--	<2>
ALOEACEAE				
<i>Aloë vera</i> (L.) N.L. Burm.	aloë	Orn	--	<2>
ARACEAE				
<i>Colocasia esculenta</i> (L.) Schott	<i>kalo</i>	Pol	--	<2>
<i>Dieffenbachia maculata</i> (Lodd.) G. Don	dieffenbachia, dumb cane	Orn	--	<2>
<i>Monstera delicosa</i> Liebm.	monstera	Orn	--	<2>
<i>Philodendron</i>	zanadu	Orn	--	<2>
<i>Spathiphyllum wallisii</i> Regel	spathiphyllum	Orn	--	<2>
<i>Xanthosoma robustum</i> Schott	'ape	Nat	U	<2>
ARECACEAE				
<i>Cocos nucifera</i> L.	coconut palm	Pol	--	<2>
<i>Dypsis lutescens</i> (H. Wendl.) Beentje & J. Dransfield	golden-fruited palm	Orn	--	<2>
<i>Licuala grandis</i> H. Wendl.	juv. licuala	Orn	--	<2, 3>
<i>Pritchardia</i> sp.	<i>lo'ulu</i>	End	--	<2, 3>
<i>Rhaphis</i> sp.	<i>lady palm</i>	Orn	--	<2, 3>
<i>Veitchia merrillii</i> (Beccari) H. E. Moore	Manila palm	Orn	--	<2>
<i>Wodyetia bifurcata</i> Irvine	foxtail palm	Orn	--	<2>
BROMELIACEAE				
<i>Aechmea blanchetiana</i> (Baker) Smith		Orn	--	<2>
CYPERACEAE				
<i>Cyperus gracilis</i> R. Br.	McCoy grass	Nat	--	<2>
<i>Cyperus polystachyos</i> Rottb.	---	Ind	--	<2>
<i>Cyperus rotundus</i> L.	nut grass	Nat	--	<2>
<i>Kylinga nemoralis</i> (J. R. & G. Forster) Dandy ex. Hutchinson & Dalziel.	<i>kili'o'opu</i>	Nat	--	<2>

Table 1 (continued).

Species listed by family	Common name	Status	Abundance	Notes
LILIACEAE				
<i>Crinum</i> cf. <i>asiaticum</i> L.	giant lily	Orn	--	<2, 3>
MUSACEAE				
<i>Musa</i> sp.	banana, <i>mai'a</i>	Pol	--	<2, 3>
PANDANACEAE				
<i>Pandanus tectorius</i> S. Parkinson ex Z	<i>hala</i>	Ind	--	<2>
POACEAE				
<i>Axonopus compressus</i> (Swartz) P. Beauv.	brd-lvd carpet grass	Nat	--	<2>
<i>Bothriochloa pertusa</i> (L.) A. Camus	pitted beardgrass	Nat	--	<2>
<i>Cenchrus ciliaris</i> L.	buffelgrass	Nat	AA	<2>
<i>Cynodon dactylon</i> (L.) Pers.	Bermuda grass	Nat	R	<2>
<i>Chloris barbata</i> (L.) Sw.	swollen fingergrass	Nat	Uc	
<i>Dichanthium aristatum</i> (Poir.) Hubb.	Angleton grass	Nat	--	<2>
<i>Digiteria insularis</i> (L.) Mez ex Ekman	sourgrass	Nat	--	<2>
<i>Eleusine indica</i> (L.) Gaertn.	wiregrass	Nat	U	<2>
<i>Eragrostis pectinacea</i> (Michx.) Nees	Carolina lovegrass	Nat	U	<2>
<i>Heteropogon contortus</i> (L.) P. Beauv. ex Roem. & Schult.	<i>pili</i>	Ind	R	
<i>Megathrysus maximus</i> (Jacq.) B.K. Simon & W.L. Jacobs	Guinea grass	Nat	AA	<2>
<i>Paspalum conjugatum</i> Berguis	Hilo grass	Nat	--	<2>
<i>Saccharum officinarum</i> L.	sugar cane, <i>kō</i>	Pol	--	<2>
<i>Stenotaphrum secundatum</i> (Walter) Kuntze	St. Augustine grass	Nat	--	<2>
<i>Zoysia</i>		Orn	--	<2, 3>
STRELITZIACEAE				
<i>Strelitzia reginae</i> Drylander	bird-of-paradise	Orn	--	<2>
ZINGIBERACEAE				
<i>Alpinia purpurata</i> (Vieil.) K. Schum.	red ginger	Orn	--	<2>
<i>Curcuma longa</i> L.	'olena	Pol	--	<2>
<i>Hedychium coronarium</i> J. König	white ginger	Nat	--	<2>

Key to Table 1.

STATUS = distributional status for the Hawaiian Islands:

Ind = indigenous; native to Hawaii, but not unique to the Hawaiian Islands.

Table 1 (continued).

Nat =	naturalized, exotic, plant introduced to the Hawaiian Islands since the arrival of Cook Expedition in 1778, and well-established outside of cultivation.
Orn =	a cultivated plant; a species not thought to be naturalized (spreading on its own) in Hawai'i.
Pol =	an early Polynesian introduction. Introduced before 1778.
ABUNDANCE = occurrence ratings for plant species:	
R - Rare	seen in only one or perhaps two locations.
U - Uncommon	seen at most in several locations
O - Occasional	seen with some regularity
C - Common	observed numerous times during the survey
A - Abundant	found in large numbers; may be locally dominant.
AA - Very abundant	a dominant, vegetation-defining species.
Lower case letters (u, c, a) following qualitative rating of abundance indicate localized abundance is greater than occurrence rating. For example, Ra would be a plant encountered only once or twice, but very numerous where encountered.	
-- Distribution in the survey area limited to the garden.	
NOTES:	<1> - Particularly abundant in disturbed areas; ruderal plant.
	<2> - Observed in the garden area either as a weed or as a planting.
	<3> - Plant lacking key diagnostic characteristics (flower, fruit);
	identification, therefore, uncertain.

follows: 47 are ornamentals (plants not naturalized; another 31 or so are native or Polynesian introduced species planted as ornamentals), 14 are natives (12 indigenous and 2 endemic), and 8 are early Polynesian introductions. Of potential conservation concern would be the two endemics: *koki'o ke'oke'o* (*Hibiscus arnottianus*) and *lo'ulu* (*Pritchardia* sp.). *Koki'o ke'oke'o* is a common landscape plant; the *lo'ulu* palms are discussed further below. All of the indigenous natives are common plants in the Islands.

Avian Survey

A total of 190 individual birds of 18 species, representing 11 separate families, was recorded during station counts (Table 2). All of the species detected during the course of this survey are alien to the Hawaiian Islands.

Avian diversity and densities were in keeping with the habitats present on the site. Three species: Red-vented Bulbul (*Pycnonotus cafer*), Zebra Dove (*Geopelia striata*), and Japanese White-eye (*Zosterops japonicas*), accounted for 56 percent of all birds recorded during station counts. The most frequently recorded species was Red-vented Bulbul, which accounted for 29 percent of the total number of individual birds recorded during station point counts.

Table 2. Avian species detected during point-counts at the Waianae Coast Comprehensive Health Center, November 2019.

<i>Common Name</i>	<i>Scientific Name</i>	ST	RA
PHASIANIDAE - Pheasants & Partridges			
Phasianinae - Pheasants & Allies			
Gray Francolin	<i>Francolinus pondicerianus</i>	A	0.67
Erckel's Francolin	<i>Pternistis erckelii</i>	A	0.33
Red Junglefowl	<i>Gallus gallus</i>	A	1.17
COLUMBIFORMES			
COLUMBIDAE - Pigeons & Doves			
Rock Pigeon	<i>Columba livia</i>	A	0.83
Spotted Dove	<i>Streptopelia chinensis</i>	A	0.50
Zebra Dove	<i>Geopelia striata</i>	A	5.50
PASSERIFORMES			
PYCNONOTIDAE - Bulbuls			
Red-vented Bulbul	<i>Pycnonotus cafer</i>	A	9.33
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	A	0.83
ZOSTEROPIDAE - White-eyes			
Japanese White-eye	<i>Zosterops japonicus</i>	A	2.83
TURDIDAE - Thrushes			
White-rumped Shama	<i>Copsychus malabaricus</i>	A	0.17
STURNIDAE - Starlings			
Common Myna	<i>Acridotheres tristis</i>	A	1.83
FRINGILLIDAE - Fringilline and Carduline Finches & Allies			
Carduelinae - Carduline Finches and Hawaiian Honeycreepers			
House Finch	<i>Haemorhous mexicanus</i>	A	1.33
PASSERIDAE - Old World Sparrows			
House Sparrow	<i>Passer domesticus</i>	A	0.33
CARDINALIDAE - Cardinals & Allies			
Northern Cardinal	<i>Cardinalis cardinalis</i>	A	1.67
THRAUPIDAE - Tanagers			
Red-crested Cardinal	<i>Paroaria coronata</i>	A	0.83
Saffron Finch	<i>Sicalis flaveola</i>	A	0.67
ESTRILDIDAE - Estrildid Finches			
Common Waxbill	<i>Estrilda astrild</i>	A	2.67
Java Sparrow	<i>Lonchura oryzivora</i>	A	0.17

Key to table 2

ST Status

A Alien – Introduced to the Hawaiian Islands by humans

RA Relative Abundance - Number of birds detected divided by the number of point counts (~8)

Mammalian Surveys

We recorded numerous dogs (*Canis familiaris*) barking from the area on the eastern side of the site. Dogs were also heard barking from areas within a housing area south of Mai'ili'ilii Stream. Additionally tracks and scat of dogs were encountered within the undeveloped portion of the study area. Several small Indian mongooses (*Herpestes javanicus*) were seen in and around a green waste dump. No other mammals were recorded, though it is highly probable that one or more of the four alien Muridae species currently established on the Island of O'ahu—roof rat (*Rattus rattus*), brown rat (*Rattus norvegicus*), Polynesian rat (*Rattus exulans hawaiiensis*), and European house mouse (*Mus musculus*)—use resources on the property on a seasonal and temporal basis.

Discussion

Botanical Resources

The WCCHC boasts perhaps the finest garden area on the leeward coast and certainly the finest of any health facility in the Islands. We recorded 97 species of plants in the garden area survey; no doubt some plants were missed, and the garden appears to extend further down slope into the building complex beyond our survey area.

The botanical survey revealed no plants of particular interest or conservation value growing on the expansion area parcels. The flora is typical of lowland, leeward O'ahu. Native herbaceous species present are common species and no plants listed under either state or federal endangered species programs (HDLNR, 1998; USFWS, nd-a) are present on or immediately adjacent to the site.

Although the garden area has numerous plantings of native and early Polynesian introduced plants (14 as plantings or natural weeds not found elsewhere in the survey area) and signage promotes Hawaiian sense of place, the collection is not especially oriented towards native plants (the 'ulu collection may be an exception, although these are introduced plants). The primary concern with regard to future alterations to the layout that might occur (that this survey was intended to discover) is the presence of any listed species growing in the garden. As a rule, only a Hawaiian endemic is likely to be so rare in nature as to be listed by the state or federal government. With respect to endemics (species unique to Hawai'i), only two were noted: *Hibiscus arnottianus* and *Pritchardia* sp.

H. arnottianus or *koki'o ke'oke'o* is a native white hibiscus that is a popular landscape plant and is not a listed species. However, *H. arnottianus* subspecies *immaculatus* is a listed species with a distinct flower (USFWS, nd-b). The specimen observed at WCCHC is not this protected subspecies.

Twenty-six species of *Pritchardia* palms or *lo'ulu* are found in the Hawaiian Islands, two of which are introduced (Hodel, 2012). These palms can be very difficult to identify, especially planted in gardens, as most are unique to a particular island or part of an island and species differences can be subtle. The many *lo'ulu* in the WCCHC garden appear to be natives—the two introduced *Pritchardia* in Hawai'i are widely planted and usually recognizable as distinct from the native species. USFWS (nd-a) lists 17 species from Hawai'i, and 11 of these are endangered species. Hodel (2012) describes five species from O'ahu, two of which have small populations on the Wai'anae mountain (*P. martii* and *P.*

kaalae); *P. kaalae* is one of the listed species (USFWS, nd-b). However, in the absence of information on how or from where the WCCHC garden specimens were acquired and without investing in an effort to collect anatomical details, identification is not possible. The WCCHC site is not within the known range of any native *lo'ulu* species.

- Although further effort and research might allow us to identify the *lo'ulu* species in the WCCHC garden, caution suggests the following approach: because an endangered species retains statutory protections even where planted in garden, removal of any *lo'ulu* in the garden should not proceed without acquiring information on the *Pritchardia* species involved. Mitigation for removal would typically entail moving the specimen to another location in the garden, under USFWS supervision.

No other plants of conservation or enjoying statutory protection were noted at WCCHC. No trees listed by the City & County of Honolulu, Exceptional Tree Program occur on the subject parcels (C&C, 2017).

Avian Resources

As previously mentioned a total of 18 avian species—all established alien birds—was recorded during the course of this survey (Table 2).

Seabirds

It is possible that the endangered Hawaiian Petrel (*Pterodroma sandwichensis*) and the threatened Newell's Shearwater (*Puffinus newelli*) may overfly the site during the nesting season. These two species have recently been detected over the Island of O'ahu (Young et al. 2019). The primary cause of mortality in both species is thought to be predation by alien mammalian species at the nesting colonies (USFWS, 1983; Simons and Hodges, 1998; Ainley et al., 2001). Collision with man-made structures is considered to be the second most significant cause of mortality of these seabirds in Hawai'i. Nocturnally flying seabirds, especially fledglings on their way to sea in the summer and fall, can become disoriented by exterior lighting. When disoriented, seabirds can collide with man-made structures and, if not killed outright, the dazed or injured birds are easy targets of opportunity for feral mammals (Hadley, 1961; Telfer, 1979; Sincock, 1981; Reed et al., 1985; Telfer et al., 1987; Cooper and Day, 1998; Podolsky et al., 1998; Ainley et al., 2001; Hue et al., 2001; Day et al., 2003). Additionally, Wedge-tailed Shearwaters (*Ardenna pacifica*), a coastal nesting non-listed indigenous seabird could also potentially overfly the site on a seasonal basis; no suitable nesting habitat for any of these three seabird species is found on the Project site.

The O'ahu population of White-Tern (*Gygis alba*) is listed as an endangered species by the State of Hawaii; it is not listed under federal statute. This ephemeral species was not recorded during this survey, nor was it expected. The current resident population

of White Terns on O'ahu is found on the leeward side of the Island concentrated in the Waikiki area (VanderWerf, 2003).

Owls

No owl species were recorded during this survey. Two resident owl species occur on O'ahu: the introduced Barn Owl (*Tyto alba*) and the endemic sub-species of the Short-eared Owl or *Pue'o* (*Asio flammeus sandwichesis*). This latter species has become increasingly scarce on the Island and the O'ahu population is listed as an endangered species by the State of Hawai'i (it is not listed under federal statute). This species is not habitat restricted on O'ahu, though there certainly is less suitable nesting habitat than there once was. This owl faces daunting odds on an Island as heavily human populated as O'ahu. *Pueo* is a ground nesting diurnal species and the sheer number and density of mammalian predators on the Island make it very difficult for this species to successfully nest except within protected areas with a strong mammalian predator control program in place. This species does nest in the greater Waianae area and grassland occupies much of the undeveloped portion of the Project site and could be used by Short-eared Owls.

Hawaiian hoary bats

It is possible that Hawaiian hoary bats overfly the project area and clearing of trees during early in the construction process is a potential impact to bats. The removal of trees may temporarily displace individual bats roosting there. As bats use multiple roosts within their home territories, the potential disturbance resulting is likely to be minimal. However, during the pupping season, females carrying their pups may be less able to rapidly vacate a roost site if a tree is felled. Additionally, adult female bats sometimes leave their pups in the roost tree while they forage. Very small pups may be unable to flee a tree that is being felled. Potential adverse effects from such disturbance can be avoided or minimized by not clearing woody vegetation taller than 4.6 m (15 ft), between June 1 and September 15, the bat pupping season.

Recommendations

- In the event and prior to removing any *lo'ulu* palm (*Pritchardia* sp.), the species of the palm be established to ascertain as certain as possible that it is not one of the ESA-listed species.
- Prior to clearing and grubbing activities, a Short-eared Owl nesting survey should be conducted by a qualified biologist.
- It is recommended that the all lights installed be shielded to reduce the potential for interactions of nocturnally flying seabirds with external lights and man-made structures (Reed et al., 1985; Telfer et al., 1987).

- To avoid potential deleterious impacts to roosting bats, it is recommended that no woody vegetation taller than 4.6 m (15 ft), be removed between June 1 and September 15.

References Cited

- Ainley, D. G, R. Podolsky, L. Deforest, G. Spencer, and N. Nur. 2001. The Status and Population Trends of the Newell's Shearwater on Kaua'i: Insights from Modeling, in: Scott, J. M, S. Conant, and C. Van Riper III (editors) *Evolution, Ecology, Conservation, and Management of Hawaiian Birds: A Vanishing Avifauna. Studies in Avian Biology No. 22.* Cooper's Ornithological Society, Allen Press, Lawrence, Kansas. Pp. 108-123.
- Chesser, R. T., K. J. Burns, C. Cicero, J. L. Dunn, A. W. Kratter, I. J. Lovette, P. C. Rasmussen, J. V. Remsen, Jr., D. F. Stotz, B. M. Winger, and K. Winker. 2018. Check-list of North American Birds (online). American Ornithological Society. At URL: http://checklist.aou.org/taxa_
- Chesser, R. T., K. J. Burns, C. Cicero, J. L. Dunn, A. W. Kratter, I. J. Lovette, P. C. Rasmussen, J. V. Remsen, Jr., D. F. Stotz, and K. Winker. 2019. Sixtieth Supplement to the Check-list of North American Birds. *The Auk Ornithological Advances*, 136: 1-23.
- City and County of Honolulu, Department of Parks and Recreation (C&C). 2017. Exceptional Tree Program website, URL: http://www.honolulu.gov/rep/site/dpr/hbg_docs/ROH_Chapter_41a1-25.pdf.
- Cooper, B. A. and R. H. Day. 1998. Summer behavior and mortality of Dark-rumped Petrels and Newell's Shearwaters at power lines on Kauai. *Colonial Waterbirds*, 21(1): 11-19.
- Day, R. H., B. Cooper, and T. C. Telfer. 2003. Decline of Townsend's (Newell's Shearwaters (*Puffinus auricularis newelli*) on Kauai, Hawaii. *The Auk*, 120: 669-679.
- Department of Land and Natural Resources (DLNR). 1998. Indigenous Wildlife, Endangered And Threatened Wildlife And Plants, And Introduced Wild Birds. Department of Land and Natural Resources. State of Hawaii. Administrative Rule §13-134-1 through §13-134-10, dated March 02, 1998.
- Hadley, T. H. 1961. Shearwater calamity on Kauai. *'Elepaio* 21: 60.
- Hodel, D. R. 2012. *Loulu. The Hawaiian Palm*. Univ. of Hawai'i Press, Honolulu. 190 pp.

- Hue, D., C. Glidden, J. Lippert, L. Schnell, J. MacIvor and J. Meisler. 2001. Habitat Use and Limiting Factors in a Population of Hawaiian Dark-rumped Petrels on Mauna Loa, Hawai'i. , in: : Scott, J. M, S. Conant, and C. Van Riper III (editors) *Evolution, Ecology, Conservation, and Management of Hawaiian Birds: A Vanishing Avifauna*. Studies in Avian Biology No. 22. Cooper's Ornithological Society, Allen Press, Lawrence, Kansas (Pg. 234-242).
- Imada, C. T. 2012. Hawaiian Native and Naturalized Vascular Plants Checklist (December 2012 update). Bishop Museum Tech. Rept. 60. 380 pp.
- Palmer, D. D. 2003. *Hawai'i's Ferns and Fern Allies*. University of Hawaii Press, Honolulu. 324 pp.
- Podolsky, R., D. G. Ainley, G. Spencer, L. de Forest, and N. Nur. 1998. Mortality of Newell's Shearwaters Caused by Collisions with Urban Structures on Kaua'i. *Colonial Waterbirds*, 21: 20-34.
- Reed, J. R., J. L. Sincock, and J. P. Hailman 1985. Light Attraction in Endangered Procellariiform Birds: Reduction by Shielding Upward Radiation. *The Auk*, 102: 377-383.
- Simons, T. R., and C. N. Hodges. 1998. Dark-rumped Petrel (*Pterodroma phaeopygia*). In: A. Poole and F. Gill (editors). *The Birds of North America*, No. 345. The Academy of Natural Sciences, Philadelphia, PA. and the American Ornithologists Union, Washington, D.C.
- Sincock, J. L. 1981. Saving the Newell's Shearwater. Pp. 76-78 in: *Proceedings of the Hawaii Forestry and Wildlife Conference, 2-4 October 1980*. Department of Land and Natural Resources, State of Hawaii, Honolulu.
- Staples, G. W. and D. R. Herbst. 2005. *A Tropical Garden Flora. Plants Cultivated in the Hawaiian Islands and other Tropical Places*. Bishop Museum, Honolulu. 908 pp.
- Telfer, T. C. 1979. Successful Newell's Shearwater Salvage on Kauai. *'Elepaio* 39:71
- _____, J. L. Sincock, G. V. Byrd, and J. R. Reed. 1987. Attraction of Hawaiian seabirds to lights: conservation efforts and effects of moon phase. *Wildlife Soc. Bull.*, 15: 406-413.

- U.S. Fish & Wildlife Service (USFWS). 1983. Hawaiian Dark-Rumped Petrel & Newell's Manx Shearwater Recovery Plan. USFWS, Portland, Oregon. February 1983.
- _____. undated (USFWS nd-a). USFWS Endangered Species. Available online at URL: [https:// www.fws.gov/endangered/](https://www.fws.gov/endangered/); Last visited on December 13, 2019.
- _____. undated (USFWS nd-b). U.S. Fish & Wildlife Service. ECOS Environmental Conservation Online System. Lo'ulu (Pritchardia kaalae). Available online at URL: <https://ecos.fws.gov/ecp0/profile/speciesProfile?sld=1584>; U.S. Fish & Wildlife Service. ECOS Environmental Conservation Online System. Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus). Available online at URL: <https://ecos.fws.gov/ecp0/profile/speciesProfile?sld=5708>; last visited on December 13, 2019.
- VanderWerf, E. A. 2003. Distribution, Abundance., and Breeding Biology of White Terns on Oahu, Hawaii. *Wilson Bulletin*. 115(3),2003, pp. 258-262.
- _____. 2019. Personal communication (email) with Reginald David, November 1, 2019. Historical data on White Tern nesting on the Ala Wai Golf Course.
- Wagner, W. L., D. R. Herbst and S. H. Sohmer. 1990. *Manual of the Flowering Plants of Hawai'i: Volume I and II*. Bishop Museum Special Publication 83. University of Hawai'i Press. 1853 pp.
- _____, and _____. 1999. *Supplement to the Manual of the flowering plants of Hawai'i*, pp. 1855-1918. In: Wagner, W. L., D. R. Herbst, and S. H. Sohmer, *Manual of the flowering plants of Hawai'i*. Revised edition. 2 vols. University of Hawaii Press and B.P. Bishop Museum.
- Wilson, D. E. and D. M. Reeder (eds.). 2005. *Wilson & Reeder's Mammal Species of the World (Third Edition)*. Available online at URL: <http://www.departments.bucknell.edu/biology/resources/msw3/browse.asp>; last visited on December 9, 2019.
- Young, L. C., E. A. VanderWerf, M. McKown, P. Roberts, J. Schueter, and A. Vorsino. 2019. Evidence of Newell's Shearwaters and Hawaiian Petrels on Oahu, Hawaii. *The Condor, Ornithological Applications* 2019, 121: 1-7.

EXHIBIT B

Archaeological Literature Review and Field Inspection

Draft
Archaeological Literature Review and
Field Inspection Report for the
Wai‘anae Coast Comprehensive Health Center Project,
Lualualei Ahupua‘a, Wai‘anae District, O‘ahu
TMKs: [1] 8-6-001:012, 024, 025 & 026, 027 and 028

Prepared for
Gerald Park Urban Planner
On behalf of the
Waianae Coast Comprehensive Health Center

Prepared by
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Cultural Surveys Hawai‘i, Inc.
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Management Summary

Reference	Archaeological Literature Review and Field Inspection Report for the Wai‘anae Coast Comprehensive Health Center Project, Lualualei Ahupua‘a, Wai‘anae District, O‘ahu TMKs: [1] 8-6-001:012, 024, 025 & 026, 027 and 028 (Farley et al. 2019)
Date	November 2019
Project Number(s)	Cultural Surveys Hawai‘i, Inc. (CSH) Job Code: LUALUALEI 35
Investigation Permit Number	CSH completed the fieldwork component of this study under archaeological fieldwork permit number 19-07, issued by the Hawai‘i State Historic Preservation Division (SHPD) per Hawai‘i Administrative Rules (HAR) §13-13-282.
Agencies	State of Hawai‘i Department of Hawaiian Homelands (DHHL); SHPD (potentially)
Land Jurisdiction	DHHL
Project Proponent	Wai‘anae Coast Comprehensive Health Center (WCCHC)
Project Location	The project is in Lualualei Ahupua‘a, Wai‘anae District, O‘ahu. It is depicted on a portion of the 1998 Waianae U.S. Geological Survey (USGS) topographic quadrangle (Figure 1), a tax map plat (Figure 2), and a 2015 aerial photograph (Figure 3).
Built Environment	As documented during the field inspection, the project area is largely undeveloped, save for a couple of graded parking lots/driveways in the southern (i.e., rectangular) portion of the project area (Figure 4 through Figure 18). The project area is bound by the existing WCCHC on the west, by Mā‘ili‘ili Road on the south, by several houses with associated parking areas/driveways on the east, and by undeveloped land on the north. Two of the houses along the eastern boundary appear to be partially within the project area, as they appear to “straddle” the boundary between TMKs: [1] 8-6-001:028 (within the project area) and [1] 8-6-001:002 (outside the project area) (see Figure 8 and Figure 9).
Historic Architecture	According to the City and County of Honolulu Department of Budget and Fiscal Services Real Property Assessment Division website, two buildings partially within the project area are over fifty years old. These buildings, which appear to “straddle” the boundary between TMKs: [1] 8-6-001:028 (within the project area) and [1] 8-6-001:002 (outside the project area), have “year built” dates of 1938 and 1942. Hence, they may need to be assessed as architectural historic properties.
Natural Environment	The project area is on the Wai‘anae Coast, approximately 200 m inland, just north of Mā‘ili‘ili Stream, and partially along the slopes of Pu‘u Mā‘ili‘ili. Elevation within the project area ranges between 14 m (45.9 ft) and 64 m (210 ft) above mean sea level. Average temperature in the project area is 23.5° C (74.4° F) (Giambelluca et

	al. 2014), and rainfall averages 556 mm (21.9 inches) annually, with the majority falling between October and March (Giambelluca et al. 2013). Vegetation observed within the project area during the field inspection includes <i>kiawe</i> (<i>Prosopis pallida</i>) and exotic grasses. According to the U.S. Department of Agriculture (USDA) Soil Survey Geographic (SSURGO) database (2001) and soil survey data gathered by Foote et al. (1972), the project area's soils consist, from southeast to northwest, of Pulehu clay loam, 0 to 3 percent slopes (PsA); Keaau stony clay, 2 to 6 percent slopes (KmaB); Lualualei extremely stony clay, 3 to 35 percent slopes (LPE); and Rock land (rRK) (Figure 21). The Pulehu series is described as follows: This series consists of well-drained soils on alluvial fans and stream terraces and in basins. These soils occur on the islands of Lanai, Maui, Molokai, and Oahu. They developed in alluvium washed from basic igneous rock. The soils are nearly level to moderately sloping.... These soils are used for sugarcane, truck crops, pasture, homesites, and wildlife habitat. The natural vegetation consists of bermudagrass, bristly foxtail, fingergrass, kiawe, klu, lantana, koa haole, and sandbur. The Keaau series is described as follows: This series consists of poorly drained soils on coastal plains on the island of Oahu. These soils developed in alluvium deposited over reef limestone or consolidated coral sand. They are nearly level and gently sloping.... These soils are used for sugarcane and pasture. The natural vegetation consists of kiawe, bermudagrass, bristly foxtail, and fingergrass. The Lualualei series is described as follows: This series consists of well-drained soils on the coastal plains, alluvial fans, and on talus slopes on the islands of Kauai, Oahu, Molokai, and Lanai. These soils developed in alluvium and colluvium. They are nearly level and gently sloping.... These soils are used for sugarcane, truck crops, pasture, wildlife habitat, urban development, and military installations. The natural vegetation consists
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	of kiawe, koa haole, bristly foxtail, uhaloa, and fingergrass. Rock land is described as follows: Rock land (rRK) is made up of areas where exposed rock covers 25 to 90 percent of the surface. It occurs on all five islands. The rock outcrops and very shallow soils are the main characteristics. The rock outcrops are mainly basalt and andesite. This land type is nearly level to very steep.... Rock land is used for pasture, wildlife habitat, and water supply. The natural vegetation at the lower elevations consists mainly of kiawe, klu, piligrass, Japanese tea, and koa haole. Lantana, guava, Natal redtop, and molassesgrass are dominant at the higher elevations. This land type is also used for urban development.
Project Description	The WCCHC seeks to expand its physical plant eastward into adjoining lots owned by the DHHL (TMKs: [1] 8-6-001:012, 024, 025 & 026, 027 and 028).
Project Acreage	Approximately 13.25 acres (5.36 hectares)
Historic Preservation Regulatory Context	The proposed project is a state/municipal “governmental” project needing review under Hawai‘i Revised Statutes (HRS) §6E-8 and HAR §13-275. There is no federal involvement that would trigger compliance with federal historic preservation review legislation (e.g., Section 106 of the National Historic Preservation Act). This literature review and field inspection (LRFI) report is part of an environmental assessment that is being conducted for a master plan for the WCCHC.
Document Purpose	This investigation was designed—through historical, cultural, and archaeological background research and a field inspection of the project area—to determine the likelihood that historic properties may be affected by the proposed project and, based on findings, to consider cultural resource management recommendations. This document is intended to facilitate the project’s planning and to support the project’s historic preservation and environmental review compliance. This investigation does not fulfill the requirements of an archaeological inventory survey (AIS) investigation, per HAR §13-276. This information could also support consultation with the SHPD regarding the project’s necessary historic preservation review steps pursuant to HAR §13-275. This information is intended to support consultation with the SHPD Archaeology Branch, but may also

	support consultation with the SHPD Architecture Branch, if warranted.
Fieldwork Effort	The field inspection was conducted between 6 and 9 August 2019 by Thomas Martel, B.A., and Alison Welser, M.A., under the general supervision of Project Director Ena Sroat, B.A., and Principal Investigator Matt McDermott, M.A. This work required approximately 3 person-days to complete. In general, the project area is on moderately to steeply sloping land, with natural accumulations of gravel to boulder sized basalt. Bulldozer push piles and vegetation clearance piles were observed throughout the lower elevations (i.e., southern portion) of the project area, as were large deposits of modern trash (see Figure 10). The modern trash included tires, an abandoned automobile, bottles, construction materials, and other assorted debris. Three potential archaeological historic properties were identified within the project area during the field inspection. Designated as CSH 1–3, they comprise structural remnants (CSH 1 and 2) and a boulder alignment (CSH 3). Their distributions are depicted on Figure 22, and they are described below. CSH 1 comprises a basalt and concrete mortared structural remnant in relatively poor condition (Figure 11). The observable, intact portion is approximately 2.86 m long by 1.5 m wide, with a maximum height of 70 cm. CSH 1 is two to three courses high and one course wide. A rectangular post hole, measuring 33 cm by 21 cm, was observed within the feature (Figure 12). Piles of large tires and trash hindered investigation of the immediate vicinity. Approximately 5 m <i>makai</i> (southwest) of CSH 1 is a rubble pile of basalt and mortar, possibly related to the feature. CSH 2 comprises a circular basalt and concrete mortared structural remnant (Figure 13). It is 4.3 m in diameter, with a maximum height of 1.2 m, and a maximum width of 75 cm. CSH 2 is five to seven courses high and one to two courses wide. The basalt stones that comprise CSH 2 range from 8–15 cm in width and 9–59 cm in length. A post hole or chimney-like structure is within the southwest portion of the feature, with an abutment of basalt and concrete mortar adjacent to the hole on the interior of the feature (Figure 14). Thick wire extends from portions of the concrete mortar near the hole. What appears to be a clean edge, four courses high, on the southeast side of CSH 2 may represent an entrance or doorway to the enclosed circular area. The portion of the wall adjacent to the clean edge is in poor condition. CSH 2 exhibits similar construction style and materials to the CSH 1 structural remnant, which is approximately 28 m northeast. CSH 2 is in

	overall fair condition, with some collapse of the northeast portion and cracking of the concrete mortar throughout the feature. CSH 3 is an L-shaped basalt boulder alignment in good condition (Figure 15). The long axis is 11 m long and extends northeast to southwest. The short axis is 2.4 m long and extends southeast from the southwest end of the long axis. The maximum width of CSH 3 is 1.5 m at the northeast end, and the maximum height of the boulders is 72 cm. The northeast end of CSH 3 is 1.8 m from the post hole/chimney structure of CSH 2. Approximately 1 m southwest of CSH 3, aligned with its long axis, is an approximately 3-m-long possible alignment of basalt stones (Figure 16). In addition to the potential historic properties described above, a boulder-filled limestone sinkhole and walking trails were also identified during the field inspection. The sinkhole may be modified, as the observable portion appeared vertical and straight; however, portions of the sinkhole were obscured by boulders and vegetation (Figure 17). The sinkhole is approximately 3 m long by 2.3 m wide, with a maximum observable depth of 180 cm below surface (cmbs). The trails are maximum 3 m wide and are likely modern and associated with development of the Health Center (Figure 18). In addition, three houses with adjacent parking areas were documented along the eastern boundary of the project area (Figure 19 and Figure 20). Two of these are partially within the project area and are potentially over fifty years old; hence, they may need to be assessed as architectural historic properties.
Background Research Methods	Background research included a review of previous archaeological studies on file at the SHPD; review of documents at Hamilton Library at the University of Hawai'i at Mānoa, the Hawai'i State Archives, the Mission Houses Museum Library, the Hawai'i Public Library, and the Bishop Museum Archives; study of historic photographs at the Hawai'i State Archives and the Bishop Museum Archives; and study of historical maps at the Survey Office of the Department of Land and Natural Resources (DLNR). Historical maps and photographs from the CSH library were also consulted. In addition, Māhele records were examined from the Waihona 'Aina database (Waihona 'Aina 2000). This research provided the environmental, cultural, historical, and archaeological background for the project area. Historical maps and aerial photographs (Figure 23 through Figure 33) provide a cultural context and chronology of the changing landscape of the project area and the surrounding vicinity.

Background Research Summary	In pre-Contact times, the district of Wai‘anae was known for its multitude of fish and for the independent lifestyle and attitudes of its inhabitants. This independence was a factor in many of the political struggles of the pre- and early post-Contact periods, when the district was the scene of battles and rebellions and often the refuge of dissident and/or contentious factions. This independent spirit is often attributed to the conditioning of generations having to cope with the marginal environments of many areas of Wai‘anae, including Lualualei, which were notorious for their inhospitable climates. Although the dry, arid coast of Wai‘anae presented a dismal forecast, the ocean provided an abundant supply of fish (Handy and Handy 1972:468). The lowlands provided ‘uala (<i>Ipomoea batatas</i>; sweet potato) and niu (<i>Cocos nucifera</i>; coconut), while the inland valley areas were planted in kalo (<i>Colocasia esculenta</i>; taro) and wauke (<i>Broussonetia papyrifera</i>; paper mulberry). The upland forest regions provided various woods for making weapons and canoes. By 1811, sandalwood (<i>Santalum sp.</i>; ‘iliahī) merchants began actively exploiting the Hawai‘i market, and large amounts of sandalwood were exported to China. Traditionally, Hawaiians used sandalwood for medicinal purposes and as a scent to perfume their kapa (barkcloth). The sandalwood trade greatly impacted Hawaiian culture, and the traditional lifestyle of the Hawaiians was altered drastically. However, the sandalwood era was short-lived, and by 1829, the majority of the sandalwood trees had been harvested; the bottom fell out of the trade business. Although it is unclear how extensive Lualualei’s sandalwood resources were, the effects of sandalwood gathering, the population shifts, and the disruption of traditional lifestyles and subsistence patterns would undoubtedly have affected the population of Lualualei (‘Ī‘ī 1959; Kamakau 1992). The missionaries were the first to gather systematic population statistics throughout the various districts on each island. The first census figures were gathered from 1831–1832 and 1835–1836. Population figures for Lualualei were not given; however, population numbers for all of Wai‘anae were 1,868 and 1,654, respectively (Schmitt 1973:9). Following the western encroachment into the Wai‘anae Coast, a swift decline in population occurred as a result of disease and a “tendency to move to the city where there was more excitement” (McGrath et al. 1973:25). In 1855, the Wai‘anae tax collector recorded 183 taxpayers on the leeward coast, which is thought to
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	represent a total population of about 800 people. This catastrophic depopulation facilitated the passing of large tracts of land into the hands of a few landholders and led to the decline of the traditional economy that once supported the region (Hammatt et al. 1993:10–11). The Organic Acts of 1845 and 1846 initiated the process of the Māhele, the division of Hawaiian lands that introduced private property into Hawaiian society. In 1848, the crown, the Hawaiian government, and the <i>ali'i</i> (chiefly class) received their land titles. The common people (<i>maka'āinana</i>) received their <i>kuleana</i> awards (individual land parcels) in 1850. It is through records for Land Commission Awards (LCAs) generated during the Māhele that the first specific documentation of life in Wai'anae as it had evolved up to the mid-nineteenth century comes to light. At the time of the Māhele, the <i>ahupua'a</i> of Wai'anae, which included Lualualei, was listed as Crown lands and was claimed by King Kamehameha III as his personal property (Board of Commissioners 1929:28). The Kuleana Act of 1850 confirmed and protected the rights of native tenants. However, not everyone who was eligible to apply for <i>kuleana</i> lands did so, and, likewise, not all claims were awarded. Of the 12 land claims made in Lualualei, six were awarded. All six awards were upland in the <i>'ili</i> of Pūhāwai, far <i>mauka</i> of the current project area; no quiet land titles were claimed near the coast (Waihona 'Aina 2000). The first longhorn cattle were brought to O'ahu from Hawai'i Island in 1809 by John Young and Kamehameha I (Kamakau 1992:268). One of the first areas to be utilized for ranching on the Wai'anae coast was Lualualei. The Hawai'i Bureau of Land Conveyances (B.C.) 1845–1869 records (archived at the DLNR) show that William Jarrett leased approximately 17,000 acres of land from Kamehameha III in 1851; this was the beginning of Lualualei Ranch. The sugar industry came to the Wai'anae coast in 1878, when the first sugarcane was planted in upper Wai'anae Valley. With strong financial backing from King Kalākaua, Hermann A. Widemann, a German immigrant, was able to initiate the Waianae Sugar Plantation in 1879. This plantation would eventually extend into Lualualei. By 1892, at least 300 acres of cane were planted in Lualualei. In addition to the cultivated lands, a railroad, irrigation ditches and flumes, reservoirs, and plantation housing were constructed to support the sugar industry. Although it was never a large-scale plantation by modern standards, it was one of the first and last to be served by a
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	plantation railroad. Some 15 miles of 30-inch, narrow gauge railroad delivered harvested cane to the mill. The sugar was shipped by inter-island vessels to Honolulu departing from Wai‘anae Landing until the Oahu Railway and Land Company (OR&L) railroad was extended to Wai‘anae and beyond in 1895. The railroad line generally ran along the <i>makai</i> (seaward) boundary of the sugarcane fields. By 1901, the Waianae Sugar Company had obtained a five-year lease on 3,332 acres of land at Lualualei to be used for raising cane and for ranching (Commissioner of Crown Lands 1902). Throughout the first half of the twentieth century, the Waianae Sugar Company continued cultivating their sugar lands in Lualualei. However, by the 1940s, Waianae Sugar Company could no longer compete with foreign labor. In addition to drought problems, labor unions, and land battles, this caused the undermining of Waianae Sugar Company. In 1946, the company was liquidated, and the land was sold. A 1906 Donn Hawaii Territory map indicates the current project area was outside the boundaries of the sugar plantation, within “Public Lands” (see Figure 25). However, several early twentieth century maps show a railroad line extending along the southern boundary of the project area, in the approximate location of present-day Mā‘ili‘ili Road (see Figure 26 through Figure 29). Operations at the OR&L began to slow down in the 1920s, when electric streetcars were built for public transportation within the city of Honolulu, and automobiles began to be used by families for transportation outside the city (Chiddix and Simpson 2004:185). However, the build-up to World War II turned this decline around, as the U.S. military utilized the OR&L lines to transport materials to build defense projects around the island. After the war, most of the 150+ miles of OR&L track was pried up. Locomotives were sold to businesses on the U.S. mainland, and railway cars were scrapped. After the overthrow of the Hawaiian monarchy in 1893, the Crown Lands and Government Lands were combined to become Public Lands. In 1895, the Republic of Hawaii decided to open up lands for homesteading in the hopes of attracting a “desirable class of immigrants”—Americans and those of Caucasian descent (Kuykendall and Day 1961:204). In 1902, the government ran ads in the local newspapers stating their intent to open up land in Lualualei for homesteads (Kelly 1991:328). Due to the lack of water, the lots were classified as second-class pastoral land rather than agricultural land. By the early 1920s, about 40 families had
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	settled on homestead lots in Lualualei (Kelly 1991:331–332). Prominent families that obtained homestead lots at this time were Von Holt, McCandless, and Dowsett. As mentioned above, the 1906 Donn Hawaii Territory map (see Figure 25) indicates the current project area was within these “Public Lands.” However, the Lualualei Homesteads are south of the project area, which appears to have remained completely undeveloped until the early 1950s. A 1953–1954 USGS topographic map indicates several buildings or structures along the southern boundary of the project area (see Figure 30). These structures are also depicted on the 1963–1969 USGS topographic map (see Figure 31); however, they appear to have been demolished by the time of the 1977 aerial photograph (see Figure 32).
Prior Archaeological Studies Summary	Previous archaeological studies in the vicinity of the current project are presented in Figure 33 and summarized in Table 1. Archaeological historic properties documented in the course of those studies are presented in Figure 34 and summarized in Table 2. They are discussed below. No previous archaeological studies have been conducted within the current project area; however, two prior studies are adjacent. In 1990, Bishop Museum (Sinoto and Pantaleo 1990) performed an archaeological reconnaissance survey immediately north of the northwest end of the current project area. No historic properties were identified, and Sinoto and Pantaleo (1990:4) propose that the “complete absence of surface archaeological features or other cultural elements may be due to the extent and nature of previous disturbance in the area.” Alternatively, they suggest the area may not have been occupied during the pre-Contact period, since “normally, even with extensive disturbance, some evidence of former activities” remains. In 1993, Bishop Museum (Flood and Dixon 1994) conducted an archaeological reconnaissance survey immediately west of the project area within the current WCCHC parcel; no historic properties were identified. During the survey, two soil profiles that were exposed in road cuts were cleaned and illustrated. The exposed stratigraphy revealed “a total absence of cultural deposits,” and Flood and Dixon (1994:i) concluded that any “cultural remains which may have been present in the project area would presumably have been obliterated by recent and previous construction-related activities.” Soil Profile 1, the more eastern of the two profiles (and closer to the current project area), is presented in Figure 35.

	No historic properties have been identified previously within the current project area, nor in the immediate vicinity. The closest are SIHP #s 50-80-07-1886 and -6358, approximately 400 m east and northeast of the project area, respectively. SIHP # -1886 is a stone mound (Robins and Anderson 1998), and SIHP # -6358 is an L-shaped stone alignment (Tulchin et al. 2003). Both were interpreted as traditional Hawaiian features dating to the pre- or early post-Contact period.
Potential for Project Effect on Archaeological Historic Properties	Three potential archaeological historic properties, designated as CSH 1–3, were identified during the field inspection. They comprise two basalt and concrete mortared structural remnants (CSH 1 and 2) and an L-shaped basalt alignment (CSH 3). CSH 1 and 2 clearly date to the post-Contact period; however, the age of CSH 3 is uncertain. Based on background research, the potential for traditional Hawaiian subsurface archaeological historic properties is low. No LCAs were awarded within or in the vicinity of the project area, and two previous archaeological surveys adjacent to the current project area yielded negative results. Although these studies did not include subsurface testing, Flood and Dixon (1994) were able to document the stratigraphy within two road cuts. No archaeological deposits or cultural materials were identified within the road cuts, and Flood and Dixon (1994:i) concluded that “cultural remains which may have been present in the project area would presumably have been obliterated by recent and previous construction-related activities.” Sinoto and Pantaleo (1990) take this a step further, suggesting the area was not occupied during the pre-Contact period. A review of historical maps indicates a railroad line extended along the southern boundary of the project area, roughly in the location of present-day Mā‘ili‘ili Road, during the early twentieth century (until ca. 1940s). In addition, several structures or buildings were present within the project area, along its southern boundary, during the 1950s and 1960s. No evidence of the former buildings or the railroad were identified during the field inspection.
Historic Preservation Review Steps	Based on the findings of the current study, an AIS is warranted to formally document the three potential archaeological historic properties (CSH 1–3) identified during the field inspection and to investigate further a possible basalt stone alignment and a possible modified sinkhole, to determine if formal documentation is warranted. In addition, the two buildings partially within the project area are potentially over fifty years old and may need to be assessed as architectural historic properties.



Figure 1. A portion of the 1998 Waianae U.S. Geological Survey (USGS) topographic quadrangle, showing the project area

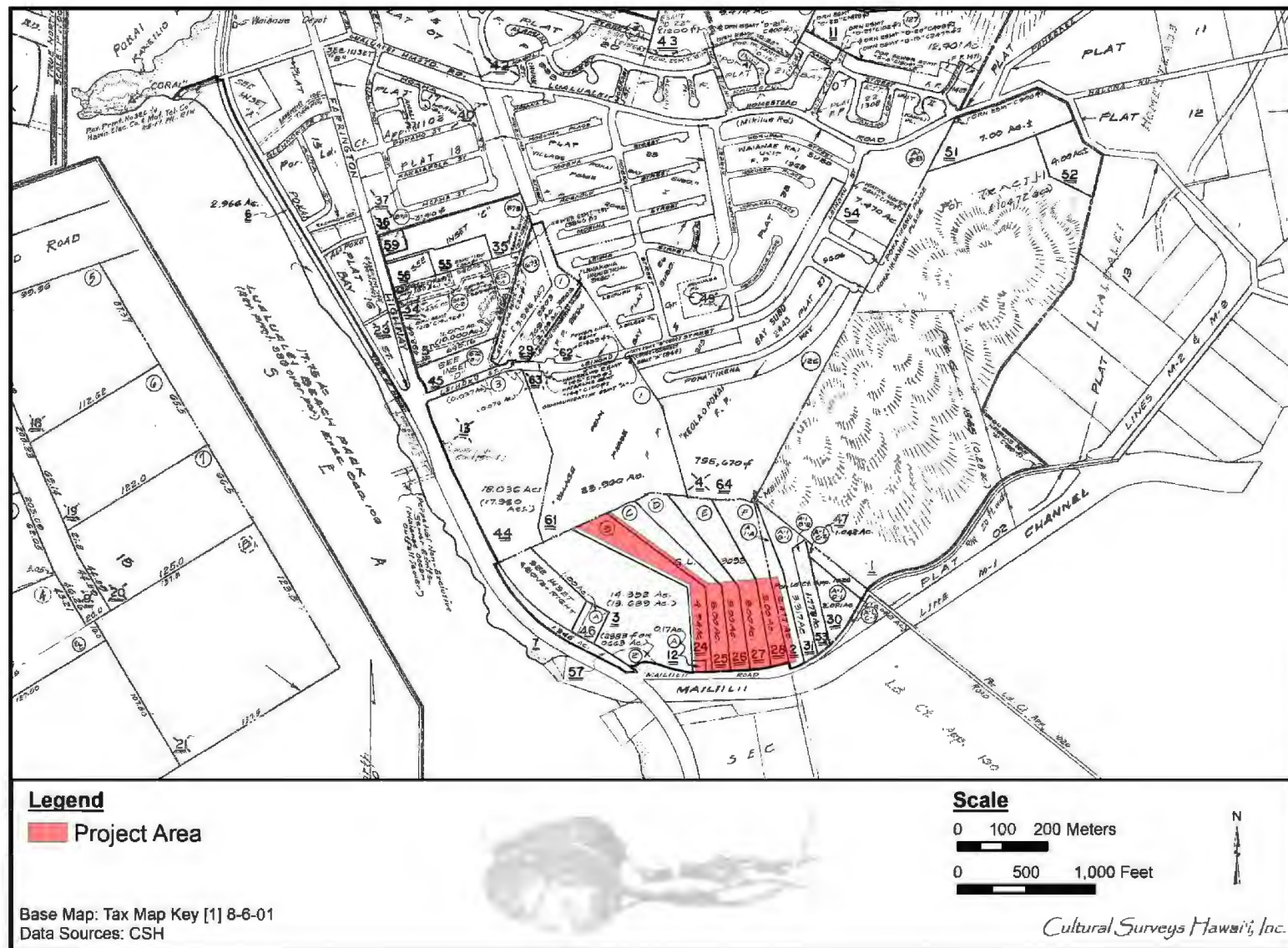


Figure 2. Tax Map Key (TMK) [1] 8-6-01, showing the project area

LRFI for the Wai'anae Coast Comprehensive Health Center Project, Lualualei, Wai'anae, O'ahu

TMKs: [1] 8-6-001:012, 024, 025 & 026, 027, and 028



Figure 3. 2015 ESRI aerial photograph, showing the project area; green arrows indicate the location and direction of field inspection photographs shown in Figure 4 through Figure 8



Figure 4. Taken from the southern edge of the project area, view to north



Figure 5. Taken from near the southeast corner of the project area, view to northwest



Figure 6. Taken from the northeast corner of the project area, view to southwest



Figure 7. Taken from the northwest corner of the project area, view to southeast



Figure 8. Taken from the northeast corner of the project area, showing two buildings (left, indicated with red arrows) partially within the project area, view to south (see also Figure 9 below)



Figure 9. Portion of a 2015 ESRI aerial photograph with overlay of TMKs, showing two buildings (marked with red arrows) "straddling" the eastern project area boundary



Figure 10. Modern rubbish in the southeast corner of the project area, view to northwest



Figure 11. CSH 1, basalt and concrete mortared structural remnant, view to north



Figure 12. Plan view of rectangular post hole within CSH 1



Figure 13. CSH 2, circular basalt and concrete mortared structural remnant, view to west



Figure 14. Chimney-like structure is in the southwest portion of CSH 2, view to north



Figure 15. CSH 3, L-shaped basalt boulder alignment, view to north



Figure 16. Possible alignment of basalt boulders, view to northwest



Figure 17. Boulder-filled limestone sinkhole, view to north



Figure 18. Modern trail, view to west



Figure 19. The more southern of the two buildings partially within the project area, view to northeast (see also Figure 9 above)



Figure 20. The two northernmost buildings along the eastern boundary of the project area; the one on the right (marked with a red arrow) is partially within the project area, while the other is just outside the project area, view to northeast (see also Figure 9 above)

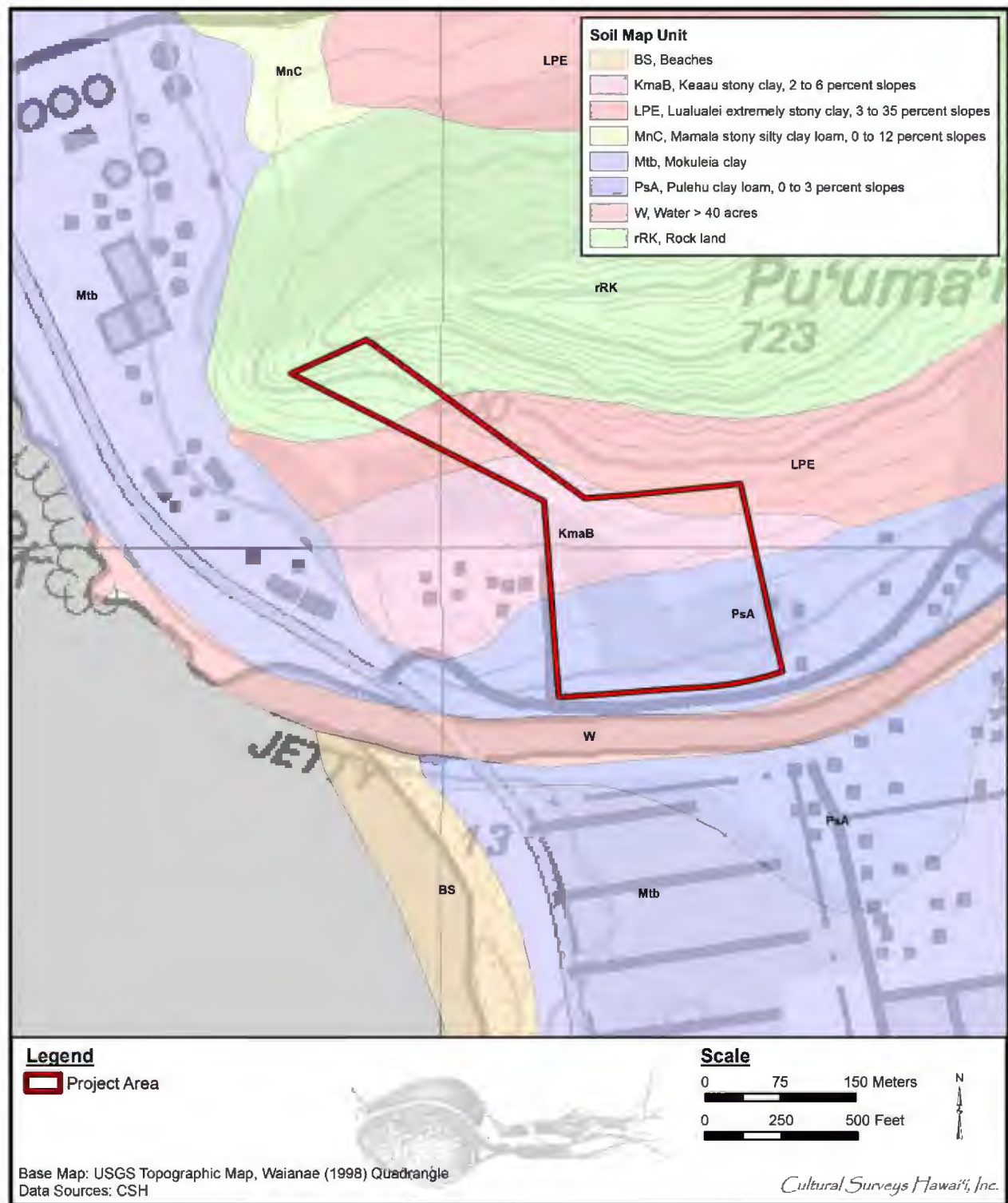


Figure 21. Overlay of *Soil Survey of the State of Hawaii* (Foote et al. 1972), indicating soil types within and surrounding the project area (USDA SSURGO 2001)



Figure 22. 2015 ESRI aerial photograph, showing archaeologist's track log and potential archaeological historic properties (CSH 1–3) identified during the field inspection

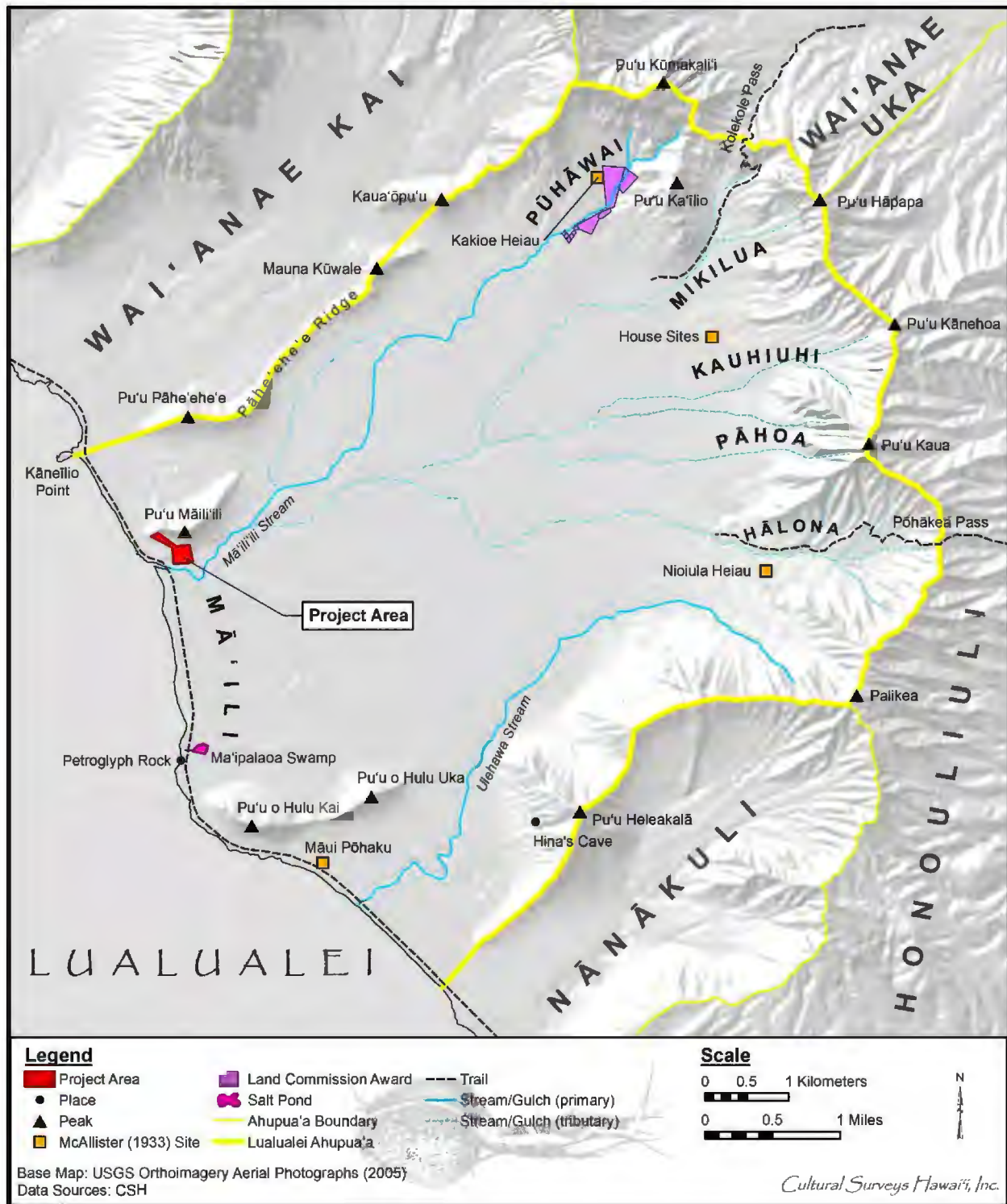


Figure 23. 2005 USGS orthoimagery aerial photograph, showing the project area, place names, land commission awards (LCAs), and McAllister (1933) archaeological sites

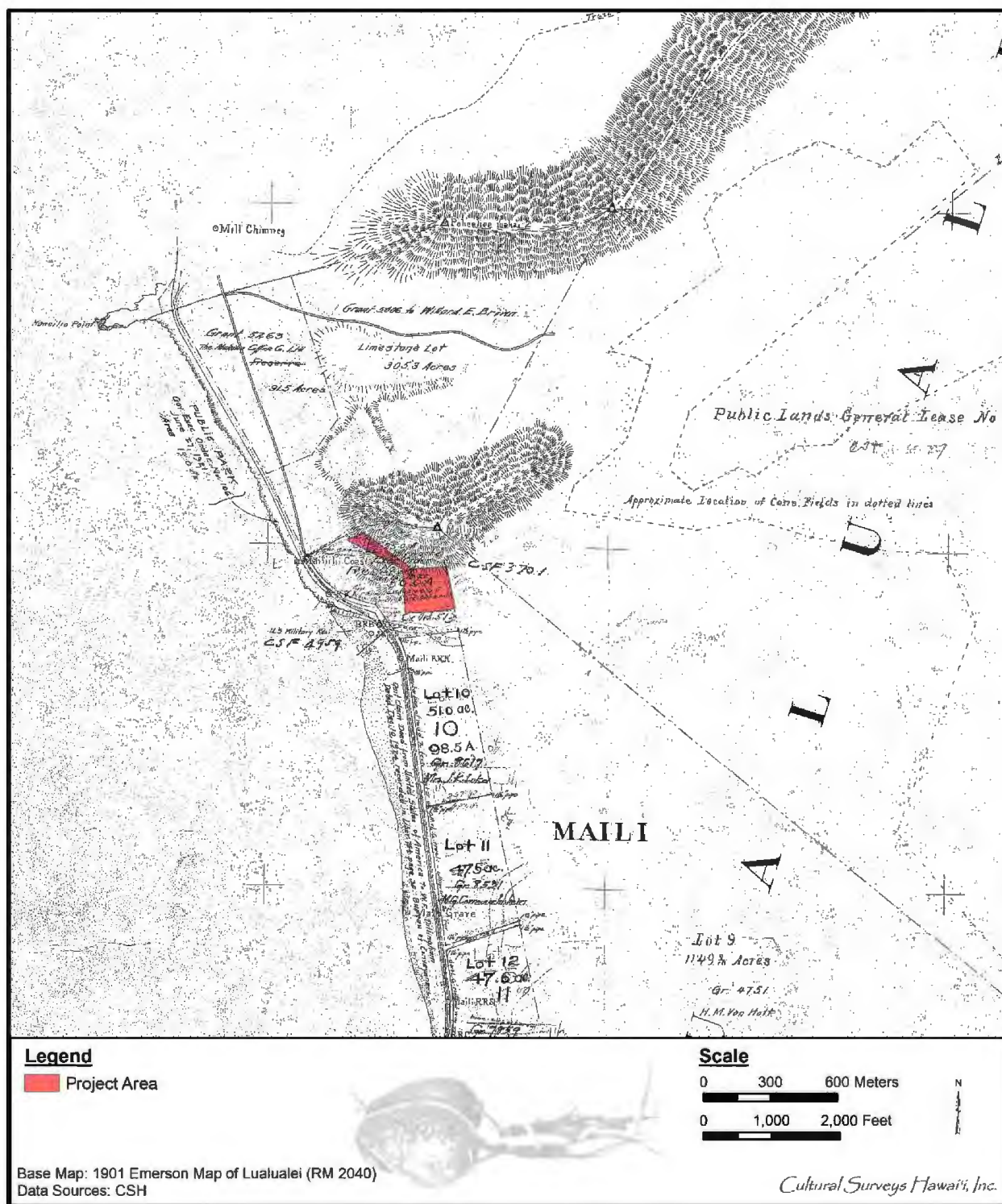


Figure 24. 1901 Emerson map of Lualualei (RM 2040), showing the project area



Figure 25. 1906 Donn Hawaii Territory survey map of O'ahu with land use, showing the project area within public lands

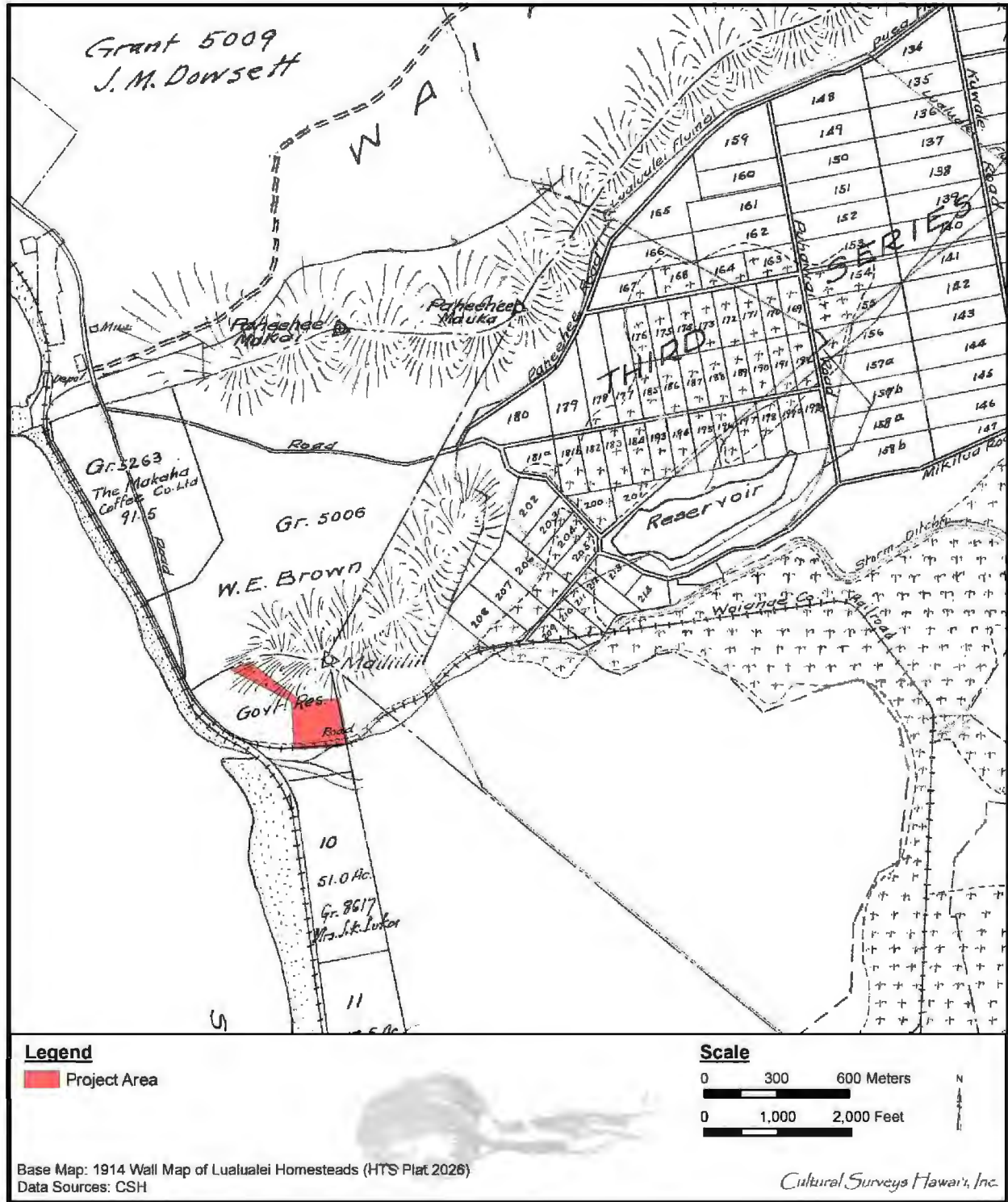


Figure 26. 1914 Wall map of Lualualei Homesteads (HTS Plat 2026), showing a railroad line along the southern boundary of the project area

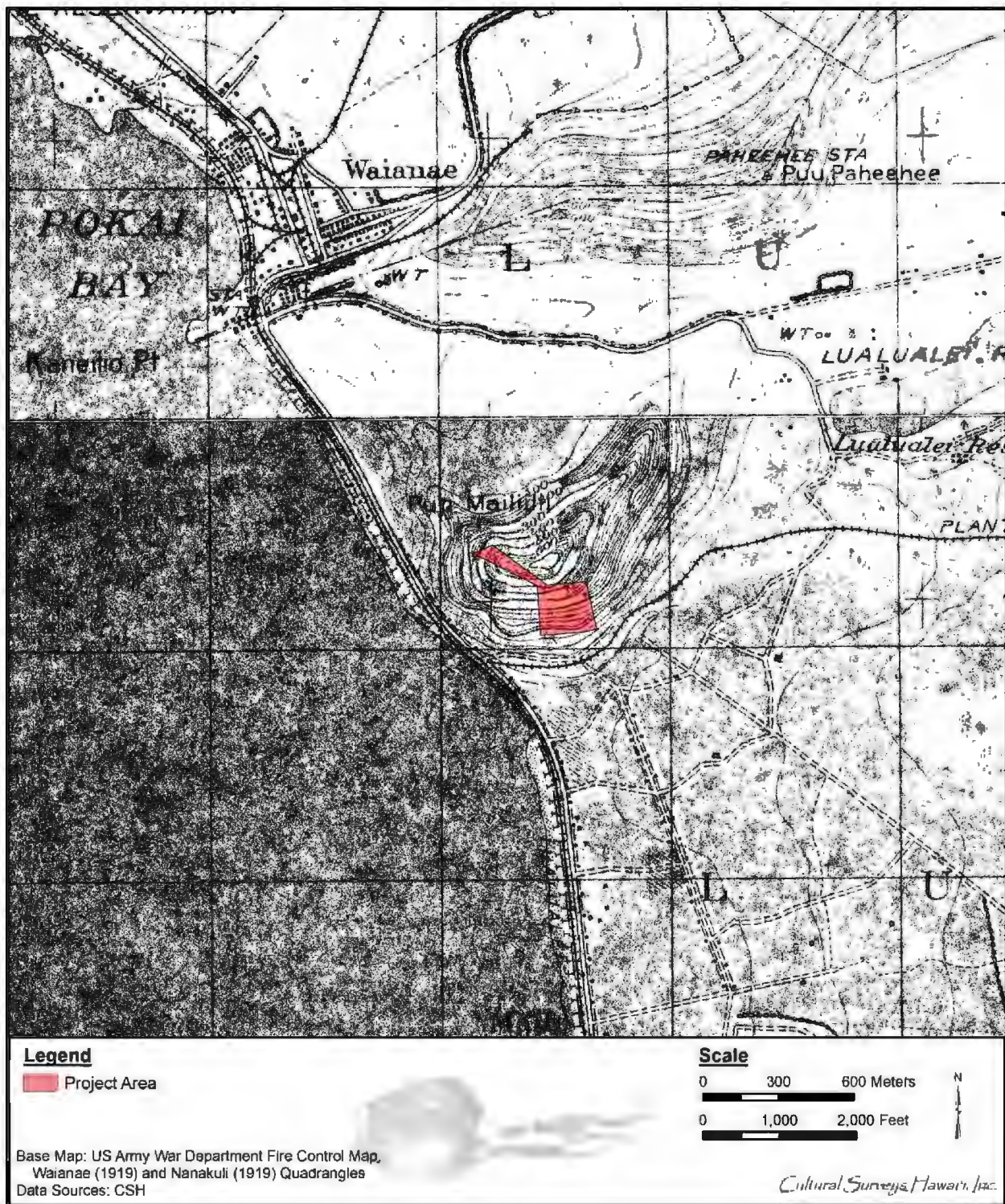


Figure 27. 1919 U.S. Army War Department fire control map, Waianae and Nanakuli quadrangles, showing the project area



Figure 28. 1935–1936 U.S. Army War Department terrain map, Waianae, Schofield, and Kaena quadrangles, showing the project area

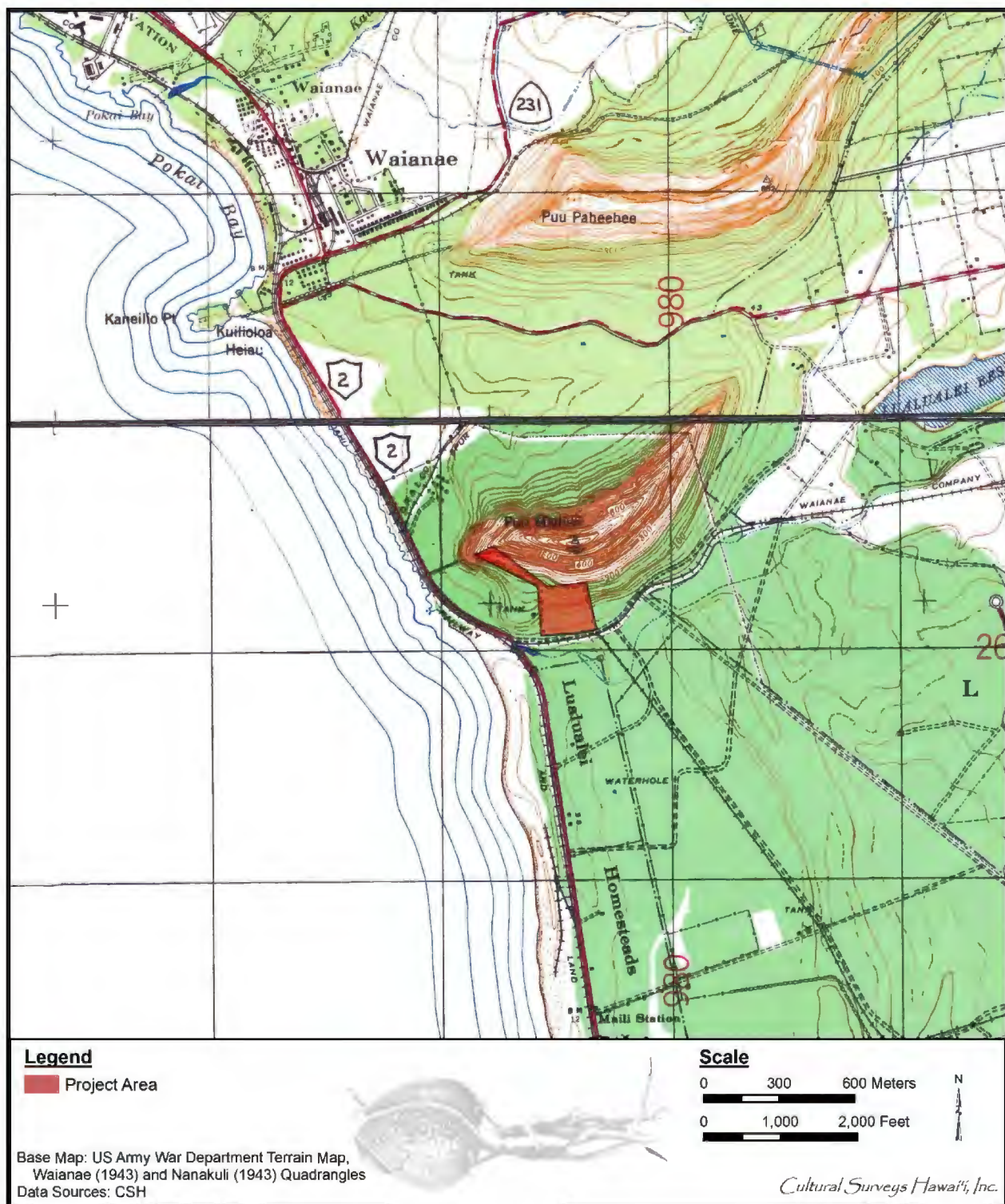


Figure 29. 1943 U.S. Army War Department terrain map, Waianae and Nanakuli quadrangles, showing the project area

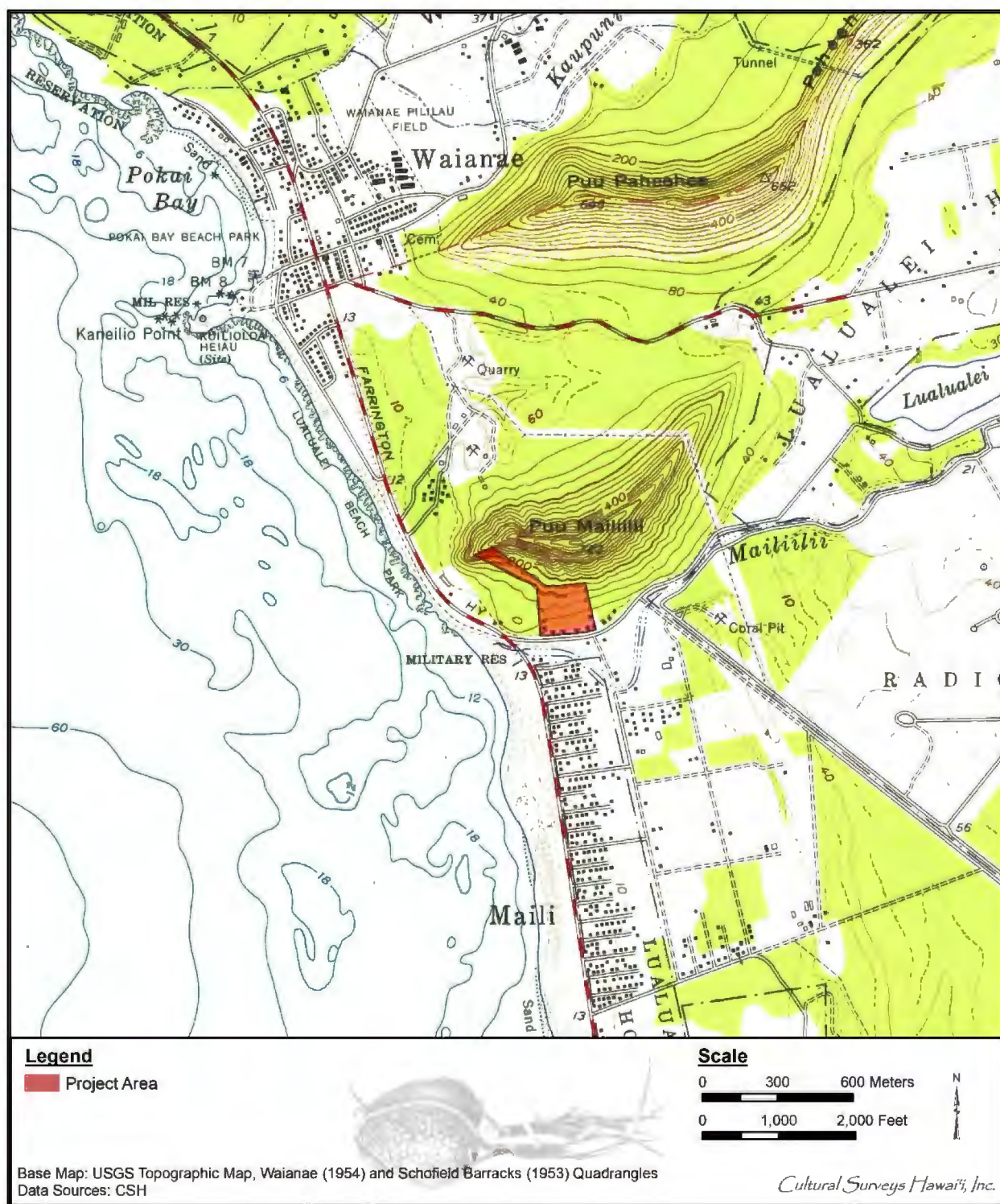


Figure 30. 1953–1954 USGS topographic map, Waianae and Schofield Barracks quadrangles, showing eight buildings or structures within the southern portion of the project area



Figure 31. 1963–1969 USGS topographic map, Waianae and Schofield Barracks quadrangles, showing ten buildings or structures within the southern portion of the project area



Figure 32. 1977 USGS orthophotoquad aerial photograph, Waianae quadrangle, showing the project area

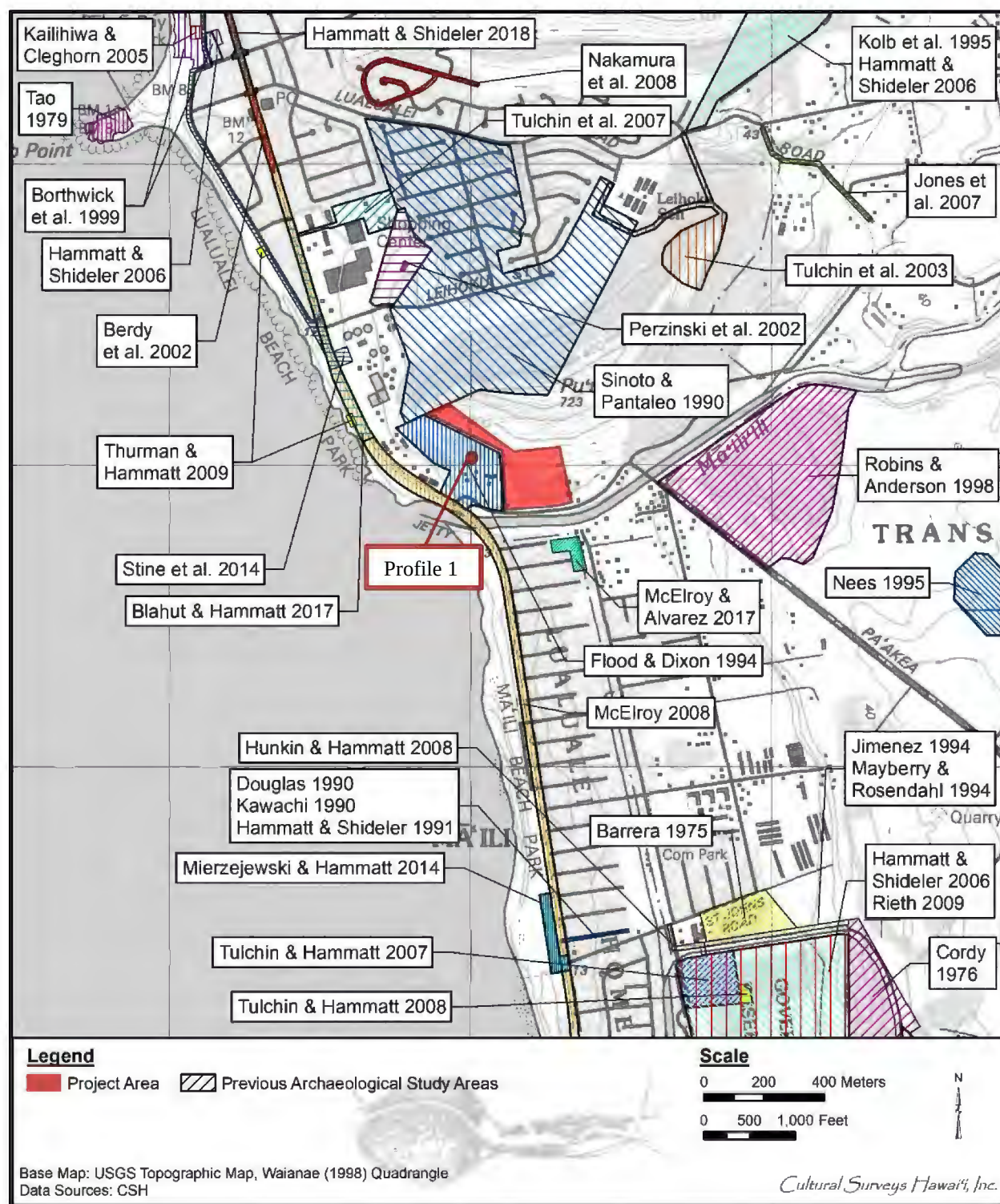


Figure 33. A portion of the 1998 Waianae USGS topographic quadrangle, with overlay of previous archaeological studies in the vicinity of the project area and Flood and Dixon (1994), Profile 1 (depicted in Figure 35 below)

Table 1. Previous archaeological studies in the vicinity of the project area

Reference	Type of Investigation	Location	Results (SIHP # 50-80-07-)
McAllister 1933	Archaeological reconnaissance survey	Island-wide	Site 152, Pu'upahe'ehe'e Heiau, and Site 153, Kū'īlioloa Heiau, identified north of the current project area
Barrera 1975	Archaeological reconnaissance survey	Adjacent to Mā'ili Stream and Ho'okele St	No historic properties identified in the vicinity of the current project area
Cordy 1976	Archaeological reconnaissance survey	Kaiser Pacific Properties Land, Mā'ili Kai	No historic properties identified in the vicinity of the current project area
Tao 1979	Archaeological research	Kū'īlioloa Heiau	Recommends reconstruction and restoration of SIHP # -0153, Kū'īlioloa Heiau
Douglas 1990	Burial report	Liopolo St	SIHP # -4244 Burials 1, 2, 4, 6, and 7
Kawachi 1990	Burial report	Liopolo St	SIHP # -4244 Burials 1 and 2
Sinoto and Pantaleo 1990	Archaeological reconnaissance survey	Pōka'i Bay Subdivision	No historic properties identified
Hammatt and Shideler 1991	Archaeological monitoring	Liopolo St	SIHP # -4244, human burials
Flood and Dixon 1994	Archaeological reconnaissance survey	Wai'anae Coast Comprehensive Health Center	No historic properties identified
Jimenez 1994	Archaeological inventory survey	Mā'ili Kai	No historic properties identified in the vicinity of the current project area
Mayberry and Rosendahl 1994	Archaeological reconnaissance survey	Mā'ili Kai	Identified three post-Contact historic properties in the vicinity of the current project area: SIHP # -3336, reservoir complex; SIHP # -3341, wall; and SIHP # -3348, mounds
Kolb et al. 1995	Archaeological inventory survey	Pahe'ehe'e Ridge	No historic properties identified in the vicinity of the current project area
Nees 1995	Archaeological reconnaissance survey	NRTF Lualualei	No historic properties identified

Reference	Type of Investigation	Location	Results (SIHP # 50-80-07-)
Robins and Anderson 1998	Archaeological reconnaissance survey	RTF Lualualei	Identified SIHP #s -1886, mound, and SIHP # -5592, enclosure, in the vicinity of the current project area
Borthwick et al. 1999	Subsurface archaeological survey	Pōka'i Bay Beach Park	No historic properties identified
Berdy et al. 2002	Archaeological monitoring	Farrington Hwy	Identified SIHP # -6400, historic trash pit
Perzinski et al. 2002	Archaeological inventory survey	NW Lualualei	No historic properties identified
Tulchin et al. 2003	Archaeological inventory survey	Proposed Wai'anae 242 Reservoir and Access Road	Identified two possible shelters and a cave; no SIHP numbers assigned
Kailihiwa and Cleghorn 2005	Archaeological monitoring	Pōka'i Bay Beach Park	No historic properties identified
Hammatt and Shideler 2006	Archaeological field check and literature review	TMKs: [1] 8-4-016:008; 8-5-008:40,41 and 44; 8-5-018:019; 8-6-003:008; and 8-7-010:007	Five parcels considered for a Leeward Coast Emergency Homeless Shelter project; no historic properties identified
Jones et al. 2007	Archaeological monitoring	BWS system improvements on Wai'anae Valley Rd and connecting streets	No historic properties identified
Tulchin and Hammatt 2007	Archaeological inventory survey	Leeward Coast Emergency Homeless Shelter Project, Lualualei Ahupua'a	No historic properties identified
Tulchin et al. 2007	Archaeological inventory survey	Waianae Sustainable Communities Plan project	No historic properties identified
McElroy 2008	Archaeological monitoring	Farrington Hwy, portions of TMKs: [1] 8-2 through 8-7	No historic properties identified
Nakamura et al. 2008	Archaeological monitoring	MacArthur, Kawili and Alamihi streets	No historic properties identified
Tulchin and Hammatt 2008	Addendum Archaeological inventory survey	Leeward Coast Emergency Homeless Shelter Project, Lualualei Ahupua'a	No historic properties identified

Reference	Type of Investigation	Location	Results (SIHP # 50-80-07-)
Hunkin and Hammatt 2008	Archaeological monitoring	Leeward Coast Emergency Homeless Shelter Project, Lualualei Ahupua'a	No historic properties identified
Rieth 2009	Archaeological inventory survey	Former Voice of America site, Mā'ili	Identified SIHP #s -7081, Voice of America antenna system, and -7083, railroad berm, in the vicinity of the current project area
Thurman and Hammatt 2009	Archaeological monitoring	Lualualei Beach Park	No historic properties identified
Mierzejewski and Hammatt 2014	Archaeological monitoring	Mā'ili Beach Park	No historic properties identified
Stine et al. 2014	Archaeological monitoring	Wai'anae and Lualualei Ahupua'a, TMK: [1] 8-various	No historic properties identified in the vicinity of the current project area
Blahut and Hammatt 2017	Archaeological monitoring	Farrington Hwy ROW	No historic properties identified
McElroy and Alvarez 2017	Archaeological inventory survey	Proposed Hale Makana O Mā'ili Residential Complex	No historic properties identified
Hammatt and Shideler 2018	Archaeological literature review	Farrington Hwy ROW, Wai'anae Ahupua'a	No historic properties identified in the vicinity of the current project area

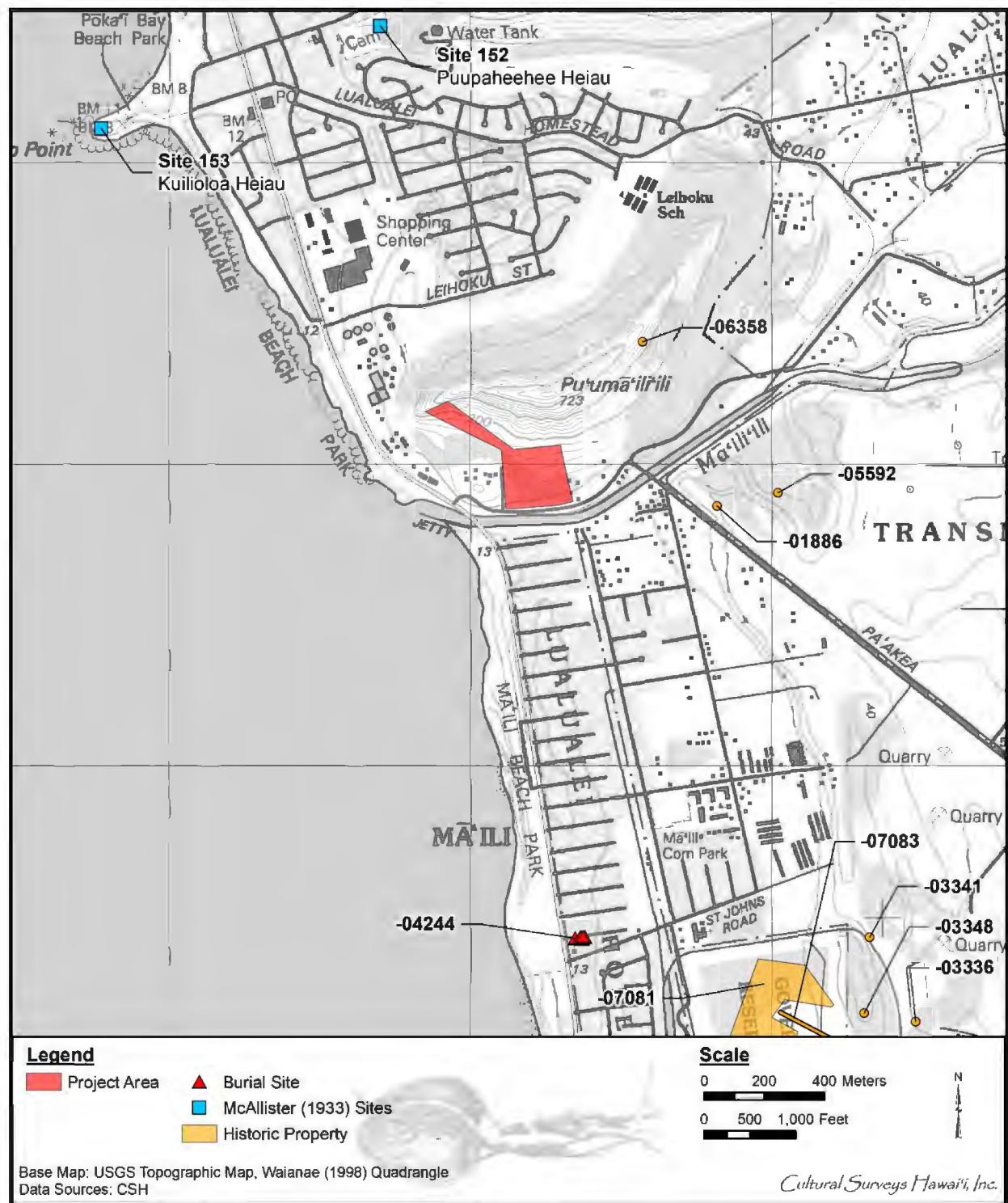


Figure 34. A portion of the 1998 Waianae USGS topographic quadrangle, with overlay of historic properties in the vicinity of the project area

Table 2. Historic properties previously identified in the vicinity of the project area

SIHP # 50-80-07-	Formal Type/ Name	Comment	Source
0152	Pu'upahe'ehe'e Heiau	"[C]ompletely destroyed" by enlargement of an adjacent cemetery; related to a <i>hōlua</i> slide used for sledding contests	McAllister 1933
0153	Kū'īlioloa Heiau	On the tip of Kāne'īlio Point, at the south end of Pōka'ī Bay	McAllister 1933
1886	Mound	Pre- or early post-Contact	Robins and Anderson 1998
3336	Reservoir complex	Post-Contact	Mayberry and Rosendahl 1994
3341	Wall	Post-Contact	Mayberry and Rosendahl 1994
3348	Mounds	Post-Contact	Mayberry and Rosendahl 1994
4244	Human skeletal remains	Burials 1, 2, 4, 6, and 7 were recovered; Burials 3 and 5 were preserved in place	Douglas 1990; Kawachi 1990; Hammatt et al. 1991
5592	Enclosure	Pre- or early post-Contact; interpreted as habitation site	Robins and Anderson 1998
6358	Alignment	L-shaped	Tulchin et al. 2003
7081	Voice of America antenna system	Post-Contact	Rieth 2009
7083	Railroad berm	Post-Contact	Rieth 2009

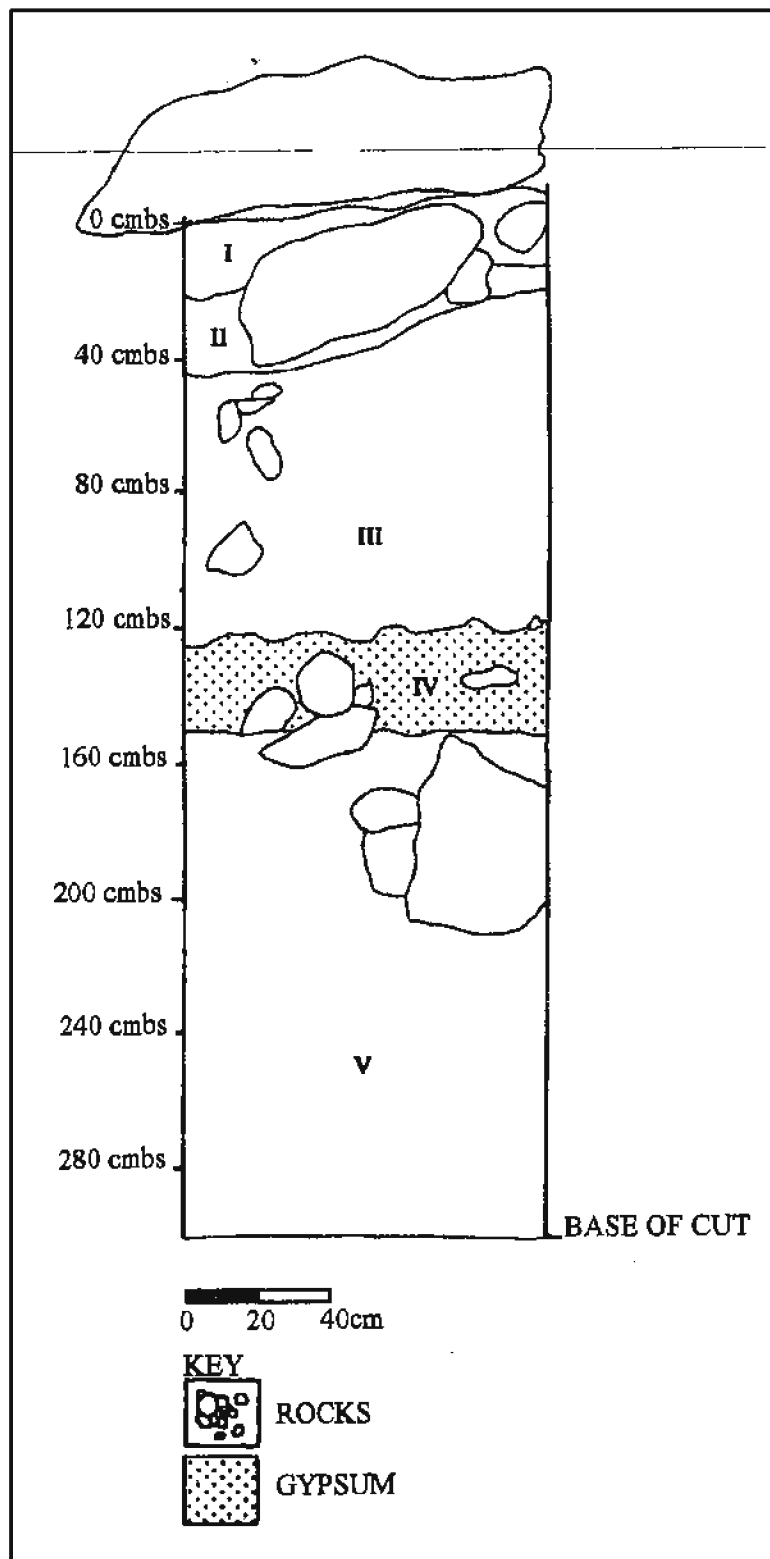


Figure 35. Flood and Dixon's (1994:7) Soil Profile 1, showing humic silt loam with many roots (I); compact silty clay (II); silty clay (III, IV); and silty clay loam (V)

References Cited

Barrera, William

1975 *Archaeological Site Survey at Mā‘ili, O‘ahu*. Chiniago Enterprises, Kāne‘ohe, Hawai‘i.

Berdy, Catherine, Michelle Elmore, and Joseph Kennedy

2002 *An Archaeological Monitoring Report for the Farrington Highway Lighting Improvements Project Located in Wai‘anae Kai and Lualualei Ahupua‘a, Wai‘anae District, Island of O‘ahu*. Archaeological Consultants of the Pacific, Inc., Hale‘iwa, Hawai‘i.

Blahut, Sara M. and Hallett H. Hammatt

2017 *Archaeological Monitoring Report for the Kahe-Permanente 46kV Reconductoring and Pole Replacements Project, Lualualei Ahupua‘a, Wai‘anae District, O‘ahu, TMKs: [1] 8-6-001: Farrington Highway Right-of-Way and 8-6-013: Farrington Highway Right-of-Way*. Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Borthwick, Douglas F., Rodney Chiogioji, Hallett H. Hammatt, and David Shideler

1999 *Subsurface Archaeological Survey for the Proposed Pōka‘ī Beach Park, Pōka‘ī Bay, Wai‘anae, O‘ahu, Hawai‘i, Revised*. Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Chiddix, Jim and Mackinnon Simpson

2004 *Next Stop Honolulu! The Story of the Oahu Railway & Land Company*. Sugar Cane Press, Honolulu.

Commissioner of Crown Lands

1902 *Reports of the Commissioner of Crown Lands, Provisional Government, Honolulu, Hawai‘i*. Hawai‘i State Archives, Honolulu.

Cordy, Ross

1976 *An Archaeological Survey of Kaiser Pacific Properties’ Land, Maili Kai, Oahu*. State Historic Preservation Office, Honolulu.

DLNR (Department of Land and Natural Resources)

1845–1869 Liber. (Land Record Books). Territory of Hawai‘i: Bureau of Land Conveyances. Archives at the Hawai‘i Department of Land and Natural Resources, Hawai‘i.

Donn, John M.

1906 Hawaii Territory map of Oahu. Registered Map 2374. Hawai‘i Land Survey Division, Department of Accounting and General Services, Honolulu.

Douglas, Michele Toomay

1990 *Report on Five Human Skeletons Recovered from Liopolo Street, Ma‘ili, Wai‘anae, O‘ahu, Hawai‘i*. Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Emerson, J.S.

1901 Map of Lualualei by J.S. Emerson. Registered Map 2040. Hawai‘i Land Survey Division, Department of Accounting and General Services, Honolulu.

Flood, Krista and Boyd Dixon

- 1994 *An Archaeological Reconnaissance of the Wai'anae Comprehensive Health Center, Wai'anae District, Lualualei Ahupua'a, Island of O'ahu*. Bishop Museum Press, Honolulu.

Foote, Donald E., E.L. Hill, S. Nakamura, and F. Stephens

- 1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii*. U.S. Dept. of Agriculture, U.S. Government Printing Office, Washington, D.C.

Giambelluca, T.W., Q. Chen, A.G. Frazier, J.P. Price, Y.-L. Chen, P.-S. Chu, J.K. Eischeid, and D.M. Delparte

- 2013 Online Rainfall Atlas of Hawai'i. Bulletin of the American Meteorological Society volume 94, pp. 313-316, doi: 10.1175/BAMS-D-11-00228.1. University of Hawai'i at Mānoa, Honolulu. Electronic resource, <http://rainfall.geography.hawaii.edu> (accessed 5 June 2018).

Giambelluca, T.W., X. Shuai, M.L. Barnes, R.J. Alliss, R.J. Longman, T. Miura, Q. Chen, A.G. Frazier, R.G. Mudd, L. Cuo, and A.D. Businger

- 2014 Evapotranspiration of Hawai'i. Final report submitted to the U.S. Army Corps of Engineers—Honolulu District, and the Commission on Water Resource Management, State of Hawai'i. University of Hawai'i at Mānoa, Honolulu. Electronic resource, <http://climate.geography.hawaii.edu/> (accessed 5 June 2018).

Hammatt, Hallett H. and David W. Shideler

- 1991 *Archaeological Monitoring at Liopolo Street, Mā'ili 8" Water system Part III, Mā'ili, Wai'anae, O'ahu, with a Discussion of Burials at State Site No. 50-80-07-4244*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.
- 2006 *Archaeological Field Check and Literature Review of Five Locations for the Leeward Coast Emergency Homeless Shelter Project Mākaha, Wai'anae and Lualualei Ahupua'a, Wai'anae District, Oahu TMK: [1] 8-4-016:008; 8-5-008:40,41 & 44; 8-5-018:19; 8-6-003:008 and 8-7-010:007*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.
- 2018 *Archaeological Literature Review in Support of Obtaining an HAR §13-275-3 Determination Letter for the Waianae Water System Improvements Part III Project, Wai'anae Ahupua'a, Wai'anae District, O'ahu TMK: [1] 8-5 Various Plats Farrington Highway Right-of Way and Old Government Road Right-of-Way*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Hammatt, Hallett H., Jennifer Robins, and Mark Stride

- 1993 *An Archaeological Inventory Survey for the Proposed Lualualei Golf Course, Lualualei, Wai'anae, O'ahu*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Handy, E.S. Craighill and Elizabeth Green Handy

- 1972 *Native Planters in Old Hawai'i: Their Life, Lore, and Environment*. Bishop Museum Press, Honolulu.

Hawai'i TMK Service

- 2009 Tax Map Key [1] 8-6-001. Hawai'i TMK Service, Honolulu.

Hunkin, Nifae and Hallett H. Hammatt

- 2008 *Archaeological Monitoring Report for the Leeward Coast Emergency Homeless Shelter Project, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu* TMK: [1] 8-7-010:007. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Ī'ī, John Papa

- 1959 *Fragments of Hawaiian History*. Bishop Museum Press, Honolulu.

Jimenez, Joseph A.

- 1994 *Additional Archaeological Inventory Survey Maili Kai Project Area, Land of Lualualei, Waianae District, Island of O'ahu*. Paul H. Rosendahl, Ph.D., Inc., Hilo, Hawai'i.

Jones, Kulani, Dominique L. Cordy, Alexander Hazlett, and Hallett H. Hammatt

- 2007 *Archaeological Monitoring Report for the Board of Water Supply Water System Improvements on Wai'anae Valley Road and Connecting Streets, Wai'anae Ahupua'a and Lualualei Ahupua'a, District of Wai'anae, Island of O'ahu, Hawai'i* TMK: [1] 8-5-001, 003, 021-023, 029, 033 and TMK: [1] 8-6-001, 003, 011-014. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Kailihiwa, Solomon H. and Paul L. Cleghorn

- 2005 *Archaeological Monitoring for the Pōka'i Bay Beach Park Canoe Halau Project Wai'anae, Island of O'ahu* (TMK 8-5-08-36). Pacific Legacy, Inc., Kailua, Hawai'i.

Kamakau, Samuel Manaiakalani

- 1992 *Ruling Chiefs of Hawai'i*. Revised edition. Kamehameha Schools Press, Honolulu.

Kawachi, Carol

- 1990 *Mauna Lahilahi Crevice Burials, Makaha, Wai'anae, O'ahu*. State Historic Preservation Division, Honolulu.

Kelly, Marion

- 1991 Notes on the History of Lualualei. In *An Archaeological Survey of the Naval Magazine & Naval Communications Area Transmission Facility*, by Alan E. Haun, Bernice Pauahi Bishop Museum, Honolulu.

Kolb, Michael J., Patty Jo Conte, Michael McFadden, Christi A. Mitchell, and Ross Cordy

- 1995 *Archaeological Survey and Excavations at Pahe'ehe'e Ridge, Wai'anae Ahupua'a, Wai'anae District, Island of O'ahu*. State Historic Preservation Division, Honolulu.

Kuykendall, Ralph S. and A. Grove Day

- 1961 *Hawai'i: A History From Polynesian Kingdom to American Statehood*. Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

Mayberry, James D. and Paul H. Rosendahl

- 1994 *Archaeological Reconnaissance Survey for Environmental Impact Statement (EIS) Maili Kai Property, Land of Lualualei, Waianae District, Island of Oahu* (TMK: 8-7-10:2, 14). Paul H. Rosendahl, Ph.D., Inc., Hilo, Hawai'i.

McElroy, Windy

- 2008 *Archaeological Monitoring for Department of Hawaiian Homelands Fiber Optic Cable Installation, Lualualei, Wai'anae, and Mākaha Ahupua'a, Wai'anae District, Island of O'ahu, Hawai'i (portions of TMK: 8-7, 8-6, 8-5, 8-4, 8-3, and 8-2).* Garcia and Associates, Honolulu.

McElroy, Windy and Anthony Alvarez

- 2017 *Archaeological Assessment for the Proposed Hale Makana O Mā'ili Residential Complex, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu, TMK: [1] 8-7-001:016 (por.).* Keala Pono Archaeological Consulting, LLC, Kāne'ohe, Hawai'i.

McGrath, E.J., Jr., K. M. Brewer, and Robert Krauss

- 1973 *Historic Wai'anae, A Place of Kings.* Island Heritage Ltd., Norfolk Island, Australia.

Mierzejewski, Abbey and Hallett H. Hammatt

- 2014 *Archaeological Monitoring Report for the Mā'ili Beach Park Parking Improvements Project Phase I & II (Project No. 12-P-11), Lualualei Ahupua'a, Wai'anae District, O'ahu, TMKs: [1] 8-7-015:001 por., 003-008 por., 039 por., [1] 8-7-028:021-023 por., and Farrington Highway Right-of-Way.* Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Nakamura, Keola, Stephan D. Clark, and Pat McCoy

- 2008 *Archaeological Monitoring Report in Support of the Board of Water Supply's Wai'anae Water System Improvements Part II on McArthur, Kawili and Alamihi Streets, Wai'anae and Lualualei Ahupua'a, Wai'anae District, Island of O'ahu, State of Hawaii TMKs: (1) 8-5-09: 10, 20 & 8-6-20.* Pacific Consulting Services, Inc., Honolulu.

Nees, Richard

- 1995 *Archaeological Reconnaissance Survey at NCTAMS Wahiawa and NRTF Lualualei, NCTAMS EASTPAC, O'ahu Island.* Ogden Environmental and Energy Services Co., Inc., Honolulu.

Perzinski, David, David Shideler, and Hallett H. Hammatt

- 2002 *An Archaeological and Cultural Impact Evaluation for the Proposed Wai'anae Community Transit Center, Lualualei Ahupua'a, Wai'anae District, O'ahu.* Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Rieth, Timothy

- 2009 *Archaeological Inventory Survey of the Former Voice of America Site, Mā'ili, Lualualei Ahupua'a, Wai'anae District, O'ahu TMK: [1] 8-7-010:007.* International Archaeological Research Institute, Inc., Honolulu.

Robins, Jennifer and Lisa Anderson

- 1998 *Final Archaeological Report Phase I Reconnaissance Survey Naval Radio Transmitter Facility Lualualei (RTF Lualualei), O'ahu, Hawai'i.* Ogden Environmental and Energy Services Co., Inc., Honolulu.

Schmitt, Robert C.

- 1973 *The Missionary Census of Hawaii.* Bishop Museum Press, Honolulu.

Sinoto, Akihiko and Jeffrey Pantaleo

- 1990 *Archaeological Surface Assessment Proposed Village, Poka'i Bay Subdivision, Lualualei, Wai'anae, O'ahu Island*. Applied Research Group, Bernice Pauahi Bishop Museum, Honolulu.

Stine, Cary, Hallett H. Hammatt, and David W. Shideler

- 2014 *Archaeological Monitoring Report (AMR) for the Makaha Interceptor Sewer Rehabilitation/Replacement Project, Wai'anae Ahupua'a and Lualualei Ahupua'a, District of Wai'anae, Island of O'ahu, Hawai'i, Insituform Job 208035 (TMK: (1) 8-5 and 8-6 various parcels)*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Thurman, Douglas and Hallett H. Hammatt

- 2009 *Archaeological Monitoring Report for the Reconstruction of the Wastewater System at Lualualei Beach Park, Comfort Stations "A" and "B" Lualualei Ahupua'a, Wai'anae District, Island of O'ahu TMK: [1] 8-6-001:007*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Tulchin, Jon and Hallett H. Hammatt

- 2007 *Archaeological Assessment for the Leeward Coast Emergency Homeless Shelter Project, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu TMK: [1] 8-7-010:007*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Tulchin, Jon and Hallett H. Hammatt

- 2008 *Addendum to an Archaeological Assessment for the Leeward Coast Emergency Homeless Shelter Project, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu TMK: [1] 8-7-010:por. 007*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Tulchin, Todd, Douglas F. Borthwick, and Hallett H. Hammatt

- 2007 *Final Archaeological Assessment of the Proposed 5.0-Acre Hale Wai Vista Project, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu TMK: [1] 8-6-001:035*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Tulchin, Todd, Constance O'Hare, and Hallett H. Hammatt

- 2003 *Archaeological Inventory Survey in Support of the Proposed Wai'anae 242 Reservoir and Access Road Project, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

U.S. Army War Department

- 1919 U.S. Army War Department fire control map, Waianae and Nanakuli Quadrangles, USGS Information Services, Denver, Colorado.
- 1935 U.S. Army War Department terrain map, Schofield Quadrangle. USGS Information Services, Denver, Colorado.
- 1936 U.S. Army War Department terrain map, Waianae and Kaena Quadrangles. USGS Information Services, Denver, Colorado.
- 1943 U.S. Army War Department terrain map, Waianae and Nanakuli Quadrangles. USGS Information Services, Denver, Colorado.

USDA (U.S. Department of Agriculture)

- 2001 Soil Survey Geographic (SSURGO) database. U.S. Department of Agriculture, Natural Resources Conservation Service. Fort Worth, Texas. <http://www.ncgc.nrcs.usda.gov/products/datasets/ssurgo/>.

USGS (U.S. Geological Survey)

- 1953 USGS 7.5-minute topographic map, Schofield Barracks Quadrangle. USGS Information Services, Denver, Colorado.
- 1954 USGS 7.5-minute topographic map, Waianae Quadrangle. USGS Information Services, Denver, Colorado.
- 1963 USGS 7.5-minute topographic map, Waianae Quadrangle. USGS Information Services, Denver, Colorado.
- 1969 USGS 7.5-minute topographic map, Schofield Barracks Quadrangle. USGS Information Services, Denver, Colorado.
- 1977 USGS Orthoimagery aerial photograph, Waianae Quadrangle. USGS Information Services, Denver, Colorado.
- 1998 USGS 7.5-minute topographic map, Waianae Quadrangle. USGS Information Services, Denver, Colorado.
- 2005 USGS Orthoimagery aerial photograph, Waianae Quadrangle. USGS Information Services, Denver, Colorado.

Waihona 'Aina

- 2000 *The Māhele Database*. Electronic document, <http://waihona.com>

Wall, Walter E.

- 1914 Lualualei Homesteads. Hawai'i Territorial Survey Plat Map No. 2026, Walter E. Wall, Surveyor. Hawai'i Land Survey Division, Department of Accounting and General Services, Honolulu.

EXHIBIT C

Cultural Impact Assessment

DRAFT
Cultural Impact Assessment for the
Wai‘anae Coast Comprehensive Health Center Project,
Lualualei Ahupua‘a, Wai‘anae District, O‘ahu
TMKs: [1] 8-6-001:012 and 024–028

Prepared for
Gerald Park Urban Planner

Prepared by
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Cultural Surveys Hawai‘i, Inc.
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(Job Code: LUALUALEI 36)

March 2020

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Management Summary

Reference	Cultural Impact Assessment for the Wai'anae Coast Comprehensive Health Center Project, Lualualei Ahupua'a, Wai'anae District, O'ahu, TMKs: [1] 8-6-001:012 and 024-028 (Spencer and Hammatt 2020)
Date	March 2020
Project Number(s)	Cultural Surveys Hawai'i, Inc. (CSH) Job Code: LUALUALEI 36
Agencies	State of Hawai'i, Department of Health, Office of Environmental Quality Control
Land Jurisdiction	Department of Hawaiian Home Lands (DHHL)
Project Proponent	Waianae Coast Comprehensive Health Center (WCCHC)
Project Location	The project is located in Lualualei Ahupua'a, Wai'anae District, O'ahu. The project area is located at 86-260 Farrington Highway nestled between the ridges of Pu'u Mā'ili'ili and the coast of Lualualei Beach Park. The project area is depicted on a portion of the 1998 Waianae U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle and a 2015 aerial photograph.
Project Description	Waianae Coast Comprehensive Health Center (WCCHC) is preparing a Master Plan to guide development for the next 5, 10, and 20 year intervals at its current medical facility. With the adoption and subsequent implementation of a Facilities Master Plan in 1996, major construction at the WCCHC included development of the Family Medical Building, Adult Medicine and Pharmacy, Emergency Medical Services Building, and the Malama Recovery Center. The Facilities Master Plan sunset in 2016. The purpose of this second Master Plan is to translate the WCCHC's mission into tangible physical form within the constraints of its location, the provision of needed medical services now and into the future for Leeward Coast residents, the ability to procure funding from private and public sources, and the ability to financially sustain its operations. Three low-rise wood and brick structures fronting Farrington Highway will be demolished. Behavioral Health Services, Woman, Infant, Child Program (WIC), and Ho'olokahi programs currently occupy these structures. A proposed two-story 6,500-square-foot (sq ft) building will be constructed near the Malama Recovery Center as the new home of the Behavioral Health Services. A two-story Community Services Building will be built on the site of the demolished buildings. The WIC program, Ho'olokahi program, preventive health, and community services will co-locate into the

	8,000-sq-ft building. Additional space for a future building has been set aside at this location. To accommodate vehicle parking for patients, the Master Plan proposes to construct a three-level, 30,000-sq-ft parking structure for up to 125 vehicles. The structure will be built at the southwest corner of the WCCHC below the existing Adult Medicine and Pharmacy Building. A “Welcome Hale” of approximately 150 s feet will be erected at the main entry to the WCCHC at Mā‘ili‘ili Road. The Hale will serve as a hub for transporting patients from various on-site facilities to and from bus stops on Mā‘ili‘ili Road and Farrington Highway, a service that is currently provided. The Master Plan also proposes renovating several existing buildings and repurposing them for alternative uses. The Board of Directors of the WCCHC is seeking to lease five lots adjoining the WCCHC from the Department of Hawaiian Home Lands. The WCCHC does not have “site control” thus the lots are excluded from the Master Plan.
Project Acreage	The total project area is approximately 13.25 acres (5.36 hectares) of TMKs: [1] 8-6-001:012 and 024–028.
Document Purpose	This cultural impact assessment (CIA) was prepared to comply with the State of Hawai‘i’s environmental review process under Hawai‘i Revised Statutes (HRS) §343, which requires consideration of the proposed project’s potential effect on cultural beliefs, practices, and resources. Through document research and cultural consultation efforts, this report provides information compiled to date pertinent to the assessment of the proposed project’s potential impacts to cultural beliefs, practices, and resources (pursuant to the Office of Environmental Quality Control’s <i>Guidelines for Assessing Cultural Impacts</i>) which may include traditional cultural properties (TCPs). These TCPs may be significant historic properties under State of Hawai‘i significance Criterion e, pursuant to Hawai‘i Administrative Rules (HAR) §13-275-6 and §13-284-6. Significance Criterion e refers to historic properties that “have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group’s history and cultural identity” (HAR §13-275-6 and §13-284-6). The document is intended to support the project’s environmental review and may also serve to support the project’s historic preservation review under HRS §6E-8 and HAR §13-284.
Results of Background Research	Background for this project yielded the following results presented in approximately chronological order:

	1. The <i>moku</i> (district) of Wai‘anae consists of ten <i>ahupua‘a</i> (traditional land division usually extending from the mountain to the sea): Nānākuli, Lualualei, Wai‘anae Kai, Wai‘anae Uka, Mākaha, Kea‘au, ‘Ōhikilolo, Mākua, Kahanahāiki, and Keawa‘ula. 2. Lualualei is the largest leeward valley in the Wai‘anae Moku. Composed of approximately 14,000 acres, Lualualei extends from the Wai‘anae Range to the ocean. To the south is the <i>ahupua‘a</i> of Nānākuli, and to the north is the <i>ahupua‘a</i> of Wai‘anae. Its southern border includes a portion of Pu‘u Heleakalā, and its northern boundary includes a portion of Pu‘u Pāhe‘ehe‘e. 3. There are two suggested meanings or explanations for the naming of Lualualei. One meaning, “flexible wreath,” is attributed to a battle formation used by Mā‘ilikūkahī against four invading armies in the battle of Kīpapa in the early fifteenth century (Sterling and Summers 1978:68). A second meaning, offered by John Papa ‘Ī‘ī, is “beloved one spared.” This meaning relates to the story of a relative who was suspected of wearing the king’s <i>malo</i> (loincloth). The proclamation of the king given by Kula‘inamoku that Kalakua did not wear the king’s loin cloth spared the family of Luluku; thus, a child born in the family was named Lualualei (‘Ī‘ī 1959:23). 4. Numerous traditional accounts of Lualualei focus on mythology of the demi-god Māui. It was here that he learned the secret of making fire for mankind and perfected his fishing skills. Other famous accounts tell of the place where Māui’s adzes were made, of Mānaiakalani the magic fishhook, of the snare for catching the sun, and his kite-flying expedition. 5. Settlement in Lualualei was greatest near the coastline, where marine resources were plentiful, and in the mountainous interior, where rainfall was sufficient for agriculture and forest resources. Prior to Western Contact, the settlement pattern for this region likely consisted of dispersed residences concentrated at the sea and the mountains. An account provided by Pukui (cited in McGrath et al. 1973:10) suggests an informal exchange network existed whereby coastal dwellers traded marine resources for the agricultural and forest resources of the inland dwellers. 6. The Hawaiian Islands began exporting sandalwood to Asia shortly after 1800, and the commerce flourished until the supply dwindled in the mid-1830s. Lualualei was a region of importance in the sandalwood trade. The demands placed on the <i>maka‘āinana</i> (commoners) to harvest wood for the trade caused many agricultural fields to become fallow and unused.
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	7. At the time of the Māhele (the division of Hawaiian lands), the <i>ahupua'a</i> of Wai'anae, which included Lualualei, was listed as Crown lands and was claimed by King Kamehameha III as his personal property (Board of Commissioners 1929:28). 8. Twelve land claims were made in Lualualei; however, only six were awarded. Most awards were upland in the <i>'ili</i> (traditional land division; smaller than an <i>ahupua'a</i>) of Pūhāwai, <i>mauka</i> (toward the mountains) of the current project area. From the claims, it can be determined that at least eight families were living in Pūhāwai at the time of the Māhele in 1848. Together, they cultivated a minimum of 163 <i>lo'i</i> (irrigated taro patch). The numerous <i>lo'i</i> mentioned in the claims indicate the land was ideal for growing wetland taro, and that this livelihood was actively pursued by the awardees. 9. One of the first areas to be utilized for ranching on the Wai'anae Coast was Lualualei. Hawai'i Bureau of Land Conveyances (B.C.), 1845–1869 (archived at the DLNR), records show that William Jarrett leased approximately 17,000 acres of land from Kamehameha III in 1851. This was the beginning of Lualualei Ranch. 10. In 1901, the Waianae Sugar Company leased 3,332 acres in Lualualei for raising cane and for ranching (Commissioner of Crown Lands 1902). Amfac, Inc. purchased the plantation and closed it down in 1947. 11. The Oahu Railway and Land Company (OR&L) signed its charter on 4 February 1889. This railroad line connected with the Waianae Sugar Plantation in 1895, generally running along the <i>makai</i> (toward the sea) boundary of the sugarcane fields. The railway served the Wai'anae Coast until 1946 when the Waianae Sugar Plantation closed down. 12. After the overthrow of the Hawaiian monarchy in 1893, Crown Lands and Government Lands were combined to become Public Lands. The Crown Lands were no longer indistinguishable and inalienable. In 1895, the Republic of Hawaii decided to open up lands for homesteading in the hopes of attracting a “desirable class of immigrants”—Americans and those of Caucasian descent (Kuykendall and Day 1961:204). By the early 1920s, about 40 families had settled on homestead lots in Lualualei (Kelly 1991:331–332). The well-known families that obtained homestead lots at this time were Von Holt, McCandless, and Dowsett. 13. During the first half of the twentieth century, a major influence in Lualualei Ahupua'a was the military. By 1929, over 8,184 acres of the McCandless Cattle Ranch had been condemned and purchased by the U.S. Navy for the construction
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	of a Naval Ammunition Depot for the ships based at Pearl Harbor Naval Base.
Results of Community Consultation	CSH attempted to contact 71 Native Hawaiian Organizations (NHOs), agencies, and community members. Of the nine people that responded, one <i>kama 'āina</i> (native born) and/or <i>kupuna</i> (elders) provided written testimony, two spoke with CSH over the telephone, and three participated in formal interviews for more in-depth contributions to the CIA. Below is a list of individuals who shared their <i>mana 'o</i> (opinions) and <i>'ike</i> (knowledge) about the project area: 1. Carl Jellings, Aha Moku Advisory Committee, Wai'anāe Moku Representative 2. Glen Kila, Program Director for Marae Ha'a Koa and Koa Ike 3. Keone Nunes, <i>kahuna kā kākau</i> (expert tattooist) and <i>kama 'āina</i> of Wai'anāe 4. Jan Becket, retired teacher, photographer and author, member of the Committee for the Preservation of Historic Sites and Properties 5. James S. Brito, Jr., <i>kama 'āina</i> of Ma'ili 6. Maile Keli'ipio-Acoba, Chief Executive Officer at Institute for Native Pacific Education and Culture (INPEACE)
Impacts and Recommendations	Based on information gathered from the cultural and historical background, and the community consultation, participants voiced and framed their concerns in a cultural context: 1. Jan Becket recommended that the families of the deceased at the plantation-era cemetery at the base of Pāhe'ehe'e Ridge should also be involved and/or invested in the preservation of Pu'upāhe'ehe'e Heiau. 2. Ms. Keli'ipio-Acoba expressed her concern for pedestrian safety along the Mā'ili'ili Road. She recommended making improvements to Mā'ili'ili Road including "widening it and putting some sidewalks in there." She noted that "when you walk to their facility, there's no sidewalks here." She went on to state that "you got to walk on the dirt on the side of the road and the road is so narrow and its curved right here." She said, "the speed at which people go around this S-curve right here, they go pretty fast so if you're walking around the dirt here, it gets pretty dangerous [...]." 3. She also expressed her concern regarding the location of the entrance to WCCHC, noting that "when you turn up this road here [Mā'ili'ili Road], this going up into this [WCCHC parking lot], it's almost a blind spot right around here." She added that when oncoming cars are traveling fast, "the time in which you have to make that decision to turn is not very much." She

	recommended that location of the “entrance should be somewhere on the straight away.” 4. Ms. Keli‘ipio-Acoba also expressed concern regarding noise resulting from construction activities related to the proposed project. She stated that noise echoes off Pu‘u Mā‘ili‘ili and when families who live on the other side of Mā‘ili‘ili Stream have parties, they are easily able to hear the music. Mr. Brito also mentioned that <i>kiawe</i> trees along Mā‘ili‘ili Stream have been removed by a development project occurring on a nearby parcel. He noted that these trees provided a buffer for sound. Mr. Brito noted that “these trees over here was like 50-60 feet in the air, old <i>kiawe</i> trees, deeply rooted, and they just took ‘em right down and nobody talked to us about this.” He added that the <i>kiawe</i> trees also provided “a wind break for this area.” 5. Project construction workers and all other personnel involved in the construction and related activities of the project should be informed of the possibility of inadvertent cultural finds, including human remains. In the event that any potential historic properties are identified during construction activities, all activities will cease and the State Historic Preservation Division (SHPD) will be notified pursuant to HAR §13-280-3. In the event that <i>iwi kūpuna</i> (Native Hawaiian skeletal remains) are identified, all earth moving activities in the area will stop, the area will be cordoned off, and the SHPD and Police Department will be notified pursuant to HAR §13-300-40. In addition, in the event of an inadvertent discovery of human remains, the completion of a burial treatment plan, in compliance with HAR §13-300 and HRS §6E-43, is recommended. 6. In the event that <i>iwi kūpuna</i> and/or cultural finds are encountered during construction, project proponents should consult with cultural and lineal descendants of the area to develop a reinterment plan and cultural preservation plan for proper cultural protocol, curation, and long-term maintenance.
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Section 1 Introduction

1.1 Project Background

At the request of Gerald Park Urban Planner, on behalf of the Wai‘anae Coast Comprehensive Health Center (WCCHC) Cultural Surveys Hawai‘i, Inc. (CSH) has prepared this cultural impact assessment (CIA) for the WCCHC project in the *ahupua‘a* of Lualualei, Wai‘anae District, O‘ahu. The total project area is approximately 13.25 acres (5.36 hectares) of the TMKs: [1] 8-6-001:012 and 024–028. The project area is located at 86-260 Farrington Highway nestled between the ridges of Pu‘u Mā‘ili‘ili and the coast of Lualualei Beach Park. The project area is depicted on a portion of the 1998 Waianae U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 1), a tax map plat (Figure 2), and a 2015 aerial photograph (Figure 3).

WCCHC is preparing a Master Plan to guide development for the next 5, 10, and 20-year intervals at its current medical facility. With the adoption and subsequent implementation of a Facilities Master Plan in 1996, major construction at the WCCHC included the development of the Family Medical Building, Adult Medicine and Pharmacy, Emergency Medical Services Building, and the Malama Recovery Center. The Facilities Master Plan sunset in 2016.

The purpose of this second Master Plan is to translate the WCCHC’s mission into tangible physical form within the constraints of its location, the provision of needed medical services now and into the future for Leeward Coast residents, the ability to procure funding from private and public sources, and the ability to financially sustain its operations.

Three low-rise wood and brick structures fronting Farrington Highway will be demolished. Behavioral Health Services, Woman, Infant, Child Program (WIC), and Ho‘olokahi programs currently occupy these structures. A proposed two-story 6,500-square-foot (sq ft) building will be constructed near the Malama Recovery Center as the new home of the Behavioral Health Services.

A two-story Community Services Building will be built on the site of the demolished buildings. The WIC program, Ho‘olokahi program, preventive health, and community services will co-locate into the 8,000-sq-ft building. Additional space for a future building has been set aside at this location.

To accommodate vehicle parking for patients, the Master Plan proposes to construct a three-level, 30,000-sq-ft parking structure for up to 125 vehicles. The structure will be built at the southwest corner of the WCCHC below the existing Adult Medicine and Pharmacy Building.

A “Welcome Hale” of approximately 150 sq ft will be erected at the main entrance to the COMP at Mā‘ili‘ili Road. The Hale will serve as a hub for transporting patients from various on-site facilities to and from bus stops on Mā‘ili‘ili Road and Farrington Highway, a service that is currently provided.

The Master Plan also proposes renovating several existing buildings and repurposing them for alternate uses. The Board of Directors of the WCCHC is seeking to lease five lots adjoining the WCCHC from the Department of Hawaiian Home Lands. The WCCHC does not have “site control” thus the lots are excluded from the Master Plan.



Figure 1. Portion of 1998 Waianae USGS 7.5-minute topographic quadrangle showing the location of the project area

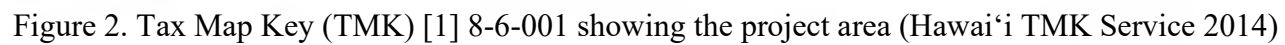




Figure 3. Aerial photograph showing the location of the project area (ESRI 2015)

1.2 Document Purpose

The purpose of this CIA is to comply with the State of Hawai'i's environmental review process under Hawai'i Revised Statutes (HRS) §343, which requires consideration of the project's potential effect on cultural beliefs, practices, and resources. Through document research and cultural consultation efforts, this report provides information compiled to date pertinent to the assessment of the proposed project's potential impacts on cultural beliefs, practices, and resources (pursuant to the Office of Environmental Quality Control's *Guidelines for Assessing Cultural Impacts*), which may include traditional cultural properties (TCPs). These TCPs may be significant historic properties under State of Hawai'i significance Criterion e, pursuant to Hawai'i Administrative Rules (HAR) §13-275-6 and §13-284-6. Significance Criterion e refers to historic properties that "have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group's history and cultural identity" (HAR §13-275-6 and §13-284-6). The document is intended to support the project's environmental review and may also serve to support the project's historic preservation review under HRS §6E and HAR §13-275 and §13-284.

The scope of work for this cultural impact assessment includes the following:

1. Examination of cultural and historical resources, including Land Commission documents, historic maps, and previous research reports, with the specific purpose of identifying traditional Hawaiian activities including gathering of plant, animal, and other resources or agricultural pursuits as may be indicated in the historic record.
2. Review of previous archaeological work at and near the subject parcel that may be relevant to reconstructions of traditional land use activities; and to the identification and description of cultural resources, practices, and beliefs associated with the parcel.
3. Consultation and interviews with knowledgeable parties regarding cultural and natural resources and practices at or near the parcel; present and past uses of the parcel; and/or other practices, uses, or traditions associated with the parcel and environs.
4. Preparation of a report that summarizes the results of these research activities and provides recommendations based on findings.

1.3 Environmental Setting

1.3.1 Natural Environment

The *moku* (district) of Wai'anae consists of ten *ahupua'a* (traditional land division): Nānākuli, Lualualei, Wai'anae Kai, Wai'anae Uka, Mākaha, Kea'au, 'Ōhikilolo, Mākua, Kahanahāiki, and Keawa'ula. Wai'anae Moku extends for 20 miles from the Ka'ena Point to Kahe Point area. It stretches from the nearshore waters up to the ridgeline of the Wai'anae Range. The Wai'anae Range is the erosional remnant of the Wai'anae shield volcano. The peak of the Wai'anae Range is Mount Ka'ala which is the highest peak on the island of O'ahu (4,025 ft). Mount Ka'ala is part of the Mount Ka'ala Natural Area Reserve which occupies 1,100 acres in the Wai'anae Mountains, from 1,200 ft to the peak of Mount Ka'ala.

Wai'anae Moku is distinguished by broad, deep valleys with steep, high valley walls and gradual slopes on the valley floors. These valleys have three basic land zones: coastal sand areas, lower valleys, and upper valleys. Cordy noted the following:

The coastal sand areas include white sand beaches with low dunes and narrow back dunes. In some areas, such as Kea'au and 'Ōhikilolo, the dunes are still 5-15 feet high. The width of this zone can be 300-1,000 feet wide. Additionally, this coastal area includes uplifted old coral reef lands, forming rocky points and low cliffs along the shore and flat limestone lands behind. The lower valleys are flat and broad, usually with a single stream. The upper valleys are narrower and steeper and often have one or multiple tributaries or feeder stream drainages. [Cordy 2002:6]

At about 7.3 km (4.6 miles) wide at the shoreline and 8.0 km (5.0 miles) extending inland to the ridgetops, Lualualei is the largest valley in the Wai'anae District (Cordy 2002:87). Defined by natural boundaries, the southern border of Lualualei is marked by Pu'u Heleakalā, and its northern boundary by Pu'u Pāhe'ehe'e. Lualualei is bordered by Wai'anae to the north and Nānākuli to the south with the mountain range Pu'u Pāhe'ehe'e extending up to Mauna Kūwale dividing the two. Mauna Kūwale is the most northern *pu'u* (peak) on the Pāhe'ehe'e Ridge, northeast of the project area, and on the Lualualei and Wai'anae Ahupua'a boundary.

The project area is on the Wai'anae Coast, approximately 200 m inland, just north of Mā'ili'ili Stream, and partially along the slopes of Pu'u Mā'ili'ili.

1.3.2 *Ka Lepo* (Soils)

Fertile soils are abundant in most of the upper valleys in Wai'anae. Soil quality in the lower valleys vary based on their location in relation to streams. For example,

[...] soils in lower Lualualei are shallow and overlay limestone bedrock. In the lower valley of Wai'anae, broad flats with alluvial soils are present along the streams. In contrast, in Makaha and Nanakuli, lower valley soils are on gradual slopes high above deep stream cuts. [Cordy 2002:9]

According to the U.S. Department of Agriculture (USDA) Soil Survey Geographic (SSURGO) database (2001) and soil survey data gathered by Foote et al. (1972), the project area's soils consist, from southeast to northwest, of Pulehu clay loam, 0 to 3% slopes (PsA); Keaau stony clay, 2 to 6% slopes (KmaB); Lualualei extremely stony clay, 3 to 35% slopes (LPE); and Rock land (rRK) (Figure 4).

The Pulehu series is described as follows:

This series consists of well-drained soils on alluvial fans and stream terraces and in basins. These soils occur on the islands of Lanai, Maui, Molokai, and Oahu. They developed in alluvium washed from basic igneous rock. The soils are nearly level to moderately sloping. [...]

These soils are used for sugarcane, truck crops, pasture, homesites, and wildlife habitat. The natural vegetation consists of bermudagrass, bristly foxtail, fingergrass, kiawe, klu, lantana, koa haole, and sandbur. [Foote et al. 1972:115]

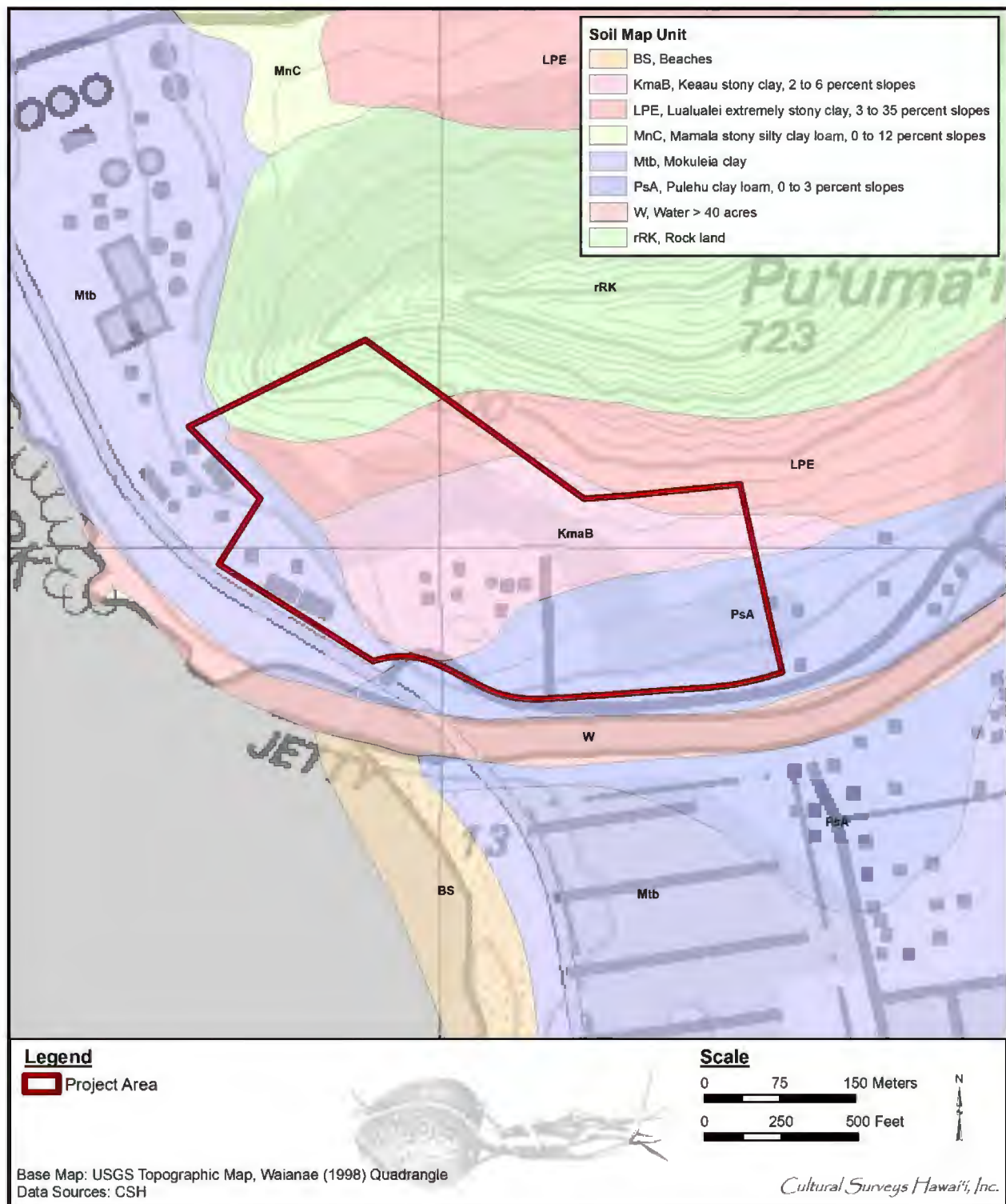


Figure 4. Overlay of *Soil Survey of the State of Hawaii* (Foote et al. 1972), indicating soil types within and surrounding the project area (USDA SSURGO 2001)

The Keaau series is described as follows:

This series consists of poorly drained soils on coastal plains on the island of Oahu. These soils developed in alluvium deposited over reef limestone or consolidated coral sand. They are nearly level and gently sloping. [...]

These soils are used for sugarcane and pasture. The natural vegetation consists of kiawe, bermudagrass, bristly foxtail, and fingergrass. [Foote et al. 1972:64-65]

The Lualualei series is described as follows:

This series consists of well-drained soils on the coastal plains, alluvial fans, and on talus slopes on the islands of Kauai, Oahu, Molokai, and Lanai. These soils developed in alluvium and colluvium. They are nearly level and gently sloping. [...]

These soils are used for sugarcane, truck crops, pasture, wildlife habitat, urban development, and military installations. The natural vegetation consists of kiawe, koa haole, bristly foxtail, uhaloa, and fingergrass. [Foote et al. 1972:84]

Rock land is described as follows:

Rock land (rRK) is made up of areas where exposed rock covers 25 to 90 percent of the surface. It occurs on all five islands. The rock outcrops and very shallow soils are the main characteristics. The rock outcrops are mainly basalt and andesite. This land type is nearly level to very steep. [...]

Rock land is used for pasture, wildlife habitat, and water supply. The natural vegetation at the lower elevations consists mainly of kiawe, klu, piligrass, Japanese tea, and koa haole. Lantana, guava, Natal redtop, and molassesgrass are dominant at the higher elevations. This land type is also used for urban development. [Foote et al. 1972:119]

1.3.3 *Ka Makani* (Winds)

Ancient Hawaiians recognized characteristic differences of the predominant winds and named each in such a way as to describe the direction, locale, or velocity. These names are still used today to identify these winds. Pāhelehala (*lit.* pandanus ensnarement) is the name of the wind off Wai'anae (Pukui and Elbert 1986:299). Pukui and Elbert (1986:304) name Pakaiea as another wind at Wai'anae. Pu'uka'ala is the name of a wind found in the *mauka* (upland) region of Mount Ka'ala (Pukui and Elbert 1986:359).

The Kaiāulu wind is the wind of the Wai'anae district (Nakuina 1992:51). Pukui adds that it is a pleasant and gentle trade-wind breeze (Pukui and Elbert 1986:115). This wind is mentioned multiple times in *The Epic Tale of Hi'ikaikapoliopole* during her travel on the leeward side of O'ahu.

The Kaiāulu wind unfurls from Kuaiwa to Pōka'i in an *oli* (chant) from *The Epic Tale of Hi'ikaikapoliopole*:

<i>Lei kapa 'ehu kai Ka'ena na ka makani</i>	Ka'ena is wreathed in a cloak of sea spray by the wind
--	---

<i>Hohola a'ela i nā uka o Poloea</i>	Spread out in the uplands of Poloea
<i>Kāhiko ihola i ka noe luna o Kamae</i>	The summit of Kamae is adorned by mist
<i>Maika 'i ihola 'o Waialua ē, i Laila</i>	Splendid is Waialua, there
5. <i>'O Lihu'e kekahi, aloha wale</i>	5. As is Līhu'e, beloved indeed
<i>'O ka luna wale o Kamaoha</i>	The highlands of Kamaoha
<i>Nani Malamanui, hui me Kawaikōloa</i>	Malamanui is beautiful, joined with Kawaikōloa
<i>I ka ho'ohanuhanu 'ia e ke kupukupu</i>	Suffused with the aroma of ferns
<i>He pua 'ala nō ka mau'u maika 'i</i>	Fragrant are the blooms of the fine grasses
10. <i>I halihali mai a Kokoloea</i>	10. Carried all the way to Kokoloea
<i>Pua weo i ka nahele o Ka'au ē, i laila</i>	The red blossom in the forest of Ka'au, there
<i>Ho'okā'au ka mana 'o, ho'olaka i ke kanaka</i>	Entertaining are the thoughts, taming the man
<i>Ho'onani i ka kino e noho nei, 'oe anei ē, i laila</i>	Adorning this body, is it you, there
<i>Noho nō i Kanoenoe ke Kuahine</i>	The Kuahine rain dwells in Kanoenoe
15. <i>Hele a haiamū ka ua i ke kula</i>	15. The rains gather in the plains
<i>Me he kanaka maika 'i lā ka ua Ki'owao</i>	The Ki'owao rain is like a handsome man
<i>Ka pua 'ula i ka uka o Kahui ē, i laila</i>	The red blossom in the uplands of Kahui, there
<i>Nani Ka'ala, hemolele i ka mālīe</i>	Beautiful is Ka'ala, flawless in the calm
<i>He kuahiwi nui ia no Wai'anae</i>	Grand mountain of Wai'anae
20. <i>E wehe ana i ka makani Kaiāulu</i>	20. The Kaiāulu wind unfurls
<i>Mai Kuaiwa nō a Poka'i ē, i laila</i>	From Kuaiwa to Pōka'i, there
<i>Mai loko 'ino 'oe, e ka makamaka, ia 'u</i>	Do not be cruel, my friend, to me
<i>E 'ike mai nō ka pono kāhea mai</i>	Recognize the need for your welcoming call
<i>'Oe anei ē.</i>	Is it you?
[Ho'oulumāhie 2008a:173; Ho'oulumāhie 2008b:162]	

The Kaiāulu wind blows from below Wai‘anae, in Chants 149 and 150:

*KAU HO‘OKAHI HANERI A ME
KANAHĀKUMAMĀIWA O KA
MO‘OLELO O HI‘IAKA*

CHANT ONE HUNDRED AND
FORTY - NINE

A makani Kaiāulu lalo o Wai‘anae

The Kaiāulu wind blows from below
Wai‘anae

Ke wehe akula i ka poli o ke hoa

Opening up the embrace of the dear
one

Ha‘i ka nalu o Kua me Aleikapōki‘i

The wave of Kua and Aleikapōki‘i
breaks

I hiki, i moe aku i uka ka luhi o ke kai

They land, to rest ashore the
weariness of the sea

5. Hiki ka ‘elele a ka ipo

5. The messenger of the beloved
arrives

‘O koena a Lauka ula, he ‘ulāleo

A scratching by Laukaula, a plea

He ‘ulāleo aloha ē

A chanted word of affection

Makani Pāhelehala o Kamailehuna

The Pāhelehala wind blows at
Kamailehuna

Ke wāhi ‘ia maila, nahā lalo o Malamaiki

The place is breached, lower
Malamaiki is broken

10. Ikea Waialua, ke kino o ka lā‘au

10. Waialua is revealed, the form of
the tree

Pau pū nō me ka lehua wehea

Along with the lehua that is opened
up

Wehea iho nei loko o ka moe

Opened while in repose

Malamalama ‘oko‘a no lalo

All completely illuminated from
below

Me he ahi lele lā no ē.

Like a leaping flame.

[Ho‘oulumāhie 2008a:276; Ho‘oulumāhie 2008b:258]

*KAU HO‘OKAHI HANERI A ME
KANALIMA O KA MO‘OLELO
O HI‘IAKA*

CHANT ONE HUNDRED AND
FIFTY

A pā makani Kaiāulu lalo o Wai‘anae

The Kaiāulu wind blows from below
Wai‘anae

Wehe aku ana i ka lau o ka niu

Spreading open the leaves of the
coconut trees

<i>Ha 'i ka nalu o Kua me Aleikapōki 'i</i>	The wave of Kua and Alaikapōki 'i breaks
<i>Moe aku i uka ka luhi a ke kai</i>	To rest ashore the weariness from the sea
5. <i>Moe nō a huli a 'e ke alo i ka paia</i>	5. Rest easily, turning one's face to the wall
<i>Hiki nō ka 'elele aka ipo</i>	The messenger of the beloved arrives
<i>'O kōlea a Lanikāula</i>	The kōlea bird of Lanikāula
<i>He 'ū aloha paha ko 'olua ē</i>	You two offer a loving lament
<i>A Wai 'anae au</i>	I was at Wai 'anae
10. <i>'Ike i ka makani 'o Kūpehu</i>	10. And saw the Kūpehu wind
<i>E ho 'olulu ana iā lalo o Pōka 'ī</i>	Calming the lower regions of Pōka 'i
<i>Maika 'i kō ho 'opō 'ana ia 'u ē</i>	You have done well ignoring me
<i>Kō maka launa 'ole ho 'i ē.</i>	With eyes that do not meet mine.
[Ho'oulumāhie 2008a:276; Ho'oulumāhie 2008b:258]	

In one *oli*, Hi 'iaka stands *mauka* (upland) and chants to her *aikāne* (friend), Wahine 'ōma 'o at sea, in which this wind is regarded as feisty:

<i>KAU HO 'OKAHI HANERI A ME</i>	CHANT ONE HUNDRED AND
<i>KANALIMAKUMAMALUA</i>	FIFTY-TWO
<i>O KA MO 'OLELO O HI 'IAKA</i>	
<i>A Waikonene i ke alanui</i>	At Waikonene on the pathway
<i>Ka pi 'ina i Komoa 'ula</i>	The climb to Komoa 'ula*
<i>Ka lā wela i ka umauma</i>	The hot sun on my breast
<i>Waha ka 'īlio i ke kula o Pūhāmalo 'o</i>	The dog carries me to the plain of Puhāmalo 'o
5. <i>Ke ho 'ohaehae maila ka Nāulu</i>	5. When the Nāulu rains stir their fury
<i>Moku kahawai, miha ka poli o Pūhāwai</i>	The streambanks break loose, but the heart of Puhawai is silent
<i>Ua hakakā, kipikipi ke Kaiāulu me ke kanaka</i>	Feisty, the Kaiāulu wind toys with people
<i>Ua ku 'iku 'i wale a hā 'ena nā ihu</i>	Pounding away until faces blaze
<i>Ua kā wale i ka hope</i>	Striking a blow at the back
10. <i>Ka lā wela o Lualualei ē</i>	10. Such is the sun's heat in Lualualei, ē

He lei aloha no 'olua ē.

A lei of regard for the two of you.

[Ho'oulumāhie 2008a:279; Ho'oulumāhie 2008b:261]

In another *oli*, Chant 156, the Kaiāulu wind is characterized as refreshing:

KAU HO'OKAHI HANERI A ME

CHANT ONE HUNDRED AND

KANALIMAKUMAMAONO

FIFTY -SIX

O KA MO'OLELO O HI'IAKA

Kāhuli Ka'ena, holo i ka mālīe ē

Ka'ena is transformed, sailing on in the calm

Ua wela i ka lā alo o nā pali

Hot in the sun are the faces of the cliffs

'Auamo mai i ka lā i Kilauea

That carry the sun to Kilauea

Ikiiki i ka lā nā Keawa'ula

Keawa'ula swelters in the sun

5. Ola i ka makani Kaiāulu

5. Spared by the Kaiāulu wind

'O ke Koholālele, makani ia o lalo

And the Koholālele, the wind from below

Hao ka lā i nā Mākua

The sun assails the lands of Mākua

Lili ka lā i nā 'Ohikilolo

And pours its wrath upon 'Ohikilolo

Pau nā Kea'au i ka lā

Kea'au's districts are consumed by the sun

10. Ha'a ka lā i nā Mākaha

10. The sun dances over Mākaha

'Oi ka niho o ka lā i Kūmanomano

The sun's teeth are sharp at Kūmanomano

Ua wela i ka lā ke kula o Ali'o

The plains of Ali'o are hot in the sun

'Eha Kuaiwa i ka Malamapō

Pained is Kuaiwa by the Malamapō

Ola Wai'anae i ka makani Kaiāulu

Wai'anae is refreshed by the Kaiāulu wind

15. Ke ho'āla a'ela i ka lau o ka niu

15. Stirring the fronds of the coconut palms

Uē Kānepūniu i ka wela a ka lā

Kānepūniu mourns the heat of the sun

A laila, ku'u ka nae, ka mālō'elo'e i ka loa

Then exhaustion is relieved, the stiffness of long travel

'Au'au i Lualualei

Having bathed at Lualualei

Aheahe Ko'olauwahine o lalo

The Ko'olauwahine blows gently from below

<i>20. Aheahe i ka lau o ka ‘ilima</i>	20. Caressing the leaves of the ‘ilima bushes
<i>Wela, wela i ka lā ke pili</i>	Hot, hot from the sun is the pili grass
<i>I ka umauma o Pu‘uli‘ili‘i</i>	Upon the breast of Pu‘uli‘ili‘i
<i>I ka lalawe i Pāholona</i>	Overwhelming at Pāholona
<i>Ho‘omaha aku i Waikonene</i>	Take rest at Waikonene
<i>25. Ka pi‘ina i Komo‘ula</i>	25. For the ascent to Komo‘ula*
<i>Aheahe Kona, aheahe ke Ko‘olau</i>	The Kona wind blows softly, as does the Ko‘olau
<i>Hoomaha aku i Pōhākea</i>	Resting there at Pōhākea
<i>A laila au kū, kilohi, nānā aku au iā Hilo</i>	Then I stand, peer, gaze upon Hilo
<i>Ke ho‘omoea ala nā lehua i kai o Puna</i>	The lehua are being driven to the sea of Puna
<i>30. Aloha Puna, ‘o nā hale lehua</i>	30. Beloved is Puna, the houses of lehua
<i>I kai o Kūki‘i ē.</i>	At the sea of Kūki‘i, ah.

[Ho‘oulumāhie 2008a:282, Ho‘oulumāhie 2008b:263]

In another *oli*, Hi‘iaka refers to the Kaiāulu wind as an opponent:

<i>I kau Pōhākea i ke ao o ka makani</i>	Pōhākea is perched in the realm of the wind
<i>Makani hāli‘ali‘a aloha ke ‘ala o Puna</i>	Wind that stirs fond memories of Puna’s perfume
<i>E kono mai ana i ku‘u waimaka e hanini</i>	Beckoning my tears to flow
<i>Ke ala huli hele ma ka nahele ē</i>	On the forest path of my quest
<i>5. I hele ho‘i au e huli i ke aloha nō ho‘i āu ē</i>	5. That I travel to seek your beloved
<i>Lele kawa ke ao aka ‘āina, ua kau ma mua</i>	The landscape plummets, laid down before me
<i>E waha ana ka ‘ilio i ke kula o Pūhāmalo‘o</i>	The dog carries me on the back to the plains of Pūhāmalo‘o
<i>Ke ho‘ohaehae a‘ela i ka Nāulu</i>	Raging against the Nāulu rains
<i>Ua mokuha kahawai, ua nihoa ka pali</i>	The streambanks are breached, the cliffs worn jagged
<i>10. Ua hakakā ke Kaiāulu me ke kanaka</i>	10. The Kaiāulu wind an opponent

<i>Ua ku 'iku i wale 'ia, ua hā'ena nā ihu</i>	Pounded upon, faces ablaze
<i>Ua kā ka 'ūpē i ke kula loa o Lualualei</i>	Mucus wiped away on the long plain of Lualualei
<i>Ku'u lei aloha no 'ohua ē.</i>	This is my lei of regard for you two.

[Ho'oulumāhiehie 2008a:280, Ho'oulumāhiehie 2008b:261]

In Chants 172 and 207, the Kaiāulu wind is described as having the “scent of fragrant flowers”:

<i>KAU HO'OKAHI HANERI A ME</i>	CHANT ONE HUNDRED AND
<i>KANAHIKUKUMAMĀLUA</i>	SEVENTY-TWO
<i>OKA MO'OLELO O HI'IAKA</i>	
<i>'O 'oe ia, e Waialua Iki*</i>	It is you, Waialua Iki*
<i>E ka lāuli, pali o Uli</i>	o shaded darkness, cliffs of Uli
<i>Ua hele wale 'ia e Li'awahine</i>	Easily traversed by Li'awahine
<i>E ka wahine kūhea pali</i>	By the woman who beckons from the cliffs
<i>5. Kui pua lei o Hoakalei ē</i>	5. String garlands of flowers from Hoakalei
<i>E lei au</i>	I am adorned
<i>E lei ho'i au i nā hala pala'iloli</i>	I wear the lei of speckled, ripe hala
<i>o Hanakahi</i>	of Hanakahi
<i>Ua maka 'ele'ele wale i ke anu</i>	With tips gone dark from the cold
<i>Ua 'āha'i 'ia eke kīna'u i 'a</i>	Carried along by the kīna'u eel
<i>o Mahamoku i Wai'oli</i>	of Mahamoku at Wai'oli
<i>10. 'O ku'u makani Lawalawakua</i>	10. My gusting wind, the Lawalawakua
<i>Kūpani kapa o Waialua Iki</i>	Kapa-buffeting wind of Waialua Iki
<i>Honi pua 'ala Kaiāulu</i>	The Kaiāulu wind bears the scent of fragrant flowers
<i>'Ae, ke lei nei au i nā lehua maka noe</i>	Yes, I wear the lei of tiny, misty-eyed lehua
<i>I nā lehua lihi wai o Hoakalei</i>	The lehua from the water's edge of Hoakalei
<i>15. Ku'u lehua i Hilo One</i>	15. My precious lehua of Hilo One
<i>I nā kaha o Ko'olina me Kaupe'a</i>	From the strands of Ko'olina and Kaupe'a

<i>E lei au ē.</i>	I shall be adorned with lei.
[Ho‘oulumāhie 2008a:292, Ho‘oulumāhie 2008b:273]	
<i>KAU ‘ELUA HANERI A ME ‘EHIKU</i>	CHANT TWO HUNDRED AND
<i>O KA MO‘OLELO O HI‘IAKA</i>	SEVEN
<i>‘O ‘oe ia, e Wailua Iki</i>	It is you, Wailua Iki
<i>E ka lāuli, pali o Uli</i>	o shaded darkness, cliff of Uli
<i>Ua hele ‘ia e Li‘awahine</i>	Traversed by Li‘awahine
<i>E ka wahine kūhea pali</i>	By the woman who beckons from the cliffs
<i>5. Kui pua lei o Hoakalei ē</i>	5. String garlands of flowers from Hoakalei
<i>E lei au</i>	I am adorned
<i>E lei ho ‘i au i nā hala pala ‘īoli</i>	I wear the lei of speckled, ripe hala
<i>o Hanakahi</i>	of Hanakahi
<i>Ua maka ‘ele‘ele wale i ke anu</i>	With tips gone dark from the cold
<i>Ua ‘āha ‘i ‘ia eke kīna‘u i‘a</i>	Carried along by the kīna‘u eel
<i>o Mahamoku</i>	of Mahamoku
<i>10. I Wai‘oli</i>	10. At Wai‘oli
<i>‘O ku‘u makani Lawalawakua</i>	My gusting wind, the Lawalawakua
<i>Kūpani kapa o Wailua Iki</i>	Kapa-buffeting wind of Wailua Iki
<i>Honi pua ‘ala Kaiāulu</i>	The Kaiāulu wind bears the scent of fragrant flowers
<i>Kāhea ka luna o Kamae</i>	The heights of Kamae call out
<i>15. Ē, he malihini mai ka ‘u</i>	15. Ah, I have a guest
<i>Mai lalo mai ē, no Kona</i>	From the lee side, ah, from Kona
<i>Hō mai he leo ē</i>	Offer up a voice of welcome, ah
<i>E uē kāua.</i>	Let us share our tears.
[Ho‘oulumāhie 2008a:321; Ho‘oulumāhie 2008b:298]	

1.3.4 *Ka Ua* (Rains)

Precipitation is a major component of the water cycle and is responsible for depositing *wai* (fresh water) on local flora. Pre-Contact *kānaka* (Native Hawaiians) recognized two distinct annual seasons. The first, known as *kau* (period of time, especially summer) lasts typically from May to October and is a season marked by a high-sun period corresponding to warmer temperatures and steady trade winds. The second season, *ho‘oilo* (winter, rainy season) continues through the end

of the year from November to April and is a much cooler period when trade winds are less frequent, and widespread storms and rainfall become more common (Giambelluca et al. 1986:17). Being on the leeward side of O'ahu, Lualualei is typically very hot and dry.

Due to the dry conditions of this area, it is not surprising that few rain names exist for either Lualualei or Wai'anae. Two rains were found to be associated with the leeward area, the Nāulu and Kuahine (Tuahine) rains. On occasion, the Nāulu rain may also be identified as Puakaiāulu (Akana and Gonzalez 2015:245). The Nāulu rain has also been known to appear alongside the Kaiāulu wind, as described within *The Epic Tale of Hi'ikaikapoliopole* (see Section 1.3.3). This *oli* recalls the plain of Puhamalo'o, whereby "the Nāulu rains stir their fury" (Ho'oulumāhie 2008a:279; 2008b:261). The plains of Wai'anae, upon which the Nāulu rain falls, are once more invoked within a *mele inoa hula* (name chant dance):

Rain of Wai'anae, O'ahu

42. Kāhiko i ka pua ko'olau

He 'ohu kapu no ka wahine

I kui 'ia mai e Li'a

Ka wahine noho i ka Ulumano

No Kaiona noho i ka la'i

O ka ua Nāulu i ke kula

Bedecked with the ko'olau bloom

A sacred adornment for the woman

Strung into a lei by Li'a

The woman who resides in the Ulumano wind

For Kaiona who dwells in the calm

Of the Nāulu rain over the plains

From a *mele inoa hula*, or name-chant dance, for Kaiona. . .

[English translation provided by Akana and Gonzalez; Handy and Pukui 1972:137
in Akana and Gonzalez 2015:198]

Another Wai'anae rain name is the Kuahine, also known as Tuahine. It is the rain associated with Mānoa, O'ahu, and found on other parts of O'ahu such as Wai'anae.

Rain of Ka'au, Wai'anae Uka, O'ahu

i. Eia au, e ka ua Kuahine

Here I am, O Kuahine rain

E ua nei i ka nahele o Ka'au

Raining upon the forest of Ka'au

[From a *mele* [song] for Hakaleleponi. Hawaiian source: Fornander in Akana and Gonzalez 2015:198 with the English translation by Akana and Gonzalez]

1.3.5 *Nā Kahawai* (Streams)

There are six major streams in Wai'anae district: Nānākuli, Ulehawa, Mā'ili'ili, Kaupuni, Mākaha, and Mākua streams (Townscape 2009:ES-4). Mā'ili'ili Stream and Ulehawa Stream are located in Lualualei Ahupua'a. Mā'ili'ili Stream has no tributaries and a drainage of 966.4 acres. Mā'ili'ili Stream is a perennial stream that empties into the Pacific Ocean at Mā'ili'ili Beach Park (Clark 1977:86). Ulehawa Stream also has no tributaries. Ulehawa Stream is a perennial stream with a continuous flow in the upper reaches and an intermittent flow in the lower reaches. Ulehawa Stream has no tributaries (Hawaii Cooperative Park Service 1990). Ulehawa Stream empties into the Pacific Ocean after passing through Ulehawa Beach Park (Clark 1977:85).

1.3.6 *Nā Pūnāwai ame Luawai* (Springs and Wells)

Seeps and springs also occur in most of the upper valleys, “emerging from the base of the ridges from dikes and from soil layers between old lava flows.” Wai'anae Valley has “30 such springs in the 1,000–2,000 ft elevation” (Cordy 2002:8, 9).

According to Stearns and Vaksvik (1935), there were eight springs in Lualualei Valley. The largest one is in the “northwest corner of the valley at an altitude of 1,630 ft. and is used by the United States Navy” (Stearns and Vaksvik 1935:438). The southernmost *pūnāwai* (spring), Pōhākea, is at a lower altitude than the other seven. The most productive spring, however, was Pūhāwai. LCA records for Lualualei show claims for *lo'i* (taro terrace), several *kuleana* (small piece of property, as within an *ahupua'a*) boundaries also included the term *kahawai* (stream). Undoubtedly, the *kahawai* referred to in these claims was fed by Pūhāwai Spring (Kelly 1991:38).

Besides natural springs, there were approximately 60 wells in Lualualei but the majority are now unused, a few have been lost, and some are used for irrigation (Townscape 2009: D3-D14).

1.3.7 *Ka Lihikai ame ka Moana* (Seashore and Ocean)

The *makai* (seaward) region provided a variety of fish and ocean invertebrates for consumption. Traditionally, the seashore and ocean areas were vitally important for resource extraction in the early days of settlement. Fishermen along the coast maintained a respected status within traditional Hawaiian society. Kanahele (1995:17) asserts that “early Hawaiians regarded fishing as the oldest, and hence the most prestigious of professions.”

The Wai'anae district was known for its offshore fishing, especially beyond Ka'ena Point. In 1840, Charles Wilkes, Commander of the Exploring Expedition, stated that “[t]he natives are much occupied in catching and drying fish, which is made a profitable business, by taking them to Oahu, where they command a ready sale” (Wilkes 1845:81-82). Handy and Handy (1972:468) attribute the naming of Wai'anae to the mullet raised in a large freshwater pond in the vicinity, identified by Pukui et al. (1974:192) as Puehu. The chief Kewalo distinguished himself as a fisherman in Wai'anae; and, the legendary hero Māui—also a great fisherman—is associated with the area (Handy and Handy 1972:467). Today, Wai'anae is still considered one of the best fishing grounds on O'ahu.

Approximately 29 km (18 miles) of Wai'anae's 32-km (20-mile) coastline consist of beaches including, from south to north: Nānākuli Beach Park, Ulehawa Beach Park, Mā'ili Beach Park, Lualualei Beach Park, Pōka'i Bay Beach Park, Wai'anae Kai Military Reservation Beach (U.S. Army), Wai'anae Boat Harbor, Mauna Lahilahi Beach Park, Mākaha Beach Park, Kea'au Beach

Park, Mākua Beach Park, and Ka'ena Natural Area Reserve. The remaining 3 km (2 miles) of coastline consists of rocky ledges and residential coastal development (CCH DPP 2012:3-12, 3-13).

1.3.7.1 Ulehawa Beach Park

Ulehawa Beach Park spans from Ulehawa Stream on the south to Ma'ipalaoa Stream on the north (Clark 1977:84). Pukui et al. (1974:214–215) translate Ulehawa as “filthy penis.” Ulehawa was said to be the birthplace of the demigod Māui and to have been named for a chief (Pukui et al. 1974:215; Sterling and Summers 1978:64). The beach park takes its name from Ulehawa Stream, which empties into the ocean. The beach is considerably long; however, one area frequented most often is centered around a comfort station known as Aupaka. This sandy pocket of beach is between a limestone point on the east and a reef shelf on the west (Clark 1977:85). During the summer months, the area is relatively calm; however, during the winter, the beach disappears. The freshwater from Ulehawa Stream has created a relatively smooth shelf compared to the surfaces of the remainder of the area. The Pu'u o Hulu Kai section of Ulehawa is rocky, and no recreational swimming is possible. The area is ideal for fishing, and many pole fishermen can be found in this area. A concrete marker on the point warns fishermen of the dangerous, rocky conditions. In 1935, these markers were constructed by the Honolulu Japanese Casting Club (Clark 1977:85). The original markers were printed in Japanese, with the word “danger” on both sides, and placed at spots where fishermen were lost at sea. Pu'u o Hulu was known to Japanese fishermen as *obake*, or ghosts, from a feeling that the area was haunted.

1.3.7.2 Mā'ili Beach Park

Mā'ili Beach Park is a long stretch of shoreline extending from Ma'ipalaoa Stream to Mā'ili'ili Stream. Mā'ili is a contracted form of the word *mā'ili'ili* (“lots of little pebbles”). *Ili'ili* (pebbles) were used for many purposes including as net sinkers, percussion instruments for dances and chanting, as a filler for the construction of house and religious sites, and used by children for the game of *kimo* (similar to jacks) (Clark 1977:85). Many residents argue about the name, because no *'ili'ili* were ever found in this area. The most popular swimming area is in front of the wide sand beach next to the mouth of Mā'ili'ili Stream. Surfers once frequented the area for a choice surf spot; however, the construction of a jetty in 1966 to improve the stream channel has affected the break (Clark 1977:86).

1.3.7.3 Lualualei Beach Park

Lualualei Beach Park extends from Kalaeokakao to Kāne'ilio Point. The park is primarily used by picnickers and fishermen. Recreational swimming is almost impossible, due to the entire park being fronted by low cliffs and raised coral reefs. The widest and most popular section of Lualualei Beach Park was traditionally known as Kalaeokakao, or “the point of the goats” (Clark 1977:86–87). During the 1800s, numerous wild goats roamed the area. Goats were originally introduced by Captain Cook in 1778, with additional animals brought to Hawai'i by Captain Vancouver in 1792. Originally, the animals were protected by the *kapu* (taboo, prohibited). They multiplied so rapidly they began to run rampant, destroying cultivated lands, native plants, watersheds, and forest areas (Clark 1977:87). Hence, it became necessary to kill off the introduced animals, resulting in large, organized hunts.

1.3.8 Built Environment

The project area is largely undeveloped, except for a couple of graded parking lots/driveways in the southern (i.e., rectangular) portion of the project area. The project area is bound by the existing WCCHC on the west, by Mā'ili'ili Road on the south, by several houses with associated parking areas/driveways on the east, and by undeveloped land on the north. Two of the houses along the eastern boundary appear to be partially within the project area, as they appear to “straddle” the boundary between TMKs: [1] 8-6-001:028 (within the project area) and 8-6-001:002 (outside the project area). Vegetation observed within the project area includes *kiawe* (*Prosopis pallida*) and exotic grasses.

Section 2 Methods

2.1 Archival Research

Research centers on Hawaiian beliefs and activities including *ka'ao* (legends), *wahi pana* (storied places), *'ōlelo no 'eau* (proverbs), *oli* (chants), *mele* (songs), traditional *mo'olelo* (stories), traditional subsistence and gathering methods, ritual and ceremonial practices, and more. Background research also focuses on land transformations, development, and population changes beginning with the early post-Contact era to the present day.

Cultural documents, primary and secondary cultural and historical sources, historic maps, and photographs were reviewed for information pertaining to the study area. Research was primarily conducted at the CSH library. Other archives and libraries including the Hawai'i State Archives, the Bishop Museum Archives, the University of Hawai'i at Mānoa's Hamilton Library, Ulukau, The Hawaiian Electronic Library (Ulukau 2014), the State Historic Preservation Division (SHPD) Library, the State of Hawai'i Land Survey Division, the Hawaiian Historical Society, and the Hawaiian Mission Houses Historic Site and Archives are also repositories where CSH cultural researchers gather information. Information on Land Commission Awards (LCAs) were accessed via Waihona 'Aina Corporation's Māhele database (Waihona 'Aina 2020), the Office of Hawaiian Affairs (OHA) Papakilo Database (Office of Hawaiian Affairs 2015), and the Ava Konohiki Ancestral Visions of 'Āina website (Ava Konohiki 2015).

2.2 Community Consultation

2.2.1 Scoping for Participants

CSH begins its consultation efforts by utilizing a previous contact list to facilitate the interview process. CSH then reviews an in-house database of *kūpuna*, *kama'āina*, cultural practitioners, lineal and cultural descendants, Native Hawaiian Organizations (NHOs; includes Hawaiian Civic Clubs and those listed on the Department of Interior's NHO list), and community groups. CSH also contacts agencies such as SHPD, OHA, and the appropriate Island Burial Council where the proposed project is located for their response to the project and to identify lineal and cultural descendants, individuals and/or NHO with cultural expertise and/or knowledge of the study area. CSH is also open to referrals and new contacts.

2.2.2 "Talk Story" Sessions

Prior to the interview, CSH cultural researchers explain the role of a CIA, how the consent process works, the project purpose, the intent of the study, and how their *'ike* (knowledge) and *mana'o* (opinion) will be used in the report. The interviewee is given an Authorization and Release Form to read and sign.

"Talk Story" sessions range from the formal (e.g., sit down and *kūkākūkā* [consultation, discussion] in participants choice of place over set interview questions) to the informal (e.g., hiking to cultural sites near the study area and asking questions based on findings during the field outing). In some cases, interviews are recorded and transcribed later.

CSH also conducts group interviews, which range in size. Group interviews usually begin with set, formal questions. As the group interview progresses, questions are based on the interviewee's

answers. Group interviews are always transcribed and notes are taken. Recorded interviews assist the cultural researcher in 1) conveying accurate information for interview summaries, 2) reducing misinterpretation, and 3) missing details to *mo'olelo*.

CSH seeks *kōkua* (assistance) and guidance on identifying past and current traditional cultural practices of the study area. Those aspects include general history of the *ahupua'a*; past and present land use of the study area; knowledge of cultural sites (for example, *wahi pana*, archaeological sites, and burials); knowledge of traditional gathering practices (past and present) within the study area; cultural associations (*ka'ao* and *mo'olelo*); referrals; and any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the study area.

2.2.3 Completion of Interview

After an interview, CSH cultural researchers transcribe and create an interview summary based on information provided by the interviewee. Cultural researchers give a copy of the transcription and interview summary to the interviewee for review and ask to make any necessary edits. Once the interviewee has made those edits, we incorporate their *'ike* and *mana'o* into the report. When the draft report is submitted to the client, cultural researchers then prepare a finalized packet of the participant's transcription (if applicable), interview summary, and any photos that were taken during the interview. We also include a thank you card and honoraria. This is for the interviewee's records.

It is important to CSH cultural researchers to cultivate and maintain community relationships. The CIA report may be completed, but CSH researchers continuously keep in touch with the community and interviewees throughout the year—such as checking in to say hello via email or by phone, volunteering with past interviewees on community service projects, and sending holiday cards to them and their *'ohana* (family). CSH researchers feel this is an important component to building relationships and being part of an *'ohana* and community.

"I ulu no ka lālā i ke kumu—the branches grow because of the trunk," an *'ōlelo no'eau* (#1261) shared by Mary Kawena Pukui with the simple explanation: "Without our ancestors we would not be here" (Pukui 1983:137). As cultural researchers, we often lose our *kūpuna* but we do not lose their wisdom and words. We routinely check obituaries and gather information from other informants if we have lost our *kūpuna*. CSH makes it a point to reach out to the *'ohana* of our fallen *kūpuna* and pay our respects including sending all past transcriptions, interview summaries, and photos for families to have on file for genealogical and historical reference.

Section 3 *Ka'ao and Mo'olelo*

Hawaiian storytellers of old were greatly honored; they were a major source of entertainment and their stories contained lessons while interweaving elements of Hawaiian lifestyles, genealogy, history, relationships, arts, and the natural environment (Pukui and Green 1995:IX). According to Pukui and Green (1995), storytelling is better heard than read for much becomes lost in the transfer from the spoken to the written word and *ka'ao* are often full of *kaona* or double meanings.

Ka'ao are defined by Pukui and Elbert (1986:108) as a “legend, tale [...], romance, [and/or], fiction.” *Ka'ao* may be thought of as oral literature or legends, often fictional or mythic in origin, and have been “consciously composed to tickle the fancy rather than to inform the mind as to supposed events” (Beckwith 1970:1). Conversely, Pukui and Elbert (1986:254) define *mo'olelo* as a “story, tale, myth, history, [and/or] tradition.” The *mo'olelo* are generally traditional stories about the gods, historic figures or stories which cover historic events and locate the events with known places. *Mo'olelo* are often intimately connected to a tangible place or space (*wahi pana*).

In differentiating *ka'ao* and *mo'olelo* it may be useful to think of *ka'ao* as expressly delving into the *wao akua* (realm of the gods), discussing the exploits of *akua* (gods) in a primordial time. *Mo'olelo* on the other hand, reference a host of characters from *ali'i* (royalty) to *akua*; *kupua* (supernatural beings) to *maka'āinana* (commoners); and discuss their varied and complex interactions within the *wao kānaka* (realm of man). Beckwith elaborates, “In reality, the distinction between *ka'ao* as fiction and *mo'olelo* as fact cannot be pressed too closely. It is rather in the intention than in the fact” (Beckwith 1970:1). Thus a so-called *mo'olelo*, which may be enlivened by fantastic adventures of *kupua*, “nevertheless corresponds with the Hawaiian view of the relation between nature and man” (Beckwith 1970:1).

Both *ka'ao* and *mo'olelo* provide important insight into a specific geographical area, adding to a rich fabric of traditional knowledge. The preservation and passing on of these stories through oration remains a highly valued tradition. Additionally, oral traditions associated with the study area communicate the intrinsic value and meaning of a place, specifically its meaning to both *kama'āina* (native-born) as well as others who also value that place.

The following background sections of this study present a broad review of traditional and historical accounts concerning the general area in order to ascertain the specific history of the land within the study area boundaries. Many relate an age of mythical characters whose epic adventures led to and influenced Hawaiian *ali'i* and *maka'āinana*. The *ka'ao* shared below are some of the oldest Hawaiian stories that have survived; they speak to the characteristics and environment of the area and its people.

3.1 *Nā Ka'ao*

3.1.1 The Naming of Lualualei

There are two suggested meanings or explanations for the naming of Lualualei. One meaning, “flexible wreath,” is attributed to a battle formation used by Mā'ilikūhahi against four invading armies in the battle of Kīpapa in the early fifteenth century (Sterling and Summers 1978:68). A second, and perhaps more recent, meaning offered by John Papa 'Ī'i is “beloved one spared.” This

meaning relates to a story of a man who was suspected of wearing the king's *malo*. The punishment for the man and all associated wrongdoers was death by fire. 'Ī'Ī writes the following:

The company, somewhat in the nature of prisoners, spent a night at Lualualei near the fish pond on the plain. The next day they reached the southern side of Kanepuniu, and there they encamped for eight days to await an announcement concerning the death and burning of the wrongdoers. Finally, a proclamation from the king was given by Kaulainamoku, stating that there would be no deaths, for Kalakua had not worn the king's *malo*. Thus was the Luluka family spared a cruel fate. A child born in the family later was named Lualualei. ['Ī'Ī 1959:23]

Mary Kawena Pukui believed the first meaning, "flexible wreath," to be the more appropriate one for Lualualei (Sterling and Summers 1978:63). According to Kelly (1991:317), the fishpond on the plain is Puehu Fishpond, which is just over the border in Wai'anae. The fishpond no longer exists and was probably destroyed during the sugar plantation era. A third association of the name Lualualei is an older reference to one of Māui's sisters, who went by the same name (McGuire and Hammatt 1999:82–83).

3.1.2 Māuiakalana

Numerous traditional accounts of Lualualei focus on mythology of the demi-god Māui. Before the Māui legends of O'ahu can be brought to light, one must go back to the origin of the demi-god Māui to fully understand his important role in history, not only for Hawai'i, but all of Polynesia. The legends of Māui span the islands of Moananuiākea (the greater Pacific) (Luomala 1949:3). However, Māui is best known throughout Polynesia for his mischievous tricks and supernatural powers. W.D. Westervelt (1910:vii) writes, "The Māui legends form one of the strongest links in the mythological chain of evidence which binds the scattered inhabitants of the Pacific into one nation." While in Tahiti in 1769, Captain Cook was the first European to record anything in writing about Māui (Luomala 1949:13). Throughout Polynesia, there are many similarities, with only slight variations of a theme when discussing Māui's adventures. Westervelt explains the origin of the meaning of the word Māui:

The meaning of the word is by no means clear. It may mean 'to live,' 'to subsist.' It may refer to beauty and strength, or it may have the idea of 'the left hand' or 'turning aside.' The word is recognized as belonging to remote Polynesian antiquity.

MacDonald, a writer of the New Hebrides Islands, gives the derivation of the name Maui primarily from the Arabic word 'Mohyi,' which means 'causing to live' or 'life,' applied sometimes to the gods and sometimes to chiefs as 'preservers and sustainers' of their followers.

The Maui story probably contains a larger number of unique and ancient myths than that of any other legendary character in the mythology of any nation. [Westervelt 1910:vi]

Numerous Hawaiian legends, in addition to archaeological evidence, reveal the Wai'anae coast and *mauka* interior to be an important center of Hawaiian history. It is in Wai'anae that the famous exploits of Māuiakalana (Māui) are said to have originated, and traditional accounts of Lualualei focus on the mischievous adventures of the demi-god Māui. It was here that he learned the secret

of making fire for mankind and perfected his fishing skills. Other famous accounts tell of the place where Māui's adzes were made, of Mānaiakalani the magic fishhook, of the snare for catching the sun, and his kite-flying expedition. It was at Pu'u Heleakalā, the ridge separating Nānākuli from Lualualei, where Hina, Māui's mother, lived in a cave and made her *tapa* (*kapa*, bark cloth) (Sterling and Summers 1978:62).

3.1.2.1 Māui Genealogy

Hawaiian *mo'olelo* contain numerous traditional accounts of the demi-god Māui. Like many ancient accounts of deities, each of the Hawaiian Islands held their own versions of similar stories, and the tales of Māui are no different. The Hawaiian concept of genealogy and kinship is a crucial structure for piecing together the similarities in Hawaiian stories. Kamakau's 1991 text, *Tales and Traditions of the People of Old*, outlines the 'Ulu genealogy as it leads down to Māui-akalana, the legendary Hawaiian trickster whose exploits are recorded in one of the oldest genealogical chants, the Kumulipo (name of Hawaiian creation chant). In the fifteenth epoch of the Kumulipo, Māui, the youngest of four sons, was born to Akalana and Hinaakeahi. In the sequence of Hawaiian genealogies, Māui is associated with the line of 'Ulu and the sons of Ki'i (Westervelt 1910:4). Kamakau articulates the same kinship chart, following seven generations of fathers that stretch back to Nana'ie and his marriage to Kahaumokule'ia, leading down to the marriage of Hina-kawea to the chief Akalana and their four offspring, all with the name Māui: Māui-mua, Māui-waena, Māui-ki'iki'i, and Māui-akalana (Kamakau 1991:135). This is an important concept to understand, as each of the four main Hawaiian Islands may have had their very own Māui. Each would have been a descendant of Hina, and each would have *wahi pana* associated with them.

Samuel Kamakau relates that Māui's genealogy can be traced from the 'Ulu line through Nana'ie as follows:

Nana'ie lived with Kahaumokule'ia at Wai'alua, and Nanaialani, a male was born;

Nanaialani lived with Hina-kinau, and Waikūlani, a male, was born;

Waikūlani lived with Kekaulani, and Kūheleimoana, a male, was born;

Kūheleimoana lived with Mapunaia'a'ala, and Konohiki, a male was born;

Konohiki lived with Hīka'ululena, and Wawana, a male, was born;

Wawana lived with Hina-mahuia, and Akalana, a male, was born;

Akalana lived with Hina-kawea, and Māui-mua, Māui-waena, Māui-ki'iki'i, and Māui-akalana, all males, were born.

Ulehawa and Ka'ōlae, on the south side of Wai'anae, Oahu, was their birthplace. There may be seen the things left by Māui-akalana and other famous things: the tapa-beating cave of Hina, the fishhook called Mānai-a-kalani, the snare for catching the sun, and the places where Māui's adzes were made and where he did his deeds. However, Māui-akalana went to Kahiki after the birth of his children in Hawai'i. The last of his children with Hina-a-kealoha was Hina-a-ke-kā. His children became ancestors for the oceanic islands as far as the islands called New Zealand by the haole. In the islands of the ocean, Māui performed his famous deeds, which will never be forgotten by this race. [Kamakau 1991:135]

3.1.2.2 Māui Learns the Secret of Fire

Per Pukui et al. (1974:215), Ulehawa was the birthplace and origin of the Māui legends. It was in Lualualei that Māui learned the secret of making fire for mankind:

Maui's first feat is getting fire from the mud hens while they are roasting bananas. Hina teaches him to catch the littlest one. He finds them at Waianae on Oahu. Each time he approaches they scratch out the fire. When he finally succeeds in seizing the littlest mud hen she tries to put him off by naming first the taro stalk, then the ti leaf as the secret of fire. That is why these leaves have hallows today, because Maui rubbed them to try to get fire. At last the mud hen tells him that fire is in the water (wai), meaning the tree called 'sacred water' (wai-mea), and shows how to obtain it. So, Maui gets fire, but he first rubs a red streak on the mud hen's head out of revenge for her trickery before letting the bird escape. [Beckwith 1970:229–230]

The following 'ōlelo no 'eau describes the famed mud hen who taught the demi-god Māui the secret of fire:

He ke 'u na ka 'alae a Hina

A croaking by Hina's mudhen.

A warning of trouble. The cry of a mudhen at night is a warning of distress.

[Pukui 1983:77]

The following 'ōlelo no 'eau describes the cause and effect from the demi-god Māui looking for the secret of fire; the secret of fire was only known to the mudhen who guarded the knowledge from Māui:

Ua mo 'a ka mai 'a, he keiki māmā ka Hina.

The bananas are cooked, [and remember that] Hina has a swift son.

Let's finish this before we are caught. This saying comes from the legend of Māui and the mudhens, for a long time he tried to catch them in order to learn the secret of making fire. One day he overheard one of them saying these words. He caught them before they could hide and forced them to yield the secret of fire. [Pukui 1983:310]

3.1.2.3 Māui Catching the Sun

According to *mo 'olelo*, Māui slowed the speed of the sun so that his mother, Hina, could finish pounding *tapa* before it set:

He went to the hill Hele-a-ka-la, which means 'journey of the sun.' He thought he would catch the sun and make it move slowly. He went up the hill and waited. When the sun began to rise, Maui made himself long, stretching up toward the sky. Soon the shining legs of the sun came up the hillside. He saw Maui and began to run swiftly, but Maui reached out and caught one of the legs, saying: 'O sun, I will kill you. You are a mischief maker. You make trouble for Hina by going so fast.' Then he broke the shining leg of the sun. The sufferer said, 'I will change my way and go slowly—six months slow and six months faster.' Thus arose the saying,

'Long shall be the daily journey of the sun and he shall give light for all the people's toil.' Hina learned that she could pound until she was tired while the farmers could plant and take care of their fields. Thus also this hill received its name Hele-a-ka-la. This is one of the hills of Waianae near the precipice of the hill Puu-ohulu. [Westervelt 1910:122–123]

3.1.2.4 Māui's Flying Expedition

Māui transformed into a bird and flew to Moanalaha to rescue his wife who had been taken by Pea-pea-maka-walu:

One day Maui and his brothers went fishing again in the sea of Ulehawa. They each let down their hooks but caught only sharks. Maui then let down his famous hook, ma-nai-a-ka-lani and caught a moi and ulua. Maui then gave the order to paddle to shore where he took the fishing tackle gourd and hokeo (his paddle) to his mother Hina. The fish he took to the heiau Luaehu because he had to eat it there.

He began to eat the fish from the head and had reached almost to the tail when he looked towards Pohakea and saw the chief Pea-pea-maka-walu (eight eyed Pea-pea) carrying off his wife Kumu-lama. He left the tail of the fish and pursued Pea-pea. Unable to overtake Pea-pea who had disappeared into the sky beyond the sea he returned mourning to the heiau, where he had left the fish tail, but it had disappeared.

Weeping he returned to his mother Hina who told him to rest first and then to go to the land of Ke-ahu-moa where he would find Ku-olo-kele his grandfather who would further instruct him as to how to recover his wife.

Maui went as directed, not finding his grandfather in the hut he looked in the potato field on the other side of Pohakea but saw no one. Then from a hill he saw coming toward Waipahu a man 'with a load of potato leaves, one pack of which. it is said would cover the whole land of Keahumoa'. When this man, Kuolokele, reached the stream he layed down his bundle and Maui seeing he was hunch backed, picked up a stone and threw it at him. The stone hit the old man on the back and immediately his back was straightened. He then picked up the stone and threw it on Waipahu where it is to this day.

Kuolokele picked up his bundle and went to meet Maui. When they arrived at the hut he asked Maui his errand and on being told he directed Maui to go and catch birds for feathers and gather ki leaves and ie ie vine and fill the house which was near by.

After doing this Kuolokele then told Maui to go home but to return in three days. While Maui was gone Kuolokele fashioned a bird out of the materials gathered by Maui. When Maui returned his grandfather bid him enter this 'moku-manu' (bird ship) and gave him the following instructions. Maui must go to the land of Moanalaha which was Pea-pea's land. There he would find a village and the inhabitants would be down on the beach. Among them would be Pea-pea and Maui's wife.

Maui was to attract their attention and then fly way out over the ocean. As he returned towards the group Pea-pea will say, 'Perhaps that is my bird and if so he will fly to and rest on the sacred box.'

Maui listened to his instructions and then flew for two days and two nights until he reached the land of Moanalaha. He did as he was told and when Pea-pea exclaimed about the bird Maui flew to the sacred box and rested there. The chief then returned to the village and commanded the bird to be brought to his sleeping house and fed. This was done and then all retired. But Maui had to wait for Pea-pea's eyes to close one by one. Since it was almost dawn he called on Hina to hold back the night for a little while. This done Pea-pea's 8 eyes were finally all closed in sleep. Maui was then able to kill Pea-pea. He cut off Pea-pea's head and taking this and his wife flew back to his grandfather where they all feasted and rejoiced. [Sterling and Summers 1978:65]

3.1.2.5 Māui and Manai-a-ka-lani

At the sea of Ulehawa, Māui attempted to join the Hawaiian Islands using his magical fishhook, Manai-a-ka-lani:

Maui-ku-pua lived with his mother Hina. He often wondered why the islands were separated and decided to try and join them. He consulted his mother who sent him to Kaa-lae-nui-a-hina (k). Kaa-lae told him the power to do so belonged to Unihokahi- who is found at Po-naha-ke-one (a fishing station at Ule-hawa).

Maui returned home and next day told his mother he was going fishing. Maui asked his brothers to go with him and they made ready their fishing gear. Maui got ready his famous hook ma-nai-a-ka-lani. Maui told his brothers to watch for a kalii (bailer) floating at the bow of the canoe and to catch it. They sailed to the middle of the sea of Ulehawa and Maui took bearings from Hina's place of drying her kapas. There they saw the kalii and Maui told his brother Maui-mua to catch it. His brother thinking there was no need for one as the canoe already had one did not do so, so Maui caught it as it floated by him.

The name of this bailer was Hina-a-ke-ka. When the brothers turned around they saw a beautiful woman in the back of the canoe. They all sailed on to Ponahakeone and anchored but when the brothers looked around again the woman was gone. Maui knew the bailer (the woman) had dropped into the sea. He called to his brothers to drop a hook to the bottom of the ocean but each time they caught only a fish. Maui then dropped manaiakalani and told his brothers to prepare to paddle. The hook was grasped by Hina-a-ke-ka who took it to Unihokahi. She asked him to open his mouth so she could see if he had one tooth or many. When he did so, she hooked in manaiakalani and jerked the line so Maui would know.

Maui then commanded his brothers to paddle hard but not to look back. Finally becoming exhausted and thinking that it was not a fish they had hooked, they gave up and looked back. They saw the chain of islands following and were surprised. Maui was angry because they didn't reach shore and the islands were never joined.

The hook was loosened from Unihokahi's mouth and the islands separated and drifted back to their original positions. [Sterling and Summers 1978:65]

3.1.3 *Huaka'i Pō* or *'Oi'o*, *Pō Kāne* (Procession of the Night Marchers)

Typically, the belief is that following the lunar calendar, on certain nights (the nights of the gods—Kū, Lono, Kāne, and Kānaloa), a procession of ghosts known as “night marchers,” *huaka'i pō* or *pō kāne*, can be seen and heard as they travel to familiar places they once frequented while on Earth. According to Hawaiian tradition, the night marchers are the souls of those who have passed on. An *ōlelo no 'eāu* makes reference to this tradition: “*He pō Kāne kēia, he mā'au nei nā 'e'epa o ka pō*” (This is the night of Kāne, for supernatural beings are wandering about in the night) (Pukui 1983:98, #908).

Family ties in the afterworld remain unbroken, and all Hawaiians believe in the power of spirits to return to the scenes they know on earth in the form in which they appeared while they were alive. Especially is this true of the processions of gods and spirits who come on certain sacred nights to visit the sacred places, or to welcome a dying relative and conduct him to the aumakua world. ‘Marchers of the night’ (*Huaka'ipo*) or ‘Spirit ranks’ (*Oi'o*) they are called. Many Hawaiians and even some persons of foreign blood have seen this spirit march or heard the ‘chanting voices, the high notes of the flute, and drumming so loud as to seem beaten upon the side of the house.’ Always, if seen, the marchers are dressed according to ancient usage in the costume of chiefs or of gods. If the procession is one of gods, the marchers move five abreast, with five torches burning red between the ranks, and without music save that of the voice raised in chant. Processions of chiefs are accompanied by aumakua and march in silence, or to the accompaniment of drum, nose-flute, and chanting. They are seen on the sacred nights of Ku, Lono, Kane, or Kanaloa, or they may be seen by day if it is a procession to welcome the soul of a dying relative. To meet such a procession is very dangerous. ‘O-ia’ (Let him be pierced) is the cry of the leader and if no relative among the dead or none of his aumakua is present to protect him, a ghostly spearsman will strike him dead. The wise thing to do is to ‘remove all clothing and turn face up and feign sleep.’ [Beckwith 1970:164]

Katharine Luomala (1983:20) described encounters of paranormal activity in the Wai'anae vicinity. She noted that an *'ohana* of Wai'anae saw a “phantom army” traversing the *ahupua'a*. A family member of the Wai'anae *'ohana* was who had been recently killed in France was seen marching with the procession. The mother of the son witnessed the “phantom army” again two days prior to her death. Luomala also noted that, “[a]t Pūhā-wai, Lualualei, drums and conches sound at a sacred spring near a heiau site.”

In McAllister's description of Kakioe Heiau, he cites Thrum who describes the *heiau* as a “small heiau of which nothing now remains but its sacred spring, and the sound of its drums and conchs on the of Kane” (McAllister 1933:110).

3.1.4 Twin Sisters Legend

There is a *mo'olelo* associated with the three peaks, Pu'u o Hulu, a peak looking north across the valley to the twin sisters, the *makai* Pu'u Mā'ili'ili and her twin peak located *mauka*, Pahe'ehe'e. According to the *mo'olelo* which appears in Sterling and Summers' *Sites of O'ahu*:

Pu'u o Hulu was said to be a chief who was in love with Ma'ili'ilii, one of twin sisters, but he could never tell, whenever he saw them, which of the two was his beloved. A *mo'o* [supernatural lizard] changed them all into mountains so he is still there watching and trying to distinguish his loved one. [V. Holt in Sterling and Summers 1978:67]

McAllister also referred to Pu'u Mā'ili'ili and Pu'u Pāhe'ehe'e as each being "one of the twin sisters" (McAllister 1933:112).

3.2 *Nā Wahi Pana* (Storied Places)

Wahi pana are legendary or storied places of an area. These may include a variety of natural or human-made structures. Oftentimes dating to the pre-Contact period, most *wahi pana* are in some way connected to a particular *mo'olelo*; however, a *wahi pana* may exist without a connection to any particular story. Davianna McGregor outlines the types of natural and human-made structures that may constitute *wahi pana* as follows:

Natural places have mana, and are sacred because of the presence of the gods, the akua, and the ancestral guardian spirits, the 'aumakua. Human-made structures for the Hawaiian religion and family religious practices are also sacred. These structures and places include temples, and shrines, or heiau, for war, peace, agriculture, fishing, healing, and the like; pu'uhonua, places of refuge and sanctuaries for healing and rebirth; agricultural sites and sites of food production such as the lo'i pond fields and terraces slopes, 'auwai irrigation ditches, and the fishponds; and special function sites such as trails, salt pans, holua slides, quarries, petroglyphs, gaming sites, and canoe landings. [McGregor 1996:22]

As McGregor makes clear, *wahi pana* can refer to natural geographic locations such as streams, peaks, rock formations, ridges, offshore islands and reefs, or they can refer to Hawaiian land divisions such as *ahupua'a* or *'ili* and man-made structures such as fishponds. In this way, the *wahi pana* of Lualualei tangibly link the *kama'āina* of Lualualei to their past. It is common for places and landscape features to have multiple names, some of which may only be known to certain *'ohana* or even certain individuals within an *'ohana*, and many have been lost, forgotten, or kept secret through time. Place names also convey *kaona* and *huna* (secret) information that may have political or subversive undertones. Before the introduction of writing to the Hawaiian Islands, cultural information was exclusively preserved and perpetuated orally. Hawaiians gave names to everything in their environment, including individual garden plots and *'auwai* (water courses), house sites, intangible phenomena such as meteorological and atmospheric effects, *pōhaku* (rock, stone), *pūnāwai*, and many others. According to Landgraf (1994:v), Hawaiian *wahi pana* "physically and poetically describes an area while revealing its historical or legendary significance."

The earliest documented research in Lualualei Ahupua'a was completed by J. Gilbert McAllister (1933) during his survey of O'ahu. Elspeth P. Sterling and Catherine C. Summers (1978) expanded McAllister's survey by collecting additional testimonies and archival sources. Below is a compilation of McAllister's (1933) and Sterling and Summers' (1978) findings as well as documented *wahi* (place) by other notable sources. The *wahi* of Lualualei are full of *pu'u* and *heiau* (pre-Christian place of worship) and link long-time *kama'āina* of the area to their past. Place names of some of the *wahi pana* found within Lualualei are presented in Figure 5.

3.2.1 Nā Pu'u (Hills and Peaks)

3.2.1.1 Pu'u Heleakalā

Pu'u Heleakalā is a hill separating Nānākuli and Lualualei Ahupua'a. Heleakalā literally translates to “snare by the sun (the hill blocks the rays of the setting sun)” (Pukui et al. 1974:44). Pu'u Heleakalā is the location where Hina (moon goddess), Māui's mother, lived in a cave and made her *kapa* (Sterling and Summers 1978:62). In an account published by Cordy (2002:91), Poepoe notes in the *Nupepa Kuakoa*, 11 August 1899 (translated by Sterling and Summers 1978:62), “I saw the cave in which Hina made kapa cloths on the slope of a hill facing a stream [Ulehawa].” Figure 6 and Figure 7 depict Hina's Cave and the view from the cave, respectively.

3.2.1.2 Pu'u Mā'ili'ili

Pu'u Mā'ili'ili is a hill and stream located in Lualualei Ahupua'a. Pu'u Mā'ili'ili literally translates to “pebbly” (Pukui et al. 1974:139).

3.2.1.3 Pu'u o Hulu Uka & Pu'u Hulu Kai

Northwest of Pu'u Heleakalā is Pu'u o Hulu Kai, the hill nearest the ocean, which rises to 262 m (860 ft) in elevation. It is connected to Pu'u o Hulu 'Uka (218 m [715 ft] amsl) by a saddle, which drops down to 87 m (284 ft) above mean sea level (amsl). Pu'u Mā'ili'ili and Pu'u Pāhe'ehe'e are northwest of Pu'u o Hulu. Pu'u o Hulu 'Uka literally translates to “inland Pu'u o Hulu.” Pu'u o Hulu Kai has an elevation of approximately 261 m (856 ft) amsl. Pu'u o Hulu Kai literally translates to “seaward Pu'u o Hulu” (Pukui et al. 1974:203).

3.2.1.4 Palikea

Palikea is a peak on the borders of Honouliuli, Nānākuli, and Lualualei Ahupua'a. The peak has an elevation of 944 m (3,098 ft) amsl. Palikea literally translates to “white cliff” (Pukui et al. 1974:177).

3.2.1.5 Pu'u Kaua

Pu'u Kaua is a peak on the Wai'anae Mountain Range on the Lualualei and Honouliuli Ahupua'a border. The peak has an elevation of 953 m (3,127 ft) amsl. Pu'u Kaua literally translates to “war hill” or “fort hill” (Pukui et al. 1974:199).

3.2.1.6 Pu'u Kānehoa

Pu'u Kānehoa is a peak on the border of Lualualei and Honouliuli Ahupua'a. The peak has an elevation of 832 m (2,728 ft) amsl. Pu'u Kānehoa was named for the native shrubs (Pukui et al. 1974:198). The native shrubs and trees include *pūkiawe*, or *maiele* (*Leptecophylla tameiameiae*), which have narrow leaves, tiny white flowers, and red or white fruits. The leaves were used in the practice of *lā'au lapa'au*, a form of Hawaiian plant-based healing, for colds or headaches. A small

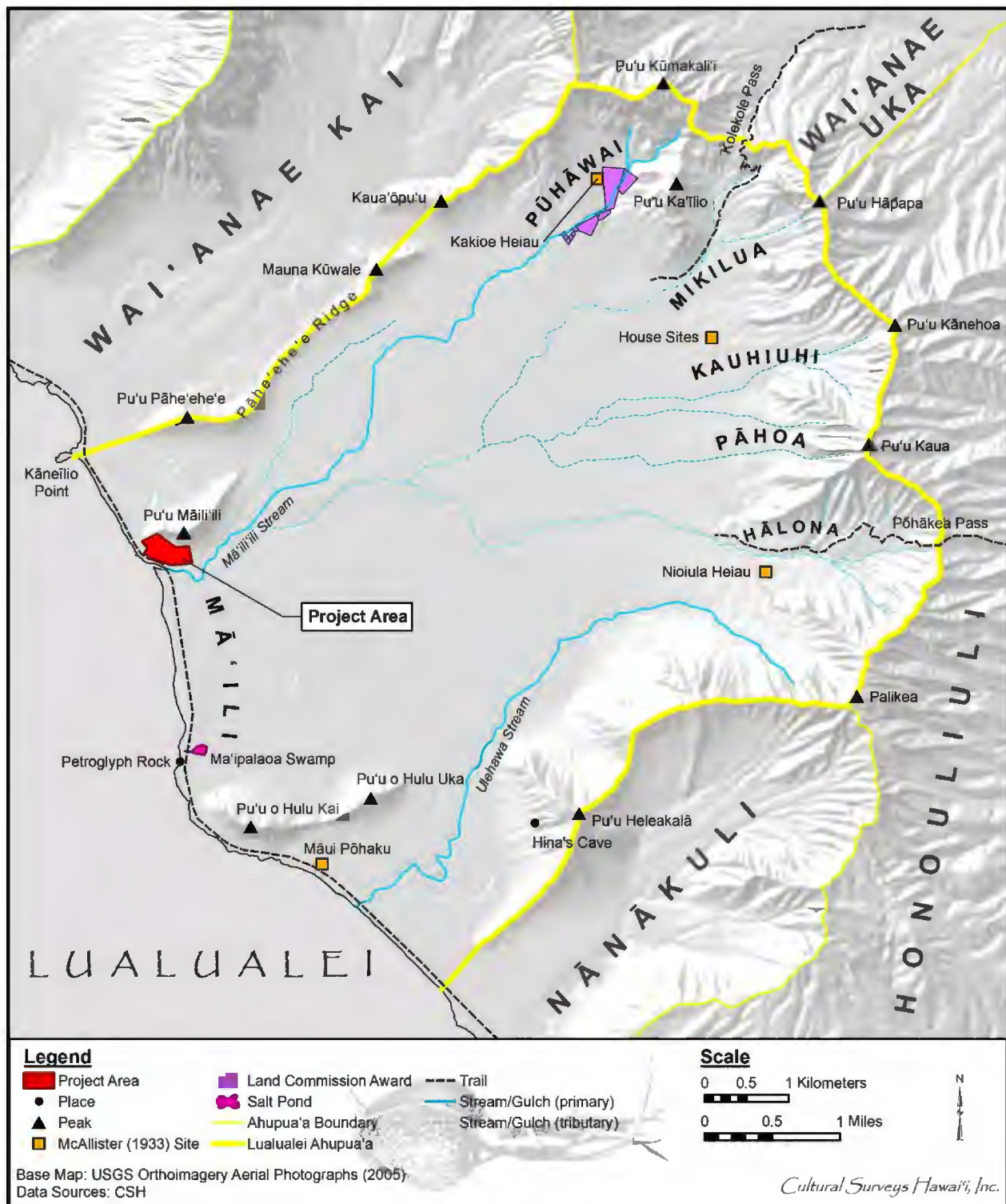


Figure 5. Map showing known place names in the *ahupua'a* of Lualualei



Figure 6. Photo of Hina's Cave located within Pu'u Heleakalā (CSH 2015)



Figure 7. View of Lualualei Ahupua'a from Hina's Cave; note Pu'u o Hulu in the background (CSH 2015)

enclosure said to be a *heiau* is in a gulch at the foot of Pu'u Kānehōa (Sterling and Summers 1978:32).

3.2.1.7 Pu'u Hāpapa

Pu'u Hāpapa is located on the border of the Honouliuli, Wahiawā, and Wai'anae (Soehren 2010). Hāpapa literally translates to “rock stratum” (Pukui et al. 1974:42).

3.2.1.8 Pu'u Ka'ilio

Pu'u Ka'ilio is in the Wai'anae Mountain Range prior to reaching Kolekole Pass. The peak has an elevation of approximately 599 m (1,965 ft) amsl. Ka'ilio literally translates to “the dog hill” (Pukui et al. 1974:197).

3.2.1.9 Pu'u Kūmakali'i

Pu'u Kūmakali'i is a peak on Kolekole Pass in the Wai'anae Mountain Range. The peak has an elevation of 784 m (2,572 ft) amsl. Pu'u Kūmakali'i literally translates to “rising Pleiades” (Pukui et al. 1974:200).

3.2.1.10 Kaua'ōpu'u

Kaua'ōpu'u is a hill and stream in Wai'anae Ahupua'a. The hill has an elevation of approximately 321 m (1,054 ft) amsl (Pukui et al. 1974:91).

3.2.1.11 Mauna Kūwale

Mauna Kūwale is a mountain on the Lualualei and Wai'anae Ahupua'a border and is *makai* of Kaua'ōpu'u (see Section 3.2.1.10 above). Mauna Kūwale literally translates to “mountain standing alone” (Pukui et al. 1974:149). A small burial cave is near the peak of Mauna Kūwale, facing Kawiwi in Wai'anae. Kawiwi was a *pu'uhonua* (place of refuge) in times of war (Kamakau 1991:18). The cave “[c]ontains fragments of skeletal material, but none of the objects said to have been buried with the dead” (Sterling and Summers 1978:73).

3.2.1.12 Pu'u Pahe'ehe'e

Pāhe'ehe'e is a ridge and hill that borders Lualualei and Wai'anae Ahupua'a. The ridge has an elevation of 199 m (652 ft) amsl. Pāhe'ehe'e translates to “slippery” (Pukui et al. 1974:174). Pu'u Pāhe'ehe'e Heiau was on Pu'u Pāhe'ehe'e Ridge but was “completely destroyed with the enlargement of the Oriental cemetery” (Sterling and Summers 1978:68).

Pu'u Pāhe'ehe'e once had a *hōlua* (sled) slide. Though the exact location is unknown, it is possible the *hōlua* slide could have been associated with the name Kauhiuhi. *Uhiuhi* (*Mezoneuron kauaiense*) was a type of hard wood used for *hōlua* sleds, weapons, digging sticks, and house construction.

3.2.2 Nā Pōhaku (Rocks)

3.2.2.1 Māui Pōhaku

Site 148, a large rock said to be Māui, is approximately 1.8 km (1.1 miles) from the Nānākuli Station going toward Pu'u o Hulu (Sterling and Summers 1978:64). McAllister relates the following:

Northeast of the road on the property of E.P. Fogarty is a rock said to be named after the Hawaiians hero, Maui, who is said to have landed here from the south. This stone at the time was surrounded by water, and it was here that Maui reposed and sunned himself. In the bluff just northeast of the rock is a shelter which he lived, and in the vicinity was a spring where he obtained water. The large rock is now split in half and adorned with many small, oddly shaped rocks. It is said to be bad fortune to build one's house across a line drawn directly from the rock to the shore. J.J. Mathews is said to have collected detailed information in regard to this site. [McAllister 1933:110].

The "small, oddly shaped rocks" McAllister speaks of are no longer present. The Māui rock is currently overgrown with young Chinese banyan saplings (*Ficus retusa*), grasses, and weeds.

Figure 8 displays the Māui Pōhaku within the Garden Grove condominium complex in Lualualei Ahupua'a. Figure 9 depicts the plaque found at the foot of the Māui Pōhaku recalling the Māui *mo'olelo* by McAllister.

3.2.2.2 Petroglyph Pōhaku

Sterling and Summers noted a rock with petroglyphs in Lualualei Ahupua'a. The petroglyph rock and former house sites were described as being near a dried swamp and adjacent to light pole #152 in a public park near the edge of a beach. The *pōhaku* was reported to the Bishop Museum, where it was later re-housed (Sterling and Summers 1978:67).

3.2.3 Nā Heiau

Heiau are pre-Christian places of worship. Some *heiau* were elaborate and large communal structures, while others were simple earth terraces or shrines. *Heiau* are most commonly known as the locations for important ceremonies and as large structures with platforms or altars composed of one or more terraces (McAllister 1933:8). There are many different kinds of *heiau*, depending on the purpose for which they were built:

If it were for peace in the chiefdom, *aupuni*, then a house for peace, a *hale o ka maluhia*, was erected; if for war, then a house for the [war] god in the war heiau, *ka heiau kaua* [...] if for rebellion, then [a house for the rebel's war god] in his own heiau. If it were for blessings to all the land, the well-being of all the people, for 'food' or 'fish,' then the chiefs built heiaus all over the land. The people, *maka'ainana*, erected fishing shrines, *ko'a ku'ula*, all around the islands so that the land would be provided with fish. If there were distress because of trouble with the staple plant food, 'ai, heiaus called *ipu-o-Lono* were raised up all over the land to revive them. [Kamakau 1976:129]

Archaeologist J. Gilbert McAllister (1933) reported on two known *heiau* in the *ahupua'a* of Lualualei, as well as one other site that could have possibly been a *heiau*. An additional two *heiau* were also located in the *ahupua'a* of Wai'anae along the boundary with Lualualei. They are discussed below.



Figure 8. Photo of the Māui Pōhaku at the Garden Grove condominium complex in Lualualei (CSH 2015)



Figure 9. Photo of plaque located at the foot of the Māui Pōhaku at the Garden Grove condominium complex CSH (CSH 2015)

3.2.3.1 Nōi'ula Heiau, Site 149

Nōi'ula Heiau is within the Lualualei Naval Preservation on Hālonā Ridge in Lualualei (McAllister 1933:110). The paved and walled *heiau* was classified as *po'okanaka*, or sacrificial class. The northern portion was nearly completely destroyed, and the stones were used for a cattle pen on the McCandless Cattle Ranch. It is said that the cattle in the pen became sick and died, resulting in infrequent use, followed by abandonment. McAllister relates, "The heiau probably had three inclosures [*sic*] and three platforms open to the west side, but so little remains of the northern part of the heiau that it is difficult to discern inclosures [*sic*] and terraces" (McAllister 1933:110). Westervelt's account of the legendary Kawelo also suggests this is the *heiau* where the body of the boxer killed by Kawelo was sacrificed as an offering to the gods. The *heiau* is said to be ancient and to have belonged to Kakuhīhewa (Westervelt 1963:178). Figure 10 depicts the site plan of the *heiau*.

3.2.3.2 Kakioe Heiau, Site 151

Kakioe Heiau was a small *heiau* at Pūhāwai in Lualualei. However, "nothing remains except the sacred spring, and the sound of its drums and conchs on the nights of Kāne" (McAllister 1933:110). Within McAllister's description of Kakioe is a particularly salient reference to ceremonial drumming. This is described by Hart and Pukui:

[...] the sharkskin drum was brought to Hawai'i from Tahiti 'sounding over the oceans' by La'amaikahiki sometime around A.D. 1250. The *pahu* [drum], as it is also known in Tahiti and other parts of central Polynesia, was the instrument of *ali'i* (chiefs) used in *heiau* (temple) rituals and in *hula kapu* (sacred dance). La'amaikahiki is credited for the introduction of both the large temple drum, *pahu heiau*, and the smaller dance drums, *pahu hula*. [Hart and Pukui 1989:np]

Pahu heiau (temple drums) were traditionally used by *kahuna* (priests) to "signal the activities of complex ceremonies, significant events such as the births of chiefs, and to accompany the prayers and movements of *kahuna* and *ali'i*" (Hart and Pukui 1989:n.p.). Prayers (identified as "composed, memorized, handed-down chants" by Pukui et al. 1974:123) "for public ceremonies and in high *ali'i* circles [...] were often accompanied by sacrifices to the gods, embellished by ritual, [or] enhanced by the beat of the *pahu* (prayer drum)" (Pukui et al. 1974:123).

3.2.3.3 Site 150

Walls and small terraces reportedly used as house sites or possibly old *heiau* are at the foot of the cliffs of Pāhoa in the middle of Lualualei (McAllister 1933:110).

3.2.3.4 Pu'upāhe'ehe'e Heiau

Pu'upāhe'ehe'e Heiau (Site 152) is located on the Wai'anae side of Pu'upāhe'ehe'e Ridge. The *heiau* consists of two or three divisions, the upper section being 70 ft across, with a width of 57 ft; the lower sections are not so well defined. The *heiau* has been completely destroyed with the enlargement of the Oriental cemetery (McAllister 1933:112).

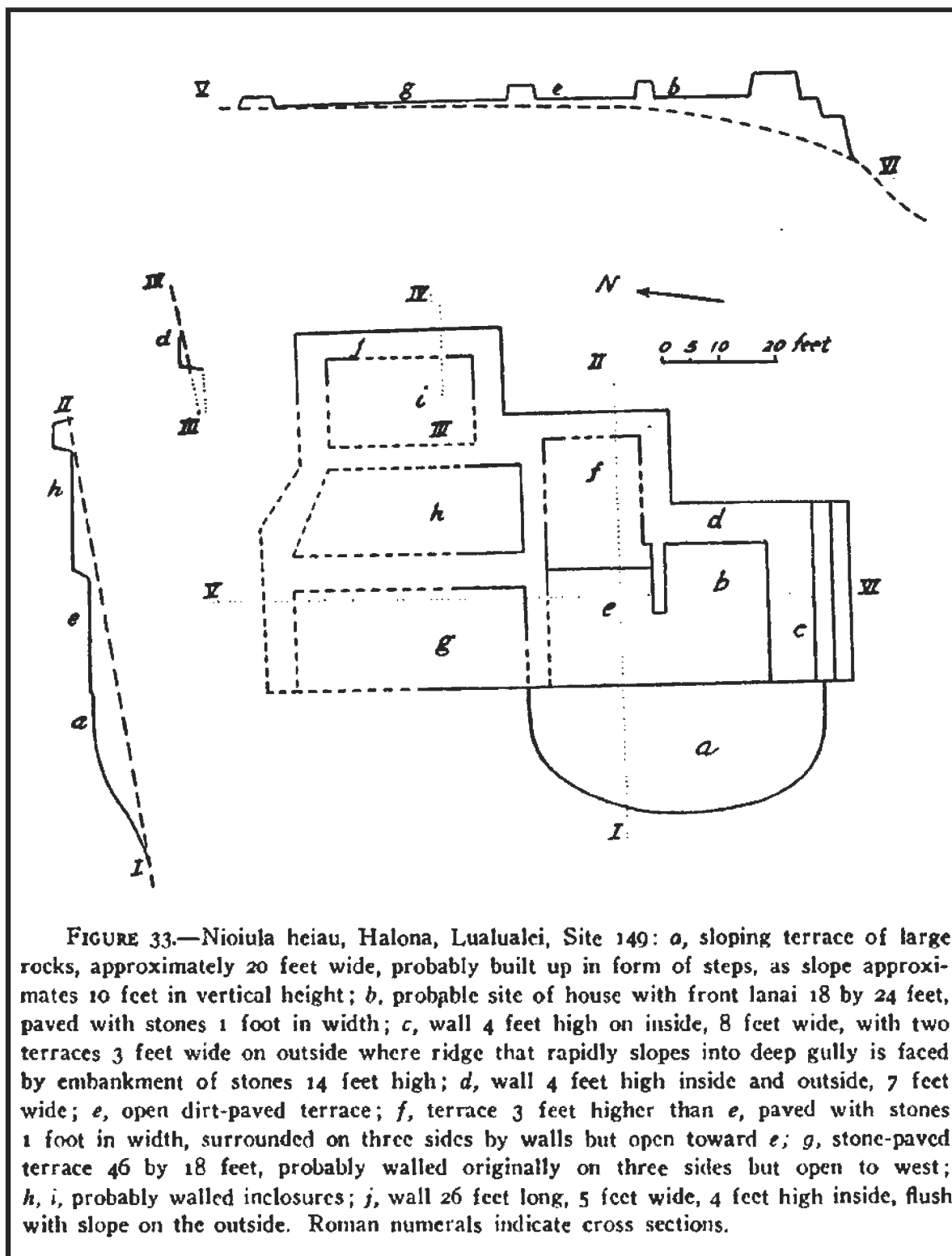


Figure 10. Image of Nīoi‘ula Heiau from McAllister's Survey (McAllister 1933:111)

3.2.3.5 Kū'īlioloa Heiau

Kū'īlioloa Heiau (Site 153) is at the tip of Kāne'īlio Point which is located on the border of the *ahupua'a* of Lualualei and Wai'anae. Kū'īlioloa Heiau was partially destroyed by the Army during World War II but still remains visible (Sterling and Summers 1978:69). The *heiau* was named after Kū'īlioloa, a “dog with a human body and supernatural power” and “a great soldier and famous warrior” (Beckwith 1970:347). Kū'īlioloa was also known as a “protector of travelers” (Sterling and Summers 1978:69).

3.2.4 Nā Ala Hele (Trails)

Trails served to connect the various settlements throughout O'ahu. John Papa 'Ī'ī (1959:97–99) described three trails accessing the Wai'anae District during the early post-Contact period (Figure 11). The most popular was the coastal route, which circled O'ahu. The other two trails traversed the Wai'anae Mountains into Lualualei. The northeast route traversed Kolekole Pass, followed the Pūhāwai Stream Valley crossing into Wai'anae Kai through the gap, and finally to Pōka'i Bay (Green in Robins and Anderson 1998:22). According to 'Ī'ī, the second trail traversed the Wai'anae Mountains at Pōhākea Pass and descended the stream valley below Pōhākea. On maps, this valley is shown as Hālonā. There is no indication where the Pōhākea trail continues after Hālonā. However, Robins and Anderson (1998:22) suggest the path “continued west to the Lualualei coast or intersected other *makai*-bound trails.” 'Ī'ī describes the trails as follows:

From Kunia the trail [...] met with the trails from Wahiawa and Waialua. The trail continued to the west of Mahu, to Mālamānuī, and up to Kolekole, from where one can look down to Pōka'i and Wai'anae Uka. There was a long cliff trail called Elou from Kalena and Hale'au'au on the east side of Ka'ala coming down to Wai'anae. There was also a trail called Kūmaipō which went up and then down Mākaha Uka.

Below Kūmaipō trail in the olden days was a stronghold named Kawīwī... [and it] was part of a mountain ridge lying between Wai'anae and Mākaha and overlooking Kamaile. The trail Kūmaipō, went down to the farms of Mākaha and the homes of that land. A branch trail which led up Mount Ka'ala and looked down on Waialua and Mokulē'ia could be used to go down to those level lands. It was customary to have dwelling places along the mountain trails that led downward from here into Kamaile, as well as along the beach trail of Mākaha.

[...] Pu'u o Kapolei [trail] [...] joined the beach trail from Pu'uloa and from Waimānalo. ['Ī'ī 1959:97]

Cordy recorded an east-west trail during an archaeological survey at Mā'ilikai Community Park. The trail, which encompassed the northern base of Pu'u o Hulu, was destroyed before the additional survey by Jimenez (1994; see paragraph below). Cordy (1976:17) described the trail as “1 meter wide with small, hand-sized stones bound on each side by larger stones,” with a wooden post set in the middle of the trail. Although Cordy interprets this east-west running trail as a post-Contact trail based on the associated historic wood post, the trail may have been a pre-Contact trail. Given its location along the northern base of Pu'u o Hulu, just west of Pu'u Heleakalā, this trail may have served as the *mauka-makai* pre-Contact trail to which many *kūpuna* refer.

An additional survey, including subsurface testing, was subsequently documented by Jimenez at four historic properties recommended for further data collection. Subsurface testing at State

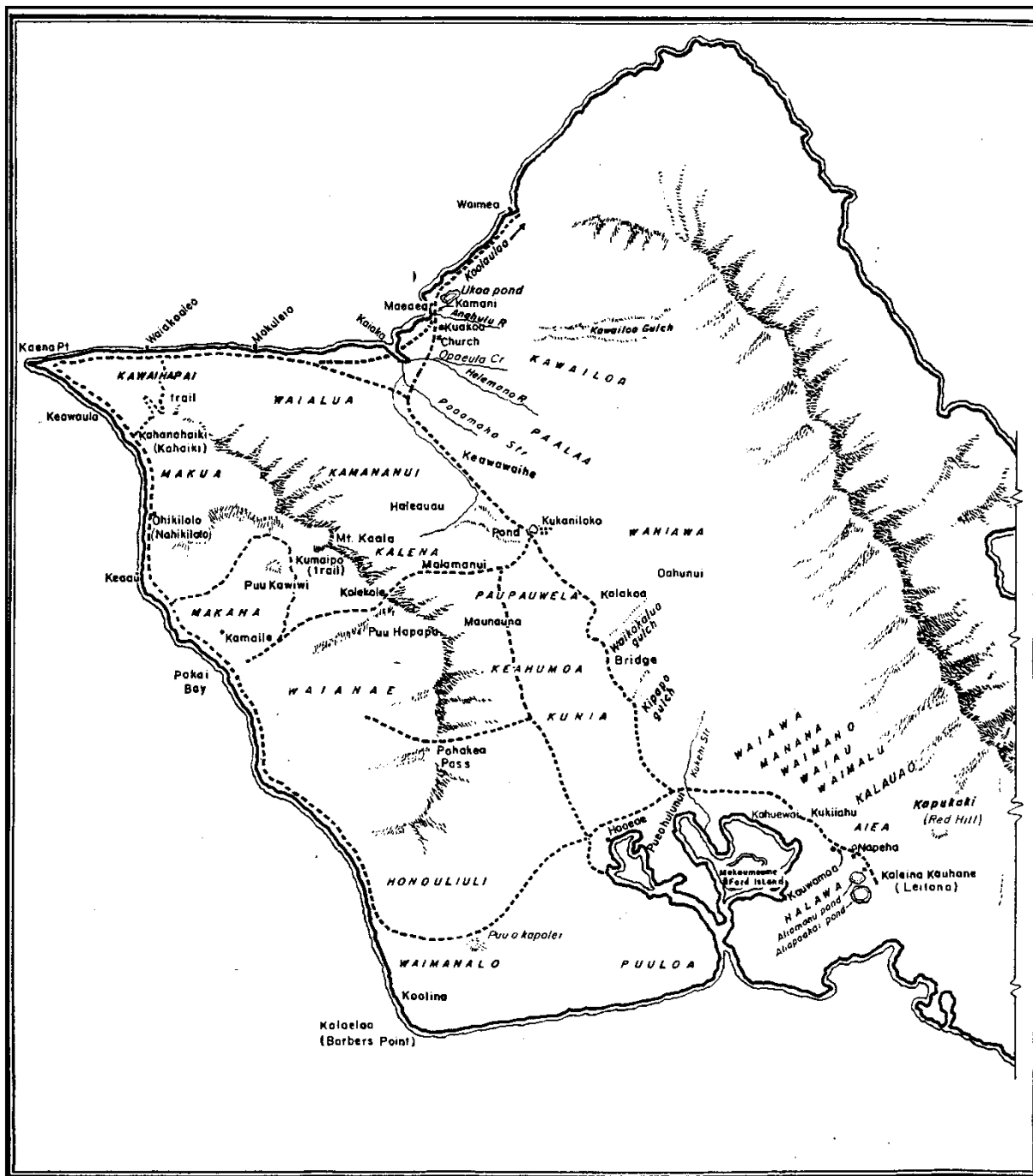


Figure 11. Trails of Leeward O‘ahu as described by ‘Ī‘ī; map by Paul Rockwood (‘Ī‘ī 1959:96)

Inventory of Historic Places (SIHP) # 50-80-07-3750, C-shape enclosure, produced evidence of pre-Contact occupation. Documentation of SIHP # -3750 includes a plan map, which depicts a trail running north-south 6 m from the enclosure. However, no description of the trail was provided by Jimenez (1994), nor was it mentioned by Cordy (1976). Although there is no documentation of this serving as a pre-Contact trail, its proximity to SIHP # -3750 and to potential sources of water (SIHP # -3336, two sinkwells approximately 400 m north) suggests the trail may be associated with the site. Continuing in a southerly direction on this trail may have led to the east-west trail running along the northern base of Pu'u o Hulu.

3.2.4.1 Pōhākea Pass

Pōhākea Pass, on the Wai'anae Mountain Range (Figure 12), has an elevation of 671 m (2,200 ft) amsl. Pōhākea literally translates to “white stone” (Pukui et al. 1974:185). Pōhākea serves as a passage to Honouliuli Ahupua'a. This is also the location where Hi'iaka saw cloud omens that her *lehua* (flower of the 'ōhia tree [*Metrosideros polymorpha*]) groves had been burned by her sister Pele, and her friend Hōpoe had been turned into stone.

In *The Epic Tale of Hi'iakaikapoliopole*, Hi'iaka chants atop Pōhākea as she witnesses her beloved friend Hōpoe being destroyed by the embers of her sister Pele.

KAU HO'OKAHI HANERI A

CHANT ONE HUNDRED

ME KANALIMAKUMAMĀKOLU

AND FIFTY-THREE

Aloha ku'u hoa i ka pū'ali lā

Alas my friend of the rugged mountain pass

A luna i Pōhākea, he luna o Kamaoha

On high at Pōhākea, above Kamaoha

He lae 'ino 'o Maunauna

Maunauna is a dangerous escarpment

'O Līhu'e ke hele 'ia

Līhu'e's high plain yet to be traversed

Honi i ke 'ala mau'u

Inhaling the scent of the grasses

I ke 'ala o ke kupukupu

The fragrance of *kupukupu* fern

E linoa ala e ka Waikōloa

Entwined by the Waikoloa breeze

E ka makani he Wai'ōpua

By the wind called Wai'ōpua

Ku'u pua, me he pua lā i ku'u maka

My blossom, like a flower in my sight

Ka 'oni i ka haku 'ōnohi, kā ka wai lā i li'u

Moving before my eyes, washed salty by tears

I ku'u maka lā, e uē au lā.

There in my sight, I weep.

[Ho'oulumāhie 2008a:262; Ho'oulumāhie 2008b:262]



Figure 12. Photo of Lualualei and Wai'anae Ahupua'a from Pōhākea Pass, n.d. (Hawai'i State Archives)

3.2.4.2 Kolekole Pass

Kolekole Pass is a passage and road from Wai'anae Uka (Schofield Barracks) through the Wai'anae Mountain Range in Lualualei (Figure 13). Kolekole Pass was one of the most heavily used mountain trails of O'ahu (Cordy 2002:65). The trail descends from the Wai'anae Mountain Range down the valley toward the ocean (Figure 14).

A sacrificial stone is at Kolekole Pass. The stone was identified by McAllister (1933) as Site 214 during his island-wide survey. The stone measures 1.5–2.4 m (5–8) ft high and 2.4 m (8 ft) wide, with a central depression 0.5 m (1.5 ft) deep and 0.6 m (2 ft) in diameter at the top. The stone has many ridges that rib its sides, one apparently draining the bowl-like depression. On one side, there is a projection that individuals were made to stand and lean over when decapitated. This stone is also said to represent a woman by the name of Kolekole, the guardian of the pass, from which the trail takes its name (Sterling and Summers 1978:134).

In the old days people from Wahiawa side would meet those from Waianae at Kolekole and attempt to cross over. Each would challenge the other for the right to pass. The losing chief would then have to kneel before the big rock and place his head on it and be killed. His skin was then stripped from the flesh and bones (leaving it raw—Kolekole).* The spoils of the battle and the bones were then brought to the heiau in Halona (Site 149) and offered in sacrifice. Below Kolekole and beyond Kailio is a hair-pin turn known as Hupe Loa for the retainers of the vanquished chief—because of their weeping and blowing of noses.

*Mrs. Pukui says 'holehole' is to strip the flesh. She believes the name Kolekole most likely came because of the battles and the wounds the warriors received, leaving their flesh raw—'Kolekole'. The idea of the chief kneeling before a rock to be killed seems to be modern. [Sterling and Summers 1978:67]

Kolekole Pass is where Kahekili, the king of Maui, and his army defeated the last of the army of O'ahu:

When Kahekili was reigning as king of Maui, and Kahahana was king of Oahu, it was during this period that Kahahawai with a number of warriors came to make war on Oahu. In this battle the people of Oahu were defeated and slaughtered at Niuhelewai, and the waters of the stream were turned back, the stream being dammed by the corpses of the men.

After the battle of Niuhelewai, the chiefs and the men retreated and encamped on the mountains of Kaala. They were well supplied with war implements and other things necessary for the destruction of their enemies. So Kahahawai contrived a means of destroying them, thus: They were a little more than forty men, and Kahahawai told them to prepare torches. When these were ready they went one evening to the top of a hill which was near to the rendezvous of the enemies where they lighted their torches.

After the torches were lit they moved away to a cliff called Kolekole and hid themselves there, leaving their torches burning at the former place until they (the torches) died out. The enemies thought that Kahahawai and his men had gone off



Figure 13. Photo of the Wai'anae Mountain Range with Kolehā Pass in left background; Pu'u o Hulu Uka in the left foreground; downslope of Pu'u Heleakalā in right foreground, n.d. (Hawai'i State Archives)



Figure 14. Photo of Kolehale Pass in right background with Pu'uka'ilio directly below; Mauna Kūwale in left foreground (CSH 2012)

to sleep. They therefore made a raid on the men of Kahahawai. But Kahahawai and his men arose and destroyed all the people who were asleep on the hills and the mountains of Kaala. Thus the enemies were annihilated, none escaping. Those who raided the torch encampment were captured, there being no avenue for escape from death and destruction by Kahahawai and his men. [Sterling and Summers 1978:135]

Kolekole Pass is also a place where students practiced *lua* (Hawaiian martial arts). *lua* involves breaking bones, dislocating joints, and inflicting pain by pressing on nerve centers. Students would wait along the plains of Leileihua for travelers on whom to practice their *lua* skills (Sterling and Summers 1978:135).

In another explanation of the name Kolekole, which literally translates to “raw, scarred,” a woman saw an apparently blind man walking through the pass. Doubting the man’s blindness, the woman exposed herself. The man opened his eyes and exclaimed, *A ‘ula, kolekole!* Red, raw! (Pukui et al. 1974:116).

3.3 *Nā ‘Ōlelo No‘eau*

Hawaiian knowledge was shared by way of oral histories. Indeed, one’s *leo* (voice) is oftentimes presented as *ho‘okupu* (“a tribute or gift” given to convey appreciation, to strengthen bonds, and to show honor and respect); the high valuation of the spoken word underscores the importance of the oral tradition (in this case, Hawaiian sayings or expressions), and its ability to impart traditional Hawaiian “aesthetic, historic, and educational values” (Pukui 1983:vii). Thus, in many ways these expressions may be understood as inspiring growth within the reader or between speaker and listener:

They reveal with each new reading ever deeper layers of meaning, giving understanding not only of Hawai‘i and its people but of all humanity. Since the sayings carry the immediacy of the spoken word, considered to be the highest form of cultural expression in old Hawai‘i, they bring us closer to the everyday thoughts and lives of the Hawaiians who created them. Taken together, the sayings offer a basis for an understanding of the essence and origins of traditional Hawaiian values. The sayings may be categorized, in Western terms, as proverbs, aphorisms, didactic adages, jokes, riddles, epithets, lines from chants, etc., and they present a variety of literary techniques such as metaphor, analogy, allegory, personification, irony, pun, and repetition. It is worth noting, however, that the sayings were spoken, and that their meanings and purposes should not be assessed by the Western concepts of literary types and techniques. [Pukui 1983:vii]

Most simply, *‘ōlelo no‘eau* may be understood as proverbs. Webster’s Dictionary defines a proverb as “a phrase which is often repeated; especially, a sentence which briefly and forcibly expresses some practical truth, or the result of experience and observation” (Webster’s Online Dictionary and Translations 2019). It is a pithy or short form of folk wisdom. Pukui (1995:xii) equates proverbs with a treasury of Hawaiian expressions. Oftentimes, references to places are within these Hawaiian expressions or proverbs.

This section draws from the collection of author and historian Mary Kawena Pukui and her knowledge of Hawaiian proverbs describing *‘āina* (land), chiefs, plants, and places. No *‘ōlelo*

no'eau were found that make specific mention of the *ahupua'a* of Lualualei. The following proverbs concerning the surrounding Wai'anae Moku come from Mary Kawena Pukui's *Ōlelo No'eau* (Pukui 1983).

3.3.1 *Ōlelo No'eau* #363

The *ōlelo no'eau* mentioned below speaks of the ruler Kahahana and his advisor Ka'opulupulu. This incident takes place in Wai'anae, O'ahu.

E nui ke aho, e ku'u keiki, a moe i ke kai, no ke kai loa ho'i ka 'āina.

Take a deep breath, my son, and lay yourself in the sea, for then the land shall belong to the sea.

Uttered by the priest Ka'opulupulu at Wai'anae. Weary with the cruelty and injustice of Kahahana, the chief of O'ahu, Ka'opulupulu walked with his son to Wai'anae, where he told his son to throw himself into the sea. The boy obeyed, and there died. Ka'opulupulu was later slain and taken to Waikīkī where he was laid on the sacrificial altar at Helumoa. [Pukui 1983:64]

3.3.2 *Ōlelo No'eau* #770

The following *ōlelo no'eau* speaks of the goddess Kaiona, whose pet birds could help guide lost travelers back to their companions.

He lokomaika'i ka manu o Kaiona.

Kind is the bird of Kaiona.

Said of one who helps a lost person find his way home. The goddess Kaiona, who lived in the Wai'anae Mountains of O'ahu, was said to have pet birds who could guide anyone lost in the forest back to his companions. [Pukui 1983:85]

3.3.3 *Ōlelo No'eau* #1643

The *ōlelo no'eau* provided below furthers speaks of Kaiona, a guardian to those who sought refuge.

Ka wahine hele lā o Kaiona, alualu wai li'ulā o ke kaha pua 'ōhai.

The woman, Kaiona, who travels in the sunshine pursuing the mirage of the place where the 'ōhai blossoms grow.

Kaiona was a goddess of Ka'ala and the Wai'anae Mountains. She was a kind person who helped anyone who lost his way in the mountains by sending a bird, an 'iwa to guide the lost one out of the forest. In modern times Princess Bernice Pauahi Bishop was compared to Kaiona in songs. [Pukui 1983:177]

3.3.4 *Ōlelo No'eau* #1476

The abundance of coconut trees in Wai'anae were mentioned in the proverb below.

Ka malu niu o Pōkā'ī.

The coco-palm shade of Pōkā'ī.

Refers to Wai'anae, on O'ahu. At Pōkā'i was the largest and best-known coconut grove on O'ahu, famed in chants and songs. [Pukui 1983:160]

3.3.5 'Ōlelo No'eau #1524

This noted proverb was uttered by the goddess Hi'iaka as she observed the terrain while traversing the plains of Wai'anae.

Kapakahi ka lā ma Wai'anae.

Lopsided is the sun at Wai'anae.

Used to refer to anything lopsided, crooked, or not right. First uttered by Hi'iaka in a rebuke to Lohi'au and Wahine'ōma'o for talking when she warned them not to. [Pukui 1983:164]

3.3.6 'Ōlelo No'eau #2075

Ko'iahi was noted in the story of Laukaieie. The famed *maile* flowers in Wai'anae belonged to Ko'iahi. The proverb recorded by Pukui tells of its beauty.

Maile lau li'i o Ko'iahi.

Fine-leaved maile of Ko'iahi.

Often used in chants. The fine-leaved maile of Ko'iahi, in Wai'anae, was considered the best on O'ahu for beauty and fragrance. After the introduction of goats this beautiful and much-liked vine vanished. [Pukui 1983:225–226]

3.3.7 'Ōlelo No'eau #2128

The following 'ōlelo no'eau was spoken by spies who spotted travelers that could be easily robbed and killed.

Malolo kai e! Malolo kai!

Tide is not high! Tide is not high!

Said of threatening disaster. Robbers once lived at a place in Wai'anae now known as Malolo-kai. Their spies watched for travelers to kill and rob. When there were only a few that could be easily overcome, the spies cried, 'Low tide!' which meant disaster for the travelers. But if there were too many to attack, the cry was "High tide!" [Pukui 1983:231–232]

3.3.8 'Ōlelo No'eau #2495

This 'ōlelo no'eau tells of the Kaiaulu wind in Wai'anae.

Ola Wai'anae i ka makani Kaiaulu.

Wai'anae is made comfortable by the Kaiaulu breeze.

Chanted by Hi'iaka at Ka'ena, O'ahu, after her return from Kaua'i. [Pukui 1983:273]

3.3.9 ‘Ōlelo No‘eau #2890

The following ‘ōlelo no‘eau describes the warm climate of Wai‘anae. It was chanted by Hi‘iaka on a warm day.

Uwē o Kānepūniu i ka wela a ka lā.

Kānepūniu complains of the heat of the sun.

Said when someone complains of the heat. From a chant by Hi‘iaka, who saw Kānepūniu (Kāne-of-the-coconut), a supernatural tree at Wai‘anae, O‘ahu, on a very warm day. [Pukui 1983:315]

3.4 Nā Oli (Chants)

Oli, according to Mary Kawena Pukui (Pukui 1995:xvi–xvii), are often grouped according to content. Chants often were imbued with *mana* (spiritual power); such *mana* was manifested through the use of themes and *kaona*. According to Pukui, chants for the gods (*pule*; prayers) came first, and chants for the *ali‘i*, “the descendants of the gods,” came second in significance. Chants “concerning the activities of the earth peopled by common humans” were last in this hierarchy (Pukui 1995:xvi–xvii). Emerson conversely states,

In its most familiar form the Hawaiians—many of whom [were lyrical masters]—used the oli not only for the songful expression of joy and affection, but as the vehicle of humorous or sarcastic narrative in the entertainment of their comrades. The dividing line, then, between the oli and those other weightier forms of the mele, the inoa [name], the kanikau (threnody), the pule, and that unnamed variety of mele in which the poet dealt with historic or mythologic subjects, is to be found almost wholly in the mood of the singer. [Emerson 1965:254]

While *oli* may vary thematically, subject to the perspective of the *ho‘opa‘a* (chanter), it was undoubtedly a valued art form used to preserve oral histories, genealogies, and traditions, to recall special places and events, and to offer prayers to *akua* and ‘*aumākua* alike. Perhaps most importantly, as Alameida (1993:26) writes, “chants [...] created a mystic beauty [...] confirming the special feeling for the environment among Hawaiians: their one *hānau* (birthplace), their *kula iwi* (land of their ancestors).”

3.4.1 Oli by Hi‘iaka-i-ka-poli-o-Pele as told by Emerson

A variation of the *mo‘olelo* of Hi‘iaka-i-ka-poli-o-Pele by Nathaniel B. Emerson places Hi‘iaka, Lohi‘au, and Wahine‘ōmao in a canoe en route to Mokulē‘ia. The party of three land in Mokulē‘ia, where Hi‘iaka parts ways and tells Lohi‘au and Wahine‘ōmao that she will call for them at a designated place at a later time. Hi‘iaka pays her respects to her *kūpuna*, Pōhaku-o-Kaua‘i, before continuing to Ka‘ena (Emerson 1915:156–157). Passing through Ka‘ena, the western cape of O‘ahu, she turns and passes through the slopes of the Wai‘anae Mountain Range and chants the following:

Kunihi Kaena, holo i ka malie;

Kaena’s profile fleets through
the calm,

Wela i ka La ke alo o ka pali;

With flanks ablaze in the
sunlight—

Auamo mai i ka La o Kilauea; Ikiiki i ka La na Ke-awa-ula, Ola i ka makani Kai-a-ulu Koholā-lele—	A furnace-heat like Kilauea; Ke-awa-ula swelters in heat; Koholā-lele revives in the breeze,
He makani ia no lalo.	That breath from the sea, Kai- a-ulu.
Haōa ka La i na Makua;	Fierce glows the sun of Makua;
Lili ka La i Ohiki-lolo;	How it quivers at Ohiki-lele [sic];
Ha'a-hula le'a ke La i ke kula,	'This the Sun-god's dance o'er the plain,
Ka Ha'a ana o ka La i Makaha;	A riot of dance at Makaha.
Oī ka niho o ka La i Ku-manomano;	The sun-tooth is sharp at Kumano;
Ola Ka-maile i ka hunā na niho;	Life comes again to Maile ridge. When the Sun-god ensheaths his fang.
Mo'a wela ke kula o Waliō;	The plain Wailiō is sunburned and scorched:
Ola Kua-iwa i ka malama po;	Kua-iwa revives with the nightfall;
Ola Waianae i ka makani Kai-a-ulu, (a)	Waianae is consoled by the breeze
Ke hoa aku la i ka lau o ka niu.	Kai-a-ulu and waves its coco fronds;
Uwē o Kane-pu-niu (b) i ka wela o ka La;	Kane-pu-niu's fearful of sunstroke; (e)
Alaila ku'u ka luhi, ka malo'elo'e,	A truce, now, to toil and fatigue:
Auaua aku i ka wai i Lua-lua-lei.	We plunge in the Lua-lua-lei water
Aheahe Kona, (c) Aheahe Koolau-wahine, (d)	And feel the kind breeze of Kona,
	The cooling breath of the goddess.
Ahe no i ka lau o ka ilima.	As it stirs the leaves of ilima.
Wela, wela i ka La ka pili i ka umauma,	The radiant heat scorches the breast

I Pu'u-li'ili'i, i Kalawalawa, i Pahe-lona,	While I sidle and slip and climb
A ka pi'ina i Wai-ko-ne-nē-he;	Up one steep hill then another:
Ho'omaha aku i Ka-moa-ula;	Thus gain I at last Moa-ula.
A ka luna i Poha-kea	The summit of Poha-kea.
Ku au, nana i kai o Hilo:	There stand I and gaze oversea
Ke ho'omoe a'e la i ke kehau	To Hilo, where lie my dewy-cool
	Forest preserves of lehua
O a'u hale lehua i kai o Puna,	That reach to the sea in Puna
O a'u hale lehua i kai o Ku-ki'i.	My lehuas that enroof Kuki'i.

(a) *Kai-a-ulu*, a sea-breeze that comforted Wai'anae.

(b) *Kane-pu-niu*, a form of god Kane, now an uncarved boulder [boulder]; here used in a tropical sense to mean the head. The Hawaiians, impelled by the same vein of humor as ourselves, often spoke of the human head as a coconut (*pu-niu*).

(c) *Kona*, here used as a local name for the sea-breeze.

(d) *Koolau-wahine*, a wind, stronger, but from the same direction as the Kona.

(e) The author begs to remark that sunstroke is unknown in all Hawai'i.

[Emerson 1915:157–158]

3.4.2 *Oli from The Epic Tale of Hi'iakaikapoliopole*

The Epic Tale of Hi'iakaikapoliopole was published in the Hawaiian newspaper, *Ka Na'i Aupuni*, from June to November 1906. Part of the story tells of Hi'iaka and her companions who traveled on the leeward coast of O'ahu, while Wahine'ōma'o and Lohi'au traveled by canoe. Pā'ūopala'ā traveled the seaside roadway to Wai'anae, and Hi'iaka took the mountain road that led up and over Pōhākea.

Hi'iaka then came up seaward of the plain called Mā'ili and then turned and looked inland, where she saw the sun sparkling on the plains of Lualualei, at which point she chanted the following chant:

<i>KAU HO'OKAHI HANERI A ME</i>	CHANT ONE HUNDRED AND
<i>KANALIMAKUMAMĀKAHI</i>	FIFTY -ONE
<i>Wela i ka lā ē</i>	Hot from the sun!
<i>Wela i ka lā ē!</i>	Hot from the sun!
<i>Ua wela i ka lā ke kula o Lualualei</i>	The plain of Lualualei is heated by the sun
<i>Ua nau 'ia e ka lā, ua okaoka</i>	Gnashed by the sun into bits

<i>Ua hā'uile ka papa 'auwae o ka lā</i>	The lower jaw of the sun has fallen
<i>'O ka lā ē! I nā kūkulu</i>	o the sun, ah! In all directions
<i>Na ka lā nō i kahu a 'ena'ena</i>	The sun tended its fire to a blaze
<i>'A'ole wahi puka ho'omaha</i>	With no place of respite
<i>A ka wāwae e ho'omaha aku ai</i>	Where one's foot can find relief
<i>I ka luna o Pōhākea</i>	Up to the top of Pōhākea
<i>E uē ho'i kāua ē.</i>	Let us share our tears.

[Ho'oulumahiehie 2008a:279; Ho'oulumāhiehie 2008b:260]

When Hi'iaka finished chanting, her *aikāne* replied back with annoyance that as they traveled in wet and cold conditions, she traveled on dry land. Hi'iaka responded to her *aikāne* by climbing to the hot plain and chanting the following:

<i>KAU HO'OKAHI HANERI</i>	CHANT ONE HUNDRED AND
<i>A ME KANALIMAKUMAMĀLUA</i>	FIFTY-TWO
<i>A Waikonene i ke alanui</i>	At Waikonene on the pathway
<i>Ka pi'ina i Komo'ula</i>	The climb to Komoa'ula*
<i>Ka lā wela i ka umauma</i>	The hot sun on my breast
<i>Waha ka 'īlio i ke kula o Pūhāmalo'o</i>	The dog carries me to the plain of Pūhāmalo'o
<i>Ke ho'ohaehae maila ka Nāulu</i>	When the Nāulu rains stir their fury
<i>Moku kahawai, miha ka poli o Pūhāwai</i>	The streambanks break loose, but the heart of Puhawai is silent
<i>Ua hakakā, kipikipi ke Kaiāulu me ke kanaka</i>	Feisty, the Kaiāulu wind toys with people
<i>Ua ku'iku'i wale i ka hope</i>	Pounding away until faces blaze, Striking a blow at the back
<i>Ka lā wela o Lualualei ē</i>	Such is the sun's heat in Lualualei, ah
<i>He lei aloha no 'ohua ē.</i>	A lei of regard for the two of you.

[Ho'oulumahiehie 2008a:279–280; Ho'oulumāhiehie 2008b:261]

In other versions of the *mo'olelo*, Wahinepō'aimoku's chant also included these lines:

<i>Ua ku'iku'i wale 'ia, ua hā'ena nā ihu</i>	Pounded upon, faces are blazing
<i>Ua kā ka 'ūpē i ke kula loa o Lualualei</i>	Wiping one's nose on Lualualei's long plain

Ku'u lei aloha no 'olua ē.

Such is my lei of love for the two of you.

[Ho'oulumahiehie 2008a:279–280; Ho'oulumāhiehie 2008b:261]

Following the chants by Hi'iaka to her *aikāne*, Wahine'ōma'o, she continued on to the peak of Pōhākea. It was atop Pōhākea that she looked toward Hawai'i Island and saw her beloved *aikāne* Hōpoe had been killed by her sister Pele (also discussed in Section 3.2.4.1). However, it is important to remember that multiple versions exist of Hi'iaka's discovery of Hōpoe's death by Pele's fire. In another version, it was not until Hi'iaka returned to Hawai'i Island at Hilo Palikū that she found Hōpoe had been consumed by her sister's flames (Ho'oulumāhiehie 2008b:262).

From Pōhākea, Hi'iaka chants the following:

<i>I kau Pōhākea i ke ao o ka makani</i>	Pōhākea is perched in the realm of the wind
<i>Makani hāli 'ali 'a aloha ke 'ala o Puna</i>	Wind that stirs fond memories of Puna's perfume
<i>E kono mai ana i ku'u waimaka e hanini</i>	Beckoning my tears to flow
<i>Ke ala huli hele ma ka nahele ē</i>	On the forest path of my quest
<i>I hele ho 'i au e huli i ke aloha nō ho 'i āu ē</i>	That I travel to seek your beloved
<i>Lele kawa ke ao a ka 'āina ua kau ma mua</i>	The landscape plummets, laid down before me
<i>E waha ana ka 'īlio i ke kula o Pūhāmalo 'o</i>	The dog carries me on the back to the plains of Pūhāmalo'o
<i>Ke ho 'ohaehae a 'ela i ka Nāulu</i>	Raging against the Nāulu rains
<i>Ua mokuha kahawai, ua nihoa ka pali</i>	The streambanks are breached, the cliffs worn jagged
<i>Ua hakakā ke Kaiāulu me ke kanaka</i>	The Kaiāulu wind an opponent
<i>Ua ku 'iku 'i wale 'ia, ua hā 'ena nā ihu</i>	Pounded upon, faces ablaze
<i>Ua kā ka 'ūpē i ke kula loa o Lualualei</i>	Mucus wiped away on the long plain of Lualualei
<i>Ku'u lei aloha no 'olua ē.</i>	This is my lei of regard for you two.

[Ho'oulumahiehie 2008a:280; Ho'oulumāhiehie 2008b:261]

3.5 Nā Mele (Songs)

The following section draws from the Hawaiian art of *mele*, poetic song intended to create two styles of meaning.

Words and word combinations were studied to see whether they were auspicious or not. There were always two things to consider the literal meaning and the *kaona*, or 'inner meaning.' The inner meaning was sometimes so veiled that only the people

to whom the chant belonged understood it, and sometimes so obvious that anyone who knew the figurative speech of old Hawai'i could see it very plainly. There are but two meanings: the literal and the *kaona*, or inner meaning. The literal is like the body and the inner meaning is like the spirit of the poem. [Pukui 1949:247]

The Hawaiians were lovers of poetry and keen observers of nature. Every phase of nature was noted and expressions of this love and observation woven into poems of praise, of satire, of resentment, of love and of celebration for any occasion that might arise. The ancient poets carefully selected men worthy of carrying on their art. These young men were taught the old *meles* and the technique of fashioning new ones. [Pukui 1949:247]

A number of *mele* concern or mention the *moku* of Wai'anae. These particular *mele* may also be classified as *mele wahi pana* (songs for legendary or historic places).

3.5.1 Aloha 'Ia 'o Wai'anae

This *mele* was written by Abigail Pililā'au and Rachael Kaleiwahea. Hailama Farden shares this *mana'o* on the *mele*:

In a video taped interview given to Hailama by Mrs. Pilila'au's remaining two daughters, Agnes Kim & Mercy Garcia, they stated the song was Auntie Rachael Kaleiwahea's, who took the *mele* to Auntie Abbie to paka (edit). Since Mrs. Pilila'au had much to edit, she joined in ownership. Ka'ala is the highest mountain on O'ahu. Pōka'i means Pō the night of Ī and was the name of a no longer existing coconut grove in the area of Kamaile, near the present site of Wai'anae Intermediate School. The correct name for Pōka'i bay is Nene'u. Ōmalaea or Malaea is not the name of the rock which bears its name, the correct name is Nene'u. Malaea is the ancient name of the area where the Army Rest Camp is now located.

<i>Aloha 'ia 'o Wai'anae</i>	Love for Wai'anae
<i>He malu i ka ulu niu</i>	The peaceful shady
<i>Ulu niu kaulana 'o Pōka'i</i>	Famous coconut grove of Pōka'i Bay
<i>He nani ke 'ike aku</i>	I see the beauty
<i>Kū kilakila Ka'ala</i>	Majestic Ka'ala
<i>Kuahiwi kau i ka hano</i>	The glorious mountain
<i>Uluwehi i ka maile lau li 'ili 'i</i>	Where the small leaf maile grows in profusion
<i>He 'ala hu'ihu'i ē</i>	With its penetrating fragrance
<i>Pā 'ana ka makani he Kaiāulu</i>	The wind named Kaiāulu
<i>He aheahe mālie</i>	Blows gently
<i>Puā i ke 'ala o ka 'awapuhi</i>	Brings the fragrance of ginger
<i>He pua 'ala onaona</i>	The sweet smelling flower

<i>Ha'ina mai ka puana</i>	Tell the refrain
<i>O Wai'anae ku'u home</i>	Of my home at Wai'anae
<i>Home i aloha 'ia e mākou</i>	The home that we love
<i>Home pōina 'ole</i>	The unforgettable home
[Huapala n.d.]	

3.5.2 Mele 'Āina – Hālau Wai'anae Molale i Ka Lā

This *mele* was written by Isabella Kalili Miller Desha while she lived in Wai'anae District. It speaks of well-known *wahi pana*, not only in Wai'anae but also in Nu'uano.

<i>Hālau Wai'anae molale i ka lā</i>	Wai'anae is like a house that shimmers in the sun
<i>Ala pono i ke kula 'o Kūmanomano</i>	A direct path that leads to the plains of Kūmanomano
<i>Kūnihi ka noho a Maunalahilahi</i>	Steep is the stance of Maunalahilahi
<i>Ho'omaha aku i ka wai o Lualualei</i>	We'd rest near the waters of Lualualei
<i>Lei ana Nu'uano i ke kāmakahala</i>	Nu'uano is adorned by the lei kāmakahala
<i>I paukū 'ia me ka 'āhihi</i>	Combined with the lehua 'ahihi
<i>I ho'ohihi nō au, na'u nō 'oe</i>	My admiration is yours, for indeed you are mine
<i>'O ko'u kuleana pa'a nō ia</i>	You are bound to me as one
<i>He 'ike haole,</i>	When meeting the stranger
<i>E lūlū lima ke aloha ē!</i>	Extend the hand in the greeting of love!

[Kamehameha Schools n.d.]

3.5.3 Ka'ala

This *mele* was composed by Matilda Kauwe and John Noble and was translated by Lalepa Koga. Ka'ala is the tallest peak on the island of O'ahu. Ko'iahi at Ka'ena was renowned for the small leaf *maile* (*Alyxia olivaeformis*). Halemano is another name for Helemano near Wahiawā and Hale'iwa.

<i>Hanohano Ka'ala kau mai luna ē</i>	Ka'ala is magnificent, an imposing figure there
<i>Ua like a like me Ko'iahi</i>	A peer to Ko'iahi
<i>Ka maile lauli i lau onaona ē</i>	The small-leaved <i>maile</i> , softly fragrant leaves
<i>Ho'oipo ana me Waikalua</i>	Courting with Waikalua

<i>Kau aku ka mana 'o no Halemano ē</i>	Thoughts yearn for Halemano
<i>Ia uka 'iu 'iu noho a ka manu</i>	That high upland dwelling of the birds
<i>Ua nu'a ē ke oho o ka 'awapuhi ē</i>	The leaves of the ginger are luxuriant
<i>Ka lau o ka 'ie 'ie a me ka palai</i>	The abundant leaves of the 'ie 'ie and the palai
<i>Ha'ina 'ia mai ana ka puana ē</i>	Let it be told
<i>Ua like a like me Ko'iahi</i>	A peer to Ko'iahi
Source: Noble's Hawaiian Hulas, Copyright 1931, 59, Miller Music Corp.	
[Huapala n.d.]	

3.5.4 Nani Ka'ala

This *mele* likely dates to the 1930s; the composer is unknown. Ka'ala is symbolic of a woman, who is possibly seeking a mate. She relates her various encounters with different men as she travels the districts of O'ahu. In the third verse, an *ulua* (jackfish; *Caranx ignobilis*) is symbolic of a male lover (Huapala n.d.).

<i>He nani Ka'ala, lae, la lae lae</i>	Beautiful is Ka'ala
<i>Kuahiwi nani 'oe, lae, la lae lae</i>	You are a beautiful mountain
<i>I Nu'uaniu au, lae, la lae lae</i>	I was at Nu'uaniu
<i>Ka makani Ko'olau, lae, la lae lae</i>	The wind of the Ko'olau
<i>I Kailua au, lae, la lae lae</i>	I was at Kailua
<i>Huki mai ka ulua, lae, la lae lae</i>	Pulling in a jackfish
<i>I Kane'ohe au, lae, la lae lae</i>	I was at Kane'ohe
<i>I ka 'ohe kaulana, lae, la lae lae</i>	Famous for the utility towers
<i>I He'eia au, lae, la lae lae</i>	I was at He'eia
<i>Eia a'e ke aloha, lae, la lae lae</i>	Here is love
<i>I Waiahole au, lae, la lae lae</i>	I was at Waiahole
<i>He kanaka pihole, lae, la lae lae</i>	A very flirtatious man
<i>I Waikane au, lae, la lae lae</i>	I was at Waikane
<i>He kane hana nui, lae, la lae lae</i>	A hard working man
<i>Ha'ina Ka'ala, lae, la lae lae</i>	Tell of Ka'ala

Kuahiwī nani 'oe, lae, la lae lae

You are a beautiful mountain

Source: Puke Mele by Kimo Alama –

[Huapala n.d.]

3.5.5 Kalena Kai

This *mele* was originally a chant by King Liholiho, translated by Kanani Mana. Liholiho composed this *mele* in remembrance of his visit to Waialua in the 1820s on the way to Kaua'i to see King Kaumuali'i. The *mele* mentions Lauhulu and Pu'ukapu, the guardians of Mount Ka'ala. It also mentions Ka'ena Point, where the souls of the deceased (*leileina 'uhane*) leap into the next world.

'O Kalena kai Hale'au'au

Kalena kai, the bathhouse

A'o līhu'e i Mālama nui

The chill at Mālama nui

'O ka 'ehu'ehu o ke kai

The sea spray

Ka moena pāwehe o Mokulē'ia

Geometric designs of the plains of
Mokulē'ia

'O ka wai iho ia olu kāua

The descending water refreshes us

A'o Ka'ala kau mai i luna

Mount Ka'ala rises above

Ka lae 'o Ka'ena oni ma mua

The cape of Ka'ena appears ahead

'O Lauhulu no me Pu'ukapu

With Lauhulu and Pu'ukapu

'O Halemano lūlū i ka lehua

Halemano is verdant with *lehua*

'O Waimalu no noho i ka malu

Waimalu is there in peace

Ha'ina 'ia mai ana ka puana

Tell the refrain

O ka lua o nā lani e ō mai

The graves of the chiefs, they call

Ha'ina 'ia mai ana ka puana

Tell the refrain

A'o līhu'e i Mālama nui

The chill at Mālama nui

[Huapala n.d.]

3.5.6 Nene'u

This *mele* was composed by Abigail Pilila'au and translated by Kini Sullivan. Nene'u is the proper name for Pōka'i Bay in Wai'anae. The *mele* also mentions the Kaiāulu wind, which is the wind of Wai'anae District. It is a pleasant and gentle trade wind.

Kaulana 'oe Nene'u kou inoa

Famous are you, Nene'u for your
name

I ka ne'e a ke kai i ka pu'e one

For the moving of the sea on the
sand bar

*He nani Ka'ala kau mai i luna
Kuahiwi kaulana ku kilakila*

Beautiful is Ka'ala that rises above
Famous mountain that stands
majestic

*'O 'oe Wai'anae noho i ka la'i
Me na kini lehulehu e po'ai ana*

You, Wai'anae, live in peace
With the multitude surrounding

'O ka pa kolonahe a ke Kaiaulu

The gentle blowing of the Kaiaulu
wind

Halihali mai ana ke 'ala lipoa

Is carrying the fragrance of *lipoa*

Ha'ina 'ia mai ana ka puana

The story is told

Kaulana 'oe Nene'u i kou inoa

Famous are you, Nene'u, for your
name

[Huapala n.d.]

Section 4 Traditional and Historical Background

4.1 Pre-Contact to Early Post-Contact Period

4.1.1 Settlement Patterns

The archaeological record suggests early Hawaiians formed settlements of hamlets along the coasts, interred the deceased, ate domesticated pigs (*Sus scrofa*), dogs (*Canis lupus familiaris*), and chickens (*Gallus gallus*), and cleared tracts of forest (Kirch 2000:293). Significant advances in radiocarbon dating in the past two decades suggest the initial settlement of Hawai'i from eastern Polynesia occurred between approximately AD 1000 and 1200 (Kirch 2011:3). The early settlers of the Hawaiian archipelago would have been especially attracted to windward O'ahu with its coral reefs, bays, and sheltered inlets for fishing; dense basalt dikes for the production of stone adzes and other tools; and amphitheater-headed valleys and broad alluvial floodplains that contained fertile soils, numerous permanently flowing streams, and abundant rainfall for the cultivation of crops (Kirch 1985:69). Archaeological excavation data indicates the settlers' descendants, like their east Polynesian ancestors, lived in pole-and-thatch dwellings, interred the dead beneath these structures, cooked in small hearths, manufactured stone tools and bone and shell fishhooks, and supported themselves by cultivating inland crops, raising domesticated animals, hunting seabirds on offshore islets, fishing, and gathering shellfish (Kirch 1985:71–74). As they adapted to local conditions, they invented distinctive Hawaiian artifacts including two-piece fishhooks and the *lei niho palaoa* (*lei* of rock oyster shell), which, in addition to other ornaments interred with individuals, suggests a degree of social stratification among the early Hawaiians (Kirch 1985:71–74).

The rich marine resources of Wai'anae District, particularly the fishing grounds off-shore, would have been a strong draw for early O'ahu inhabitants. As population in the windward areas increased, permanent settlement began to spill over into the well-watered regions of the leeward side. Eventually, with further population expansion, permanent settlement spread to the less watered regions of the leeward side, including much of the Wai'anae District (Cordy et al. 1998:1–6). Settlement most likely began as temporary habitation along the coast in association with marine resource procurement. Later, permanent settlements developed in response to expanding populations in previously settled, better watered areas.

During the pre-Contact period, land use in Lualualei was greatest near the coast, where marine resources were plentiful, and in the mountainous interior, where rainfall was sufficient for agriculture and forest resources. The intervening lands between the sea and the mountains were a dry scrubland. Although potentially useful for dryland agriculture in the wet winter months, it is unlikely this area would have been largely utilized by Native Hawaiians. The settlement pattern prior to Western Contact for this region likely consisted of dispersed residences concentrated at the sea and the mountains. Depending on the season and the available resources, the resident population most likely used multiple residences, perhaps one at the seaside and another *mauka*, to reduce resource transport time. It is also possible, as suggested by the account provided by Pukui (cited in McGrath et al. 1973:10), that there existed an informal exchange network whereby coastal dwellers traded marine resources for the agricultural and forest resources of the inland dwellers.

Wai'anae was also known for the independent lifestyle and attitudes of its inhabitants, another trend that continues into the modern day. This independence was a factor in many of the political struggles of the pre- and early post-Contact periods, when the district was the scene of battles and rebellions and often the refuge of dissident and/or contentious factions. This independent spirit is often attributed to the conditioning of generations having to cope with marginal environments. In Wai'anae, the lack of water for cultivation and consumption was precariously balanced by the productivity of the marine resources available off-shore (Handy and Handy 1972:467).

4.1.2 Observations of Early Explorers and Westerners

In January 1778, Captain James Cook sighted Wai'anae from a distance but chose to continue his journey and landed off Waimea, Kaua'i instead. Fifteen years later, Captain George Vancouver approached the coast of Wai'anae from Pu'uloa (Pearl Harbor) and wrote the following in his log:

The few inhabitants who visited us [in canoes] from the village earnestly entreated our anchoring [...] And [they] told us that, if we would stay until morning, their chief would be on board with a number of hogs and a great quantity of vegetables; but that he would not visit us then because the day was taboo poorly [a kapu day]. The face of the country did not however, promise an abundant supply [of water]; the situation was exposed. [Vancouver in McGrath et al. 1973:17]

Vancouver was not impressed with what he saw of the Wai'anae coastline, stating in his log that the entire coast was "one barren, rocky, waste nearly destitute of verdure, cultivation or inhabitants." Vancouver did not anchor at Wai'anae. Had he done so, he likely would have been pleasantly surprised by portions of the coastline. Even though the dry, arid coast presented a dismal aspect, the ocean provided an abundant supply of fish, while the lowlands provided 'uala (*Ipomoea batatas*; sweet potato) and niu (*Cocos nucifera*; coconut). The inland valley areas were planted in kalo (*Colocasia esculenta*; taro) and wauke (*Broussonetia papyrifera*; paper mulberry), and the upland forest regions provided various woods needed for weapons and canoes. By the 1790s, there was likely a good variety of introduced vegetables being planted in the valley as well.

4.1.3 Sandalwood Trade

The Hawaiian Islands began exporting sandalwood to Asia shortly after 1800. By 1811, sandalwood merchants began actively exploiting the Hawai'i market and huge amounts of sandalwood were shipped to China. Traditionally, Hawaiians used sandalwood for medicinal purposes and as a scent to perfume their *tapa*. Kamehameha I and a few other chiefs controlled the bulk of the sandalwood trade. Kamakau writes, "The chiefs also were ordered to send out their men to cut sandalwood. The chief immediately declared all sandalwood to be the property of the government" (Kamakau 1992:204). When Kamehameha found out how valuable the sandalwood trees were, he ordered the people not to let the felled trees fall on the young saplings, to ensure their protection for future trade (Kamakau 1992:209–210).

The sandalwood trade greatly impacted Hawaiian culture, and the traditional lifestyle Hawaiians pursued was altered drastically. In an effort to acquire western goods, ships, guns and ammunition, the chiefs had acquired massive debts to the American merchants ('Ī'Ī 1959:155). Chiefs including Boki Kama'ule'ule were in debt 15,000 piculs (one picul equals 133.33 pounds) of sandalwood worth approximately \$200,000 (McGrath et al. 1973:24). According to Samuel Kamakau:

The debts were met by the sale of sandalwood. The chiefs, old and young, went into the mountains with their retainers, accompanied by the king and his officials, to take charge of the cutting, and some of the commoners cut while others carried the wood to the ships at the various landings; none was allowed to remain behind. Many of them suffered for food [...] and many died and were buried there. The land was denuded of sandalwood by this means. [Kamakau 1992:252]

In 1816, Boki was made governor of O'ahu and chief of Wai'anae District, serving in that capacity until 1829, when he sailed to New Hebrides in search of sandalwood. Boki assembled a group of people to join him on his sandalwood expedition and set out with two ships to help pay off his debts. Boki was never seen again in the Hawaiian Islands, and it was reported that his ship was wrecked (McGrath et al. 1973:24).

After Kamehameha's death in 1819, Liholiho allowed his chiefs to share in the trade, resulting in an unrestrained demand on the stocks of wood and upon the energies of the *maka'āinana* who did the harvesting. The demands put on the *maka'āinana* to harvest wood for trade caused many agricultural fields to become fallow and unused. By October 1817, a Russian visitor noted that on O'ahu "[t]here are now many fields left uncultivated, since the natives are obliged to be cutting sandalwood" (Barratt 1988:218). Kamakau also commented on the plight of the common people and the general state of the land during this time:

This rush of labor to the mountains brought about a scarcity of cultivated food throughout the whole group. The people were forced to eat herbs and tree ferns, hence the famine called Hīlaulele, Hāhāpilau, Laulele, Pualele, 'Ama'u, or Hāpu'u, from the wild plants resorted to. [Kamakau 1992:204]

The sandalwood era was short-lived, and by 1829, the majority of the sandalwood trees had been harvested; the bottom fell out of the trade business. Although it is unclear how extensive Lualualei's sandalwood resources were, the effects of sandalwood gathering and the population shifts and disruption of traditional lifestyles and subsistence patterns would undoubtedly have affected the population of Lualualei.

4.1.4 Missionaries

The Reverend William Ellis visited the Hawaiian Islands in 1823. At that time, he estimated the population of O'ahu to be about 20,000 (Ellis 1969:19). The missionaries were the first to gather systematic figures regarding population throughout the districts on each island. The first census figures were gathered from 1831–1832 and 1835–1836. Population figures for Lualualei were not given; however, population numbers for all of Wai'anae were 1,868 and 1,654, respectively (Schmitt 1973:9).

4.1.5 Population Decline

Following the western encroachment into the Wai'anae Coast, a swift decline in population occurred as a result of disease and out-migration to Honolulu (McGrath et al. 1973:25). The *'ōku'u* (disease at time of Kamehameha I, thought to be cholera) epidemic of 1804 undoubtedly had a significant effect on the native population. John Papa 'Ī'ī (1959:16) relates that the *'ōku'u* "broke out, decimating the armies of Kamehameha I [on O'ahu]." Other diseases also took their toll. In 1835, a missionary census listed 1,654 residents on the Wai'anae Coast. The population of the Wai'anae Coast was subsequently decimated by a smallpox epidemic in late 1853. In 1855, the

Wai'anae tax collector recorded 183 taxpayers on the leeward coast, thought to represent a total population of about 800 people. This catastrophic depopulation facilitated the passing of large tracts of land into the hands of a few landholders and led to the decline of the traditional economy that once supported the region (Hammatt et al. 1993:10–11).

4.2 Mid- to Late 1800s

4.2.1 Life in Lualualei During the Mid-Nineteenth Century

In 1855, a Wai'anae tax collector named J.W. Makalena listed the taxpayers and their contributions in the 'Ewa & Wai'anae Tax Assessment (McGrath et al. 1973:28). This provided insight into the population of the area during that time. By the mid-nineteenth century, fewer than 800 people resided in Wai'anae—less than one-fourth of the number estimated to be living there in 1778 (McGrath et al. 1973:28). This is attributed to the series of epidemics brought by foreigners. Even with its distance from the densely populated areas of Honolulu, Wai'anae was also gravely affected by the fatal diseases.

Although the population declined considerably, those that remained kept to a traditional lifestyle of living in grass houses and farming about 100 acres of taro. For the few that could afford them, frame homes were built on stilts, and livestock were kept beneath (McGrath et al. 1973:28). By this time, the people of the area started to veer away from bartering fish and taro and began to use money instead. Makalena's record of taxes also provides insight into how the Hawaiian people obtained money. The 116 adult males who were taxed owned over 200 horses and 13 mules and donkeys in Wai'anae Valley, Kamaile, and Nānākuli (McGrath et al. 1973:29). An account by Mark Twain, who visited the Islands in the 1860s, describes the excellence of the Hawaiians at horse trading and how a steed could be purchased for \$2.50 to \$40 (McGrath et al. 1973:31).

4.2.2 The Māhele (1848)

The Organic Acts of 1845 and 1846 initiated the process of the Māhele—the division of Hawaiian lands—that introduced private property into Hawaiian society. In 1848, the crown and the *ali'i* received their land titles. *Kuleana* awards to commoners for individual parcels within the *ahupua'a* were subsequently granted in 1850. At the time of the Māhele, the *ahupua'a* of Wai'anae, which included Lualualei, was listed as Crown Lands and was claimed by King Kamehameha III as his personal property (Board of Commissioners 1929:28). As such, the land was under the direct control of the King. As discussed above, many of the chiefs had run up huge debts to American merchants throughout the early post-Contact period. A common practice at the time was to lease, or mortgage, large portions of unused land to other high chiefs and foreigners to generate income to pay off the earlier debts. Until the passage of the Act of 3 January 1865, which made Crown Lands inalienable, Kamehameha III and his successors did as they pleased with the Crown Lands, selling, leasing, and mortgaging them at will (Chinen 1958:27).

In 1850, the Privy Council passed resolutions that affirmed the rights of the commoners or native tenants. To apply for fee-simple title to their lands, native tenants were required to file their claim with the Land Commission within the specified time period of February 1846 to 14 February 1848. The Kuleana Act of 1850 confirmed and protected the rights of native tenants. Under this act, the claimant was required to have two witnesses testify they knew the claimant and the boundaries of the land, knew that the claimant had lived on the land for a minimum of two years, and knew that no one had challenged the claim. The *kuleana* parcels also had to be surveyed.

However, not everyone who was eligible to apply for *kuleana* lands did so and, likewise, not all claims were awarded. Some claimants failed to follow through and come before the Land Commission, while others did not produce two witnesses. Still others failed to have their land surveyed. For many reasons, of the potential 2,500,000 acres of Crown and Government lands “less than 30,000 acres of land were awarded to the native tenants” (Chinen 1958:31).

Of the 12 land claims made in Lualualei, six were awarded. All six awards were upland in the ‘ili of Pūhāwai, far *mauka* of the current project area; no quiet land titles were claimed near the coast (Waihona ‘Aina 2020). From the claims, it can be determined that at least eight families were living in Pūhāwai at the time of the Māhele in 1848. Together, they cultivated a minimum of 163 *lo‘i*. The numerous *lo‘i* mentioned in the claims indicate the land was ideal for growing wetland taro and that this livelihood was actively pursued by the awardees. In addition, dryland crops were grown on the *kula* (plains), and *wauke* was being cultivated. At least one claimant made salt. Land Commission Awards (LCAs) are shown in Figure 5 and listed in Table 1.

Information on the occupations at Lualualei at the time of the Māhele, aside from the historical accounts of scattered coastal hamlets, is from archival records indicating there were nine taxpayers at Mā‘ili near the coast and 11 taxpayers at Pūhāwai in the upper valley (Cordy et al. 1998:36). Mā‘ili is along the eastern edge of the *ahupua‘a*, and Pūhāwai is *mauka*. Based on these numbers, Cordy estimates a population of 90 people for coastal Lualualei and 55 people for the upper valley in 1855 (Cordy et al. 1998:36). Regardless of the population estimate, the existence of 20 taxpaying adults in Lualualei indicates the area was inhabited and worked. In this case, the Māhele documents are only a partial reflection of the population and land use during the time.

4.2.3 Lualualei Ranch

The first longhorn cattle were brought to O‘ahu from Hawai‘i Island in 1809 by John Young and Kamehameha I (Kamakau 1992:268). One of the first areas to be utilized for ranching on the Wai‘anae coast was Lualualei. The Hawai‘i Bureau of Land Conveyances (B.C.), 1845–1869, (archived at the DLNR) records show that William Jarrett leased approximately 17,000 acres of land from Kamehameha III in 1851; this was the beginning of Lualualei Ranch. The lease was written for 30 years, with a lease fee of \$700 per year (DLNR, B.C. Liber 4:616–618). It seems that Jarrett sold one-half of his interest in the ranch to Paul F. Marin, son of Don Francisco de Paula Marin. Marin lived on the ranch and managed it until 1864, when a dispute arose over the profits of the ranch. Apparently, Marin had never turned over any ranch profits to Jarrett during the time he managed it. After the dispute was settled, Jarrett took on George Galbraith as a new partner (DLNR, B.C. Liber 18:31).

In 1869, Jarrett sold the remaining years of his son’s interest in Lualualei Ranch to James Dowsett (DLNR, B.C. Liber 29:16–18). James Dowsett was a descendant of a British sea captain and is noted for being the first Anglo-Saxon child born in Honolulu (Nakamura and Pantaleo 1994:21). Dowsett was an entrepreneur of sorts and dabbled in many different business ventures, including the following:

[...] a whaling fleet, a dairy, a salt works, an extensive trade in awa (a Hawaiian narcotic drink) and numerous land holdings. [...] He also ran cattle at different times in Nanakuli, Mikilua and Lualualei. [McGrath et al. 1973:32]

Table 1. Land Commission Awards (LCAs) in Lualualei Ahupua'a

LCA #	Claimant; <i>Ili</i>	Property Description (measurements omitted)	Original LCA Transcription in Hawaiian
7436	Kahi; Puhawai	Parcel of land 1: A narrow strip of land belonging to Kalimako. In Puhawai, Waianae. Oahu. Commencing at the southern corner, moving northeast at the boundary of the land manager. Continuing northeast along the gulch. Then moving northwest at the boundary of Apiki. Continuing northwest, then going southwesterly, then going southeast at the boundary of Maui, then finishing at the beginning. In total 24 acres, (or) 2.21 links. Parcel of land 2: House platform [<i>Hanapili</i>] in Puhawai. At the house boundary of Kailianu. The three other sides are bound by the land manager. In total there are 24 acres (or) .56 links. A. Bishop	<i>Apāna 1. He mooaina Kalimako. Puhawai. Waianae. Oahu. E hoomaka ma ke kihi He. e hele ana. A. 81° Hi. i 3.50 kh. ma ka palena i Konohiki. Malaila aku. A. 41° Hi. i 2.06 kh. ma kahawai. Malaila aku. A. 2 Ko. i 11.79 kh. ma ka palena no Apiki. Malaila aku. A. 3° Ko. i 13.63 kh. Malaila aku. He. 7(?)° Ko. i 13.40 kh. Malaila aku. He. 20 ½° Hi. i 25.80 kh. ma ka palena aina no Maui. a hiki i ka hoomaka ana. He. 24 Eka. 2.21 kh. huinaha.</i> <i>Apāna 2. Kahuahale. Hanapili. Puhawai. He. 34 ½° Ko. i 2.12 kh. ma ka palena hale o Kailianu. He. 50° Hi. i 2.95 kh. ma kula o Konohiki. A. 34° Hi. i 2.12 kh. ma kula o Konohiki. A. 50° Ko. i 2.95 kh. ma kula o Konohiki. He. 6.35 kh. huinaha Pau loa 24 Eka. (?) .56 kh. huinaha.</i> <i>A. Bishop. Mea Ana</i>
7451	Kailianu; Puhawai, Mookumu	Parcel of land: 1 A house lot at Keakahiki in the section of Puhawai, Waianae, Oahu. Commencing at the eastern corner and moving southwest at the boundary house lot of Kami. Thence north thence northeast thence southeast, then finishing at the beginning. In total there are 3.34 links. Parcel of land 2: A taro field of Kumukukui, in the section of Moomuku, Waianae. Commencing at the southern corner and moving northeast at the boundary of Kaina. Thence northwest. Thence southwest. Thence southeast, and finishing at the beginning. In total there are 1.91 links. Parcel of land 3: Narrow strip of land, in the section of Moomuku, Waianae. Commencing at the	<i>Ap. 1. He Pahale ma Keakahiki, ili o Puhawai. Waianae. Oahu. E hoomaka ma ke kihi Hi, e hele ana. He. 34 ½° Ko. i 2.12 kh. ma ka palena pahale o Kami. Malaila aku. A 5° 1.58 kh. Malaila aku. A. 3(?)° Hi. i 2.12 kh. Malaila aku. He. 50° Hi. i 1.50 kh. a hiki i ka hoomaka ana He. 3.34 kh. huinaha.</i> <i>Ap. 2. He loi o Kumukukui, ili o Moomuku. Waianae. E hoomaka ma ke kihi. He. e hele ana. A. 68° Hi. i 1.20 kh. ma ka palena no Kaina. Malaila aku. A. 24° Ko. i 1.80 kh. Malaila aku. He. 66° Ko. 1.10 kh. Malaila aku. He. 20° Hi. i 1.71 kh. a hiki i ka hoomaka ana. He. 1.91 kh. huinaha.</i> <i>Ap. 3. Mooaina Kanaikoele. ili o Moomuku. Waianae. E hoomaka ma ke kihi. A. Ko. e hele ana. He. 31 ½° Ko. i</i>

LCA #	Claimant; <i>ʻIli</i>	Property Description (measurements omitted)	Original LCA Transcription in Hawaiian
		northwestern corner, moving southwest at the land boundary of Hulupu. Thence southeast then northeast at the farm boundary. Thence northeast then southeast again at the land managers boundary. Thence north, then west back to the beginning quadrangle. In total there are 2 acres (or) 2.25 links. Final payment for 2 acres 7.5 links total. A. Bishop	4.80 kh. ma ka palena aina no Hulupu. Malaila aku. He. 56° Hi. i 1.86 kh. Malaila aku. A. 55° Hi. i 1.76 kh. ma ka palena koele. Malaila aku. A. 81° Hi. i 2.24 kh. Malaila aku. He. 5 ½ ° Hi. I 3.85 kh. Malaila aku. A. (?)2° Hi. i 1.11 kh. ma ka palena no Konohiki. Malaila aku. A. i 4.00 kh. Malaila aku. Ko. i 3.90 kh. a hikiika hoomaka ana. He. 2 Eka me 2.25 kh. huinaha. Pau loa. 2 Eka 7 ½ kh. huinaha. A. Bishop. Mea Ana
7452	Kaahia; Puhawai	Parcel of land 1: A narrow strip of [<i>Ohia grove</i>]. Puhawai. Waianae, Oahu. Commencing at the western corner going southeast at the farm boundary, thence northeast thence northwest thence southwest at the land boundary of Kahi. Then going to the beginning quadrangle. One acre. Parcel of land 2: House lot at Keakapili in Puhawai. Commencing at the western corner and moving southeast at the house lot of Apiki. Thence northwest, thence southeast, then going back to the beginning quadrangle. It total there are 2 acres .80 links. A. Bishop	Ap. 1. Mooaina, Kumuohia. Puhawai. Waianae. Oahu. E hoomaka ma ke kihi. Ko. e hele ana He. 44° Hi. i 3.60 kh. ma ka palena koele. Malaila aku. A. 35° Hi. i 6.16 kh. Malailaaku. A. 40° Ko. i 2.00 kh. Malaila aku. He. 49° Ko. i 5.70 kh. ma ka palena aina no Kahi. a hiki i ka hoomaka ana. 1 Eka me (???)4 Ap. 2. Pahale ma Keakapili. Puhawai. E hoomaka ma ke kihi Ko. e hele ana. He. 50° Hi. i 2.00 kh. ma ka pahale o Apiki. Malaila aku. A. 30° Hi. i 2.12 kh. Malaila aku. A. 50° Ko. i 2.00 kh. Malaila aku. He. 30° Hi. i 2.12 kh. a hiki i ka hoomaka ana. He 4.24 kh. huinaha. Pau loa. 2 Eka 0.80 kh. huinaha. A. Bishop. Mea Ana.
7454	Kanahele; Puhawai	Parcel of land 1: A narrow strip of land, in Waianae, Oahu. Commencing at the western corner, moving north then south along the land manages boundary. Thence southeast thence southwest at the cliff boundary. Thence northwest at the boundary of Kailaa. Going back to the beginning quadrangle. In total there are 7 9/100 links.	Ap. 1. Mooaina. (??) (??) Waianae. Oahu. E hoomaka ana ke kihi. Ko. e hele ana. A. 20° He. i 2.70 kh. ma ka palena o Konohiki. Malaila aku. He. 44° Hi. i 3.60 kh. Malailaaku. He. 52° Ko. i 2.64 kh. ma ka aoao pali. Malaila aku. A. 42 ½ ° Ko. i 2.10 kh. ma ka palena no Kailaa. a hiki ika hoomakaana He. 7 09/100 kh. huinaha.

LCA #	Claimant; <i>ʻIli</i>	Property Description (measurements omitted)	Original LCA Transcription in Hawaiian
		Parcel of land 2: The house lot of Keakapili located in Puhawaii. Commencing at the southern corner and moving northeast at the land manager's field. Thence northwest at the fence of Kailaa. Thence southwest thence south at the house site of Kaahia, then going back to the beginning eastern quadrangle. A. Bishop	<i>Ap. 2. Pahale no Keakapili. Puhawaii. E hoomaka ma ke kihi He. e hele ana A. 30° Hi. i 2.86 kh. ma kulao Konohiki. Malaila aku. A. 50° Ko. i 7.86 kh. ma ka paaaina o Kailaa. Malaila aku. He. 30° Ko. i 2.86 kh. Malaila aku. He. 50°(??) (??) kh. ma ke kahuahale o Kaahia. a hiki i ka hoomaka ana. Hi. 4.42 kh. huinaha. A. Bishop. Mea Ana.</i>
7456	Kailaa; Puhawaii	Parcel of land 1: A narrow strip of land, within Keakapili, in Puhawaii, Waianae, Oahu. Commencing at the western corner and moving east at the house lot of Kailaa. Thence East at the field boundary. Thence northwest at the base of the cliff. Thence northeast, thence northwest at the gulch. Thence southwest beside the gulch, then going back to the beginning. Parcel of land 2: The home site at Keakapili. Commencing at the northern corner of the property, moving southeast at the fence of Kailaa. Thence southwest thence northwest thence north then south to the beginning quadrangle. There are 6 acres with 7.42 links total. A. Bishop	<i>Ap. 1. Mooaina. Keakapili. Puhawaii. Waianae. Oahu. E hoomaka ma ke kihi Ko. e hele ana. Hi. 55 ½° HI. i 3.06 kh. ma ka pahale no Kailaa. Malaila aku. Hi. i 6.70 kh. ma ka palena kula. Malaila aku. A. 6° Ko. i 3.95 kh. ma kumu pali. Malaila aku. A. 4 ½° Hi. i 3.15 kh. Malaila aku. A. 13° Hi. i 3.57 kh. Malaila aku. A. 43° Ko. i 3.10 kh. a ke kahawai. Malaila aku. He. 39° Ko. i 13.55 kh. ma kahawai. a hiki i kahi.(?) hoomaka (??) (??) Eka, a he okoa na koele. Ehia mawaena. Ap. 2. He kahuahale ma Keakapili. E hoomaka ma ke kihi A. e hele ana. He. 55 ½° Hi. i 2.90 kh. mano paaaina no Kailaa. Malaila aku. He. 53° Ko. i 2.65 kh. Malaila aku. A. 55 ½° Ko. i 2.90 kh. Malaila aku. A. 53° A (?) 2.65 kh. He 7.42 kh. huinaha. Pau loa. 6 Eka me 7.42 kh. huinaha. A. Bishop. Mea Ana</i>
8005	Apiki; Puhawaii	Parcel of land 1: Commencing at the eastern corner and going southwest beside the gulch. Thence northwest thence northwest at the land boundary of Mahi. Thence southeast and going back to the beginning quadrangle. Parcel of land 2: The home at Kealahili. Commencing at the northern corner and going	<i>Ap. 1. E hoomaka ma ke kihi. Hi. e hele ana. He. 28° Ko. i 13.00 kh ma kahawai. Malailaaku. A. 53° Ko. i 3.62 kh. Malaila aku. A. 3° Ko. i 13.63 kh. ka palenaaina no Mahi. Malaila aku. He. 68° Hi. i 11.00 kh. a hiki i ka hoomaka ana, (????)(?) (?) me 5.82 kh. huinaha. Ap. 2. Ko Kahuahale ma Keakahili. Puhawaii. E hoomaka ma ke kihi A. e hele ana. He. 34° Ko. ma (?) palena pa o</i>

LCA #	Claimant; <i>Ili</i>	Property Description (measurements omitted)	Original LCA Transcription in Hawaiian
		southwest at the boundary marker of Kahi. Thence southeast, thence south again. Thence northwest at the boundary marker of K(??)ahai, then finishing back at the beginning quadrangle. Total 7 acres. A. Bishop	<i>Kahi. Malaila aku. He. 50° Hi. i 2.00 kh. Malailaaku. 4.34° He. i 2.12 kh. Malaila aku. A.50° Ko. 2.00 kh. ma ka palena pa o K(??)ahia, a hiki i ka hoomaka ana. He. 4.24 kh. huinaha. Pau loa 1(7) Eka. A. Bishop. Mea Ana</i>

In 1880, George Bowser traveled through Wai‘anae and wrote about Lualualei in his journal:

Leaving Waianae, a ride of about two miles brought me to the Lualualei Valley, another romantic place opening to the sea and surrounded in every direction by high mountains. This valley is occupied as a grazing farm by Messrs. Dowsett & Galbraith, who lease some sixteen thousand acres from the Crown. Its dimensions do not differ materially from those of the Waianae Valley, except that it is broader – say, two miles in width by a length of six or seven miles. The hills which enclose it, however, are not so precipitous as those at Waianae, and have, therefore, more grazing land on their lower slopes, a circumstance which adds greatly to the value of the property as a stock farm. Although only occupied for grazing purposes at present, there is nothing in the nature of the soil to prevent the cultivation of the sugar cane, Indian corn, etc. Arrangements for irrigation, however, will be a necessary preliminary to cultivation. [Bowser 1880:493–494]

Bowser’s comments imply that though water was still a problem, Lualualei seemed to have some potential for development.

In 1894, Link McCandless entered the ranching scene:

[...] he and a man named Tom King chartered the brigantine Oakland in Seattle, filled her home with cattle and the cabins with feed, and sailed for Hawaii. By the turn of the century, McCandless’ ranching empire covered much of the Waianae Coast, including land at Nanakuli, 4,000 acres at Lualualei, San Andrews’ property in Makua and pastures toward Kaena Point. [McGrath et al. 1973:31]

An 1894 description of Lualualei by the Commissioner of Crown Lands described the land as “one of the best and most valuable of the Crown lands on the Island of O‘ahu [...] surpassing any of the other lands for richness and great fertility of the soil” (Commissioner of Crown Lands 1894:36).

4.2.4 The Waianae Sugar Plantation and Waianae Sugar Company

The sugar industry came to the Wai‘anae coast in 1878, when the first sugarcane was planted in upper Wai‘anae Valley. With strong financial backing from King Kalākaua, Hermann A. Widemann, a German immigrant, was able to initiate the Waianae Sugar Plantation in 1879; this plantation would eventually extend into Lualualei. By 1892, at least 300 acres of cane were planted in Lualualei. In addition to the cultivated lands, a railroad, irrigation ditches and flumes, reservoirs, and plantation housing were constructed to support the sugar industry. The cane from the *mauka* areas of Lualualei was loaded onto a railroad and transported to the mill at Wai‘anae.

Although it was never a large-scale plantation by modern standards, it was one of the first and last to be served by a plantation railroad. Some 15 miles of 30-inch narrow-gauge railroad delivered harvested cane to the mill. All of the sugar was shipped by inter-island vessels to Honolulu departing from Wai‘anae Landing, until the Oahu Railway and Land Company (OR&L) railroad was extended to Wai‘anae and beyond in 1895.

By 1901, the Waianae Sugar Company had obtained a five-year lease on 3,332 acres of land at Lualualei to be used for raising cane, as well as for ranching (Figure 15) (Commissioner of Crown Lands 1902). Sugar and ranching continued to dominate the Lualualei landscape during the early



Figure 15. Sugarcane in Lualualei Valley, with flume on the right and Kōlekole Pass in center background (Hawai'i State Archives, n.d.)

years of the twentieth century. The determining factor in the success of Lualualei for sugar production was always the water.

Throughout the first half of the twentieth century, the Waianae Sugar Company continued cultivating their sugar lands in Lualualei. However, by the 1940s, Waianae Sugar Company could no longer compete with foreign labor. This, in addition to drought problems, labor unions, and land battles caused the undermining of the Waianae Sugar Company. In 1946, the company was liquidated, and the land was sold.

A 1906 Donn Hawaii Territory map indicates the current project area was outside the boundaries of the sugar plantation, within “Public Lands” (Figure 16).

4.2.5 OR&L

The OR&L signed its charter on 4 February 1889. The railway was the brainchild of Benjamin Franklin Dillingham. Along with James Castle and others, he had invested in large tracts of land for speculation and resale, but the idea was slow to catch on because “the land lay too far from Honolulu, at least 12 miles” (McGrath et al.1973:54). He foresaw an economic opportunity. The railway was a means to provide transportation to the country and promote development of unoccupied lands, as well as connect with the sugar plantations in ‘Ewa, Wai‘anae, Waialua, and Kahuku. Construction on the railway began in March of 1889.

The railroad would reach from Honolulu to Pearl City in 1890, to Wai‘anae in 1895, to Waialua Plantation in 1898, and to Kahuku in 1899 (Kuykendall 1967:III:100). This railroad line connected with the Waianae Sugar Plantation in 1895, generally running along the *makai* boundary of the sugarcane fields. Several early twentieth century maps show a railroad line extending along the southern boundary of the project area, in the approximate location of present-day Mā‘ili‘ili Road (Figure 17 through Figure 20).

Operations at the OR&L began to slow down in the 1920s. Electric streetcars were built for public transportation within the city of Honolulu, and automobiles began to be used by families for transportation outside the city (Chiddix and Simpson 2004:185). The build-up to World War II turned this decline around, as the U.S. military utilized the OR&L lines to transport materials to build defense projects around the island. Historians have noted that one of the most serious mistakes made by the Japanese in their 1941 attack on Pearl Harbor was their decision not to bomb the railway infrastructure. Soon after the attack, the OR&L operated 24 hours a day, transporting war materials and troops from Honolulu to the new and expanded army, naval, and air bases. The huge naval base at Pearl Harbor had its own rail lines that connected to the OR&L lines. The railway served the Wai‘anae Coast until 1947 when the Waianae Sugar Plantation closed down.

4.3 Twentieth Century to Present

4.3.1 Homesteading

After the overthrow of the Hawaiian monarchy in 1893, Crown Lands and Government Lands were combined to become Public Lands. The Crown Lands were no longer indistinguishable and inalienable. In 1895, the Republic of Hawaii decided to open lands for homesteading in the hopes of attracting a “desirable class of immigrants”—Americans and those of Caucasian descent (Kuykendall and Day 1961:204). In anticipation of the Dowsett-Galbraith lease expiring in 1901, the Government intended to auction off these lands to the highest bidder.

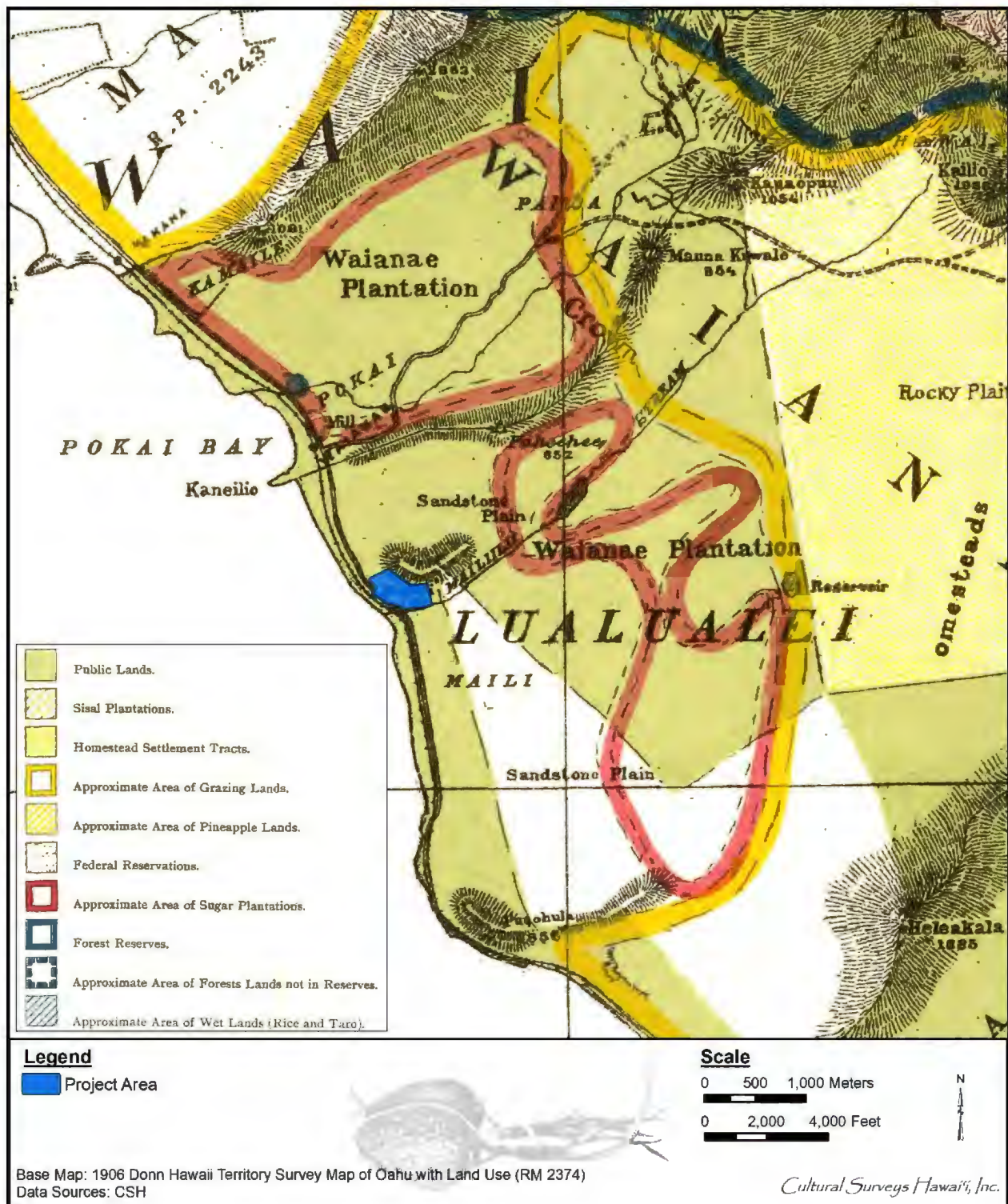


Figure 16. 1906 Donn Hawaii Territory survey map of O'ahu with land use, showing the project area within public lands

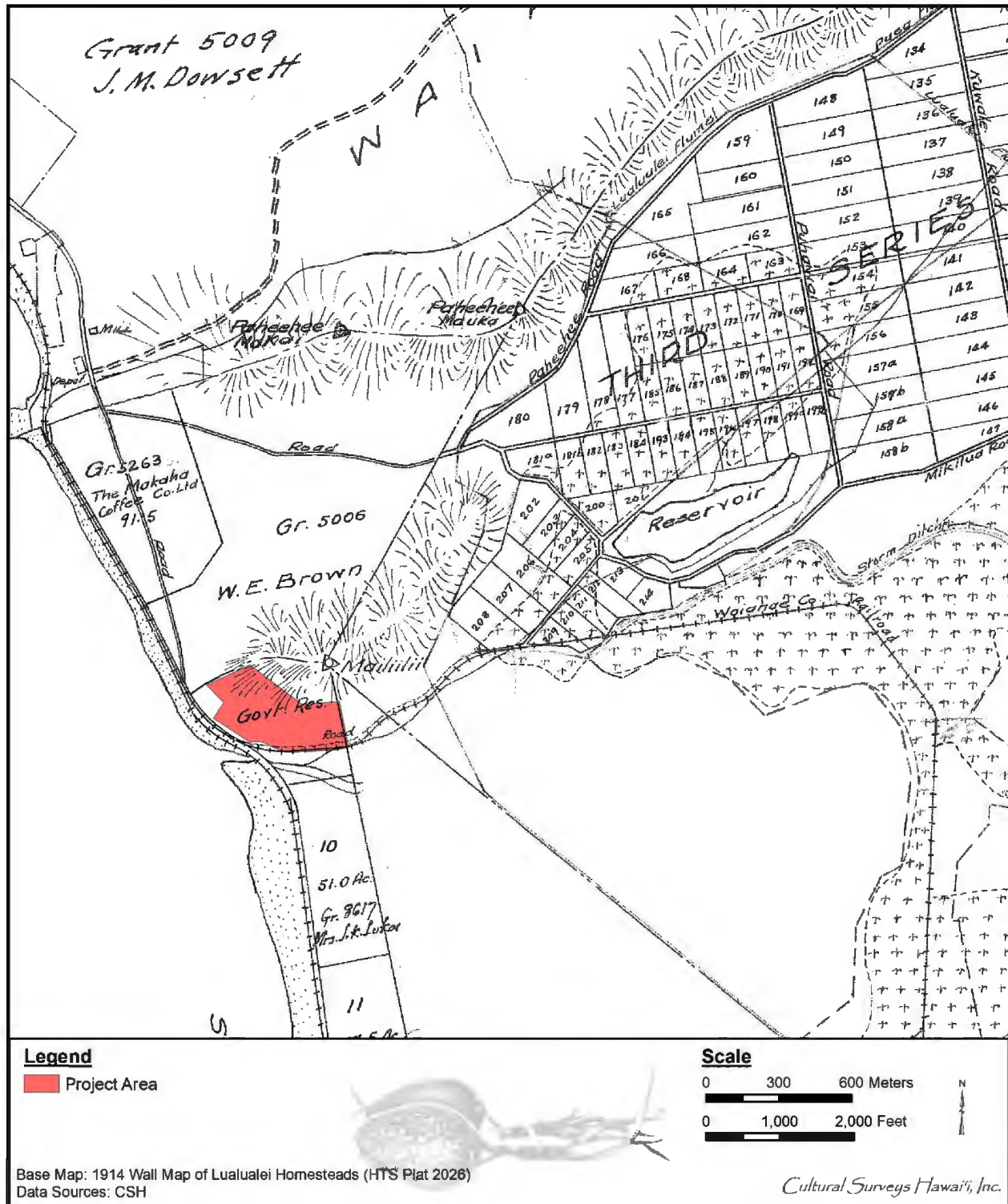


Figure 17. 1914 Wall map of Lualualei Homesteads (HTS Plat 2026), showing a railroad line along the southern boundary of the project area

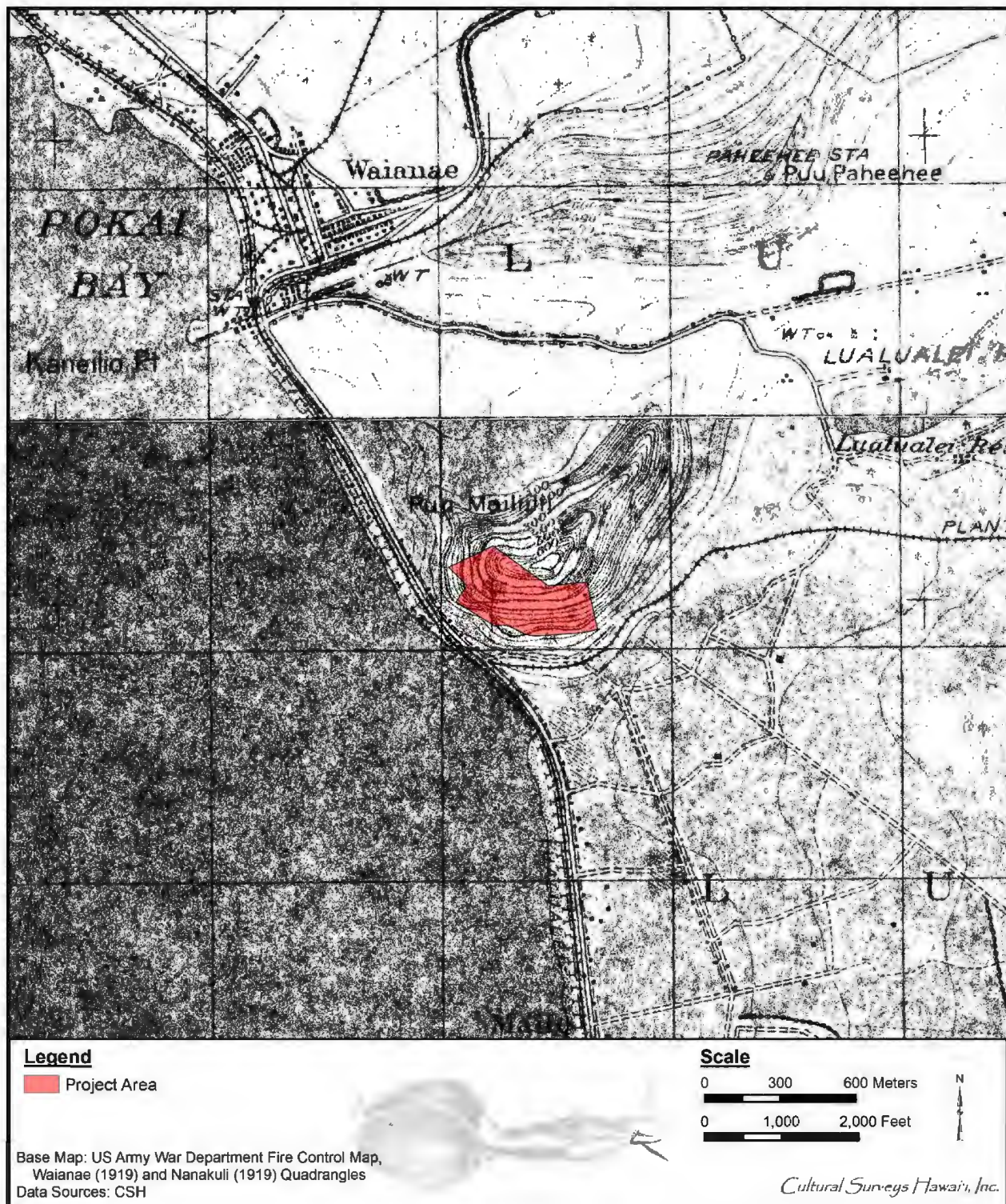


Figure 18. 1919 U.S. Army War Department fire control map, Waianae and Nanakuli quadrangles, showing the project area

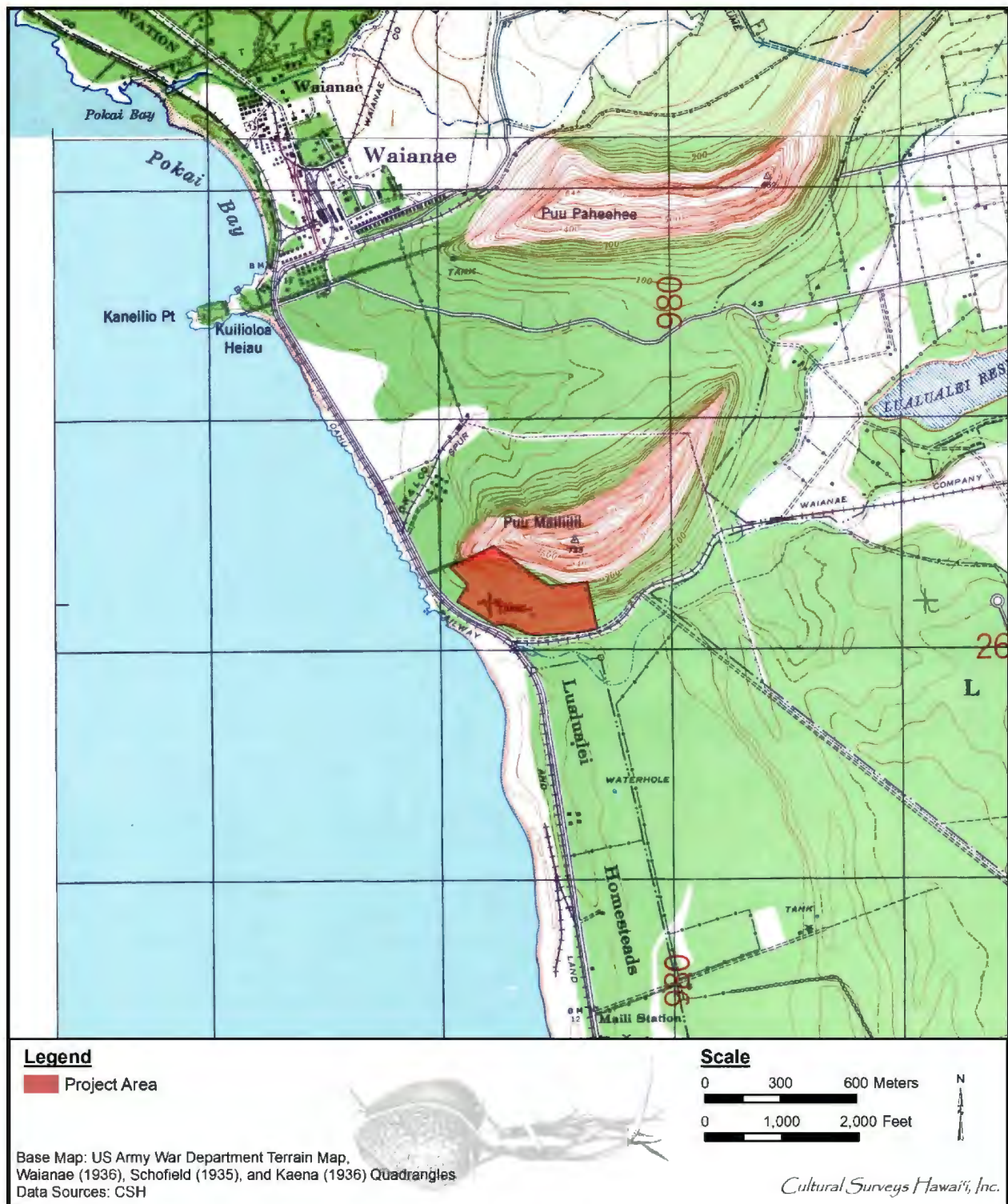


Figure 19. 1935–1936 U.S. Army War Department terrain map, Waianae, Schofield, and Kaena quadrangles, showing the project area

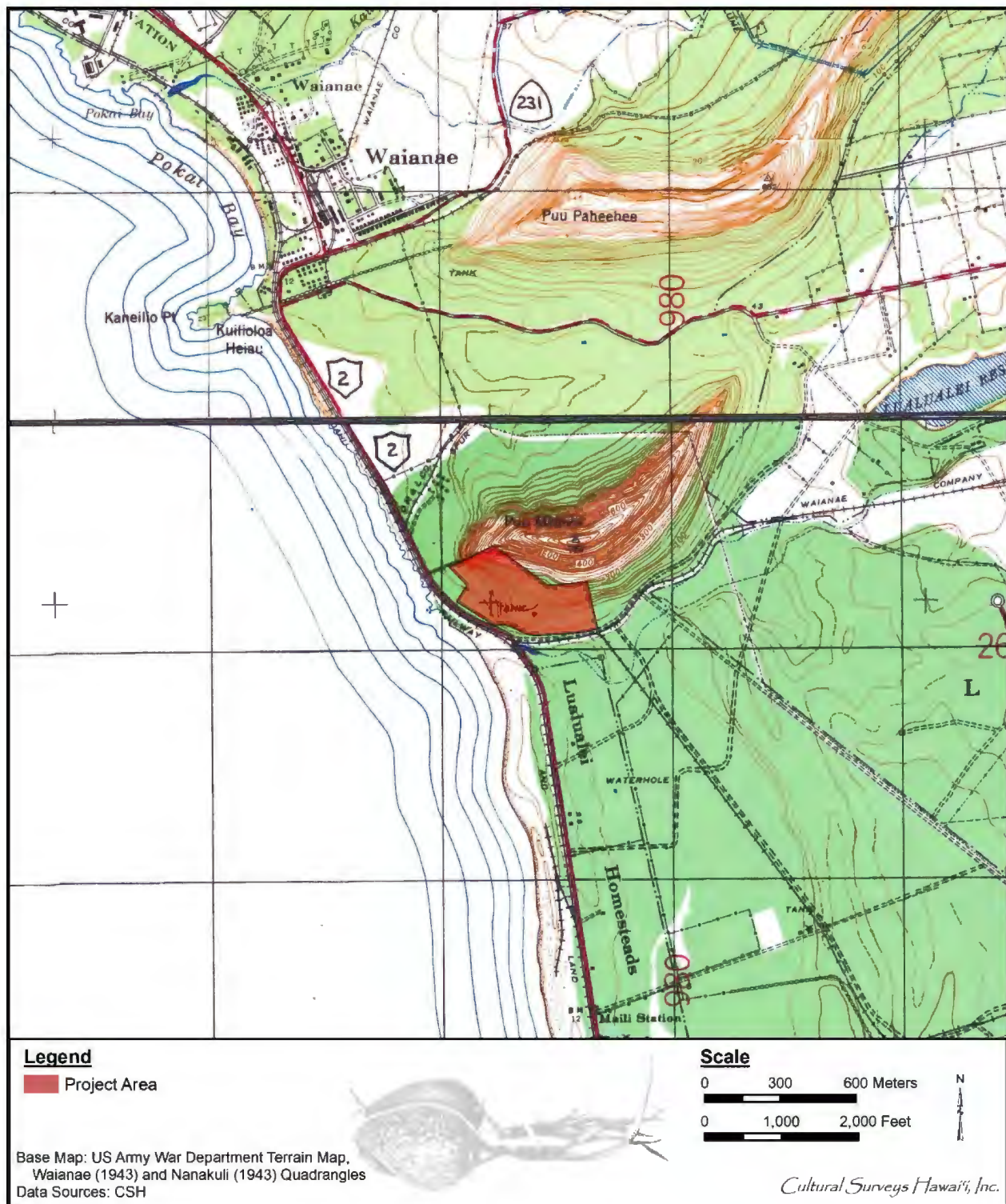


Figure 20. 1943 U.S. Army War Department terrain map, Waianae and Nanakuli quadrangles, showing the project area

There were two waves of homesteading on the Wai'anae Coast (McDermott and Hammatt 2000). The first impacted Lualualei and coincided with homesteading occurring at Wai'anae Kai. In 1902, the government ran advertisements in the local newspapers, stating their intent to open up land in Lualualei for homesteads (Kelly 1991:328). Due to the lack of water, the lots were classified as second-class pastoral land rather than agricultural land. The homesteads were sold in three series between the years 1903 and 1912. In Lualualei, the first series was for *mauka* lots purchased by McCandless, who ranched most of his land until 1929, subletting use rights to the Sandwich Island Honey Company. The second and third series were for lots in the lower valley and along the coast, *mauka* of the government road. By the early 1920s, about 40 families had settled on homestead lots in Lualualei (Kelly 1991:331–332). The well-known families that obtained homestead lots at this time were Von Holt, McCandless, and Dowsett.

Despite promises by the government to supply water, there was none; what little there was, was not enough to go around. Competition between the Waianae Plantation and the homesteaders for water caused friction within the community, and the lack of water placed a hardship on the homesteaders. Water had to be carried in, and many lost their crops. The Waianae Sugar Company had a lease with the government to take 2.5 million gallons of water daily from Government Lands. Even after their lease had expired, the plantation continued to take the water. In 1924, the government made an agreement with the plantation to release 112,000 gallons of water daily for the homesteaders.

As mentioned above, the 1906 Donn Hawaii Territory map (see Figure 16) indicates the current project area was within these “Public Lands.” However, the Lualualei Homesteads are south of the project area, which appears to have remained completely undeveloped until the early 1950s. A 1953–1954 USGS topographic map indicates several buildings or structures along the southern boundary of the project area (Figure 21). These structures are also depicted on the 1963–1969 USGS topographic map (Figure 22); however, they appear to have been demolished by the time of the 1977 aerial photograph (Figure 23).

4.3.2 Military

The military was a major influence in Lualualei Ahupua'a during the first half of the twentieth century. By 1929, over 8,184 acres of the McCandless Cattle Ranch had been condemned and purchased by the U.S. Navy for the construction of a Naval Ammunition Depot for the ships based at Pearl Harbor Naval Base. Although Congress had designated approximately 2,000 acres in Lualualei as Hawaiian home lands in 1921, Territory of Hawai'i Governor Lawrence Judd signed executive orders in 1930 and 1933 granting 1,525 acres of land in Lualualei to the United States Navy for an ammunition depot and radio station (Kakesako 1998). The construction of the Naval Magazine LLL (NAVMAG) and Radio Transmission Facility (RTF) in Lualualei took place between 1930 and 1935 (Kelly 1991:339–341) (Figure 24 through Figure 26).

The mission of NAVMAG Lualualei is to receive, renovate, maintain, store, and issue ammunition, explosives, expendable ordnance items and weapons, and technical ordnance material for the Navy, Air Force, Army, and other activities and units as designated by the Chief of Naval Operations (CNO). The Naval Communication Area Master Station, Eastern Pacific, Radio Transmission Facility (NCTAMS EASTPAC, RTF) Lualualei facility operates on another 1,720 acres in Lualualei and is used for high and low frequency radio signal transmissions for the navigation of Navy vessels throughout the Pacific Ocean (Townscape 2009:2–48).

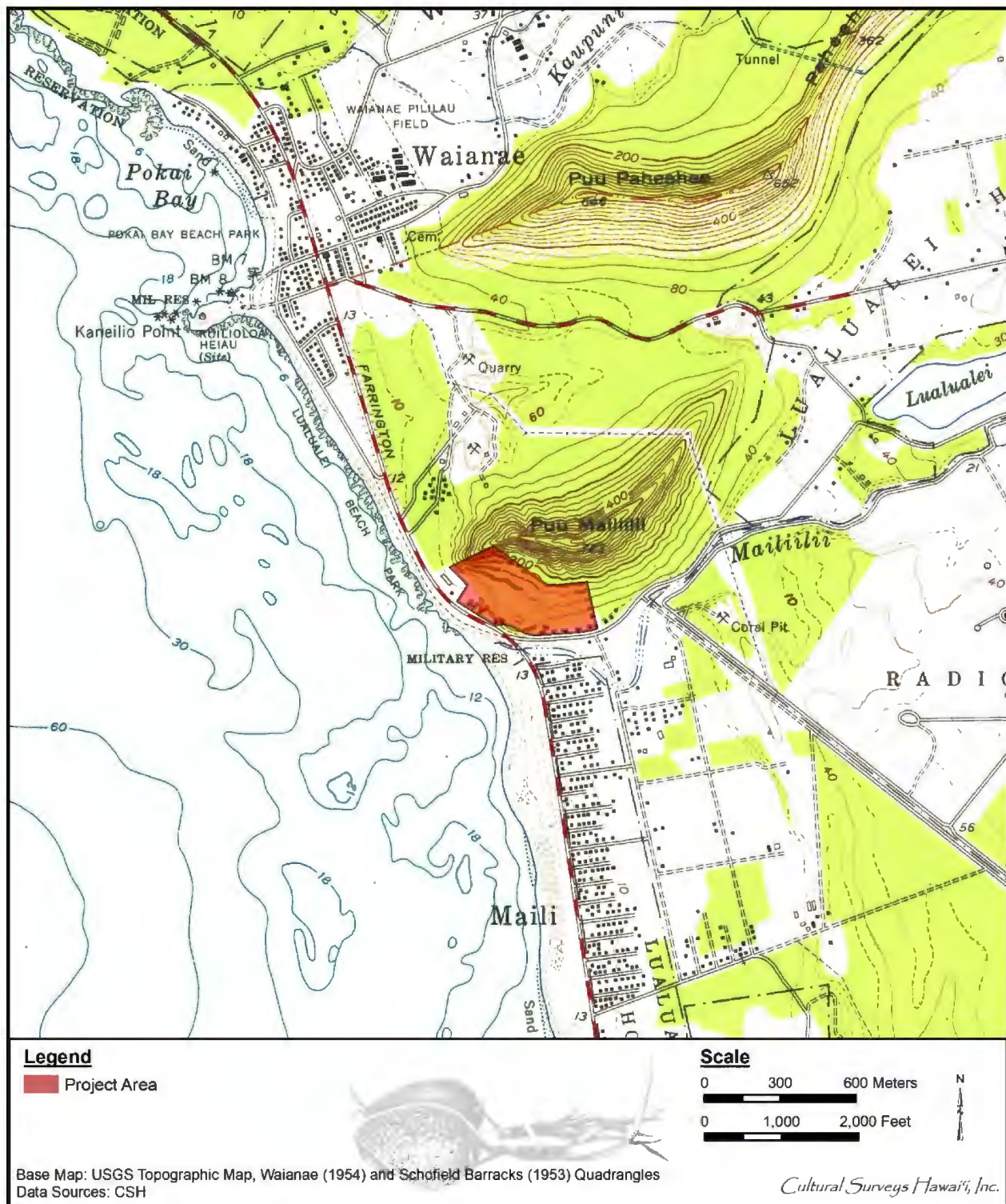


Figure 21. 1953–1954 USGS topographic map, Waianae and Schofield Barracks quadrangles, showing eight buildings or structures within the southern portion of the project area



Figure 22. 1963–1969 USGS topographic map, Waianae and Schofield Barracks quadrangles, showing ten buildings or structures within the southern portion of the project area



Figure 23. 1977 USGS orthophotoquad aerial photograph, Waianae quadrangle, showing the project area



Figure 24. Photo of the Lualualei Naval Base area, n.d. (Hawai'i State Archives)

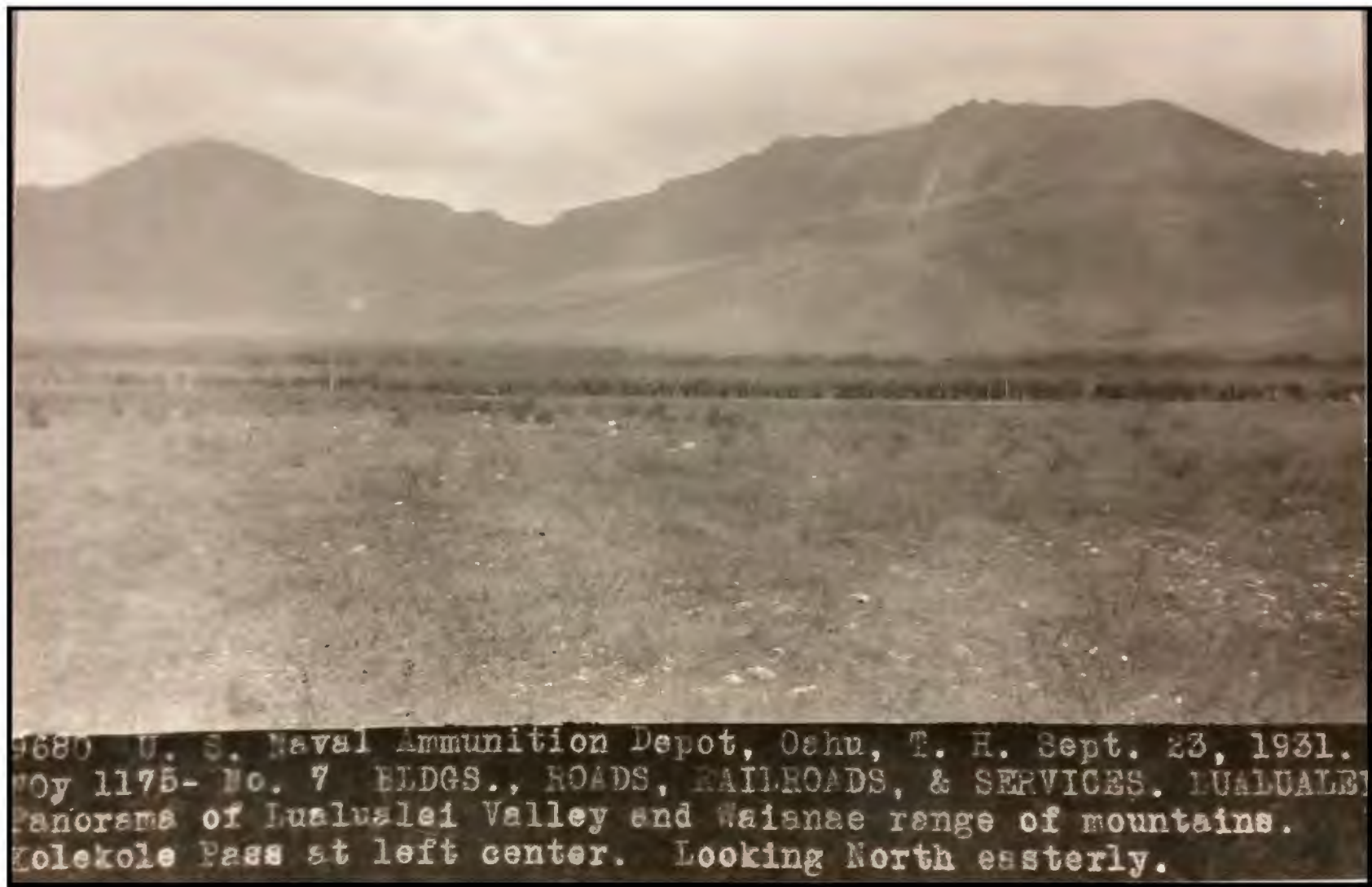


Figure 25. Photo of the Lualualei Naval Ammunition Depot taken on 23 September 1931 showing the valley and Wai‘anae Mountain Range; Kulekole Pass lies in the middle background (Hawai‘i State Archives)



Figure 26. Photo of the Lualualei Naval Ammunition Depot taken on 28 October 1931; Pu'u Heleakalā in the center background; government offices in the foreground (Hawai'i State Archives)

In 1986, the State of Hawai'i filed a lawsuit to recover land in Lualualei. However, two years later, Judge Harold Fong threw out the lawsuit, stating that the statute of limitations had run out (Kakesako 1998). In 1995, President Bill Clinton signed the Hawaiian Home Lands Recovery Act, which was authored by Senator Daniel Akaka and set a dollar value on the confiscated lands in Lualualei. In 1998, the Department of Hawaiian Home Lands (DHHL) was awarded 894 acres of surplus federal land under the Hawaiian Home Lands Recovery Act. However, the Navy was still granted continued use of the Lualualei facilities. Today, two antennas of the Navy's communication systems at Lualualei stand at 458 m (1,503 ft), the State of Hawai'i's highest structure (Figure 27).

The number of troops stationed and trained on the Wai'anae Coast during World War II at times reached 15,000 to 20,000 (McGrath et al. 1973:136). The beaches were fortified with barbed wire and concrete bunkers, many of which are still visible today. Martial law severely curtailed the movements of the local population. In 1971, the Navy began sub-leasing some of its land for agricultural use, mainly for grazing and bee keeping. The presence of the military boosted the economy of Lualualei by providing jobs to residents over the years. The lower portions of Lualualei Valley were developed into residential lots after World War II. The current project area lies outside military lands.

The transformation of the Second Brigade of the Twenty-fifth Infantry Division (Light) into a Stryker Brigade Combat Team brought 291 Stryker urban assault vehicles to Hawai'i, requiring 25,663 acres of land on the islands of O'ahu and Hawai'i. The army considered the possibility of locating Stryker facilities on Naval Magazine Lualualei, which occupies 8,105 acres in central O'ahu; however, the location was rejected due to "a possible hazardous material spill site," which would pose very high "potential cleanup costs." Lualualei has been rendered unsuitable for the Stryker Brigade due to past military use (Ferguson and Turnbull 2010:48).



Figure 27. Photo of the two antennas used for the Navy's communication systems at Lualualei; the two antennas stand at 1,503 ft, the highest structures in the State of Hawai'i (CSH 2012)

Section 5 Previous Archaeological Research

Previous archaeological studies in the vicinity of the current project are presented in Figure 28 and summarized in Table 2. Archaeological historic properties documented in the course of those studies are presented in Figure 29 and summarized in Table 3. They are discussed below.

No previous archaeological studies have been conducted within the current project area; however, two prior studies are adjacent. In 1990, Bishop Museum (Sinoto and Pantaleo 1990) performed an archaeological reconnaissance survey immediately north of the northwest end of the current project area. No historic properties were identified, and Sinoto and Pantaleo (1990:4) propose that the “complete absence of surface archaeological features or other cultural elements may be due to the extent and nature of previous disturbance in the area.” Alternatively, they suggest the area may not have been occupied during the pre-Contact period, since “normally, even with extensive disturbance, some evidence of former activities” remains.

In 1993, Bishop Museum (Flood and Dixon 1994) conducted an archaeological reconnaissance survey immediately west of the project area within the current WCCHC parcel; no historic properties were identified. During the survey, two soil profiles exposed in road cuts were cleaned and illustrated. The exposed stratigraphy revealed “a total absence of cultural deposits,” and Flood and Dixon (1994:i) concluded any “cultural remains which may have been present in the project area would presumably have been obliterated by recent and previous construction-related activities.” Soil Profile 1, the more eastern of the two profiles (and closer to the current project area), is presented in Figure 30.

No historic properties have been identified previously within the current project area, nor in the immediate vicinity. The closest are SIHP #s 50-80-07-1886 and -6358, approximately 400 m east and northeast of the project area, respectively. SIHP # -1886 is a stone mound (Robins and Anderson 1998), and SIHP # -6358 is an L-shaped stone alignment (Tulchin et al. 2003). Both were interpreted as traditional Hawaiian features dating to the pre- or early post-Contact period.

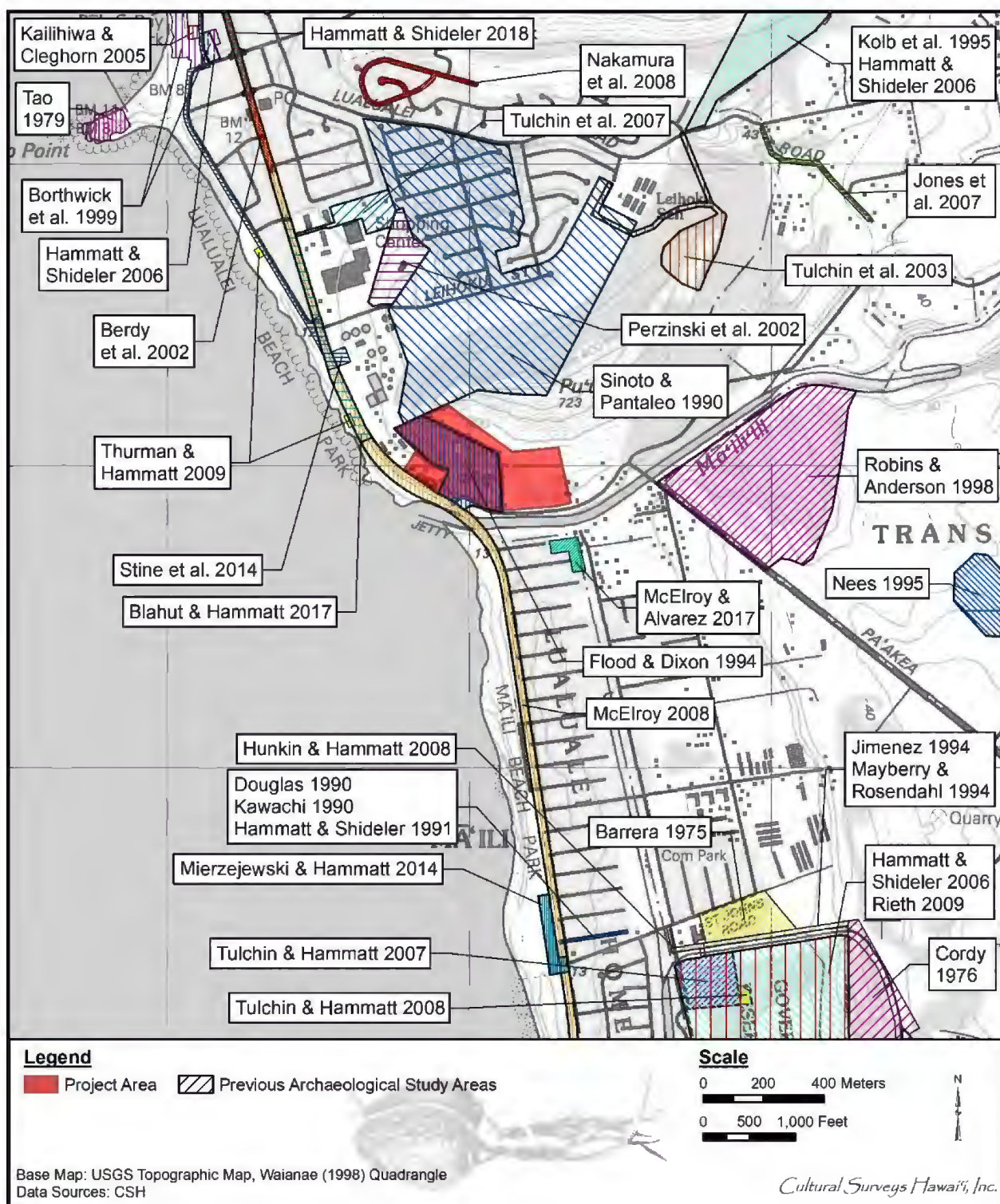


Figure 28. A portion of the 1998 USGS Waianae topographic quadrangle, with overlay of previous archaeological studies in the vicinity of the project area

Table 2. Previous archaeological studies in the vicinity of the project area

Reference	Type of Investigation	Location	Results (SIHP # 50-80-07-)
McAllister 1933	Archaeological reconnaissance survey	Island-wide	Site 152, Pu'upahe'ehe'e Heiau, and Site 153, Kū'īlioloa Heiau, identified north of current project area
Barrera 1975	Archaeological reconnaissance survey	Adjacent to Mā'ili Stream and Ho'okele St	No historic properties identified in vicinity of current project area
Cordy 1976	Archaeological reconnaissance survey	Kaiser Pacific Properties Land, Mā'ili Kai	No historic properties identified in vicinity of current project area
Tao 1979	Archaeological research	Kū'īlioloa Heiau	Recommends reconstruction and restoration of SIHP # -0153, Kū'īlioloa Heiau
Douglas 1990	Burial report	Liopolo St	SIHP # -4244 Burials 1, 2, 4, 6, and 7
Kawachi 1990	Burial report	Liopolo St	SIHP # -4244 Burials 1 and 2
Sinoto and Pantaleo 1990	Archaeological reconnaissance survey	Pōka'ī Bay Subdivision	No historic properties identified
Hammatt and Shideler 1991	Archaeological monitoring	Liopolo St	SIHP # -4244, human burials
Flood and Dixon 1994	Archaeological reconnaissance survey	Wai'anae Coast Comprehensive Health Center	No historic properties identified
Jimenez 1994	Archaeological inventory survey	Mā'ili Kai	No historic properties identified in vicinity of current project area
Mayberry and Rosendahl 1994	Archaeological reconnaissance survey	Mā'ili Kai	Identified three post-Contact historic properties in vicinity of current project area: SIHP # -3336, reservoir complex; SIHP # -3341, wall; and SIHP # -3348, mounds
Kolb et al. 1995	Archaeological inventory survey	Pahe'ehe'e Ridge	No historic properties identified in vicinity of current project area

Reference	Type of Investigation	Location	Results (SIHP # 50-80-07-)
Nees 1995	Archaeological reconnaissance survey	NRTF Lualualei	No historic properties identified
Robins and Anderson 1998	Archaeological reconnaissance survey	RTF Lualualei	Identified SIHP #s -1886, mound, and SIHP # -5592, enclosure, in vicinity of current project area
Borthwick et al. 1999	Subsurface archaeological survey	Pōkaʻī Bay Beach Park	No historic properties identified
Berdy et al. 2002	Archaeological monitoring	Farrington Hwy	Identified SIHP # -6400, historic trash pit
Perzinski et al. 2002	Archaeological inventory survey	NW Lualualei	No historic properties identified
Tulchin et al. 2003	Archaeological inventory survey	Proposed Waiʻanae 242 Reservoir and Access Road	Identified two possible shelters and a cave; no SIHP numbers assigned
Kailihiwa and Cleghorn 2005	Archaeological monitoring	Pōkaʻī Bay Beach Park	No historic properties identified
Hammatt and Shideler 2006	Archaeological field check and literature review	TMKs: [1] 8-4-016:008; 8-5-008:40,41 and 44; 8-5-018:019; 8-6-003:008; and 8-7-010:007	Five parcels considered for a Leeward Coast Emergency Homeless Shelter project; no historic properties identified
Jones et al. 2007	Archaeological monitoring	BWS system improvements on Waiʻanae Valley Rd and connecting streets	No historic properties identified
Tulchin and Hammatt 2007	Archaeological inventory survey	Leeward Coast Emergency Homeless Shelter project, Lualualei Ahupuaʻa	No historic properties identified
Tulchin et al. 2007	Archaeological inventory survey	Waianae Sustainable Communities Plan project	No historic properties identified
Hunkin and Hammatt 2008	Archaeological monitoring	Leeward Coast Emergency Homeless Shelter Project, Lualualei Ahupuaʻa	No historic properties identified

Reference	Type of Investigation	Location	Results (SIHP # 50-80-07-)
McElroy 2008	Archaeological monitoring	Farrington Hwy, portions of TMKs: [1] 8-2 through 8-7	No historic properties identified
Nakamura et al. 2008	Archaeological monitoring	MacArthur, Kawili and Alamihi streets	No historic properties identified
Tulchin and Hammatt 2008	Addendum Archaeological inventory survey	Leeward Coast Emergency Homeless Shelter Project, Lualualei Ahupua'a	No historic properties identified
Rieth 2009	Archaeological inventory survey	Former Voice of America site, Mā'ili	Identified SIHP #s -7081, Voice of America antenna system, and -7083, railroad berm, in vicinity of current project area
Thurman and Hammatt 2009	Archaeological monitoring	Lualualei Beach Park	No historic properties identified
Mierzejewski and Hammatt 2014	Archaeological monitoring	Mā'ili Beach Park	No historic properties identified
Stine et al. 2014	Archaeological monitoring	Wai'anae and Lualualei Ahupua'a, TMK: [1] 8-various	No historic properties identified in vicinity of current project area
Blahut and Hammatt 2017	Archaeological monitoring	Farrington Hwy ROW	No historic properties identified
McElroy and Alvarez 2017	Archaeological inventory survey	Proposed Hale Makana O Mā'ili Residential Complex	No historic properties identified
Hammatt and Shideler 2018	Archaeological literature review	Farrington Hwy ROW, Wai'anae Ahupua'a	No historic properties identified in vicinity of current project area

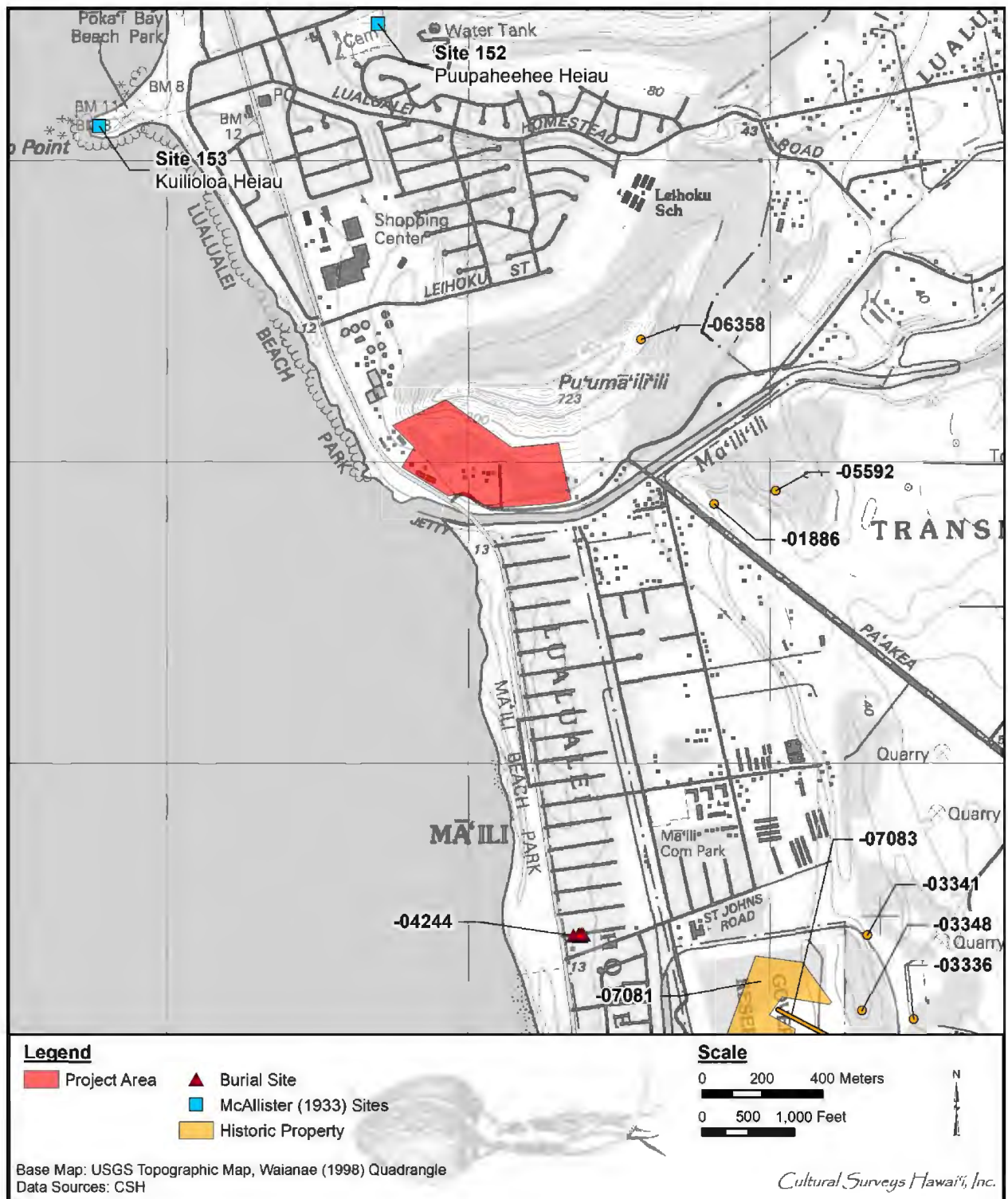


Figure 29. A portion of the 1998 USGS Waianae topographic quadrangle, with overlay of historic properties in the vicinity of the project area

Table 3. Historic properties previously identified in the vicinity of the project area

SIHP # 50-80-07-	Formal Type/ Name	Comment	Source
0152	Pu'upahe'ehe'e Heiau	"[C]ompletely destroyed" by enlargement of an adjacent cemetery; related to a <i>hōlua</i> slide used for sledding contests	McAllister 1933
0153	Kū'īlioloa Heiau	On the tip of Kāne'īlio Point, at the south end of Pōka'ī Bay	McAllister 1933
1886	Mound	Pre- or early post-Contact	Robins and Anderson 1998
3336	Reservoir complex	Post-Contact	Mayberry and Rosendahl 1994
3341	Wall	Post-Contact	Mayberry and Rosendahl 1994
3348	Mounds	Post-Contact	Mayberry and Rosendahl 1994
4244	Human skeletal remains	Burials 1, 2, 4, 6, and 7 were recovered; Burials 3 and 5 were preserved in place	Douglas 1990; Kawachi 1990; Hammatt et al. 1991
5592	Enclosure	Pre- or early post-Contact; interpreted as habitation site	Robins and Anderson 1998
6358	Alignment	L-shaped	Tulchin et al. 2003
7081	Voice of America antenna system	Post-Contact	Rieth 2009
7083	Railroad berm	Post-Contact	Rieth 2009

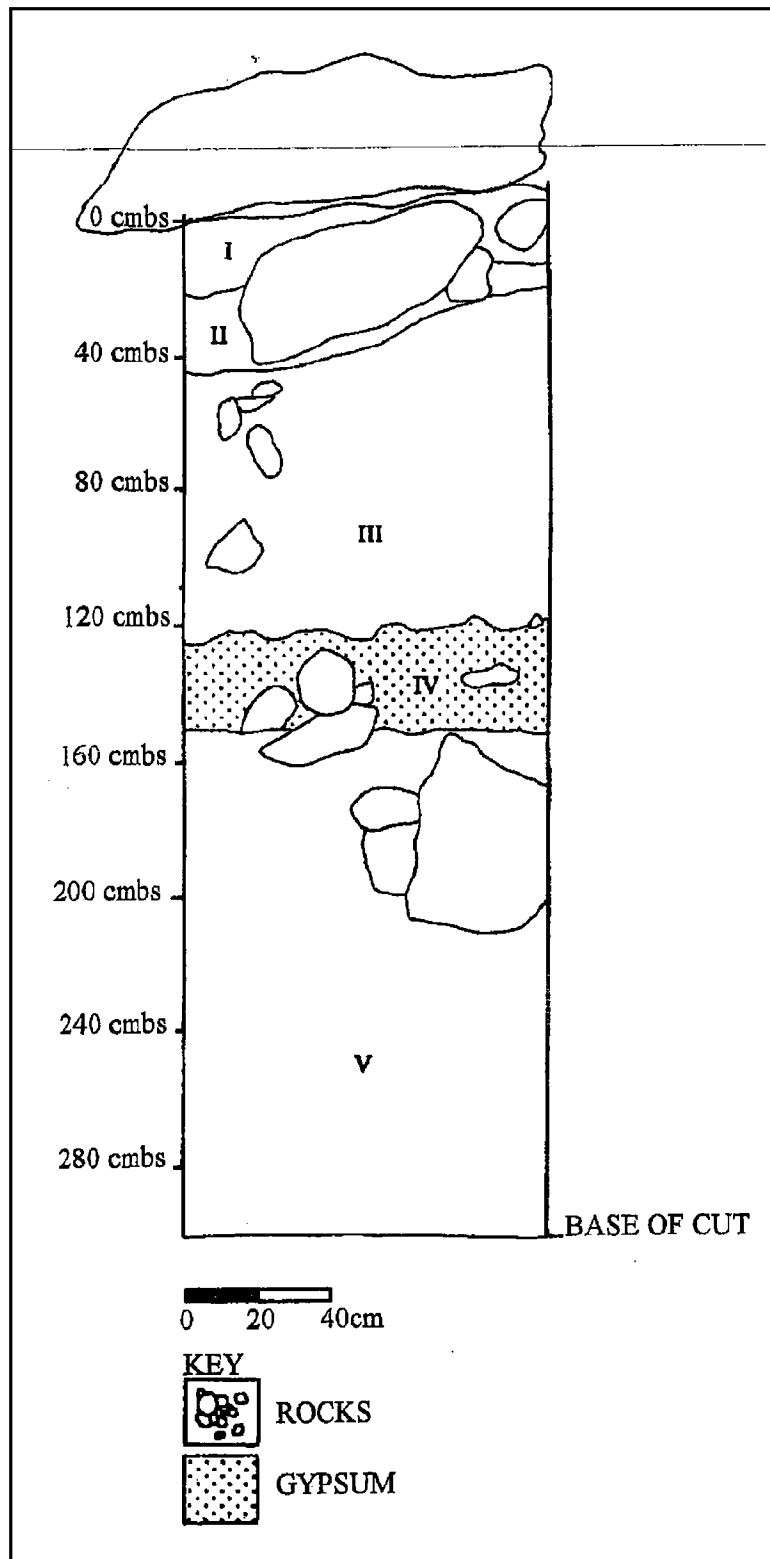


Figure 30. Flood and Dixon's (1994:7) Soil Profile 1, showing humic silt loam with many roots (I); compact silty clay (II); silty clay (III, IV); and silty clay loam (V)

Section 6 Community Consultation

6.1 Introduction

Throughout the course of this assessment, an effort was made to contact and consult with Native Hawaiian Organizations (NHO), agencies, and community members including descendants of the area, in order to identify individuals with cultural expertise and/or knowledge of the *ahupua‘a* of Lualualei. CSH initiated its outreach effort in September 2019 through letters, email, telephone calls, and in-person contact. CSH completed the community consultation in February 2020.

6.2 Community Contact Letter

Letters (Figure 31 and Figure 32) along with a map and an aerial photograph of the project were mailed with the following text:

At the request of Gerald Park Urban Planner, on behalf of the Wai‘anae Coast Comprehensive Health Center (“COMP”), Cultural Surveys Hawai‘i, Inc. (CSH) is conducting a Cultural Impact Assessment (CIA) for the COMP project in the *ahupua‘a* of Lualualei, Wai‘anae District, O‘ahu Island. The total project area is approximately 13.25 acres (5.36 hectares) of the TMK: [1] 8-6-001:012, 024, 025 & 026, 027 and 028. The project area is located at 86-260 Farrington Highway nestled between the ridges of Pu‘umā‘ili‘ili and the coast of Lualualei Beach Park. The project area is depicted on a portion of the 1998 Waianae U.S. Geological Survey (USGS) topographic quadrangle (Figure 1) and a 2015 aerial photograph (Figure 2).

Proposed Improvements

COMP is preparing a Master Plan to guide development for the next 5, 10 and 20 year intervals at its current medical facility. With the adoption and subsequent implementation of a Facilities Master Plan in 1996, there has been major construction at the COMP that included development of the Family Medical Building, Adult Medicine and Pharmacy, Emergency Medical Services Building, and the Malama Recovery Center. The Facilities Master Plan sunset in 2016.

The purpose of this second Master Plan is to translate the COMP’s mission into tangible physical form within the constraints of its location, the provision of needed medical services now and into the future for Leeward Coast residents, the ability to procure funding from private and public sources, and the ability to financially sustain its operations.

Three low-rise wood and brick structures fronting Farrington Highway will be demolished. Behavioral Health Services, Woman, Infact Child Program (WIC), and Ho‘olokahi programs currently occupy these structures. A proposed two-story 6,500 square foot building will be constructed near the Malama Recovery Center as the new home of the Behavioral Health Services.

A two-story Community Services Building will be built on the site of the demolished buildings. The WIC program, Ho‘olokahi program, preventive health,

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Archaeological and Cultural Impact Studies
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October 2019

Aloha,

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Three low-rise wood and brick structures fronting Farrington Highway will be demolished. Behavioral Health Services, Woman, Infact Child Program (WIC), and Ho'olokahi programs currently occupy these structures. A proposed two-story 6,500 square foot building will be constructed near the Malama Recovery Center as the new home of the Behavioral Health Services.

A two-story Community Services Building will be built on the site of the demolished buildings. The WIC program, Ho'olokahi program, preventive health, and community services will co-locate into the 8,000 square foot building. Additional space for a future building has been set aside at this location.

To accommodate vehicle parking for patients, the Master Plan proposes to construct a 3-level, 30,000 square foot parking structure for up to 125 vehicles. The structure will be built at the southwest corner of the COMP below the existing Adult Medicine and Pharmacy Building.

Figure 31. Community consultation letter, page one

LUALUALEI 36 – CIA for Wai‘anae Coast Comprehensive Health Center Project

Page 2

A Welcome Hale of approximately 150 square feet will be erected at the main entry to the COMP at Mā‘ili‘ili Road. The Hale will serve as a hub for transporting patients from various on-site facilities to and from bus stops on Mā‘ili‘ili Road and Farrington Highway, a service that is currently provided.

Alternative Uses

The Master Plan also proposes renovating several existing buildings and repurposing them for alternative uses. The Board of Directors of the COMP is seeking to lease five lots adjoining the COMP from the Department of Hawaiian Home Lands. The COMP does not have “site control” thus the lots are excluded from the Master Plan.

Purpose of the CIA

The purpose of this CIA is to gather information about the project area and the surrounding area through research and interviews with individuals that are knowledgeable about this area in order to assess potential impacts to cultural resources, cultural practices, and beliefs as a result of the proposed project. We are seeking your *kōkua* and guidance regarding the following aspects of our study:

- **General history as well as present and past land use of the project area**
- **Knowledge of cultural sites which may be impacted by future development of the project area—for example, historic and archaeological sites, as well as burials**
- **Knowledge of traditional gathering practices in the project area, both past and ongoing**
- **Cultural associations of the project area, such as *mo‘olelo* and traditional uses**
- **Referrals of *kūpuna* or elders and *kama‘āina* who might be willing to share their cultural knowledge of the project area and the surrounding *ahupua‘a* lands**
- **Any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the project area**

Alternatively, a written statement may be acceptable in place of an in-person interview. In advance, we appreciate your assistance in our research effort. If you are interested in participating in this study, please contact Kellen Tanaka (ktanaka@culturalsurveys.com) at (808) 262-9972.

Mahalo nui loa,

Kellen Tanaka
Cultural Researcher

Figure 32. Community consultation letter, page two

and community services will co-locate into the 8,000 square foot building. Additional space for a future building has been set aside at this location.

To accommodate vehicle parking for patients, the Master Plan proposes to construct a 3-level, 30,000 square foot parking structure for up to 125 vehicles. The structure will be built at the southwest corner of the COMP below the existing Adult Medicine and Pharmacy Building.

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- **Any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the project area**

In most cases, two or three attempts were made to contact individuals, organizations, and agencies. Community outreach letters were sent to 71 individuals or groups, nine responded, and one of these *kama'āina* and/or *kūpuna* provided written testimony, two spoke with CSH over the

telephone and three met with CSH for more in-depth interviews. The results of community consultation process are presented in Table 4.

6.3 Community Contact Table

Table 4 contains the names, affiliations, dates of contact, and comments from NHOs, individuals, organizations, and agencies contacted for this project. Results are presented below in alphabetical order and correspondence is included only from individuals who gave permission to have their statements published.

Table 4. Community contact table

Name	Affiliation	Comments
Becket, Jan	Author, photographer, knowledgeable in cultural sites, Kona Moku Representative, Committee on the Preservation of Historic Sites and Cultural Properties	CSH reached out to Mr. Becket via email on 27 January 2020: <i>I am writing to you regarding the Cultural Impact Assessment for the Wai‘anae Coast Comprehensive Health Center Project. I’ve attached our Community Outreach Letter to provide you with the details of the project. [...]</i> <i>The summary of our previous huaka‘i for the Board of Water Supply Kūwale 242 Reservoir and Transmission Line Project, where Brittany and I accompanied you to Pu‘upāhe‘ehe‘e Heiau, the hōlua slide on Pāhe‘ehe‘e Ridge, and Kū‘īlioloa Heiau, has a lot great pictures and information regarding Lualualei. With your permission, we would like to include these pictures and portions of your interview summary in our CIA for the Wai‘anae Coast Comprehensive Health Center Project.</i> Mr. Becket replied via email 29 January 2020: <i>Sure, you are welcome to use the images and interview info for this project.</i>
Keli‘ipio-Acoba, Maile	Chief Executive Officer at Institute for Native Pacific Education and Culture (INPEACE)	Letter and figures sent via USPS 17 October 2019 Letter and figures sent via email 6 December 2019 Ms. Keli‘ipio-Acoba replied via email 10 December 2019: <i>Mahalo nui for your invite to participate in your cultural survey. I am honored to be included. I feel a kuleana to acknowledge and respond to your request, and although I would be happy to talk story with you, I’m not sure I would have a whole lot of substance to offer your study. My family has resided in the Lualualei ahupua‘a for 5 generations now, me being of the 3rd generation, but I feel we were largely distanced from much of the historical culture. I do know a few second-hand tidbits of information from my time as the Project Manager for Kamehameha</i>

Name	Affiliation	Comments
		<i>Schools Community Learning Center in Ma'ili, where I had the opportunity to speak with a few kupuna. I believe Aunt Alice Greenwood has passed on. I'm sure you already have them on your list, but I would recommend that you speak with Glen Kila and Lucy Gay, as they would be able to either provide information or point you to others who can. Still, if there is anything I can do to help, I'm always happy to do so.</i> CSH followed up with Ms. Keliipio-Acoba via email 27 January 2020 Interview scheduled 18 February 2020 Summary sent for approval via email 21 February 2020 Summary approved 24 February 2020
Kila, Glen	Program Director, Koa Ike Program Director, Marae Ha'a Koa	Letter and figures sent via USPS 17 October 2019 Letter and figures sent via email 18 October 2019 Letter and figures sent via email 6 December 2019 CSH spoke with Mr. Kila via telephone on 28 January 2020 Summary sent for approval via email 27 February 2020 Mr. Kila replied via email 27 February 2020: <i>I will approve my statement on the Waianae Coast comprehensive health center only if the corrections are made.</i> <i>It is puu maili not mailili. My tupuna and I met Mary Pukui at the Jade St nursing home to correct her for misspelling maili and her translation. Mrs Pukui apologized as she did with Molokai.</i> CSH replied via email 28 February 2020: <i>Mahalo for your quick response and for clarifying the place name of Pu'u Maili. We will make the correction before including the summary in the report. I would like to confirm that we are spelling it correctly. Are there any diacritical marks in Maili?</i> Mr. Kila replied via email 28 February 2020: <i>Mahalo. I don't have markers on my phone but it sounded like my-lee not ma'ili. Maili was translated as "towards my skin" meaning "towards my beloved." In reference to the chiefs love for the twin sisters. My tupuna Lei told Pukui it was never ma'ili, small pebbles. Tupuna Lei and Pukui were cousins. Tupuna</i>

Name	Affiliation	Comments
		<i>Lei also corrected the legend's mountains. Puu Maili was the chief and Puu o Hulukai and Puu o Huluuka were the twin sisters. Look at the names for the two mountains and the shape of the twin hills. I was honored to witness this correction. I, my ohana, grandparents and tupunas' always pronounced it puu Maili and refered as the chief. We are descendants of the aboriginal families of Waianae.</i> Revised summary sent to Mr. Kila via email 28 February 2020 Mr. Kila approved summary 28 February 2020: <i>A summary of the conversation with Mr. Kila is included in Section 6.5.2.</i>

6.4 Written Testimony from Carl Jellings

Pending approval of summary.

6.5 Kama'āina Interviews

The authors and researchers of this report extend our deep appreciation to everyone who took time to speak and share their *mana'o* and *'ike* with CSH whether in the interviews or brief consultations. We request that if these interviews are used in future documents, the words of contributors are reproduced accurately and in no way altered, and that if large excerpts from interviews are used, report preparers obtain the express written consent of the interviewee/s.

6.5.1 Glen Kila

On 28 January 2020, CSH spoke with Mr. Glen Kila, Program Director for Marae Ha'a Koa and Koa Ike, via telephone to request his *mana'o* regarding the Wai'anae Coast Comprehensive Health Center project.

Mr. Kila noted the presence of a military bunker next to Pu'u Maili. He added that the correct place name for Pu'u Mā'ili'ili is Pu'u Maili. He clarified that "Maili was translated as "towards my skin" meaning "towards my beloved." He also noted the association of Pu'u Maili and the Legend of the Twin Sisters. He recalled,

My tupuna Lei told [Mary Kawena] Pukui it was never ma'ili, small pebbles. Tupuna Lei and Pukui were cousins. Tupuna Lei also corrected the legend's mountains. Puu Maili was the chief and Puu o Hulukai and Puu o Huluuka were the twin sisters. Look at the names for the two mountains and the shape of the twin hills. I was honored to witness this correction. I, my ohana, grandparents and tupunas' always pronounced it puu Maili and referred as the chief. We are descendants of the aboriginal families of Waianae.

He also stated that he was unaware of any *heiau* within the vicinity of the project area.

6.5.2 Keone Nunes

Pending approval of summary.

6.5.3 Jan Becket

Jan Becket, a retired Kamehameha Schools teacher, is a specialist in cultural sites throughout the island of O'ahu. As a photographer and author, Mr. Becket is well recognized for his black-and-white photographic documentation of sacred sites. He has conducted extensive archival research on sites of cultural significance, learned from *kūpuna*, and photographed many undocumented sites on O'ahu, which resulted in a co-written book, *Pana O'ahu* (Becket and Singer 1999). He is a member of the Committee for the Preservation of Historic Sites and Properties under the O'ahu Council of Hawaiian Civic Clubs, and reports back to the chair of the committee (Shad Kāne) on issues concerning cultural sites in the Kona District of O'ahu.

On 27 January 2020, CSH reached out to Mr. Becket regarding the CIA for the Wai'anae Coast Comprehensive Health Center project. Mr. Becket granted CSH permission to include his pictures and the *'ike* he shared for a previous cultural impact assessment conducted in the *ahupua'a* of Lualualei.

On 24 April 2018, Mr. Becket led CSH on a *huaka'i* (journey) to locate various cultural sites within the *ahupua'a* of Wai'anae near the boundary with Lualualei Ahupua'a. The *huaka'i* included pedestrian inspection of potential cultural sites identified by J.G. McAllister in *Archaeology of Oahu* (1933), Sterling and Summers in *Sites of Oahu* (1978), and by knowledgeable persons previously consulted by Mr. Becket. Where applicable, photographic documentation of sites also occurred.

CSH met with Mr. Becket at the corner of Farrington Highway and Waianae Valley Road, and then began traveling by automobile along Waianae Valley Road until reaching an historic plantation era cemetery. This cemetery also contains the remnants of Pu'upāhe'ehe'e Heiau. Pu'upāhe'ehe'e Heiau is located on the Wai'anae side of the base of Pāhe'ehe'ehe Ridge (Figure 33). Mr. Becket stated that a common placement of *heiau* is at the bottom of a ridge. McAllister writes of the placement of *heiau*:

Most heiaus were erected at some advantageous and commanding position, such as an [...] elevation with the ground descending in three directions and with a rise to the back [...] the edge of a ridge or elevation [...] the side of a slope, generally near the foot [...] or level or slightly sloping ground [...] [McAllister 1933:9]

McAllister writes of Pu'upāhe'ehe'e Heiau, which he labeled as Site 152:

A walled heiau of two or three divisions, the upper section being 70 feet across, 57 feet in its width; the lower ones not so well defined [...] Of late its north and western slopes have been assigned as a burial place for Orientals. [McAllister 1933:112]

Mr. Becket recalled visiting this site in the early 1990s. At the time, the cemetery was heavily overgrown with vegetation, making the identification of traditional *heiau* features difficult. However, the cemetery appears to have been cleared within recent years.

Due to modern-era clearing, both CSH and Mr. Becket were able to assess the current condition of Pu'upāhe'ehe'e Heiau. The *heiau* appears heavily disturbed, with many of the original stones repurposed for plantation-era cemetery plots (Figure 34). Despite this historic-era destruction, Mr. Becket observed evidence of possible *heiau* features on the slope of the hill. While pointing out possible remnants of terrace alignments, Mr. Becket shared his *mana'o* about preservation measures for this multi-component site. Mr. Becket recommended that the families of the deceased should also be involved and/or invested in the preservation of Pu'upāhe'ehe'e Heiau as well.

Many of the headstones in the cemetery consist of upright stones; some of these *pōhaku* may be original to Pu'upāhe'ehe'e Heiau (Figure 35 and Figure 36). Mr. Becket stated that not all the upright stones may be from the *heiau*. Some of these upright stones may have been chosen specifically by the family of the deceased and brought to the cemetery from another location.

Mr. Becket also stated that upright stones have many different characteristics which may indicate the purpose of the *heiau*. Some upright stones contain notches which may have been used for offering *ho'okupu* (offering or gifts) such as *lei* (garland). Mr. Becket commented that he has noticed the side notched feature on upright stones at *heiau* elsewhere, but did not observe the same feature on any of the remaining stones at Pu'upāhe'ehe'e. He speculated that the notch served the practical function of keeping a *lei* in place, if it had been wrapped around the stone.



Figure 33. Remnants of Pu'upāhe'e Heiau (photo courtesy of Jan Becket)



Figure 34. General view of plantation-era cemetery and possible remnants of Pu‘upāhe‘ehe‘e Heiau; note use of basalt cobbles for burial markers (CSH 2018)



Figure 35. Upright stones repurposed as headstones (photo courtesy of Jan Becket)



Figure 36. Upright stone repurposed as headstone (photo courtesy of Jan Becket)

While surveying the hill above the cemetery, CSH observed an alignment of basalt and coral stones believed to be a trail, however, Mr. Becket identified these stones as the upper platform of Pu'upāhe'ehe'e Heiau (Figure 37). Mr. Becket mentioned three components for identifying a structure. First, the stones have been laid nicely to create a surface; second, the stones have been sorted by size; and third, there are clearly defined boundaries.

Due to the *heiau* being built on ancient coral limestone seabed, Mr. Becket hypothesized that the *heiau* could have been associated with Kanaloa, one of the four “*akua maoli*” (real god) within the traditional Hawaiian religion (Malo 1951:106). Kanaloa is generally associated with the ocean, and oft mentioned in association with Kāne. Mr. Becket elaborated further, noting the symbolism in the name Pāhe'ehe'e. As a noun, the word *he'e* (as in “Pu'upāhe'ehe'e”) translates as “squid” (Pukui and Elbert 1984:59). Kanaloa is known as the “god of the squid” (Beckwith 1970:60), as referenced in the following Pule Hee:

E Kanaloa, ke akua o ka hee!	O Kanaloa, god of the squid!
Eia kau mai o Kalua.	Here is your patient, Kalua.
E ka hee o kai uli,	O squid of the deep blue sea,
Ka hee o ka lua one,	Squid that burrows in the sand,
Ka hee i ka papa,	Squid that inhabits the coral reef,
Ka hee pio!	Squid that squirts water from its sack,
Eia ka oukou mai, o Kalua	Here is a sick man for you to heal, Kalua
	by name,

[Malo 1951:111]

Mr. Becket stated that the use of basalt and coral stones in the construction of the *heiau* platform may also indicate an association with Kāne and Kanaloa.

While engaging in discussion of potential cultural associations of the Pāhe'ehe'e Ridge area, CSH and Mr. Becket noted the “Hawaiian cultural preference for the figurative and analogous” as exemplified by the practice of *kaona* (McDougall 2016:21–51). In deconstructing the place name of “Pāhe'ehe'e,” the word “*he'e*” stood out prominently. When utilized as a verb, *he'e* also means to slide, surf, slip, or flee. Mr. Becket pointed out that this place name may also be a direct reference to *he'e hōlua* (to ride a sled), a practice once known to occur north of the project area. However, he cautioned that it is always a good idea to clearly identify speculation, so that it does not become confused with genuine cultural knowledge about such places.

Mr. Becket led CSH to the remnants of a *hōlua* located on Pāhe'ehe'e Ridge, *mauka* of Pu'upāhe'ehe'e Heiau (Figure 38 and Figure 39). A *hōlua* is “a long course laid out down the steep incline of a hill and extending onto the level plain” (Malo 1951:224). William Ellis writes about *hōlua*:

It consists in sliding down a hill on a narrow sledge; and those who, by strength or skill in balancing themselves, slide farthest, are considered victorious. The *papa*, or sledge, is composed of two narrow runners, from seven to twelve or eighteen



Figure 37. Remnants of upper platform of Pu'upāhe'ehe'e Heiau (photo courtesy of Jan Becket)



Figure 38. Remnants of *hōlua* on Pāhe'ehe'e Ridge (photo courtesy of Jan Becket)



Figure 39. Remnants of *hōlua* on Pāhe'ehe'e Ridge (photo courtesy of Jan Becket)

feet long, two or three inches deep, highly polished, and at the foremost end tapering off from the underside to a point at the upper edge. [Ellis 1831:299–300]

Peter H. Buck writes about *hōlua*:

The sledding track (*kahua holua*) was made on the side of a hill by building up rocks for the foundation and then covering them with earth which was beaten down hard to form a level sloping surface. When in use, the surface was covered with grass to facilitate the smooth running of the sled. The track was narrow with room for only one sled at a time, and it ran out onto the plain below. The length of the track depended upon the length of the slope of the selected hill. [Buck 1964:383]

This previously documented site has been included within two archaeological studies. McAllister identified the *hōlua*, and highlighted its association with Pu'upāhe'ehe'e Heiau. McAllister notes the name of the *hōlua* as Pāhe'ehe'e: "Its slopes in ancient time covered with slippery grass strewn for the purpose, was the scene of sliding contests, hence its name" (McAllister 1933:112).

In 2002, Ross Cordy identified this *wahi pana* as, "a 90 meter long holua slide [...] near the Pāhe'ehe'e heiau" (Cordy 2002:51).

During the *huaka'i*, both CSH and Mr. Becket assessed current site conditions. The *hōlua* is presently located directly behind residences on Kawili Street. Mr. Becket previously visited the *hōlua* in the early 1990s when there were no homes in the area. He believes that the stones from the lower portion of the *hōlua* have been repurposed for retaining walls for the new homes in the area.

Both CSH and Mr. Becket observed a coral manuport in the area near the *hōlua* (Figure 40). Mr. Becket stated the presence of coral indicates the site may have been associated with ceremonial or religious practices. Mr. Becket also stated that coral is a *kinolau* (embodiment) of the god Kāne.

Mr. Becket also pointed out a large rock with two round depressions in it which he identified as a grinding stone. The grinding stone was located on Pāhe'ehe'e Ridge adjacent to the *hōlua* overlooking Pu'upāhe'ehe'e Heiau (Figure 41). Grinding stones are "among the oldest of Hawaiian stone-working tools" (Bringham 1902:347). They are used for sharpening edged tools including adzes, chisels, gouges, knives and scrapers (Bryan 1938:37).

Following the *huaka'i* to Pu'upāhe'ehe'e Heiau and the *hōlua* remnants, Mr. Becket led CSH to Kū'īlioloa Heiau, located on the tip of Kāne'īlio Point (Figure 42). Mr. Becket was granted permission to visit this *wahi pana* by Mr. Glen Kila, a *kupa 'ai au* (native-born long attached to a place) of Wai'anae Moku and *kia'i* (caretaker) of Kū'īlioloa Heiau.

Mr. Becket stated that the *heiau* was originally known as Kāne'īlio Heiau and was dedicated to the god Kāne; however, following Kamehameha's conquest of the Hawaiian Islands, Kāne'īlio Heiau was rededicated to the war god Kū and renamed Kū'īlioloa Heiau. Mr. Becket stated that the *heiau* was a *luakini* (sacrificial temple).

Other traditions related to the naming of this site recall the *kupua* Kū'īlioloa, a "dog with a human body and supernatural power" and "a great soldier and famous warrior" (Beckwith 1970:347). In ancient times, Kū'īlioloa was known as a "protector of travelers" (Sterling and Summers 1978:69). Mr. Becket also recalled *mo'olelo* associated with Kū'īlioloa, sharing that



Figure 40. Coral manuport observed on Pāhe'eche'e Ridge, near *hōlua* remnants (CSH 2018)



Figure 41. Grinding stone observed on Pāhe'eche'e Ridge (CSH 2018)



Figure 42. Kū'ilio'loa Heiau (photo courtesy of Jan Becket)

Kāneʻilio Point was the location where Kūʻīlioloa was defeated by Kamapuaʻa. In the tale, the legendary “half man and half hog,” channeling his ability to transform into “plants of various kinds” (Beckwith 1970:201–202), bests Kūʻīlioloa: “His wives betray him to Kamapuaʻa and the hog-man conquers him by stuffing his own supernatural plant bodies between the gaping jaws of the dog and “eating his innards [...]” (Beckwith 1970:347).

In assessing view planes, CSH looked *mauka*, noting that from Kūʻīlioloa Heiau, Puʻu o Hulu Kai, Puʻu Maʻiliʻili, and Puʻu Pāheʻeheʻe as well as Pāheʻeheʻe Ridge, Mauna Kaʻala, Puʻu Kawiwi, Kamaile Ridge, Keaʻau, and Mauna Lahilahi are visible. During the *huakaʻi* to Kūʻīlioloa Heiau, vegetation observed included native plants such as *pū hala* (*Pandanus tectorius*), *naupaka kahakai* (*Scaevola taccada*), *pili* (*Heteropogon contortus*), *niu* (*Cocos nucifera*), *milo* (*Thespesia populnea*), *pōhuehue* (*Ipomoea pes-caprae*), *ʻohai* (*Sesbania tomentosa*), and the introduced Velvetleaf soldierbush (*Tournefortia argentea*).

6.5.4 James S. Brito, Jr. and Maile Keliʻipio-Acoba

On 18 February 2020, CSH met with Maile Keliʻipio-Acoba and her father, James S. Brito, Jr., at their family home in Māʻili to discuss the Waiʻanae Coast Comprehensive Health Center project. They also kindly shared their *ʻike* regarding the historical landscape and marine resources in the *ahupuaʻa* of Lualualei.

James S. Brito, Jr. was born in Honolulu. He moved to Māʻili, an *ʻili* within Lualualei, with his *ʻohana* around 1945 when he was about four or five years old. Mr. Brito’s father was a sheet metal worker, plumber, and part-time cowboy at ranches in Mākua and Waiʻanae Valley and his mother was a stenographer. She was the first secretary at Waiʻanae High School. After Mr. Brito graduated from Waiʻanae High School in 1959, he worked at the Shell service station on the corner of Lualualei Homestead Road and Farrington Highway before joining the military in 1961. He served in the military for 24 years, retiring in 1985.

Maile Keliʻipio-Acoba was born in Mississippi while her father was serving in the military there. She has also lived in the Philippines and Texas before moving to Māʻili with her family when she was nine years old. Ms. Keliʻipio-Acoba is the Chief Executive Officer at the Institute for Native Pacific Education and Culture (INPEACE), a “Native Hawaiian focused organization” whose work is “primarily focused on educational opportunities for native Hawaiian communities.” She stated, “Our mission is to improve the lives of Native Hawaiians through community partnerships that provide educational opportunities and self-sufficiency.”

She noted the focus of INPEACE is on aspects of early learning in terms of the child, their family, and the teachers.

We have three main impact areas. Early Learning and School Readiness is our first impact area. So majority of our programs and operations are in the early learning arena. We have preschools on three islands. We don’t operate the traditional drop-off preschool. We do family-child interactive learning preschools and a home-visiting parent education program. So all of our early childhood education programs actually focus on the parent, as opposed to the primary focus being solely on the child. So we focus on the parent, helping the parent to attain the skills that they need to help their child grow and to succeed in education.

Our second impact area is Educational Equity and Teacher Development, helping to ensure that when kids go into the public school system, that they have equal access to resources, that they have equal access to quality teachers. We recruit and help support through college, individuals from the community to become teachers in their own community because it's important for kids to see people that look like them and who understand them and who can relate to them culturally and through community knowledge.

The third impact area we have is Family Economic Capacity Building. We help families understand and improve their relationship with money, know how to create spending plans, help them get out of debt, know how to save it, know how to prepare for the future, for their kids. It's about changing their relationship in general with money. We also assist families in realizing their dreams for business development.

Ms. Keli'ipio-Acoba also noted that INPEACE is exploring the development of an indigenous Native Hawaiian science center.

We're starting to explore an indigenous Native Hawaiian science center. Looking at the Hawaiian *'ike*, all the little nuggets of knowledges and ancestral brilliance. Knowing when to fish, how to fish, all those kind of things. Pulling out that *'ike* that Native Hawaiians had about their environment and about their culture and then helping to connect that to modern day science so that a child, now growing up in Hawai'i knows that science is part of our DNA. We know how to do science, we've done it for thousands of years and we've done it well. The western school system teaches it different. We want to teach it in a way that is relevant to the kids that grow up in these environments and so we're trying to create exhibits that help them to make that connection.

Mr. Brito stated that before, Mā'ili was "all farm lots." He noted that "Most of these guys was vegetables. And they still do that, a lot of the people here still maintain their own. Grow things that they use. Personal use. I ate squash last night that was from my neighbors."

He mentioned that he grows beets and okra on his property. He also had a fishery on his property where he raised tilapia which he sold in Chinatown.

[...] I had a fish farm business here with about seven tanks that I used to sell to Chinatown. I still got one tank that I use for family. Tilapia, sun fish, they call 'em. We raised 'em. They wanted one pound to pound and a half, that's what they wanted.

Mr. Brito also recalled the landscape of the area in the vicinity of Mā'ili Beach. "When I was here, now you got Mā'ili Beach, that was all *kiawe* [Algaroba; *Prosopis pallida*] trees. That was a big berm, sand hill, you'd have to walk up over the berm to get to the beach."

He noted that the berm provided protection from tsunamis. He recalled his experiences with tsunamis.

My experience for tsunamis over here is that, I seen this ocean dry twice, with no water as far as you can see, and I know must have had other people but I guess

everybody takes off cause there's a tsunami but I can't find nobody else, only guys I know is the guys that was with me, but they all dead now. I experienced that.

Mr. Brito also recalled how prior to the construction of the Mā'ili'ili Stream Canal, Mā'ili'ili Stream flowed "straight through here."

The river [Mā'ili'ili Stream] used to come straight through here. Straight through that house in front, right around, under the train tracks, cause the train used to run through here. Then they straightened it up but I wasn't here, I was in the military when they straightened the river [Mā'ili'ili Stream] out made the canal and then backfilled the land. In fact, across there I got some fish tanks, if the river [Mā'ili'ili Stream] was here, that would be across the river [Mā'ili'ili Stream]. So we never did go across that side.

Ms. Keli'ipio-Acoba stated that "part of what Mā'ili is known for historically is that certain times of the year, especially in the winter, the whole area used to flood, not just here but the whole area in Mā'ili used to flood." She noted that "over here [Mā'ili] used to get flooded because the river [Mā'ili'ili Stream] that is now the canal." Mr. Brito also noted that the area is a "flood zone." He recalled that "I could take my surfboard, straight from here (indicating just outside his door) to Mā'ili [Beach], paddle right out into the river [Mā'ili'ili Stream]."

Mr. Brito also recalled camping on Mā'ili Beach as a child with his *'ohana*. He stated that "So we camp and fish all summer. Parents used come home and cook supper and go down there and go work from the beach. Even though we live right here. We wasn't homeless, but we look like homeless."

Mr. Brito mentioned that the area where the WCCHC is located is known as Green Lanterns. He noted a bar known as Green Lanterns was formerly located "right up there around where that bus stop is." Ms. Keli'ipio-Acoba also noted that "when people talk about the beaches, you don't just talk about you're going to Mā'ili Beach. Even today, they refer to this side of the beach as Green Lanterns, they refer to this side, the middle of the beach as Tumble Lands." Mr. Brito added that "the middle of the beach is Tumble Lands. We used to, when we was kids, used to be Slippery Rock. And the other side is Mā'ili Point. I think Mā'ili now ends at the river."

Mr. Brito stated that Pōka'i Bay was "one of the best places for learning how surf," however, he added that "Pōka'i Bay cannot surf no more. They built that breakwater wall." He also recalled making *paipo* boards out of plywood which he noted was "better for sand sliding than the boogie board they make now."

What we used to call paipo, that they call boogie board now. Paipo, I don't know what it means. We used to make our own boards, now you buy boards. Make it out of plywood, 3/4 plywood, 1/2 inch plywood. You just make nice kind, it work good cause it was better for sand sliding than the boogie board they make now.

Ms. Keli'ipio-Acoba stated that "there used to be lots of fishing out here," noting the area "used to be the spawning area for a lot of fishes" including *'anae* (mullet; *Mugil cephalus*) and *moi* (threadfish; *Polydactylus sexfilis*). Mr. Brito also recalled that "even here, you could go in the river [Mā'ili'ili Stream] and hook mullet, *awa* [Milkfish; *Chanos chanos*], tilapia." Mr. Brito also noted the abundance of *kala* (Surgeonfish; *Naso hexacanthus*) in the waters off Mā'ili Beach.

Nowdays, its good right now, even still for *kala*. Lot of guys go out there just for *kala*. Right out here off the sand beach, normally *kala* you got to catch them by the reef, on white water, you got to know what you doing on that. I guess all the seaweed coming off of Tumble Land because of the roughness causes the food in the water.

Ms. Keli'ipio-Acoba added, "you can actually see them, when the wave crests, you can see the *kala* schools."

Mr. Brito mentioned his brother "was a pole fisherman." He recalled when his brother caught a 65 pound *ulua* (Giant trevally; *Caranx ignobilis*) at Mā'ili Beach. Mr. Brito added that he "was never good at pole fishing," preferring to "dive, spear, or lay net." Mr. Brito stated that

We used to lay net out here on the sand bottom, you can pick up, around the rocks, you can pick up all kind red fish. There's one place out here that, *āholehole* [young state of the *āhole*, Hawaiian flagtail], usually you see *āholehole* in the holes, all small kind, like that, but there's one place out here when we go dive, daytime, and check the hole and the *āholehole* was about that big. Yellow tail.

Ms. Keli'ipio-Acoba also recalled that they "used to lay net." She recalled, "we used to go in the evening and pick it up in the morning." She also noted that "there is certain fish that come out in the evening." Mr. Brito added, "you know like menpachi [*Holocentridae*], 'āweoweo [*Priacanthus*], nighttime they come out but you got to be in a certain place [...]"

Mr. Brito stated that "we used to lay net all along the coast. Not anymore." He noted, "even today, lay net is hindered because you have to go out there and move the net. So you can't leave it overnight, so that eliminates a lot of people laying net." He described how regulations on laying net has made it difficult for fishermen.

But when they started, you know, you can only leave it here three hours, then you got to move 'em. That's crazy. You going out there night time, dive for your net, move 300 feet of net. Sometimes we lay net that goes from just offshore, maybe 50 feet, you know, out to almost way out in the deep ocean, maybe six, seven pieces of net tied together. Cannot go out there and move that. Crazy. Someone going die. But the laws, laws come up, it effects the normal fishing of the native people here.

Mr. Brito stated that the "laws are made with no knowledge of the actual culture. Not made by fisherman."

Mr. Brito went on to describe the difficulties in laying nets.

Kea'au, for example, you only get one place where you can lay [net] where the sand goes straight out. On both sides it's reef, so if you move that and put it on the reef, next day you come out there and the tide's bad, your nets all stuck on the ground. How do you move that net [at night]?

Ms. Keli'ipio-Acoba and Mr. Brito also discussed the numerous species of *limu* (seaweed) they recall gathering along the shores. Mr. Brito stated,

Get *limu kohu* [*Asparagopsis taxiformis*]. Down Mā'ili Point. In fact, I don't know if get now. One day, I went down there, never have nothing, but was tons of *limu* I

picked from out there before. *Limu kohu*. Where they surf out there, that reef, that flat *papa* [reef] out there was covered with *limu kohu*. Inside that, you got [*limu*] *wawae'iole* [*Codium edule*], you get all the like 'opihi [limpets], *limu*, get *limu kala* [*Sargassum echinocarpum*]. On this reef over here, down here, but pass the river [Mā'ili'ili Stream], that's Wai'anae, but this reef, we used to walk this reef to Pōka'i Bay and over there you get [*limu*] *līpe'epe'e* [*Laurencia succisa*], and used to have *ogo* [Japanese name for *limu manaua*; *Gracilaria coronopifolia*] inside the canal, good *ogo*.

Ms. Keli'ipio-Acoba mentioned, "I think all the *ogo* is gone, the *limu kohu* is gone, I haven't seen *wawae'iole* for long time." Mr. Brito also noted that "once somebody find them, they go out there and wipe 'em out." He added, "We just go out there, pick what we need."

Mr. Brito also noted differences between *limu* found along the Wai'anae Coast and the "other side of the island."

Over here had the actually *wawae'iole*, [...] *wawae'iole* means 'rat foot' so actually look like that, but go other side of the island they get the same thing but it's bush like, but same *limu*. They taste the same. The other side of the island the *limu kohu* is white, over here the *limu kohu* is purple. Still taste good.

Mr. Brito recalled hunting for pigs on Mount Ka'ala. He also recalled hunting for goats on "the mountain by Mākaha, the dry mountain over there." He added, "in fact, used to go from my Aunt's house, [in] Kea'au, walk out the night before, early in the next morning, kill what we need."

Ms. Keli'ipio-Acoba shared *mo'olelo* (stories) she has heard from Kumu Glen Kila and from speaking with *kūpuna* (elders) while she was Project Manager for the Kamehameha Community Learning Center in Mā'ili.

She stated that Pu'u Mā'ili'ili is associated with the *mo'olelo* about Pu'u o Hulu and the Legend of the Twin Sisters, noting that Pu'u Mā'ili'ili is one of the twin sisters, Mā'ili'ili, from the legend.

She shared a story about Pu'u Mā'ili'ili which she heard from Kumu Glen Kila. He mentioned that "families in this area used to take the umbilical cord of their *keiki* (children) and actually put it on this *pu'u* (hill)."

She also shared her experience that Pu'u Mā'ili'ili glows on certain nights.

The interesting thing, whether it's related or not, but one interesting thing is in the evenings, I swear this *pu'u* glows. At night. It glows at night and you can look at all the other mountains around and they're not glowing, but this *pu'u* glows. I don't know what that is or why it is but it's not just the moon shining on it. Naturally, it has a glow to it. So, I always found that interesting, so when he [Glen Kila] told me about burying the *piko* [umbilical cord] of all the *keiki* there, I don't know if there is some kind of significance. To me, I was like, huh, maybe there's a link there or some kind of significance. But I just thought I'd share that.

Ms. Keli'ipio-Acoba discussed Nīoi'ula Heiau and Kolekole Pass and their association with the Night Marchers. She stated,

Also, so there's Nīoi'ula, [...] The *heiau*. And there are stories of night marchers because this valley was actually a valley of a lot of battles going up and over Kolekole Pass. Right, Kolekole Pass was an area that had lots and lots of battles cause of the passing. [...] the pass was utilized for trading and that's why the Wai'anae Moku actually goes out this way [*mauka* (toward the mountains)], it's like this and then it goes out that way to a portion of Wahiawa. So it was used for trading. But lots and lots of battles, lots of bloodshed. So there are stories of night marchers who come from that area, Nīoi'ula was a sacrificial *heiau* as well.

She also mentioned that during her time as Project Manager with Kamehameha's Community Learning Center, she spoke with *kūpuna* who stated that the learning center is located along a "night marcher trail."

I think there's a story of night marchers marching through where Kamehameha's learning center is now. Cause when I was the project manager at the learning center, I had to go talk to *kūpuna*, so that was what they talked about is that is a night marcher trail.

Mr. Brito also mentioned a night marcher trail that passed through their property.

And I'm a Christian minister, this house was, they had a trail on the grass here, I was wondering what's wrong with this grass here from the road to the patio. I could never get that thing green so I brought in a team and they looked at the property and they found other things on this property, [...] they said spiritual holes they closed and they said it was night marchers, so after that incident, then the grass grew over, now there's no path there [...]

She also mentioned the belief shared with her that "in the Hawaiian culture, limestone on a hill indicates death." She noted the WCCHC is built on a limestone hill. She noted "there's fair number of Hawaiians who are hesitant to go there."

I heard, I've been told by folks, that in the Hawaiian culture, limestone on a hill indicates death, and so, there's some folks who won't go to the Comprehensive cause that's a big limestone hill, so you build a Comprehensive Health Center on a limestone hill where in a culture that indicated death. So, it's probably not my *kuleana* [responsibility] to say, since I just heard it in passing, I was just told it, that was a belief. And so, there are people who wonder about why they're building health facilities on a limestone hill. There's a fair number of Hawaiians that I know of who are hesitant to go there. And they in fact say to people, 'if you are sick, don't go to the Comprehensive cause you going die.' But, the limestone thing puts it into more perspective, because I thought it was just a criticism of the quality of care but when I heard the limestone thing, then it was, you know how sometimes, cultures through the years, interpret things differently, the interpretations change, we just pick pieces off of it, but when I heard the limestone thing, I wonder if that's where the negative portrayal comes from. For what it's worth.

Ms. Keli'ipio-Acoba expressed her concern for pedestrian safety along the Mā'ili'ili Road. She recommended making improvements to Mā'ili'ili Road including "widening it and putting some

sidewalks in there.” She noted that “when you walk to their facility, there’s no sidewalks here.” She went on to state,

[...] this road here needs to have, should have some improvements, just for safety purposes cause you got to walk on the dirt on the side of the road and the road is so narrow and its curved right here. So the speed at which people go around this S-curve right here, they go pretty fast so if you’re walking around the dirt here, it gets pretty dangerous and you can’t walk along this side of the road because there is not a lot of space there [...]

She also expressed her concern regarding the location of the entrance to WCCHC, noting that “when you turn up this road here [Mā‘ili‘ili Road], this going up into this [WCCHC parking lot], it’s almost a blind spot right around here.”

Because you’re waiting right here and there’s a curve, and so, these cars are coming fast, whether they should or not, the argument cannot be, ‘well the speed limit is this much,’ because still they don’t listen, but they’re coming here fast and so when you’re waiting to turn, the time in which you have to make that decision to turn is not very much.

She recommended the location of the “entrance should be somewhere on the straight away.”

Ms. Keli‘ipio-Acoba also expressed concern regarding noise resulting from construction activities related to the proposed project. She stated that noise echoes off Pu‘u Mā‘ili‘ili, noting that when families who live on the other side of Mā‘ili‘ili Stream have parties, they are easily able to hear the music. Mr. Brito mentioned that *kiawe* trees along Mā‘ili‘ili Stream have been removed by a development project occurring on a nearby parcel. He noted that these trees provided a sound buffer. Mr. Brito noted, “These trees over here was like 50-60 feet in the air, old *kiawe* trees, deeply rooted, and they just took ‘em right down and nobody talked to us about this.” He added that the *kiawe* trees also provided “a wind break for this area.”

6.6 Summary of Community Consultation

Based on consultation with Mr. Jan Becket, Mr. Glen Kila, James S. Brito, Jr. and Maile Keli‘ipio-Acoba, the following is a synthesis of the findings.

James S. Brito, Jr., *kama ‘āina* of Mā‘ili, stated the area was “all farm lots.” He mentioned most of the lots grew vegetables, noting “they still do that, a lot of the people here still maintain their own. Grow things that they use.” He also mentioned he grows beets and okra on his property. He also had a fishery on his property where he raised talapia which he sold in Chinatown.

Mr. Brito recalled that the landscape of the Mā‘ili Beach consisted of “all *kiawe* trees.” He noted it “was a big berm, sand hill, you’d have to walk up over the berm to get to the beach.” He added that the berm provided protection from tsunamis.

Maile Keli‘ipio-Acoba stated that “part of what Mā‘ili is known for historically is that certain times of the year, especially in the winter, the whole area used to flood, not just here but the whole area used to flood.” She noted that “over here used to get flooded because the river [Mā‘ili‘ili Stream] that is now the canal.” Mr. Brito also noted the area is a “flood zone.” He recalled how prior to the construction of the Mā‘ili‘ili Stream Canal, Mā‘ili‘ili Stream flowed “straight through

here.” He stated that “I could take my surfboard, straight from here (indicating just outside his door) to Mā‘ili [Beach], paddle right out into the river [Mā‘ili‘ili Stream].”

Mr. Brito recalled camping and fishing on Mā‘ili Beach as a child with his *‘ohana*. He recalled his “parents used come home and cook supper and go down there and go work from the beach.”

Mr. Brito mentioned the area where the WCCHC is located is known as Green Lanterns. He noted the area was named after a bar known as Green Lanterns which was formerly located “right up there around where that bus stop is.” Ms. Keli‘ipio-Acoba added that “when people talk about the beaches, you don’t just talk about you’re going to Mā‘ili Beach. Even today, they refer to this side of the beach as Green Lanterns, they refer to this side, the middle of the beach as Tumble Lands.” Mr. Brito added that “the middle of the beach is Tumble Lands. We used to, when we was kids, used to be Slippery Rock. And the other side is Mā‘ili Point. I think Mā‘ili now ends at the river.”

Mr. Brito also stated Pōka‘i Bay was “one of the best places for learning how surf,” however, he added that “Pōka‘i Bay cannot surf no more. They built that breakwater wall.” He also recalled making *paipo* boards out of plywood which he noted was “better for sand sliding than the boogie board they make now.”

Ms. Keli‘ipio-Acoba also mentioned that “there used to be lots of fishing out here.” She noted the area “used to be the spawning area for a lot of fishes” including *‘anae* and *moi*. Mr. Brito recalled that “even here, you could go in the river [Mā‘ili‘ili Stream] and hook mullet, *awa*, tilapia.” He also recalled when his brother caught a 65 pound *ulua* at Mā‘ili Beach. He also noted the abundance of *kala* in the waters off of Mā‘ili Beach. Ms. Keli‘ipio-Acoba added that, “you can actually see them, when the wave crests, you can see the *kala* schools.”

Mr. Brito stated that “we used to lay net out here on the sand bottom, you can pick up, around the rocks, you can pick up all kind red fish.” He added, “There’s one place out here that, *āholehole*, usually you see *āholehole* in the holes, all small kind, like that, but there’s one place out here when we go dive, daytime, and check the hole and the *āholehole* was about that big. Yellow tail.”

Ms. Keli‘ipio-Acoba also recalled they “used to lay net.” She recalled that “we used to go in the evening and pick it up in the morning.” She noted that “there is certain fish that come out in the evening.” Mr. Brito added, “you know like menpachi, *‘āweoweo*, nighttime they come out but you got to be in a certain place [...].”

Mr. Brito stated that “we used to lay net all along the coast. Not anymore.” He noted that “even today, lay net is hindered because you have to go out there and move the net. So you can’t leave it overnight, so that eliminates a lot of people laying net.” He stated that regulations on laying nets has made it difficult for fishermen. He added, “laws are made with no knowledge of the actual culture. Not made by fisherman.”

Ms. Keli‘ipio-Acoba and Mr. Brito also discussed the numerous species of *limu* they recall gathering along the shores including *limu kohu*, *limu wawae‘iole*, *limu kala*, *limu līpe‘epe‘e*, and *ogo*. Ms. Keli‘ipio-Acoba noted that, “I think all the *ogo* is gone, the *limu kohu* is gone, I haven’t seen *wawae‘iole* for long time.” Mr. Brito also noted that “once somebody find them, they go out there and wipe ‘em out.” He added, “We just go out there, pick what we need.”

Mr. Brito also discussed the differences between *limu* found along the Wai'anae Coast and the "other side of the island." He noted that on the Wai'anae Coast, *wawae'iole* actually looks like a "rat foot," while *wawae'iole* found on the "other side of the island" is "bush like." He also noted that on "the other side of the island the *limu kohu* is white, over here the *limu kohu* is purple."

Mr. Brito discussed hunting for pigs and goats. He recalled hunting for pigs on Mount Ka'ala and hunting for goats on "the mountain by Mākaha, the dry mountain over there." He added, "in fact, used to go from my Aunt's house, [in] Kea'au, walk out the night before, early in the next morning, kill what we need."

Ms. Keli'ipio-Acoba also stated that Pu'u Mā'ili'ili is associated with the *mo'olelo* about Pu'u o Hulu and the Legend of the Twin Sisters. She noted that Pu'u Mā'ili'ili is one of the twin sisters, Mā'ili'ili, from the legend. She also shared a story about Pu'u Mā'ili'ili which she heard from Glen Kila. He mentioned that "families in this area used to take the umbilical cord of their *keiki* and actually put it on this *pu'u*." She also mentioned she has witnessed Pu'u Mā'ili'ili glowing on certain nights.

Glen Kila stated that the correct place name for Pu'u Mā'ili'ili is Pu'u Maili. He noted that "Maili was translated as "towards my skin" meaning "towards my beloved." He also noted the association of Pu'u Maili and the Legend of the Twin Sisters. He stated that, "Puu Maili was the chief and Puu o Hulukai and Puu o Huluuka were the twin sisters." He also noted the presence of a military bunker next to Pu'u Maili.

Jan Becket led CSH on a *huaka'i* to locate cultural sites within the *ahupua'a*, including Pu'upāhe'ehe'e Heiau, a *hōlua*, and Kū'īlioloa Heiau. The remnants of Pu'upāhe'ehe'e Heiau are within a plantation-era cemetery along Waianae Valley Road. The *heiau* appears heavily disturbed, with many of the original stones repurposed for cemetery markers. Mr. Becket stated that upright stones have many different characteristics that may indicate the purpose of the *heiau*. Some upright stones contain notches, which may have been used for offering *ho'okupu* such as *lei*; however, Mr. Becket did not observe this feature on any of the stones at Pu'upāhe'ehe'e.

While surveying the hill above the cemetery, Mr. Becket identified an alignment of basalt and coral stones as the upper platform of Pu'upāhe'ehe'e Heiau. He stated that the use of basalt and coral stones in the construction of the *heiau* platform may indicate an association with Kāne and Kanaloa. Furthermore, the location of the *heiau* on ancient coral limestone seabed provides additional evidence for an association with Kanaloa, who is associated with the ocean. Mr. Becket also discussed the meaning of the name Pāhe'ehe'e. As a noun, the word *he'e* translates as "squid" (Pukui and Elbert 1984:59). Kanaloa is known as the "god of the squid" (Beckwith 1970:60).

Mr. Becket led CSH to the remnants of a *hōlua* on Pāhe'ehe'e Ridge, *mauka* of Pu'upāhe'ehe'e Heiau and directly behind residences on Kawili Street. Mr. Becket believes stones from the lower portion of the *hōlua* have been repurposed for retaining walls for the new homes in the area. Mr. Becket also noted that when utilized as a verb, the word *he'e* means to slide, surf, slip, or flee; hence, this place name may also refer to *he'e hōlua*. The *hōlua* has been previously identified by McAllister (1933), who highlighted its association with Pu'upāhe'ehe'e Heiau and noted the name of the *hōlua* as Pāhe'ehe'e. Mr. Becket stated the site may have been associated with ceremonial or religious practices due to the observation of a coral manuport, which Mr. Becket stated is a *kinolau* of the god Kāne.

Mr. Becket also led CSH to Kū'īlioloa Heiau on the tip of Kāne'īlio Point. This *heiau* was previously identified by McAllister (1933) as Site 153. Mr. Becket stated this *heiau* is a *luakini*, originally dedicated to Kāne and known as Kāne'īlio Heiau; however, following Kamehameha's conquest of the Hawaiian Islands, Kāne'īlio Heiau was rededicated to the war god Kū and renamed Kū'īlioloa Heiau. Other traditions state this *heiau* was named after Kū'īlioloa, a "dog with a human body and supernatural power" and "a great soldier and famous warrior" (Beckwith 1970:347), who was known as a "protector of travelers" (Sterling and Summers 1978:69). Mr. Becket also recalled *mo'olelo* associated with Kū'īlioloa, sharing that Kāne'īlio Point is the place where Kū'īlioloa was defeated by Kamapua'a.

Mr. Kila stated that he was unaware of any *heiau* within the vicinity of the project area.

Ms. Keli'ipio-Acoba discussed Nīoi'ula Heiau and Kolekole Pass and their association with the Night Marchers, noting that "there are stories of night marchers because this valley was actually a valley of a lot of battles going up and over Kolekole Pass." She also noted that "Nīoi'ula was a sacrificial *heiau*." She mentioned that during her time as Project Manager with Kamehameha's Community Learning Center, she spoke with *kūpuna* who stated that the learning center is located along a "night marcher trail." Mr. Brito also mentioned a night marcher trail passed through their property.

Ms. Keli'ipio-Acoba also mentioned the belief shared with her that "in the Hawaiian culture, limestone on a hill indicates death." She noted the WCCHC is built on a limestone hill. She added that "there's fair number of Hawaiians who are hesitant to go there."

Section 7 Traditional Cultural Practices

Timothy R. Pauketat succinctly describes the importance of traditions, especially in regards to the active manifestation of one's culture or aspects thereof. According to Pauketat,

People have always had traditions, practiced traditions, resisted traditions, or created traditions . . . Power, plurality, and human agency are all a part of how traditions come about. Traditions do not simply exist without people and their struggles involved every step of the way. [Pauketat 2001:1]

It is understood that traditional practices are developed within the group, in this case, within the Hawaiian culture. These traditions are meant to mark or represent aspects of Hawaiian culture that have been practiced since ancient times. As with most human constructs, traditions are evolving and prone to change resulting from multiple influences, including modernization as well as other cultures. It is well known that within Hawai'i, a "broader "local" multicultural perspective exists" (Kawelu 2015:3) While this "local" multicultural culture is deservedly celebrated, it must be noted that it has often come into contact with "traditional Hawaiian culture." This contact between cultures and traditions has undoubtedly resulted in numerous cultural entanglements. These cultural entanglements have prompted questions regarding the legitimacy of newly evolved traditional practices. The influences of "local" culture are well noted throughout this section, and understood to represent survivance or "the active sense of presence, the continuance of native stories, not a mere reaction, or a survivable name. Native survivance stories are renunciations of dominance, tragedy and victimry" (Vizenor 1999:vii). Acknowledgement of these "local" influences help to inform nuanced understandings of entanglement and of a "living [Hawaiian] contemporary culture" (Kawelu 2015:3). This section strives to articulate traditional Hawaiian cultural practices as were practiced within the *ahupua'a* in ancient times, and the aspects of these traditional practices that continue to be practiced today; however, this section also challenges "tropes of authenticity," (Cipolla 2013) and acknowledges the multicultural influences and entanglements that may "change" or "create" a tradition.

This section integrates information from Sections 3–6 in examining cultural resources and practices identified within or in proximity of the project area in the broader context of the encompassing Lualualei landscape. Excerpts from interviews are incorporated throughout this section where applicable.

7.1 Habitation and Subsistence

Lualualei Ahupua'a is part of the Wai'anae District on the leeward coast of O'ahu. Wai'anae District is a dry coastal area with poor soil and four streams that cross gulches and valleys before emptying into the ocean (Handy and Handy 1972:467).

The eastward slopes of the southern end of the Wai'anae Mountains were famous for cultivating 'uala (sweet potato; *Ipomoea batatas*). Sweet potatoes were also cultivated on "the other side of the Wai'anae Mountains on the dry slopes of Nānākuli, Lualualei, Wai'anae-kai, and other small valleys as far as Makua" (Handy 1940:15). Although there was some *kalo* (taro; *C. esculenta*) cultivated in the valleys of Wai'anae-uka, sweet potatoes grown on the *kula* lands were the main food of the people there; with the exception of Wai'anae-kai, the sweet potato was the staple for the inhabitants of this area. The lowlands of Wai'anae District provided 'uala and *niu* (coconut;

C. nucifera), and the inland valley was planted in *kalo* and *wauke* (paper mulberry; *B. papyrifera*). The upland forest regions provided various woods needed for weapons and canoes. By the 1790s, a variety of introduced vegetables were likely planted in the valley as well.

Lualualei was a region of importance in the sandalwood trade. Shortly after 1800, the Hawaiian Islands began exporting sandalwood to Asia. The demands placed on the *maka'āinana* to harvest wood for trade caused many agricultural fields to become fallow and unused. By 1811, sandalwood merchants began actively exploiting the Hawai'i market, and huge amounts of sandalwood were shipped to China. Traditionally, Hawaiians used sandalwood for medicinal purposes and as a scent to perfume their *kapa*. The bulk of the sandalwood trade was controlled by Kamehameha I and a few other chiefs.

Following the death of Kamehameha in 1819, Liholiho allowed his chiefs to share in the trade, resulting in an unrestrained demand on the stocks of wood and on the energies of the *maka'āinana* who did the harvesting. By 1829, the bottom fell out of the trade business, as the majority of the sandalwood trees had been harvested. The population of Lualualei would undoubtedly have been affected by the population shifts and disruption of traditional lifestyles and subsistence patterns caused by sandalwood gathering.

James S. Brito, Jr., *kama'āina* of Mā'ili, stated that area was “all farm lots.” He noted that most of the lots grew vegetables. He added that “they still do that, a lot of the people here still maintain their own. Grow things that they use.” He also mentioned he grows beets and okra on his property. He also had a fishery on his property where he raised talapia which he sold in Chinatown.

Mr. Brito recalled that the landscape of the Mā'ili Beach consisted of “all *kiawe* trees.” He also recalled it “was a big berm, sand hill, you'd have to walk up over the berm to get to the beach.” He noted the berm provided protection from tsunamis.

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7.2 Marine Resources

Wai'anae District was renowned for its ocean resources, especially for deep sea fishing off Ka'ena Point, where the ocean currents meet. The meaning of Wai'anae (“mullet water”) also implies an abundance of fish—hence the word *'anae*, which is the full-grown mullet (*Mugil cephalus*) (Pukui and Elbert 1986). Handy and Handy (1972) attribute the naming of Wai'anae to a large freshwater pond for mullet called Pueha or Puehu. Puehu Fishpond (Site 154) was on “the west side of the foot of the Waianae Stream” (McAllister 1933:113). Today, Wai'anae is still considered to be one of the best fishing grounds on O'ahu.

Ms. Keli'ipio-Acoba stated, “there used to be lots of fishing out here,” noting that the area “used to be the spawning area for a lot of fishes” including *'anae* and *moi*. Mr. Brito also recalled that, “even here, you could go in the river [Mā'ili'ili Stream] and hook mullet, *awa*, tilapia.” He also noted the abundance of *kala* in the waters off of Mā'ili Beach. Ms. Keli'ipio-Acoba added that, “you can actually see them, when the wave crests, you can see the *kala* schools.”

Mr. Brito mentioned his brother “was a pole fisherman.” He recalled when his brother caught a 65 pound *ulua* at Mā'ili Beach. Mr. Brito added that he “was never good at pole fishing,” preferring to “dive, spear, or lay net.” Mr. Brito stated that “we used to lay net out here on the sand bottom, you can pick up, around the rocks, you can pick up all kind red fish.” He added, “There's one place out here that, *āholehole*, usually you see *āholehole* in the holes, all small kind, like that, but there's one place out here when we go dive, daytime, and check the hole and the *āholehole* was about that big. Yellow tail.”

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Ms. Keli'ipio-Acoba and Mr. Brito also discussed the numerous species of *limu* they recall gathering along the shores including *limu kohu*, *limu wawae'iole*, *limu kala*, *limu līpe'epe'e*, and *ogo*. Ms. Keli'ipio-Acoba noted that, “I think all the *ogo* is gone, the *limu kohu* is gone, I haven't seen *wawae'iole* for long time.” Mr. Brito also noted that, “once somebody find them, they go out there and wipe 'em out.” He added that, “We just go out there, pick what we need.”

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7.3 *Mo'olelo and Wahi Pana*

Numerous *mo'olelo* attest to Lualualei Ahupua'a's important place in Hawaiian history. The demigod Māui is connected with the arid, leeward side of the island. Māui and his mother, Hina, are associated with Heleakalā in Lualualei and with Haleakalā on the island of Maui. The sun passes over Haleakalā every morning, thus "the house of the rising sun." Heleakalā, in contrast, is on the west side of O'ahu, where the peaks receive the "ray of the setting of the sun"; this is the path the sun takes before it sets in the west. Here, the west side of Heleakalā is burnt; the sun is setting, which is the reason Māui had to slow down or snare the sun for his mother, who was drying her *kapa*. The Māui legends on both islands are manifested in the landscape. These two mountain peaks are very prominent, with no obstruction blocking the sunrise and sunset. Another place name shared by the two peaks is Kolekole, which implies "raw or scarred," likely referencing the burning action of the sun. Kolekole is also a place name on the highest mountain peak of Mauna Kea, aptly given due to the peak's high exposure to the sun.

Ms. Keli'ipio-Acoba stated that Pu'u Mā'ili'ili is associated with the *mo'olelo* about Pu'u o Hulu and the Legend of the Twin Sisters. She noted that Pu'u Mā'ili'ili is one of the twin sisters, Mā'ili'ili, from the legend. She also shared a story about Pu'u Mā'ili'ili which she heard from Glen Kila. He mentioned that "families in this area used to take the umbilical cord of their *keiki* and actually put it on this *pu'u*." She also mentioned she has witnessed Pu'u Mā'ili'ili glowing on certain nights.

Glen Kila stated that the correct place name for Pu'u Mā'ili'ili is Pu'u Maili. He noted that "Maili was translated as "towards my skin" meaning "towards my beloved."" He discussed the association of Pu'u Maili and the Legend of the Twin Sisters, stating that, "Puu Maili was the chief and Puu o Hulukai and Puu o Huluuka were the twin sisters." He also noted the presence of a military bunker next to Pu'u Maili.

There exist a myriad of cultural sites, or *wahi pana*, for Wai'anae Moku; however, for the *ahupua'a* of Lualualei, peaks, *pōhaku*, and temples were of particular importance. Various mountain peaks surround Lualualei Ahupua'a, including Pu'u Heleakalā, the *pu'u* that separates Nānākuli from Lualualei. Pukui and Elbert (1986) define Heleakalā as "where the sun is snared." This translation is fitting, since the mountain peak faces the sunset. It is also the location where Hina, the moon goddess and demigod Māui's mother, once lived in a cave and made *kapa* (Sterling and Summer 1978:62).

Pōhākea Pass is an important *wahi pana*, serving as a passage to Honouliuli Ahupua'a. It is also the place where Hi'iaka witnessed her friend Hōpoe turned into stone by her sister, Pele, the goddess of fire. A second passageway, Kolekole Pass, offers access to Wai'anae Uka. Today, the area is composed of the Schofield Barracks Military Reservation. A large stone at the pass was once thought to be a sacrificial stone, while others say the stone was a female *kia'i* (guard, watchman) named Kolekole, who guarded the pass. It was an area where *lua* fighters practiced

their skills on unsuspecting travelers and was also the place where Kahekili's army from Maui killed the last of the O'ahu warriors, led by Kahahana who had escaped the massacre at Niuhelewai.

Two *pōhaku* of importance can be found in Lualualei: a large rock said to be Māui (McAllister Site 148) and a petroglyph stone. The Māui Pōhaku is in the vicinity of Pu'u o Hulu. During McAllister's survey in 1933, the stone was surrounded by water and said to have been the location where Māui the demigod sunned himself. A shelter and a spring northeast of the rock was supposedly where Maui lived and obtained water. The petroglyph stone is near a dried swamp in a public park at the edge of a beach. Former house sites were also identified there. The petroglyph stone was reported to Bishop Museum, who later removed and stored the *pōhaku*.

Jan Becket led CSH to the remnants of a *hōlua* on Pāhe'ehe'e Ridge, *mauka* of Pu'upāhe'ehe'e Heiau and directly behind residences on Kawili Street. The *hōlua* was previously identified by McAllister (1933), who highlighted its association with Pu'upāhe'ehe'e Heiau, noting the name of the *hōlua* as Pāhe'ehe'e. Mr. Becket stated that the identification of a coral manuport in the vicinity of the *hōlua* indicates the site may have been associated with ceremonial or religious practices. Mr. Becket also stated that coral is a *kinolau* of the god Kāne.

7.4 Religious Practices

McAllister (1933) identified five *heiau*, or possible *heiau*, in the vicinity of the *ahupua'a* of Lualualei. These include Nioi'ula Heiau (Site 149), Kakioe Heiau (Site 151), Pu'upāhe'ehe'e Heiau (Site 152), Kū'īlioloa Heiau (Site 153), and Site 150 (house sites or a possible *heiau* in the middle of Lualualei at the foot of the cliffs of Pāhoa).

Mr. Becket led CSH on a *huaka'i* to Pu'upāhe'ehe'e Heiau, located on the Wai'anae side of Pu'upāhe'ehe'e Ridge. The *heiau* consists of two or three divisions, with the upper section being approximately 21 m (70 ft) long and 17 m (57 ft) wide; the lower sections are not so well defined. The *heiau* had been completely destroyed by the time of McAllister's (1933) survey by the enlargement of the "Oriental cemetery" (McAllister 1933:112). Many of the headstones in the cemetery consist of upright stones; some of these *pōhaku* may be original to Pu'upāhe'ehe'e Heiau. Mr. Becket stated that upright stones have many different characteristics, which may indicate the purpose of the *heiau*. Some upright stones contain notches that may have been used for offering *ho'okupu* such as *lei*; however, Mr. Becket did not observe this feature on any of the stones at Pu'upāhe'ehe'e.

Mr. Becket identified an alignment of basalt and coral stones on the hill above the cemetery as the upper platform of Pu'upāhe'ehe'e Heiau. He stated that the use of basalt and coral stones in the construction of the *heiau* platform may indicate an association with Kāne and Kanaloa. The location of the *heiau* atop ancient coral limestone seabed provides further evidence for an association with Kanaloa, who is associated with the ocean.

Mr. Becket also led CSH on a *huaka'i* to Kū'īlioloa Heiau (Site 153) at the tip of Kāne'īlio Point. Mr. Becket stated that Kū'īliolo Heiau is a *luakini*. It was partially destroyed by the Army during World War II but still remains visible (Sterling and Summers 1978:69). The *heiau* was named after Kū'īlioloa, a "dog with a human body and supernatural power" and "a great soldier and famous warrior" (Beckwith 1970:347), who was known as a "protector of travelers" (Sterling and Summers 1978:69). Mr. Becket also stated the *heiau* was originally known as Kāne'īlio Heiau

and was dedicated to the god Kāne; however, the *heiau* was rededicated to the war god Kū and renamed Kū'īlioloa Heiau following Kamehameha's conquest of the Hawaiian Islands. Mr. Becket also recalled *mo'olelo* associated with Kū'īlioloa, sharing that Kāne'īlio Point was the location where Kū'īlioloa was defeated by Kamapua'a.

In a telephone call with CSH, Mr. Kila stated he was unaware of any *heiau* with the vicinity of the project area.

Ms. Keli'ipio-Acoba also discussed Nōi'ula Heiau and Kolekole Pass and their association with the Night Marchers. She stated that "there are stories of night marchers because this valley was actually a valley of a lot of battles going up and over Kolekole Pass." She also noted "Nōi'ula was a sacrificial *heiau*."

She also mentioned that during her time as Project Manager with Kamehameha's Community Learning Center, she spoke with *kūpuna* who stated that the learning center is located along a "night marcher trail." Mr. Brito also mentioned that a night marcher trail passed through their property.

Ms. Keli'ipio-Acoba also mentioned the belief shared with her that "in the Hawaiian culture, limestone on a hill indicates death." She noted the WCCHC is built on a limestone hill. She added that "there's fair number of Hawaiians who are hesitant to go there."

Section 8 Summary and Recommendations

CSH undertook this CIA at the request of Gerald Park Urban Planner, on behalf of the WCCHC. The research broadly covered the entire *ahupua'a* of Lualualei.

8.1 Results of Background Research

Background research for this study yielded the following results, presented in approximate chronological order:

1. The *moku* of Wai'anae consists of ten *ahupua'a*: Nānākuli, Lualualei, Wai'anae Kai, Wai'anae Uka, Mākaha, Kea'au, 'Ōhikilolo, Mākua, Kahanahāiki, and Keawa'ula.
2. Lualualei is the largest leeward valley in the Wai'anae Moku. Composed of approximately 14,000 acres, Lualualei extends from the Wai'anae Range to the ocean. To the south is the *ahupua'a* of Nānākuli, and to the north is the *ahupua'a* of Wai'anae. Its southern border includes a portion of Pu'u Heleakalā, and its northern boundary includes a portion of Pu'u Pāhe'ehe'e.
3. There are two suggested meanings or explanations for the naming of Lualualei. One meaning, "flexible wreath," is attributed to a battle formation used by Mā'ilikūhahi against four invading armies in the battle of Kīpapa in the early fifteenth century (Sterling and Summers 1978:68). A second meaning, offered by John Papa 'Ī'ī, is "beloved one spared." This meaning relates to the story of a relative who was suspected of wearing the king's *malo*. The proclamation of the king given by Kula'inamoku that Kalakua did not wear the king's loin cloth spared the family of Luluku; thus, a child born in the family was named Lualualei ('Ī'ī 1959:23).
4. Numerous traditional accounts of Lualualei focus on mythology of the demi-god Māui. It was here that he learned the secret of making fire for mankind and perfected his fishing skills. Other famous accounts tell of the place where Māui's adzes were made, of Mānaiakalani the magic fishhook, of the snare for catching the sun, and his kite-flying expedition.
5. Settlement in Lualualei was greatest near the coastline, where marine resources were plentiful, and in the mountainous interior, where rainfall was sufficient for agriculture and forest resources. Prior to Western Contact, the settlement pattern for this region likely consisted of dispersed residences concentrated at the sea and the mountains. An account provided by Pukui (cited in McGrath et al. 1973:10) suggests an informal exchange network existed whereby coastal dwellers traded marine resources for the agricultural and forest resources of the inland dwellers.
6. The Hawaiian Islands began exporting sandalwood to Asia shortly after 1800, and the commerce flourished until the supply dwindled in the mid-1830s. Lualualei was a region of importance in the sandalwood trade. The demands placed on the *maka'āinana* to harvest wood for the trade caused many agricultural fields to become fallow and unused.

7. At the time of the Māhele, the *ahupua'a* of Wai'anae, which included Lualualei, was listed as Crown lands and was claimed by King Kamehameha III as his personal property (Board of Commissioners 1929:28).
8. Twelve land claims were made in Lualualei; however, only six were awarded. Most awards were upland in the *'ili* of Pūhāwai, *mauka* of the current project area. From the claims, it can be determined that at least eight families were living in Pūhāwai at the time of the Māhele in 1848. Together, they cultivated a minimum of 163 *lo'i*. The numerous *lo'i* mentioned in the claims indicate the land was ideal for growing wetland taro, and that this livelihood was actively pursued by the awardees.
9. One of the first areas to be utilized for ranching on the Wai'anae Coast was Lualualei. Hawai'i Bureau of Land Conveyances (B.C.), 1845–1869 (archived at the DLNR), records show that William Jarrett leased approximately 17,000 acres of land from Kamehameha III in 1851. This was the beginning of Lualualei Ranch.
10. In 1901, the Waianae Sugar Company leased 3,332 acres in Lualualei for raising cane and for ranching (Commissioner of Crown Lands 1902). Amfac, Inc. purchased the plantation and closed it down in 1947.
11. The OR&L signed its charter on 4 February 1889. This railroad line connected with the Waianae Sugar Plantation in 1895, generally running along the *makai* boundary of the sugarcane fields. The railway served the Wai'anae Coast until 1947 when the Waianae Sugar Plantation closed down.
12. After the overthrow of the Hawaiian monarchy in 1893, Crown Lands and Government Lands were combined to become Public Lands. The Crown Lands were no longer indistinguishable and inalienable. In 1895, the Republic of Hawaii decided to open lands for homesteading in the hopes of attracting a “desirable class of immigrants”—Americans and those of Caucasian descent (Kuykendall and Day 1961:204). By the early 1920s, about 40 families had settled on homestead lots in Lualualei (Kelly 1991:331–332). The well-known families that obtained homestead lots at this time were Von Holt, McCandless, and Dowsett.
13. During the first half of the twentieth century, a major influence in Lualualei Ahupua'a was the military. By 1929, over 8,184 acres of the McCandless Cattle Ranch had been condemned and purchased by the U.S. Navy for the construction of a Naval Ammunition Depot for the ships based at Pearl Harbor Naval Base.

8.2 Results of Community Consultations

CSH attempted to contact Hawaiian organizations, agencies, and community members as well as cultural and lineal descendants in order to identify individuals with cultural expertise and/or knowledge of the project area and vicinity. Community outreach letters were sent to 71 individuals or groups; nine responded and one of these *kama 'āina* and/or *kūpuna* provided written testimony, two spoke with CSH over the telephone, and three met with CSH for more in-depth interviews. Consultation was received from community members as follows:

1. Carl Jellings, Aha Moku Advisory Committee, Wai'anae Moku Representative
2. Glen Kila, Program Director for Marae Ha'a Koa and Koa Ike

3. Keone Nunes, *kahuna kā kākau* and *kama 'āina* of Wai'anae
4. Jan Becket, retired teacher, photographer and author, member of the Committee for the Preservation of Historic Sites and Properties
5. James S. Brito, Jr., *kama 'āina* of Ma'ili
6. Maile Keli'ipio Acoba, Chief Executive Officer at Institute for Native Pacific Education and Culture (INPEACE)

8.3 Impacts and Recommendations

Based on information gathered from the community consultation, participants voiced and framed their concerns in a cultural context as follows:

1. Jan Becket recommended that the families of the deceased at the plantation-era cemetery at the base of Pāhe'ehe'e Ridge should also be involved and/or invested in the preservation of Pu'upāhe'ehe'e Heiau as well.
2. Ms. Keli'ipio-Acoba expressed her concern for pedestrian safety along the Mā'ili'ili Road. She recommended making improvements to Mā'ili'ili Road including "widening it and putting some sidewalks in there." She noted that "when you walk to their facility, there's no sidewalks here." She went on to state that "you got to walk on the dirt on the side of the road and the road is so narrow and its curved right here." She added that "the speed at which people go around this S-curve right here, they go pretty fast so if you're walking around the dirt here, it gets pretty dangerous [...]."
3. She also expressed her concern regarding the location of the entrance to WCCHC, noting that "when you turn up this road here [Mā'ili'ili Road], this going up into this [WCCHC parking lot], it's almost a blind spot right around here." She added that when oncoming cars are traveling fast, "the time in which you have to make that decision to turn is not very much." She recommended that location of the "entrance should be somewhere on the straight away."
4. Ms. Keli'ipio-Acoba also expressed concern regarding noise resulting from construction activities related to the proposed project. She stated that noise echoes off Pu'u Mā'ili'ili, noting that when families who live on the other side of Mā'ili'ili Stream have parties, they are easily able to hear the music. Mr. Brito also mentioned that *kiawe* trees along Mā'ili'ili Stream have been removed by a development project occurring on a nearby parcel. He noted that these trees provided a buffer for sound. Mr. Brito noted that "these trees over here was like 50-60 feet in the air, old *kiawe* trees, deeply rooted, and they just took 'em right down and nobody talked to us about this." He added that the *kiawe* trees also provided "a wind break for this area."
5. Project construction workers and all other personnel involved in the construction and related activities of the project should be informed of the possibility of inadvertent cultural finds, including human remains. In the event that any potential historic properties are identified during construction activities, all activities will cease and the SHPD will be notified pursuant to HAR §13-280-3. In the event that *iwi kūpuna* are identified, all earth moving activities in the area will stop, the area will be cordoned off, and the SHPD and Police Department will be notified pursuant to HAR §13-300-40. In addition, in the event

of an inadvertent discovery of human remains, the completion of a burial treatment plan, in compliance with HAR §13-300 and HRS §6E-43, is recommended.

6. In the event that *iwi kūpuna* and/or cultural finds are encountered during construction, project proponents should consult with cultural and lineal descendants of the area to develop a reinterment plan and cultural preservation plan for proper cultural protocol, curation, and long-term maintenance.

Section 9 References Cited

Akana, Collette Leimomi and Kiele Gonzalez

2015 *Hānau Ka Ua: Hawaiian Rain Names*. Kamehameha Publishing, Honolulu.

Alameida, Roy Kakulu

1993 Land Tenure and Land Use in Kawaihapai, O'ahu. Master's thesis in History. University of Hawai'i at Mānoa, Honolulu.

Ava Konohiki

2015 Ancestral Visions of 'Āina website. Available online at <http://www.avakonohiki.org/>.

Barratt, Glynn

1988 *The Russian View of Honolulu 1809-26*. Carleton University Press, Ottawa, Canada.

Barrera, W. Jr.

1975 *Archaeological Site Survey at Mā'ili, O'ahu*. Chiniago, Inc., Honolulu.

Becket, Jan and Joseph Singer

1999 *Pana O'ahu: Sacred Stones, Sacred Land*. University of Hawai'i Press, Honolulu.

Beckwith, M.W.

1970 *Hawaiian Mythology*. University of Hawaii Press, Honolulu.

Berdy, Catherine, Michelle Elmore, and Joseph Kennedy

2002 *An Archaeological Monitoring Report for the Farrington Highway Lighting Improvements Project Located in Wai'anae Kai and Lualualei Ahupua'a, Wai'anae District, Island of O'ahu*. Archaeological Consultants of the Pacific, Inc., Hale'iwa, Hawai'i.

Blahut, Sara M. and Hallett H. Hammatt

2017 *Archaeological Monitoring Report for the Kahe-Permanente 46kV Reconductoring and Pole Replacements Project, Lualualei Ahupua'a, Wai'anae District, O'ahu, TMKs: [1] 8-6-001: Farrington Highway Right-of-Way and 8-6-013: Farrington Highway Right-of-Way*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Board of Commissioners

1929 *Indices of Awards made by the Board of Commissioners to Quiet Land Titles in the Hawaiian Islands*. Star-Bulletin Publishing, Honolulu.

Borthwick, Douglas F., Rodney Chiogioji, Hallett H. Hammatt, and David Shideler

1999 *Subsurface Archaeological Survey for the Proposed Pōka'i Beach Park, Pōka'i Bay, Wai'anae, O'ahu, Hawai'i*, Revised. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Bowser, George

1880 *The Hawaiian Kingdom Statistical and Commercial Directory and Tourists' Guide 1880-1881*. George Bowser & Company, Publishers, Honolulu and San Francisco.

Brigham, William T.

1902 *Stone Implements and Stone Work of the Ancient Hawaiians*. Memoirs of the Bernice Pauahi Bishop Museum, Vol I, No. 4. Bishop Museum Press, Honolulu.

Bryan, Jr., Edwin H.

1938 *Ancient Hawaiian Life*. Advertiser Publishing Company, Honolulu

Buck, Peter H. (Te Rangi Hiroa)

1964 *Arts and Crafts of Hawaii: Section VIII Games and Recreation*. Bishop Museum Special Publication 45. Bishop Museum Press. Honolulu.

CCH DPP (City and County of Honolulu Department of Permitting and Planning)

2012 *Wai'anae Sustainable Communities Plan*. City and County of Honolulu.

Chiddix, Jim and Mackinnon Simpson

2004 *Next Stop Honolulu! The Story of the Oahu Railway & Land Company*. Sugar Cane Press, Honolulu.

Chinen, Jon J.

1958 *The Great Māhele, Hawai'i's Land Division of 1848*. University of Hawaii Press, Honolulu.

Cipolla, Craig N.

2013 Native American Historical Archaeology and the Trope of Authenticity. *Historical Archaeology*. Vol. 47:3:12–22.

Clark, John R.K.

1977 *The Beaches of O'ahu*. University of Hawaii Press, Honolulu.

Commissioner of Crown Lands

1894 *Reports of the Commissioner of Crown Lands, Provisional Government, Honolulu, Hawaii*. Hawai'i State Archives, Honolulu.

1902 *Reports of the Commissioner of Crown Lands, Provisional Government, Honolulu, Hawaii*. Hawai'i State Archives, Honolulu.

Cordy, Ross

1976 *An Archaeological Survey of Kaiser Pacific Properties' Land, Mā'ili Kai, O'ahu*. Manuscript on file; Department of Land and Natural Resources–Historic Sites Section, Honolulu.

2002 *An Ancient History of Wai'anae*. Mutual Publishing, Honolulu.

Cordy, Ross, W. Bruce Masse, Nathaniel Pak, Lou Jane Moana Lee, and Carina Johnson

1998 *Ka Moku O Wai'anae: He Mo'olelo O Ka Wa Kahiko*. State Historic Preservation Division, Department of Land and Natural Resources, Honolulu.

DLNR (Department of Land and Natural Resources)

1845–1869 Liber. (Land Record Books). Territory of Hawai'i: Bureau of Land Conveyances. Archives at the Hawai'i Department of Land and Natural Resources, Hawai'i.

Donn, John M.

- 1906 Hawaii Territory map of Oahu. Registered Map 2374. Hawai'i Land Survey Division, Department of Accounting and General Services, Honolulu.

Douglas, Michele Toomay

- 1990 *Report on Five Human Skeletons Recovered from Liopolo Street, Ma'ili, Wai'anae, O'ahu, Hawai'i*. Cultural Surveys Hawai'i, Kailua, Hawai'i.

Ellis, William

- 1831 *Polynesian Researches, during a Residence of Nearly Eight Years in the Society and Sandwich Islands*. Fisher, Son, & Jackson, London.
- 1969 *Polynesian Researches Hawaii*. Charles E. Tuttle Company, Inc. Rutland Vermont & Tokyo, Japan.

Emerson, N.B.

- 1915 *Pele and Hiiaka, A Myth From Hawaii*. Honolulu Star-Bulletin Limited, Honolulu, Hawai'i.
- 1965 *The Unwritten Literature of Hawaii: The Sacred Songs of the Hula*. Collected by Nathaniel B. Emerson. Charles E. Tuttle Company, Rutland, Vermont and Tokyo.

ESRI, Inc.

- 2015 Map Image Layer. ESRI, Inc., Redlands, California.

Ferguson, Kathy E. and Phyllis Turnbull

- 2010 The Military. *The Value of Hawai'i: Knowing the Past, Shaping the Future*: 47–52.

Flood, Krista and Boyd Dixon

- 1994 *An Archaeological Reconnaissance of the Wai'anae Comprehensive Health Center, Wai'anae District, Lualualei Ahupua'a, Island of O'ahu*. Bishop Museum Press, Honolulu.

Foote, Donald E., Elmer L. Hill, Sakuichi Nakamura, and Floyd Stephens

- 1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*. U.S. Department of Agriculture, Soil Conservation Service, in cooperation with the University of Hawai'i Agricultural Experiment Station. U.S. Government Printing Office, Washington, D.C.

Giambelluca, Thomas W., Michael A. Nullett, and Thomas A. Schroeder

- 1986 Rainfall Atlas of Hawai'i, Department of Land and Natural Resources, State Historic Preservation Division, State of Hawai'i, Honolulu, Hawai'i.

Hammatt, Hallett H. and David W. Shideler

- 1991 *Archaeological Monitoring at Liopolo Street, Mā'ili 8" Water system Part III, Mā'ili, Wai'anae, O'ahu, with a Discussion of Burials at State Site No. 50-80-07-4244*. Cultural Surveys Hawai'i, Kailua, Hawai'i.
- 2006 *Archaeological Field Check and Literature Review of Five Locations for the Leeward Coast Emergency Homeless Shelter Project Mākaha, Wai'anae and Lualualei Ahupua'a, Wai'anae District, Oahu TMK: [1] 8-4-016:008; 8-5-008:40,41 & 44; 8-5-018:19; 8-6-003:008 and 8-7-010:007*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

- 2018 *Archaeological Literature Review in Support of Obtaining an HAR §13-275-3 Determination Letter for the Waianae Water System Improvements Part III Project, Wai'anae Ahupua'a, Wai'anae District, O'ahu TMK: [1] 8-5 Various Plats Farrington Highway Right-of Way and Old Government Road Right-of-Way.* Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Hammatt, Hallett H., Jennifer J. Robins, and Mark Stride

- 1993 *Archaeological Inventory Survey of a 170-Acre Parcel in the Ahupua'a of Lualualei, Wai'anae District, Island of O'ahu (TMK 8-7-9: portion 2; 8-7-10:6 & 10; 8-7-19: portion 1).* Cultural Surveys Hawai'i, Kailua, Hawai'i.

Handy, E.S. Craighill

- 1940 *The Hawaiian Planter, Volume I.* Bishop Museum Bulletin 161. Bishop Museum, Honolulu.

Handy, E.S. Craighill and Elizabeth Green Handy

- 1972 *Native Planters in Old Hawai'i: Their Life, Lore, and Environment.* Bishop Museum Press, Honolulu.

Hart, Mickey and Mary Kawena Pukui

- 1989 *Hawaiian Drum Dance Chants: Sounds of Power in Time.* Smithsonian Institution, Washington D.C.

Hawaii Cooperative Park Service Unit

- 1990 *Hawaii Stream Assessment.* State of Hawaii Department of Land and Natural Resources Commission on Water Resource Management, Honolulu.

Hawai'i State Archives

- n.d. Photo of Lualualei and Wai'anae Ahupua'a from Pōhākea Pass. Hawai'i State Archives, Honolulu.
- n.d. Photo of the Wai'anae Mountain Range with Kolekole Pass in left background; Pu'u o Hulu Uka in the left foreground; downslope of Pu'u Heleakalā in right foreground. Hawai'i State Archives, Honolulu.
- n.d. Photo of sugarcane in Lualualei Valley with flume to the right; Kolekole Pass in center background. Hawai'i State Archives, Honolulu.
- n.d. Photo of Lualualei Naval Base area. Hawai'i State Archives, Honolulu.
- 1931 Photo of Lualualei Naval Ammunition Depot taken on 23 September 1931 showing the valley and Wai'anae Mountain Range; Kolekole Pass lies in the middle background. Hawai'i State Archives, Honolulu.
- 1931 Photo of Lualualei Naval Ammunition Depot taken on 28 October 1931; Pu'u Heleakalā in the center background; government offices in the foreground. Hawai'i State Archives, Honolulu.

Hawai'i TMK Service

- 2014 Tax Map Key [1] 8-6-01. Hawai'i TMK Service, Honolulu.

Ho'oulumāhiehie

- 2008a *The Epic Tale of Hi'ikaikapoliopole.* As told by Ho'oulumāhiehie. M. Puakea Nogelmeier, translator. Awaiaulu Press, Honolulu.

- 2008b *Ka Mo'olelo o Hi'iakaikapoliopole*. Original Hawaiian text taken from series of articles in *Ka Na'i Aupuni* 1905-1906. Awaiaulu Press, Honolulu.

Huapala

- n.d. *Hawaiian Music and Hula Archives*. Electronic document, <http://huapala.org>

Hunkin, Nifae and Hallett H. Hammatt

- 2008 *Archaeological Monitoring Report for the Leeward Coast Emergency Homeless Shelter Project, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu* TMK: [1] 8-7-010:007. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Ī'ī, John Papa

- 1959 *Fragments of Hawaiian History as Recorded by John Papa Ī'ī*. Bishop Museum Press, Honolulu.

Jimenez, Joseph A.

- 1994 *Additional Archaeological Inventory Survey, Mā'ili Kai Project Area, Land of Lualualei, Waianae District, Island of O'ahu*. Paul H. Rosendahl, Ph.D., Inc., Hilo, Hawai'i.

Jones, Kulani, Dominique L. Cordy, Alexander Hazlett, and Hallett H. Hammatt

- 2007 *Archaeological Monitoring Report for the Board of Water Supply Water System Improvements on Wai'anae Valley Road and Connecting Streets, Wai'anae Ahupua'a and Lualualei Ahupua'a, District of Wai'anae, Island of O'ahu, Hawai'i* TMK: [1] 8-5-001, 003, 021-023, 029, 033 and TMK: [1] 8-6-001, 003, 011-014. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Kailihiwa, Solomon H. and Paul L. Cleghorn

- 2005 *Archaeological Monitoring for the Pōka'i Bay Beach Park Canoe Halau Project Wai'anae, Island of O'ahu (TMK 8-5-08-36)*. Pacific Legacy, Inc., Kailua, Hawai'i.

Kakesako, Gregg K.

- 1998 Lualualei. *Honolulu Star-Bulletin*, 5 October 1998. Electronic document, <http://archives.starbulletin.com/98/10/05/news/story1.html>.

Kamakau, Samuel M.

- 1976 *The Works of the People of Old: Na Hana a ka Po'e Kahiko*. Bishop Museum Press, Honolulu.
- 1991 *Tales and Traditions of the People of Old: Nā Mo'olelo o Ka Po'e Kahiko*. Bishop Museum Press, Honolulu.
- 1992 *Ruling Chiefs of Hawai'i*. Revised edition. Kamehameha Schools Press, Honolulu.

Kanahele, George S.

- 1995 *Waikiki 100 B.C. to 1900 AD An Untold Story*. Queen Emma Foundation, Honolulu.

Kawachi, Carol

- 1990 *Mauna Lahilahi Crevice Burials, Makaha, Wai'anae, O'ahu*. State Historic Preservation Division, Honolulu.

Kawelu, Kathleen L.

- 2015 *Kuleana and Commitment: Working Toward a Collaborative Hawaiian Archaeology*. University of Hawai'i Press, Honolulu.

Kelly, Marion

- 1991 Notes on the History of Lualualei. In *An Archaeological Survey of the Naval Magazine & Naval Communications Area Transmission Facility*, by Alan E. Haun. Bishop Museum Press, Honolulu.

Kirch, Patrick Vinton

- 1985 *Feathered Gods and Fishhooks*. University of Hawaii Press, Honolulu.
- 2000 *Preliminary Report on Archaeological Reconnaissance Survey in Kalaupapa National Historical Park. August 11 to September 3, 2000*. University of California, Berkeley, California.
- 2011 *Roots of Conflict: Soils, Agriculture, and Sociopolitical Complexity in Ancient Hawai'i* (School for Advanced Research Advanced Seminar Series). SAR Press, Santa Fe, New Mexico.

Kolb, Michael J., Patty Jo Conte, Michael McFadden, Christi A. Mitchell, and Ross Cordy

- 1995 *Archaeological Survey and Excavations at Pahe'ehe'e Ridge, Wai'anae Ahupua'a, Wai'anae District, Island of O'ahu*. State Historic Preservation Division, Honolulu.

Kuykendall, Ralph

- 1967 *The Hawaiian Kingdom, 1874–1893: The Kalakaua Dynasty*. University of Hawaii Press, Honolulu.

Kuykendall, Ralph S. and A. Grove Day

- 1961 *Hawai'i: A History From Polynesian Kingdom to American Statehood*. Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

Landgraf, Anne Kapulani

- 1994 *Nā Wahi Pana 'o Ko'olau Poko*. University of Hawai'i Press, Honolulu.

Luomala, Katharine

- 1949 *Maui-of-a-Thousand-Tricks: His Oceanic and European Biographers*. Bishop Museum Bulletin 198. Bernice Pauahi Bishop Museum, Honolulu.
- 1983 Phantom Night Marchers in the Hawaiian Islands. *Pacific Studies*, Volume VIII, Number 1:20.

Malo, David

- 1951 *Hawaiian Antiquities (Moolelo Hawaii)*. Second edition. Nathaniel B. Emerson, translator. Bishop Museum Press, Honolulu.

Mayberry, James D. and Paul H. Rosendahl

- 1994 *Archaeological Reconnaissance Survey for Environmental Impact Statement (EIS) Maili Kai Property, Land of Lualualei, Waianae District, Island of Oahu (TMK: 8-7-10:2, 14)*. Paul H. Rosendahl, Ph.D., Inc., Hilo, Hawai'i.

McAllister, Gilbert J.

- 1933 *Archaeology of Oahu*. Bernice Pauahi Bishop Museum, Honolulu.

McDermott, Matt and Hallett H. Hammatt

- 2000 *Archaeological Inventory Survey of the 57.65 Acre 'Ulehawa Beach Park Parcel, Ahupua'a of Lualualei, Wai'anae District, Island of O'ahu (TMK: 8-7-05:01, 03 and 05; 8-7-06:03; 8-7-08:01, 8-7-08:26; 8-7-08:26).* Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

McDougall, Brandy Nālani

- 2016 *Finding Meaning: Kaona and Contemporary Hawaiian Literature.* University of Arizona Press, Tucson, Arizona.

McElroy, Windy

- 2008 *Archaeological Monitoring for Department of Hawaiian Homelands Fiber Optic Cable Installation, Lualualei, Wai'anae, and Mākaha Ahupua'a, Wai'anae District, Island of O'ahu, Hawai'i (portions of TMK: 8-7, 8-6, 8-5, 8-4, 8-3, and 8-2).* Garcia and Associates, Honolulu.

McElroy, Windy and Anthony Alvarez

- 2017 *Archaeological Assessment for the Proposed Hale Makana O Mā'ili Residential Complex, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu, TMK: [1] 8-7-001:016 (por.).* Keala Pono Archaeological Consulting, LLC, Kāne'ohe, Hawai'i.

McGrath, E.J., Jr., K.M. Brewer, and Robert Krauss

- 1973 *Historic Wai'anae, A Place of Kings.* Island Heritage Ltd., Norfolk Island, Australia.

McGregor, Davianna Pōmaika'i

- 1996 An Introduction to the *Hoa'aina* and Their Rights. *The Hawaiian Journal of History* 30:1–28.

McGuire, Ka'ohulani and Hallett H. Hammett

- 1999 *Native Hawaiian Gathering Rights Assessment for the Proposed Nānākuli 242 Reservoir Site and 20" Transmission Main Along Nānākuli Avenue, Nānākuli, Wai'anae District, Island of O'ahu (TMK:8-9-8:3).* Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Mierzejewski, Abbey and Hallett H. Hammatt

- 2014 *Archaeological Monitoring Report for the Mā'ili Beach Park Parking Improvements Project Phase I & II (Project No. 12-P-11), Lualualei Ahupua'a, Wai'anae District, O'ahu, TMKs: [1] 8-7-015:001 por., 003–008 por., 039 por., [1] 8-7-028:021–023 por., and Farrington Highway Right-of-Way.* Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Nakamura, Keola, Stephan D. Clark, and Pat McCoy

- 2008 *Archaeological Monitoring Report in Support of the Board of Water Supply's Wai'anae Water System Improvements Part II on McArthur, Kawili and Alamihi Streets, Wai'anae and Lualualei Ahupua'a, Wai'anae District, Island of O'ahu, State of Hawaii TMKs: (1) 8-5-09: 10, 20 & 8-6-20.* Pacific Consulting Services, Inc., Honolulu.

Nakamura, Barry and Jeffrey Pantaleo

- 1994 *Aspects of the History of Lualualei and Nanakuli, Wai'anae, O'ahu.* Aki Sinoto Publishing, Honolulu.

Nakuina, Moses K.

- 1992 *The Wind Gourd of La'amaomao*. Second edition. Esther T. Mookini and Sarah Nākoa, translators. Kalamakū Press, Honolulu.

Nees, Richard

- 1995 *Archaeological Reconnaissance Survey at NCTAMS Wahiawa and NRTF Lualualei, NCTAMS EASTPAC, O'ahu Island*. Ogden Environmental and Energy Services Co., Inc., Honolulu.

Office of Hawaiian Affairs

- 2015 *Papakilo Database*. Office of Hawaiian Affairs cultural and historical database. Electronic document, <http://papakilodatabase.com/main/index.php>.

Pauketat, Timothy R.

- 2001 *The Archaeology of Traditions*. University Press of Florida, Gainesville, Florida.

Perzinski, David, David Shideler, and Hallett H. Hammatt

- 2002 *An Archaeological and Cultural Impact Evaluation for the Proposed Wai'anae Community Transit Center, Lualualei Ahupua'a, Wai'anae District, O'ahu*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Pukui, Mary K.

- 1949 Songs (meles) of Old Ka'u Hawai'i. In *Journal of American Folklore*, Volume 26, No. 245 July to September 1949:247–258.
- 1983 *'Ōlelo No'eau, Hawaiian Proverbs & Poetical Sayings*. Bishop Museum Special Publication 71. Bishop Museum Press, Honolulu.
- 1995 *Na Mele Welo: Songs of Our Heritage*. University of Hawai'i Press, Honolulu.

Pukui, Mary K. and Samuel H. Elbert

- 1984 *Hawaiian Dictionary*. First edition. University of Hawaii Press, Honolulu.
- 1986 *Hawaiian Dictionary*. Second edition. University of Hawaii Press, Honolulu.

Pukui, Mary K. and Laura C. S. Green

- 1995 *Folktales of Hawai'i*. Bishop Museum Press, Honolulu.

Pukui, Mary K., Samuel H. Elbert, and Esther Mookini

- 1974 *Place Names of Hawaii*. University of Hawaii Press, Honolulu.

Rieth, Timothy

- 2009 *Archaeological Inventory Survey of the Former Voice of America Site, Mā'ili, Lualualei Ahupua'a, Wai'anae District, O'ahu TMK: [1] 8-7-010:007*. International Archaeological Research Institute, Inc., Honolulu.

Robins, Jennifer and Lisa Anderson

- 1998 *Phase I Reconnaissance Survey at Naval Radio Transmitter Facility, Lualualei (RFT Lualualei), O'ahu, Hawai'i*. Ogden Environmental and Energy Services, Inc., Honolulu.

Schmitt, Robert C.

- 1973 *The Missionary Censuses of Hawaii, Pacific Anthropological Records No. 20*. Bernice Pauahi Bishop Museum, Department of Anthropology, Honolulu.

Sinoto, Akihiko and Jeffrey Pantaleo

- 1990 *Archaeological Surface Assessment Proposed Village, Poka'i Bay Subdivision, Lualualei, Wai'anae, O'ahu Island*. Applied Research Group, Bernice Pauahi Bishop Museum, Honolulu.

Soehren, Lloyd

- 2010 *Hawaiian Place Names*. Electronic database, ulukau.org/cgi.hin/hpn?1=haw.

Stearns, Harold T. and Knute N. Vaksvik

- 1935 *Geology and Ground-water Resources of the Island of Oahu, Hawaii*. Bulletin 1. Prepared in Cooperation with the U.S. Geological Survey. Printed in the Territory of Hawaii, United States of America.

Sterling, Elspeth P. and Catherine C. Summers

- 1978 *Sites of O'ahu*. Department of Anthropology, Bernice Pauahi Bishop Museum. Bishop Museum Press, Honolulu.

Stine, Cary, Hallett H. Hammatt, and David W. Shideler

- 2014 *Archaeological Monitoring Report (AMR) for the Makaha Interceptor Sewer Rehabilitation/Replacement Project, Wai'anae Ahupua'a and Lualualei Ahupua'a, District of Wai'anae, Island of O'ahu, Hawai'i, Insituform Job 208035 (TMK: (1) 8-5 and 8-6 various parcels)*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Tao, Grace K.

- 1979 *Archaeological Research for the Kuilioloa Heiau Restoration Project, Pokai Bay, Waianae, Oahu*. Anthropology Department, Bernice Pauahi Bishop Museum, Honolulu.

Thurman, Douglas and Hallett H. Hammatt

- 2009 *Archaeological Monitoring Report for the Reconstruction of the Wastewater System at Lualualei Beach Park, Comfort Stations "A" and "B" Lualualei Ahupua'a, Wai'anae District, Island of O'ahu TMK: [1] 8-6-001:007*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Townscape, Inc.

- 2009 *Wai'anae Watershed Management Plan*. Board of Water Supply, Honolulu, Hawai'i.

Tulchin, Jon and Hallett H. Hammatt

- 2007 *Archaeological Assessment for the Leeward Coast Emergency Homeless Shelter Project, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu TMK: [1] 8-7-010:007*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Tulchin, Jon and Hallett H. Hammatt

- 2008 Addendum to an *Archaeological Assessment for the Leeward Coast Emergency Homeless Shelter Project, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu TMK: [1] 8-7-010:por. 007*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Tulchin, Todd, Constance O'Hare, and Hallett H. Hammatt

- 2003 *Archaeological Inventory Survey in Support of the Proposed Wai'anae 242 Reservoir and Access Road Project, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Tulchin, Todd, Douglas F. Borthwick, and Hallett H. Hammatt

- 2007 *Final Archaeological Assessment of the Proposed 5.0-Acre Hale Wai Vista Project, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu TMK: [1] 8-6-001:035.* Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Ulukau

- 2014 *Māhele Database.* Hawaiian Electronic Library, <http://ulukau.org/cgi-bin/vicki?l=en..>

U.S. Army War Department

- 1919 U.S. Army War Department fire control map, Waianae and Nanakuli quadrangles, USGS Information Services, Denver, Colorado.
- 1935 U.S. Army War Department terrain map, Schofield quadrangle. USGS Information Services, Denver, Colorado.
- 1936 U.S. Army War Department terrain map, Waianae and Kaena quadrangles. USGS Information Services, Denver, Colorado.
- 1943 U.S. Army War Department terrain map, Waianae and Nanakuli quadrangles. USGS Information Services, Denver, Colorado.

U.S. Department of Agriculture

- 2001 Soil Survey Geographic (SSURGO) database. U.S. Department of Agriculture, Natural Resources Conservation Service. Fort Worth, Texas. <http://www.ncgc.nrcs.usda.gov/products/datasets/ssurgo/>.

USGS (U.S. Geological Survey)

- 1953 USGS 7.5-minute topographic map, Schofield Barracks quadrangle. USGS Information Services, Denver, Colorado.
- 1954 USGS 7.5-minute topographic map, Waianae quadrangle. USGS Information Services, Denver, Colorado.
- 1963 USGS 7.5-minute topographic map, Waianae quadrangle. USGS Information Services, Denver, Colorado.
- 1969 USGS 7.5-minute topographic map, Schofield Barracks quadrangle. USGS Information Services, Denver, Colorado.
- 1977 USGS Orthoimagery aerial photograph, Waianae quadrangle. USGS Information Services, Denver, Colorado.
- 1998 USGS 7.5-minute topographic map, Waianae quadrangle. USGS Information Services, Denver, Colorado.

Vizenor, Gerald

- 1999 *Manifest Manners: Narratives on Postindian Survivance.* University of Oklahoma Press, Lincoln, Oklahoma.

Waihona 'Aina

- 2020 *The Māhele Database.* Electronic document, <http://waihona.com> (accessed 10 October 2014).

Wall, Walter E.

- 1914 Lualualei Homesteads. Hawai'i Territorial Survey Plat Map No. 2026, Walter E. Wall, Surveyor. Hawai'i Land Survey Division, Department of Accounting and General Services, Honolulu.

Webster's Online Dictionary and Translations

- 2019 *Webster's Online Dictionary and Translations*. Available online, <https://www.webster-dictionary.org/>

Westervelt, William D.

- 1910 *Legends of Ma-ui a Demi God of Polynesia and of His Mother Hina*. Hawaiian Gazette Company, Ltd., Honolulu.
- 1963 *Hawaiian Legends of Old Honolulu*. Charles E. Tuttle Company, Rutland, Vermont.

Wilkes, Charles

- 1845 *Narrative of the United States Exploring Expedition, Volume IV*. The Gregg Press, Upper Saddle River, New Jersey.

EXHIBIT D

Drainage Master Plan Study

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DRAINAGE MASTER PLAN STUDY-DRAFT

WAIANAE COAST COMPREHENSIVE HEALTH CENTER

86-260 Farrington Highway
Waianae, Oahu, HI. 96792

TMKs: 8-6-001:003, 012, 024, 025, 026, 027, 028, 040, 041, & 046

HO&A Job No. 3136

Prepared by:

Hida, Okamoto & Associates, Inc.
1440 Kapiolani Boulevard Suite 1120
Honolulu, Hawaii 96814

June 2020



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


SIGNATURE: EXP. DATE: 4-30-2022

DRAINAGE MASTER PLAN STUDY

References

1. Storm Drainage Standards - Department of Planning and Permitting, City and County of Honolulu, August 2017.
2. Storm Water BMP guide for New and Redevelopment, City and County of Honolulu, July 2017.
3. Storm Water Best Management Practice Manual-Construction City and County of Honolulu, November 2011.

Drainage Master Plan

Waianae Coast Comprehensive Health Center (WCCHC) is proposing to expand their Facilities in the near future. The purpose of the Drainage Master Plan is to determine drainage and stormwater quality impacts due to any increase in storm water runoff, and to propose mitigation measures to ensure that the increase in stormwater runoff is contained within the site for a 1-hour period based on a 50-year design storm. In addition, stormwater quality requirements to filter stormwater runoff will be provided.

Existing Conditions

Waianae Coast Comprehensive Health Center (WCCHC) is located along Farrington Highway and Mailiilii Road in Waianae. The main site, TMK: 8-6-001:003 has access from Mailiilii Road. There are 3 parcels below at TMK: 8-6-001:040, 041 and 046 which have access from Farrington Highway. The State of Hawaii and Hawaiian Home Lands Parcels, TMK: 8-6-001:012,024, 025, 026, 027 and 028 has access from Mailiilii Road. Parcels with TMKs: 8-6-001:027 & 028 will remain unchanged pending community input. For this drainage study, the runoff impacts due to the proposed developments within the Waianae Coast Comprehensive Health Center and Hawaiian Home Lands properties, TMK: 8-6-001:003, 012, 024, 025, 026, 040, 041, and 046, will be addressed.

Soils within the site consist of clayey silt and sandy silt underlain with soft to hard coral formations, allowing for relatively good percolation.

The site is on a slope which varies in elevation from around Elevation 15 along Farrington Highway and Mailiilii Road to around Elevation 140 then slopes steeply up to the ridge line around Elevation 600.

Existing stormwater runoff based on a 50 year design storm was calculated. See Exhibit 1.

- a. Stormwater runoff from Tributary Area 5 ($Q = 7.50$ cfs) flows to lower parcel TMK: 8-6-001: 022.
- b. Stormwater runoff from Tributary Areas 1,2,3,5,6 and 7 ($Q = 37.46$ cfs), flows to Farrington Highway.
- c. Stormwater runoff from Tributary Areas 4,8,9, 10, 11,12, 13 and 14 ($Q = 94.58$ cfs), flows thru the parking and driveways to onsite drainage channel to an existing drain headwall and culvert that crosses through Farrington Highway.

- d. Stormwater runoff from Tributary Areas 15, 16, 17, and 18 ($Q = \underline{34.01}$ cfs), flows to Mailiilii Road and to Mailiilii Channel.
- e. Stormwater runoff from Tributary Areas 19, 20, 21, 22, 23, and 24 ($Q = \underline{46.58}$ cfs), flows to Mailiilii Road and to Mailiilii Channel.
- f. Stormwater runoff from Tributary Areas 25 and 26 ($Q = \underline{25.05}$ cfs), flows to Mailiilii Road and to Mailiilii Channel.

New Developed Condition and Proposed Drainage Improvements

New development stormwater runoff based on a 50 year design storm was calculated. See Exhibit 2.

Existing buildings and parking in Parcels TMK: 8-6-001:040, 041 and 046 will be replaced with a new Community Services Facility, Office Building, and the construction of new parking lots. Proposed tributary areas 1, 2, & 3 are associated with the following parcels and will continue to drain towards Farrington Highway along with the proposed tributary areas 5, 6, & 7. New developed runoff from Tributary Areas 1, 2, 3, 5, 6, and 7 will have a $Q = \underline{38.11}$ cfs. This will result in an increase of $Q = \underline{0.65}$ cfs. Proposed mitigation measures are indicated in Exhibit 4 and will consist of downspouts from the new buildings which will be piped underground into new drywells. Parking lots will have drain inlets installed and will also be piped underground into new drywells. The rest of the stormwater runoff will surface flow into an infiltration trench or onto the landscaped areas.

Within the proposed tributary areas 4, 8, 9, 10, 11, 12, 13, & 14 (In parcel TMKs: 8-6-001: 003, 024, 025, 026, & 027) a new Kapuna Services Building, the renovation of the dental building, a new pool, remodeling of the dining pavilion, expansion of the Administration Building, new paved trails, the installation of photovoltaic panels in the existing parking lots, and the addition of parking stalls are proposed. New development storm water runoff from Tributary Areas 4, 8, 9, 10, 11, 12, 13 and 14 will have a $Q = \underline{95.01}$ cfs and will result in an increase of $Q = 0.43$ cfs. Since the 50-year runoff increase is minimal within the large proposed tributary areas, no mitigation measures have been provided. The majority of the runoff will continue to drain within the existing drain inlets onsite and eventually into the existing drain headwall and culvert that crosses through Farrington Highway. The rest of the runoff will be infiltrated onto the landscaped areas.

Within the proposed tributary area 16 (In parcel TMK: 8-6-001:003), a new parking structure is proposed. Proposed Tributary Area 16 along with Areas 15, 17, and 18 will have a new development $Q = \underline{35.49}$ cfs and will continue to flow towards Mailiilii Road. This will result in an increase of $Q = \underline{1.48}$ cfs. In order to accommodate for the increased runoff, proposed mitigation measures are indicated in Exhibit 3 and will consist of downspouts from the new parking structure and will be connected to a proposed drainage system and eventually discharge into new drywells.

Within proposed tributary areas 19, 20, 21, 22, 23, & 24, in parcel TMKs: 8-6-001:012, 024, 025, 026, 027 & 028, the new buildings including a Training-Workforce Center, Social Services Center, Health Wellness Center, Facility Operations, Greenhouse Operations and a Cultural Exhibit History Center will be constructed along with parking lots, access roads, paved trails, and landscaped area are proposed. Tributary Areas 19, 20, 21, 22, 23 and 24 have a $Q = \underline{53.36}$ cfs. This will result in an increase of $Q = \underline{6.78}$ cfs and the proposed runoff will continue to drain towards Mailiilii Road. However, proposed mitigation measures are indicated in Exhibit 5 and will consist of downspouts for the new buildings and

drain inlets for new parking lots and driveways will be installed. The downspouts and drain inlets will be connected to a proposed drainage system and then discharged into new drywells installed in various locations. Infiltration trenches will also be installed near the proposed parking lots.

Within the proposed tributary areas 25 and 26 (in parcel TMKs: 8-6-001:027 & 028), the proposed runoff will remain the same ($Q = 25.05$ cfs) as the existing runoff because the lots will remain undeveloped until community input is received.

DRAINAGE CALULATIONS

INLETS DESIGN WORKSHEET										
Tm = 50		YEARS	ONE-HOUR RAINFALL = 3.00					INCHES	Q=RCIA	
AREA	INLET	OVERLAND FLOW TIME				R	C	I	A	Q
		GROUND CHAR.	LENGTH (FEET)	SLOPE (FT/FT)	Tc (MIN)	CORR. FACTOR			(ACRES)	(CFS)
EXISTING CONDITIONS										
AREA 1	Farrington Hwy	Pavement/Roof/Poor Grass	292.0	0.070	5.0	2.77	0.85	3.00	0.872	6.12
AREA 2	Farrington Hwy	Pavement/Roof/Poor Grass	286.0	0.076	5.0	2.77	0.81	3.00	0.923	6.21
AREA 3	Farrington Hwy	Pavement/Roof/Average Grass	259.0	0.100	5.8	2.66	0.77	3.00	1.075	6.61
AREA 4	Culvert	Pavement/Roof/Average Grass	427.0	0.130	8.8	2.36	0.61	3.00	1.569	6.80
AREA 5	Farrington Hwy	Pavement/Rock/Poor Grass	300.0	0.710	3.0	3.14	0.63	3.00	1.270	7.50
AREA 6	Farrington Hwy	Pavement/Poor Grass/Rock	410.0	0.510	5.0	2.77	0.69	3.00	1.223	7.01
AREA 7	Farrington Hwy	Pavement/Roof/Average Grass	220.0	0.270	3.0	3.14	0.77	3.00	0.5530	4.01
AREA 8	Culvert	Pavement/Roof/Average Grass	250.0	0.220	3.0	3.14	0.82	3.00	1.9410	14.89
AREA 9	Culvert	Pavement/Roof/Average Grass	140.0	0.023	7.0	2.52	0.68	3.00	1.0010	5.15
AREA 10	Culvert	Rock/Average Grass	240.0	0.460	3.0	3.14	0.74	3.00	0.6570	4.58
AREA 11	Culvert	Rock/Average Grass	460.0	0.580	3.0	3.14	0.74	3.00	2.6960	18.78
AREA 12	Culvert	Rock/Average Grass	515.0	0.520	3.0	3.14	0.76	3.00	2.9340	20.85
AREA 13	Culvert	Rock/Pavement/Roof/Average Grass	315.0	0.210	3.0	3.14	0.81	3.00	1.9770	15.03
AREA 14	Culvert	Pavement/Roof/Average Grass	75.0	0.020	3.0	3.14	0.77	3.00	1.1730	8.50
AREA 15	Maililili Rd.	Pavement/Roof/Average Grass	90.0	0.230	3.0	3.14	0.79	3.00	0.5150	3.84
AREA 16	Maililili Rd.	Pavement/Average Grass	153.0	0.140	3.0	3.14	0.64	3.00	1.1210	6.70
AREA 17	Maililili Rd.	Pavement/Average Grass	497.0	0.140	6.2	2.61	0.84	3.00	1.9210	12.61
AREA 18	Maililili Rd.	Rock/Average Grass	600.0	0.450	6.5	2.58	0.67	3.00	2.1120	10.86
AREA 19	Maililili Rd.	Rock/Average Grass	670.0	0.440	6.5	2.58	0.69	3.00	1.7650	9.40
AREA 20	Maililili Rd.	Rock/Average Grass	730.0	0.460	8.0	2.43	0.59	3.00	1.0930	4.70
AREA 21	Maililili Rd.	Pavement/Average Grass	660.0	0.180	8.0	2.43	0.73	3.00	1.9280	10.18
AREA 22	Maililili Rd.	Pavement/Average Grass	550.0	0.200	14.0	2.02	0.52	3.00	1.6870	5.34
AREA 23	Maililili Rd.	Rock/Average Grass	700.0	0.500	6.5	2.58	0.66	3.00	1.9530	9.91
AREA 24	Maililili Rd.	Poor Grass	550.0	0.200	9.0	2.34	0.60	3.00	1.6730	7.05
AREA 25	Maililili Rd.	Poor Grass	540.0	0.200	9.0	2.34	0.60	3.00	3.3288	14.03
AREA 26	Maililili Rd.	Rock/Average Grass	680.0	0.500	6.5	2.58	0.66	3.00	2.1733	11.02
									41.134	237.68
PROPOSED CONDITIONS										
AREA 1	Exist/No Change/Farrington Hwy	Pavement/Roof/Poor Grass	292.0	0.070	5.0	2.77	0.85	3.00	0.872	6.12
AREA 2	Proposed Development/Farrington Hwy	Pavement/Roof/Average Grass	264.0	0.076	5.5	2.70	0.81	3.00	0.923	6.02
AREA 3	Proposed Development/Farrington Hwy	Pavement/Roof/Landscape	240.0	0.084	5.0	2.77	0.83	3.00	1.075	7.45
AREA 4	Exist/No Change/Culvert	Pavement/Roof/Average Grass	427.0	0.130	8.8	2.36	0.61	3.00	1.569	6.80
AREA 5	Exist/No Change/Farrington Hwy	Pavement/Rock/Poor Grass	300.0	0.710	3.0	3.14	0.63	3.00	1.270	7.50
AREA 6	Proposed Development/Farrington Hwy	Pavement/Roof/Average Grass	410.0	0.510	5.0	2.77	0.69	3.00	1.223	7.01
AREA 7	Proposed Development/Farrington Hwy	Pavement/Roof/Average Grass	220.0	0.270	3.0	3.14	0.77	3.00	0.553	4.01
AREA 8	Proposed Development/Culvert	Pavement/Roof/Average Grass	250.0	0.220	3.0	3.14	0.82	3.00	1.941	14.89
AREA 9	Proposed Development/Culvert	Pavement/Roof/Average Grass	140.0	0.023	7.0	2.52	0.69	3.00	1.001	5.22
AREA 10	Proposed Development/Culvert	Rock/Average Grass/Pavement	240.0	0.460	3.0	3.14	0.74	3.00	0.657	4.59
AREA 11	Proposed Development/Culvert	Rock/Average Grass/Pavement	460.0	0.580	3.0	3.14	0.74	3.00	2.696	18.84
AREA 12	Proposed Development/Culvert	Rock/Average Grass/Pavement	515.0	0.520	3.0	3.14	0.76	3.00	2.9340	21.10
AREA 13	Proposed Development/Culvert	Pavement/Roof/Rock/Average Grass	315.0	0.210	3.0	3.14	0.81	3.00	1.9770	15.07
AREA 14	Exist/No Change/Culvert	Pavement/Roof/Average Grass	75.0	0.020	3.0	3.14	0.77	3.00	1.1730	8.50
AREA 15	Exist/No Change/Maililili Rd.	Pavement/Roof/Average Grass	90.0	0.230	3.0	3.14	0.79	3.00	0.5150	3.84
AREA 16	Proposed Development/Maililili Rd.	Pavement/Average Grass	101.0	0.020	3.0	3.14	0.77	3.00	1.1210	8.13
AREA 17	Exist/ No Change/Maililili Rd.	Pavement/Average Grass	497.0	0.140	6.2	2.61	0.84	3.00	1.9210	12.61
AREA 18	Proposed Development/Maililili Rd.	Rock/Average Grass/Pavement	600.0	0.450	6.5	2.58	0.67	3.00	2.1120	10.91
AREA 19	Proposed Development/Maililili Rd.	Rock/Average Grass/Pavement	670.0	0.440	6.5	2.58	0.69	3.00	1.7650	9.45
AREA 20	Proposed Development/Maililili Rd.	Rock/Average Grass/Pavement	730.0	0.460	8.0	2.43	0.60	3.00	1.0930	4.76
AREA 21	Proposed Development/Maililili Rd.	Pavement/Roof/Average Grass	660.0	0.180	8.0	2.43	0.72	3.00	1.9280	10.05
AREA 22	Proposed Development/Maililili Rd.	Pavement/Roof/Average Grass	550.0	0.200	7.3	2.50	0.73	3.00	1.6870	9.17
AREA 23	Proposed Development/Maililili Rd.	Pavement/Rock/Average Grass	700.0	0.500	6.5	2.58	0.67	3.00	1.9530	10.08
AREA 24	Proposed Development/Maililili Rd.	Pavement/Roof/Poor Grass	550.0	0.200	6.8	2.54	0.77	3.00	1.6730	9.85
AREA 25	Exist/ No Change/Maililili Rd.	Poor Grass	540.0	0.200	9.0	2.34	0.60	3.00	3.3288	14.03
AREA 26	Exist/ No Change/Maililili Rd.	Rock/Average Grass	680.0	0.500	6.5	2.58	0.66	3.00	2.1733	11.02
									41.134	247.03
									increase	9.35
HIDA, OKAMOTO & ASSOCIATES, INC. Consulting Engineers										
JOB NO.: 3136				BY:	RW	DATE:	6/2/2020	CHECK:		
SUBJECT: WCCHC								SHEET:		

RUNOFF COEFFICIENT WORKSHEET

GROUND CHARACTER	RUNOFF COEFFICIENT (C)
PAVEMENT/ROOF	0.95
ROCK	0.80
POOR GRASS/DIRT	0.60
AVERAGE GRASS	0.50
DENSE GRASS	0.40
GRAVEL BED	0.40
SAND	0.20

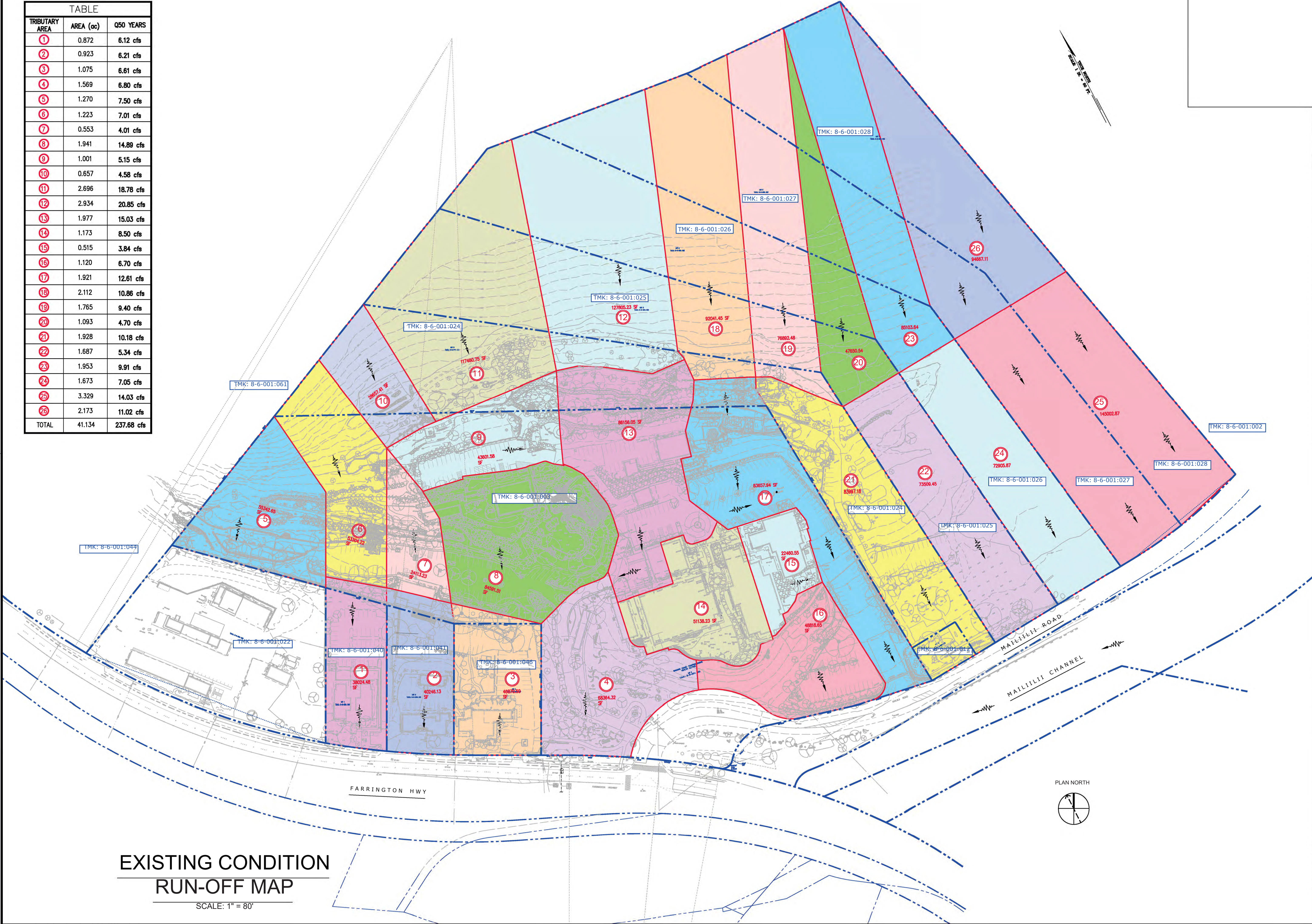
TRIBUTARY AREA	GROUND CHARACTER	% PAVEMENT/ROOF	% ROCK	% POOR GRASS/ DIRT	% AVERAGE GRASS	% DENSE GRASS	% GRAVEL BED	% SAND	WEIGHTED (C)
EXISTING CONDITIONS									
Area 1	Pavement/Roof/Poor Grass	70.0%		30.0%					0.85
Area 2	Pavement/Roof/Poor Grass	60.0%		40.0%					0.81
Area 3	Pavement/Roof/Average Grass	60.0%			40.0%				0.77
Area 4	Pavement/Roof/Average Grass	25.0%			75.0%				0.61
Area 5	Pavement/Rock/Poor Grass	5.0%	5.0%	90.0%					0.63
Area 6	Pavement/Rock/Poor Grass	20.0%	10.0%	70.0%					0.69
Area 7	Pavement/Roof/Average Grass	60.0%			40.0%				0.77
Area 8	Pavement/Roof/Average Grass	70.0%			30.0%				0.82
Area 9	Pavement/Roof/Average Grass	40.0%			60.0%				0.68
Area 10	Rock/Average Grass		80.0%		20.0%				0.74
Area 11	Rock/Average Grass		80.0%		20.0%				0.74
Area 12	Rock/Average Grass		85.0%		15.0%				0.76
Area 13	Pavement/Roof/Rock/Average Grass	65.0%	5.0%		30.0%				0.81
Area 14	Pavement/Roof/Average Grass	60.0%			40.0%				0.77
Area 15	Pavement/Roof/Average Grass	65.0%			35.0%				0.79
Area 16	Pavement/Average Grass	30.0%			70.0%				0.64
Area 17	Pavement/Average Grass	75.0%			25.0%				0.84
Area 18	Rock/Average Grass		55.0%		45.0%				0.67
Area 19	Rock/Average Grass		63.0%		37.0%				0.69
Area 20	Rock/Average Grass		30.0%		70.0%				0.59
Area 21	Pavement/Average Grass	50.0%			50.0%				0.73
Area 22	Pavement/Average Grass	5.0%			95.0%				0.52
Area 23	Rock/Average Grass		52.0%		48.0%				0.66
Area 24	Poor Grass			100.0%					0.60
Area 25	Poor Grass			100.0%					0.60
Area 26	Rock/Average Grass		52.0%		48.0%				0.66
PROPOSED CONDITIONS									
Area 1	Pavement/Roof/Poor Grass	70.0%		30.0%					0.85
Area 2	Pavement/Roof/Average Grass	68.0%			32.0%				0.81
Area 3	Pavement/Roof/Landscape	79.0%				21.0%			0.83
Area 4	Pavement/Roof/Average Grass	25.0%			75.0%				0.61
Area 5	Pavement /Rock/Poor Grass	5.0%	5.0%	90.0%					0.63
Area 6	Pavement/Roof/Average Grass	20.0%	10.0%	70.0%					0.69
Area 7	Pavement/Roof/Average Grass	60.0%			40.0%				0.77
Area 8	Pavement/Roof/Average Grass	70.0%			30.0%				0.82
Area 9	Pavement/Roof/Average Grass	42.0%			58.0%				0.69
Area 10	Rock/Average Grass/Pavement	1.50%	78.5%		20.0%				0.74
Area 11	Rock/Average Grass/Pavement	1.50%	78.5%		20.0%				0.74
Area 12	Rock/Average Grass/Pavement	2.0%	85.0%		13.0%				0.76
Area 13	Pavement/Roof/Rock/Average Grass	66.5%	3.5%		30.0%				0.81
Area 14	Pavement/Roof/Average Grass	60.0%			40.0%				0.77
Area 15	Pavement/Roof/Average Grass	65.0%			35.0%				0.79
Area 16	Pavement/Average Grass	60.0%			40.0%				0.77
Area 17	Pavement/Average Grass	75.0%			25.0%				0.84
Area 18	Rock/Average Grass/Pavement	2.0%	53.0%		45.0%				0.67
Area 19	Rock/Average Grass/Pavement	2.50%	60.5%		37.0%				0.69
Area 20	Rock/Average Grass/Pavement	5.5%	24.5%		70.0%				0.60
Area 21	Pavement/Roof/Average Grass	48.0%			52.0%				0.72
Area 22	Pavement/Roof/Average Grass	50.0%			50.0%				0.73
Area 23	Pavement/Rock/Average Grass	2.5%	52.0%		45.5%				0.67
Area 24	Pavement/Roof/Poor Grass	49.0%		51.0%					0.77
Area 25	Poor Grass			100.0%					0.60
Area 26	Rock/Average Grass		52.0%		48.0%				0.66

HIDA, OKAMOTO & ASSOCIATES, INC. CONSULTING ENGINEERS

JOB NO.: 3136	BY: RW	CHECK:
SUBJECT: WCCRC		SHEET:

EXHIBITS

TABLE		
TRIBUTARY AREA	AREA (ac)	Q50 YEARS
1	0.872	6.12 cfs
2	0.923	6.21 cfs
3	1.075	6.61 cfs
4	1.569	6.80 cfs
5	1.270	7.50 cfs
6	1.223	7.01 cfs
7	0.553	4.01 cfs
8	1.941	14.89 cfs
9	1.001	5.15 cfs
10	0.657	4.58 cfs
11	2.696	18.78 cfs
12	2.934	20.85 cfs
13	1.977	15.03 cfs
14	1.173	8.50 cfs
15	0.515	3.84 cfs
16	1.120	6.70 cfs
17	1.921	12.61 cfs
18	2.112	10.86 cfs
19	1.765	9.40 cfs
20	1.093	4.70 cfs
21	1.928	10.18 cfs
22	1.687	5.34 cfs
23	1.953	9.91 cfs
24	1.673	7.05 cfs
25	3.329	14.03 cfs
26	2.173	11.02 cfs
TOTAL	41.134	237.68 cfs



EXISTING CONDITION
RUN-OFF MAP

SCALE: 1" = 80'

HIDA OKAMOTO & ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS
PACIFIC GUARDIAN TOWER
1440 KAPOLANI BOULEVARD, SUITE 1120
HONOLULU, HAWAII 96814
PHONE: (808) 942-0066 FAX: (808) 947-7546

THIS WORK WAS PREPARED FOR THE PROJECT AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.
Alan L. Okamoto
SIGNATURE
JUNE 2020
DATE
LICENSE EXPIRES: 30 APRIL 2022

WAIANAE COAST COMPREHENSIVE
HEALTH CENTER
WAIANAE, OAHU, HAWAII
TAX MAP KEY: 8-6-001-003

EXISTING CONDITION RUN-OFF MAP

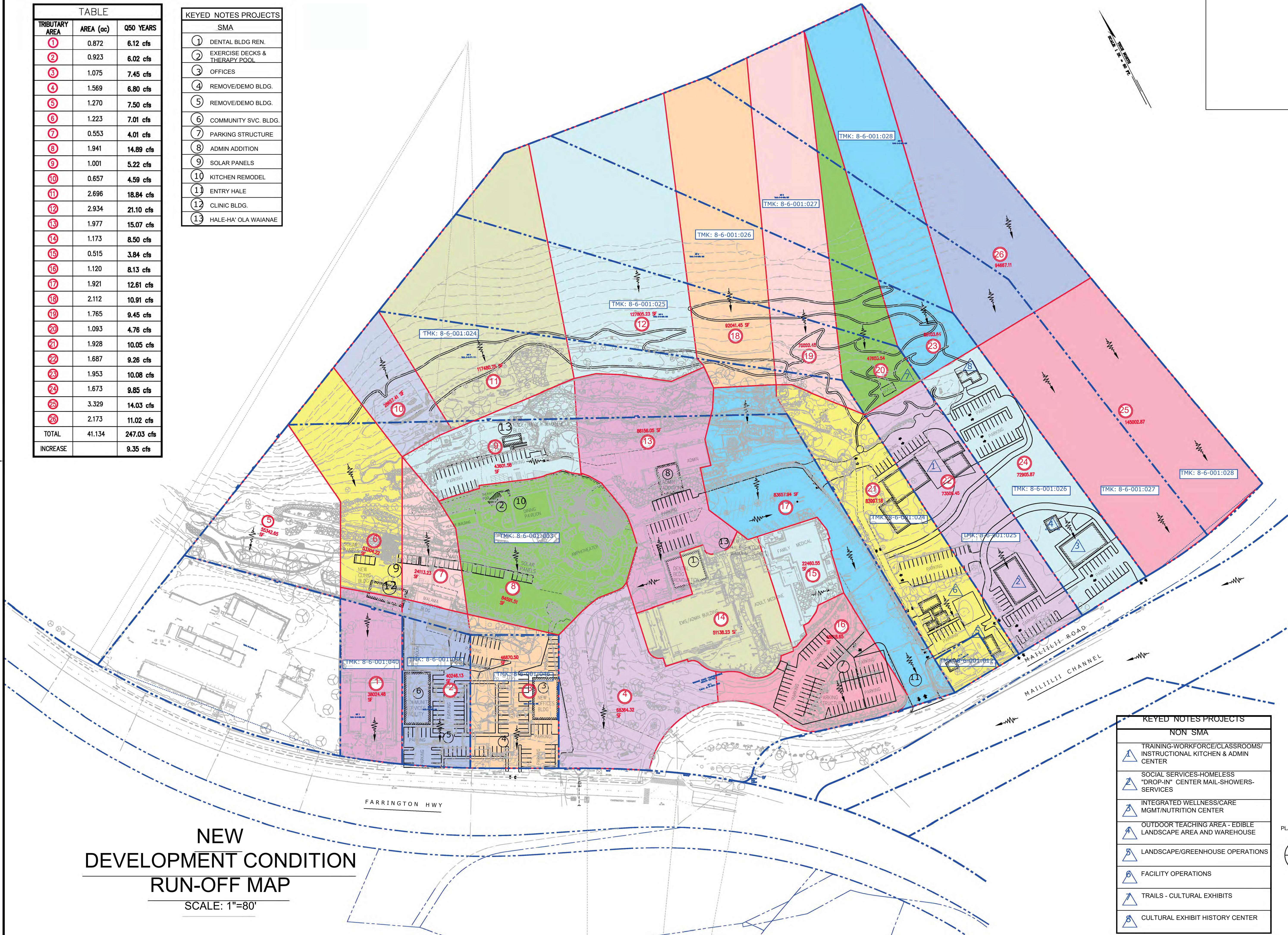
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Drawn:		By:		Date:		19-01-36	
Job No.:		Sheet:		of:			
Drawing No.:							

EX-1

Sheet . of . Sheets

TABLE		
TRIBUTARY AREA	AREA (ac)	Q50 YEARS
1	0.872	6.12 cfs
2	0.923	6.02 cfs
3	1.075	7.45 cfs
4	1.569	6.80 cfs
5	1.270	7.50 cfs
6	1.223	7.01 cfs
7	0.553	4.01 cfs
8	1.941	14.89 cfs
9	1.001	5.22 cfs
10	0.657	4.59 cfs
11	2.696	18.84 cfs
12	2.934	21.10 cfs
13	1.977	15.07 cfs
14	1.173	8.50 cfs
15	0.515	3.84 cfs
16	1.120	8.13 cfs
17	1.921	12.61 cfs
18	2.112	10.91 cfs
19	1.765	9.45 cfs
20	1.093	4.76 cfs
21	1.928	10.05 cfs
22	1.687	9.26 cfs
23	1.953	10.08 cfs
24	1.673	9.85 cfs
25	3.329	14.03 cfs
26	2.173	11.02 cfs
TOTAL	41.134	247.03 cfs
INCREASE		9.35 cfs

KEYED NOTES PROJECTS	
SMA	
1	DENTAL BLDG REN.
2	EXERCISE DECKS & THERAPY POOL
3	OFFICES
4	REMOVE/DEMO BLDG.
5	REMOVE/DEMO BLDG.
6	COMMUNITY SVC. BLDG.
7	PARKING STRUCTURE
8	ADMIN ADDITION
9	SOLAR PANELS
10	KITCHEN REMODEL
11	ENTRY HALE
12	CLINIC BLDG.
13	HALE-HA'OLA WAIANAE



NEW
DEVELOPMENT CONDITION
RUN-OFF MAP
SCALE: 1"=80'

KEYED NOTES PROJECTS	
NON SMA	
1	TRAINING-WORKFORCE/CLASSROOMS/ INSTRUCTIONAL KITCHEN & ADMIN CENTER
2	SOCIAL SERVICES-HOMELESS "DROP-IN" CENTER MAIL-SHOWERS-SERVICES
3	INTEGRATED WELLNESS/CARE MGMT/NUTRITION CENTER
4	OUTDOOR TEACHING AREA - EDIBLE LANDSCAPE AREA AND WAREHOUSE
5	LANDSCAPE/GREENHOUSE OPERATIONS
6	FACILITY OPERATIONS
7	TRAILS - CULTURAL EXHIBITS
8	CULTURAL EXHIBIT HISTORY CENTER

HDA
OKAMOTO & ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS
PACIFIC GUARDIAN TOWER
1440 KAPOLANI BOULEVARD, SUITE 1120
HONOLULU, HAWAII 96814
PHONE: (808) 942-0066 FAX: (808) 947-7546

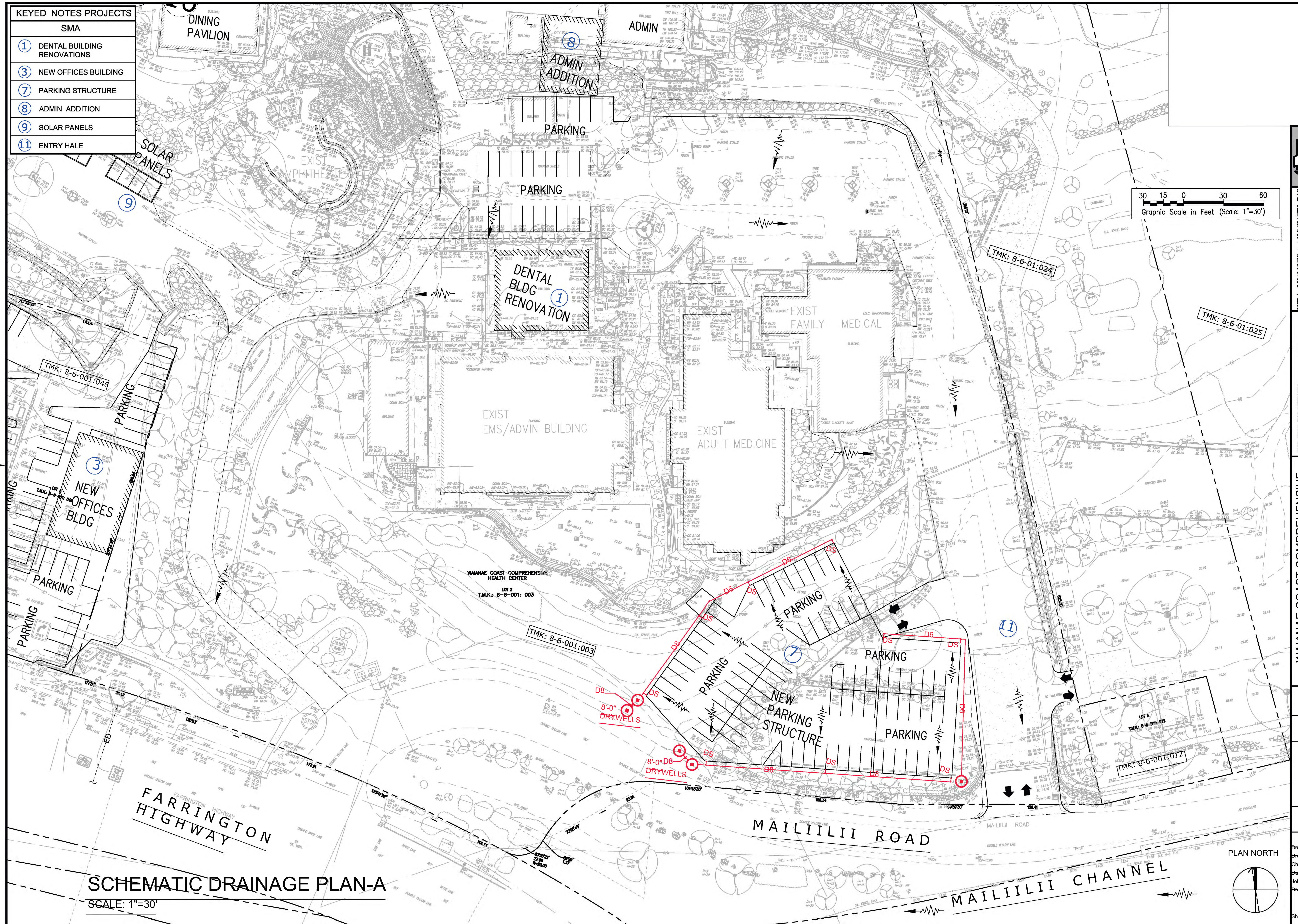
ALAN L. OKAMOTO
REGISTERED PROFESSIONAL ENGINEER
NO. 5485-C
HAWAII

THIS WORK WAS PREPARED FOR THE PROJECT AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.
Signature: Alan L. Okamoto
DATE: JUNE 2020
LISCENSE EXPIRES: 30 APRIL 2022

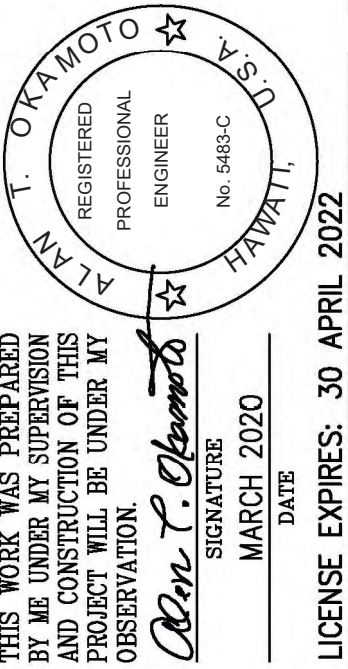
WAIANAE COAST COMPREHENSIVE
HEALTH CENTER
WAIANAE, OAHU, HAWAII
TAX MAP KEY: 8-6-001-003
NEW DEVELOPMENT CONDITION
RUN-OFF MAP

Designed:		By:		Checked:		Date:	AUGUST-2019
Job No.:	19-0136	Drawing No.:	EX-2	Sheet	of	3	Sheets

KEYED NOTES PROJECTS	
SMA	
①	DENTAL BUILDING RENOVATIONS
③	NEW OFFICES BUILDING
⑦	PARKING STRUCTURE
⑧	ADMIN ADDITION
⑨	SOLAR PANELS
⑪	ENTRY HALE



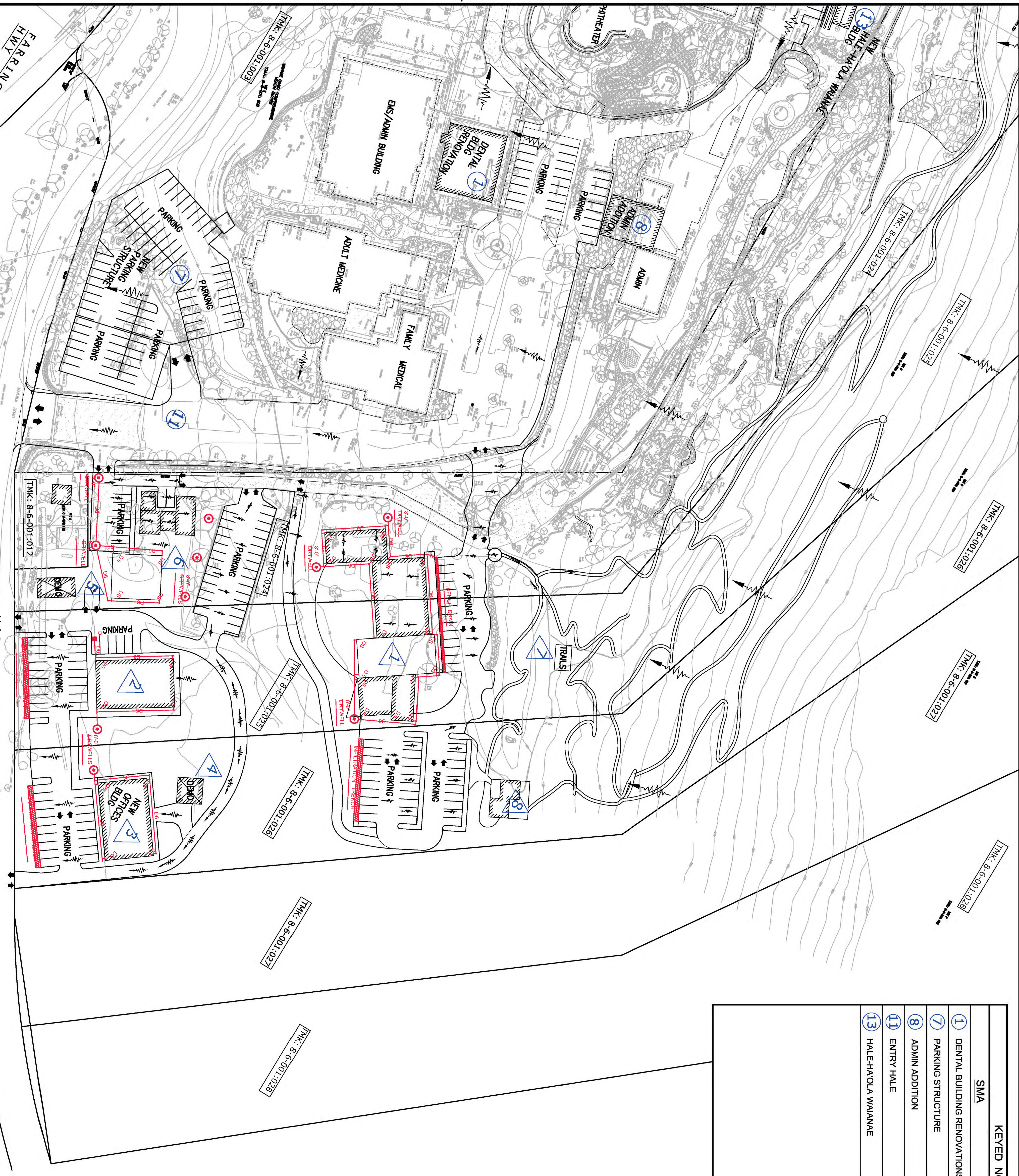
CONSULTING CIVIL ENGINEERS
PACIFIC GUARDIAN TOWER
1440 KAPIOLANI BOULEVARD, SUITE 1120
HONOLULU, HAWAII 96814
PHONE: (808) 942-0066 FAX: (808) 947-7546



WAIANAE COAST COMPREHENSIVE
HEALTH CENTER
WAIANAE, OAHU, HAWAII
TAX MAP KEY: 8-6-001: 003
SCHEMATIC DRAINAGE PLAN-A

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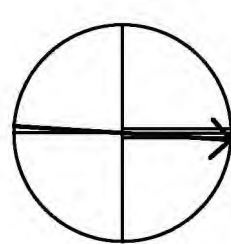
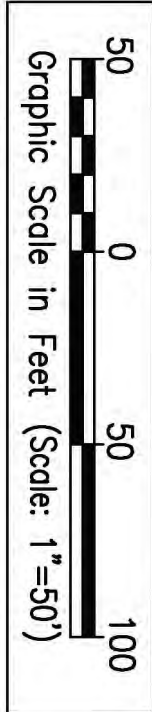
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 Checked: _____
 Date: AUGUST 2019
 Job No.: 19-3136
 Drawing No. _____
EX-3
 Sheet . of . Sheets



SCHEMATIC DRAINAGE PLAN-C

SCALE: 1"=50'

KEYED NOTES PROJECTS			
SMA		NON SMA	
①	DENTAL BUILDING RENOVATIONS	①	TRAINING-WORKFORCE/CLASSROOMS/ INSTRUCTIONAL KITCHEN & ADMIN CENTER
⑦	PARKING STRUCTURE	②	SOCIAL SERVICES-HOMELESS "DROP-IN" CENTER MAIL-SHOWERS-SERVICES
⑧	ADMIN ADDITION	③	INTEGRATED WELLNESS/CARE MGMT/NUTRITION CENTER
⑪	ENTRY HALE	④	OUTDOOR TEACHING AREA - EDIBLE LANDSCAPE AREA AND WAREHOUSE
⑬	HALE-HAOA WAANAE	⑤	LANDSCAPE/GREENHOUSE OPERATIONS
		⑥	FACILITY OPERATIONS
		⑦	TRAILS - CULTURAL EXHIBITS
		⑧	CULTURAL EXHIBIT HISTORY CENTER



Designed:					
Drawn:					
Checked:					
Date:	AUGUST 2019				
Job No.:	19-0156				
Drawn by:					
Sheet	of	Sheets			
Rev.	Date	Brief	Made By	Approved	

WAIANAE COAST COMPREHENSIVE
HEALTH CENTER
WAIANAE, OAHU, HAWAII
TAX MAP KEY: 8-6-001: 003
SCHEMATIC DRAINAGE PLAN-C

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

Alan T. Okamoto
SIGNATURE
MARCH 2020
DATE

LICENSE EXPIRES: 30 APRIL 2022

ALAN T. OKAMOTO
REGISTERED PROFESSIONAL ENGINEER
No. 5483-C
HAWAII, U.S.A.

HIDA, OKAMOTO & ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS
PACIFIC GUARDIAN TOWER
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HONOLULU, HAWAII 96814
PHONE: (808) 942-0066 FAX: (808) 947-7546

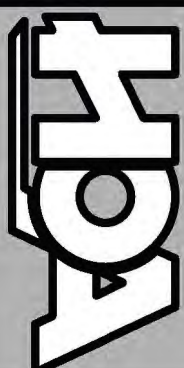


EXHIBIT E

Pre-assessment Consultation Comments



WAIANAE COAST
COMPREHENSIVE
HEALTH CENTER

June 26, 2024

The Honorable Josh Green
Governor, State of Hawaii
Executive Chambers
415 S. Beretania Street
Honolulu, Hawaii 96813

Dear Governor Green:

Subject: Right of Entry 728 Food Campus Masterplan
Tax Map Key: 8-6-001: 012, 024, 025, 026
Lualualei, District of Waianae, Oahu

The Waianae Coast Comprehensive Health Center ("COMP") proposes to construct a community resiliency hub on land adjoining the COMP to the north. A Location Map is attached. The resiliency hub would be a "Food Campus" with the objective of providing and teaching Waianae Coast residents about food resiliency and sustainability. Central to this objective is the construction of a food warehouse where food products can be received, processed, packed, and distributed to households in need. The warehouse, infrastructure, and off-street parking will be constructed as Phase 1.

Food sustainability would be achieved by raising local and Native Hawaiian produce and other crops in a growing area. Produce at the growing area would support and complement a proposed training kitchen. Students enrolled in the training kitchen program will learn about vegetable farming at the growing area and food preparation, handling, sanitation, nutrition, cooking meals, and meal services. The growing area will be established and the training kitchen constructed as Phase 2.

Phase 2 improvements also include an Administrative Area with meeting spaces, an Agriculture Support Area, and Hawaiian Cultural Area. A proposed Site Plan is attached.

The project may be of interest to you or your organization and your input would aid in preparing a thorough environmental assessment. We would appreciate receiving your comments by July 15, 2024. I can be contacted by telephone at 808-625-9626 or email at gpark@gpup.biz. Mr. John Griego, Sr. Director of Facilities, Planning & Design for the Waianae Coast Comprehensive Health Center can be contacted at 808-697-3704 or email at jgriego@wcchc.com. Please cc. Ms. Shay Guerrero, Project Manager for Waianae Coast Comprehensive Health Center on email correspondence at sguerrero@wcchc.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Gerald Park".

Gerald Park
Urban Planner

c: Kristelle Ompad, WCCHC

Attachments: Location Map, Site Plan



Outreach: Government Addresses

State of Hawaii

Sharon Hurd, Chairperson

Department of Agriculture
1428 S. King Street
Honolulu, HI 96814

Kenneth Fink, MD, Director

Department of Health
Kinau Hale, 1250 Punchbowl Street
Honolulu, HI 96813

Dawn Chang, Director

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

Ed Sniffen, Director

Department of Transportation
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Stacey Kealohalani Ferreira

Chief Executive Officer
Office of Hawaiian Affairs
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Mary Alice Evans, Director

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J. Roger Morton, Director

Department of Transportation Services
650 S. King Street, 3rd Floor
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Arthur J. Logan, Chief of Police

Honolulu Police Department
801 South Beretania Street
Honolulu, HI 96813

Sheldon K. Hao, Fire Chief

Honolulu Fire Department
636 South Street
Honolulu, HI 96813-5007

Matthew Gonser, AICP, Executive Director

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650 South King Street, 11th Floor
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530 S. King Street, Room 306
Honolulu, HI 96813

Denise Iseri-Matsubara, Executive Director

Office of Housing
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Honolulu, HI 96813

United States

US Army Corps of Engineers

Pacific Ocean Division
Building 230, Room 302
Fort Shafter, HI 96858-5440

US Department of the Interior

Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, HI 96850

Elected Officials

The Honorable Josh Green

Governor, State of Hawai'i
Executive Chambers
415 S. Beretania Street
Honolulu, Hawaii 96813

The Honorable Sylvia Luke

Lieutenant Governor, State of Hawaii
415 S. Beretania Street
Honolulu, Hawaii 96813

The Honorable Rick Blangiardi, Mayor

City and County of Honolulu
530 S. King Street, Suite 300
Honolulu, Hawaii 96813

Representative Darius K. Kila

44th Representative District
Hawaii State Capitol
415 S. Beretania Street, Room 322
Honolulu, HI 96813

Representative Cedric Gates

45th Representative District
Hawaii State Capitol
415 S. Beretania Street, Room 441
Honolulu, HI 96813

Andria Tupola, Councilmember

Honolulu City Council Honolulu Hale
530 S. King Street, Room 202
Honolulu, HI 96813

Organizations

Amy Miller, President and Chief Executive Officer

Hawaii Food Bank
2611 Kili Hau Street
Honolulu, HI 96819

King Lunalilo Trust
501 Kekauluohi Street
Honolulu, HI 96825

Tiana Wilbur, Chair
Waianae Coast Neighborhood Board No. 24
925 Dillingham Boulevard, Suite 160
Honolulu, HI 96817

Samantha Decorte, Chair
Nanakuli Maili Neighborhood Board No. 36
925 Dillingham Boulevard, Suite 160
Honolulu, HI 96817

Utilities

Rouen Q.W. Liu, Permits Engineer
HECO Engineering Department
PO Box 2750
Honolulu, HI 96840-0001

Alicia E. Moy, President and Chief Executive Office
Hawaii Gas
515 Kamakee Street
Honolulu, HI 96814

Su Shin, President
Hawaiian Telcom
1177 Bishop Street
Honolulu, HI 96813

Andrea David, Right of Entry Specialist
SPECTRUM Enterprise Delivery Service
750 Canyon Drive, Suite 500W
Coppell, TX 73019

Native Hawaiian Organizations

Trisha Kehaulani Watson, Vice-President
Aina Momona
4348 Wai'ala'e Avenue, #254
Honolulu, HI 96816

Hailama Farden, President
Association of Hawaiian Civic Clubs
PO Box 1135
Honolulu, HI 96807

Blossom Feiteira, President
Association of Hawaiians for Homestead Lands
2149 Lauwiliwili Street, Ste. 200
Kapolei, HI 96707

Samson L. Brown, President

Au Puni O Hawaii
21 Pohai Street
Hilo, HI 96720

Napali Woode, Senior Vice-President

Council for Native Hawaiian Advancement
2149 Lauwiliwili Street, Ste. 200
Kapolei, HI 96707

Thomas Kamealoha, Cultural Monitor

Kamealoha
84-1035 Kaulaili Road #A
Waianae, HI 96795

Glen Kila, Program Director

Koa Ike
89-530 Mokiawe Street
Waianae, HI 96792-3840

Lu Faborito, Secretary

Makaha Hawaiian Civic Club
PO Box 305
Waianae, HI 96792

Kaleo Patterson, President

Native Hawaiian Church
1127 Bethel Street, Suite 16
Honolulu, HI 96813

Mele Worthington, President

Waianae Hawaiian Civic Club
PO Box 687
Wainae, HI 96792-0687

Duane Hew Len

Waianae Kai Hawaiian Homestead Association
86-303 Hokupaa Street
Waianae, HI 96792-2971

Don Jugoz, President / Secretary

Princess Kahanu Estates Association
87-117 Princess Kahanu Avenue
Waianae, HI 96792

Kamaki Kanahele

Nanakuli Hawaiian Homestead Community Association
1188 Bishop Street, Suite 907
Honolulu, HI 96813

Property Owners**Guoming and Wenying LI**

86-164 Maillili Road Unit A
Waianae, HI 96792

Walter Durapan and Meldene Balecha TR

86-168 Mailili Road
Waianae, HI 96792

Min Gun Choi TR

86-174 Mailili Road
Waianae, HI 96792

Alexander and Victoria Agustin

86-130 Mailili Road
Waianae, HI 96792

Jo Anne Cariaga

86-180 C Mailili Road
Waianae, HI 96792

Maile Point Properties

86-185 Mailili Road
Waianae, HI 96792

Agriculture Practitioners

Kukui-Maunakea Forth, Executive Director

MA'O Organic Farm
86-148 Puhawa Road
Waianae, HI 96792

Avary Maunakea, Executive Director

Kahumana Organic Farm
86-660 Lualualei Homestead Road
Waianae, HI 96792

Chelsey Jay, Executive Director

Hoa 'Āina O Mākaha
84-766 Lahaina Street
Wai'anae, HI 96792

Eric Enos, Executive Director

Ka'ala Farms
PO Box 630
Waianae, HI 96792

Kehau Hanohano

Waianae Valley Homestead Association
PO BOX 601
Waianae, HI 96792

Kamaki Kanahele

Ahupuaa o Nanakuli Hawaiian Homestead Association
PO BOX 2142
Waianae, HI 96792

Gerald Park

From: Dang, Charmian I <charmian_dang@fws.gov>
Sent: Tuesday, August 6, 2024 8:11 AM
To: gpark@gpup.biz; jgriego@wcchc.com; sguerrero@wcchc.com
Subject: Waianae Coastal Comprehensive Health Center Proposed Community Resiliency Hub on Oahu
Attachments: IPaC Info Letter_Species List Instructions_PIFWO_20Apr2022_Final.pdf

Dear Mr. Park, Mr. Griego and Ms. Guerrero,

Our office received your letter requesting the US Fish and Wildlife Service's input on the proposed Community Resiliency Hub Project in Waianae on Oahu. Below are instructions for the IPaC online portal to obtain a list of species that may be affected in the project location and conservation measures which should be included in the EA.

The Pacific Island Fish and Wildlife Office (PIFWO) is transitioning to the use of the Information for Planning and Consultation (IPaC) online portal, <https://ipac.ecosphere.fws.gov/>, for federal action agencies and non-federal agencies or individuals to obtain official species lists, including threatened and endangered species and designated critical habitat in your project area. Using IPaC expedites the process for species list distribution and takes minimal time. Therefore, the IPaC list would fulfill your request for a species list. Please find step by step instructions attached to use IPaC for future projects, and feel free to share with additional project partners.

For recommended avoidance and minimization measures, you can visit the following webpage <https://www.fws.gov/office/pacific-islands-fish-and-wildlife/library>

Aloha,
Charmian Dang

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

Gerald Park

From: 'Āina Momona <ainamomona1893@gmail.com>
Sent: Wednesday, August 7, 2024 9:06 AM
To: gpark@gpup.biz; lgriego@wcchc.com
Cc: sguerrero@wcchc.com
Subject: Food Campus Masterplan

Aloha Gerald,

Thank you for your pre-consultation letter. Aina Momona strongly supports the project. Although, it is unclear from the figures provided where the project area actually is. Is it the entire yellow area? Or a small subset of that area? There is no clear legend indicating the project area. If you could provide clearer figures, we're happy to provide additional feedback.

Mahalo

--

Donate to 'Āina Momona: <https://secure.actblue.com/donate/aina-momona>

Walter Ritte, Executive Director

'ĀINA MOMONA

P.O. Box 376 | Ho'olehua, HI 96729

www.kaainamomona.org

Gerald Park

From: Dorene Eddy <d.eddy@capitol.hawaii.gov>
Sent: Thursday, August 8, 2024 3:06 PM
To: gpark@gpup.biz; jgriego@wcchc.com; sguerrero@wcchc.com
Cc: Rep. Darius K. Kila
Subject: Right of Entry 728 Food Campus Masterplan

Good Afternoon:

Representative Kila is in receipt of your letter dated August 1, 2024, regarding the Right of Entry 728 Food Campus Masterplan. I apologize for the delay in responding as Representative Kila was off island for business.

Representative Kila would like to have a presentation by you and/or your group regarding this project. He is willing to do it in Wai'anae or in town, at your convenience. Please send some dates and times that you will be available so that I may coordinate it with Representative's calendar.

Thank you for your assistance regarding this matter.



Dorene W. Eddy
Office Manager for Representative Darius K. Kila
House District 44
Honokai Hale, Nānākuli, Mā'ili

p: (808) 586-9480
e: d.eddy@capitol.hawaii.gov
a: 415 S. Beretania St. Room #322
Honolulu HI, 96813

Gerald Park

From: Jimmy Yanos <jyanos@hbws.org>
Sent: Wednesday, August 14, 2024 9:06 AM
To: gpark@gpup.biz; jgriego@wcchc.com; sguerrero@wcchc.com
Subject: Right of Entry 728 Food Campus Masterplan Questions.
Attachments: 240669.pdf

Aloha,

The Honolulu Board of Water Supply (BWS) has received your request concerning the early consultation for environmental assessment regarding the proposed Right of Entry 728 Food Campus Masterplan in Waianae (see attached). We just had the following questions:

- What is the total proposed water demands of the project?
- Will a private water system be used for the irrigation demands for agricultural uses?
- On the Food Campus Conceptual Master Site Plan map, there are several numbers in circles (1, 2, 3, 7, and 8). What do these numbers represent?

Please let me know if you have any questions.

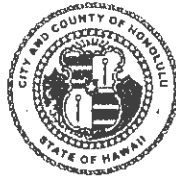
Thanks,

Jimmy Yanos, P.E.
Honolulu Board of Water Supply
Civil Engineer
Water Resources, Project Review
630 South Beretania Street
Honolulu, HI 96843
808-748-5439
jyanos@hbws.org

**HONOLULU FIRE DEPARTMENT
KA 'OIHANA KINAI AHI O HONOLULU
CITY AND COUNTY OF HONOLULU**

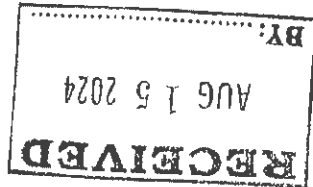
636 SOUTH STREET • HONOLULU, HAWAII 96813
PHONE: (808) 723-7139 • FAX: (808) 723-7111 • WEBSITE: honolulu.gov

RICK BLANGIARDI
MAYOR
MEIA



SHELDON K. HAO
FIRE CHIEF
LUNA NUI KINAI AHI

JASON SAMALA
DEPUTY FIRE CHIEF
HOPE LUNA NUI KINAI AHI



August 12, 2024

Mr. Gerald Park, Principal
Waianae Coast Comprehensive Health Center
86-260 Farrington Highway
Wai'anae, Hawai'i 96792

Dear Mr. Park:

Subject: Request for Comments for Environmental Assessment
Food Campus Masterplan
Tax Map Key: 8-6-001: 012, 024, 025, and 026

In response to your letter dated August 1, 2024, 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. Fire department access roads shall be in accordance with NFPA 1; 2018 Edition, Section 18.2.3.
3. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which

Gerald Park
Page 2
August 12, 2024

facilities, buildings, or portions of buildings are hereafter constructed or moved into the jurisdiction. The approved water supply shall be in accordance with NFPA 1; 2018 Edition, Sections 18.3 and 18.4.

4. Submit civil drawings to the City and County of Honolulu's Department of Planning and Permitting (DPP). They will be routed to the Honolulu Fire Department as needed by the DPP.

The abovementioned provisions are required by the HFD. This project may necessitate that additional requirements be met as determined by other agencies.

Should you have questions, please contact Battalion Chief Pao-Chi Hwang of our Fire Prevention Bureau at 808-723-7151 or phwang@honolulu.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. Uchimura', with a long horizontal stroke extending to the right.

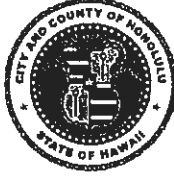
CRAIG UCHIMURA
Assistant Chief

CU/MD:ns

DEPARTMENT OF DESIGN AND CONSTRUCTION
KA 'OIHANA HAKULAU A ME KE KĀPILI
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8480 • FAX: (808) 768-4567 • WEBSITE: honolulu.gov

RICK BLANGIARDI
MAYOR
MEIA



HAKU MILLES, P.E.
DIRECTOR
PO'O

MARK YONAMINE, P.E.
DEPUTY DIRECTOR
HOPE PO'O

August 22, 2024

SENT VIA EMAIL

Gerald Park
gpark@gpup.biz

John Griego
jgriego@wcchc.com

Dear Mr. Park and Mr. Griego:

Subject: Right of Entry 728 Food Campus Masterplan
Tax Map Key: 8-6-001:012, 024, 025, 026
Lualualei, District of Wai'anae, O'ahu

Thank you for the opportunity to review and comment. The Department of Design and Construction has no comments to offer at this time.

Should you have any questions, please contact me at (808) 768-8480.

Sincerely,

A handwritten signature in black ink, appearing to read "H. Milles".

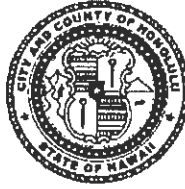
Haku Milles, P.E., LEED AP
Director

cc: Shay Guerrero (sguerrero@wcchc.com)

HM:krn (926164)

HONOLULU POLICE DEPARTMENT
KA 'OIHANA MĀKA'I O HONOLULU
CITY AND COUNTY OF HONOLULU
801 SOUTH BERE'AN A STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 • WEBSITE: www.honoluluod.org

RICK BLANGIARDI
MAYOR
MEIA



ARTHUR J. LOGAN
CHIEF
KAHU MĀKA'I

KEITH K. HORIKAWA
RADE K. VANIC
DEPUTY CHIEFS
HOPE LUNA NUI MĀKA'I

OUR REFERENCE **EO-SH**

August 22, 2024

SENT VIA EMAIL

Mr. Gerald Park, Principal
gpark@gpup.biz

Dear Mr. Park:

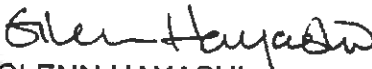
This is in response to your letter of August 1, 2024, requesting input on the proposal to construct a resiliency hub at the Wai'anae Coast Comprehensive Health Center.

Based on the information provided, the Honolulu Police Department does not have any concerns at this time.

If there are any questions, please call Major Gail Beckley of our District 8 (Kapolei, Wai'anae) at (808) 723-8600.

Thank you for the opportunity to review this project.

Sincerely,


GLENN HAYASHI
Assistant Chief of Police
Support Services Bureau

Gerald Park

From: Liu, Rouen <rouen.liu@hawaiianelectric.com>
Sent: Friday, August 30, 2024 2:36 PM
To: gpark@gpup.biz
Cc: sguerrero@wcchc.com; Kuwaye, Kristen
Subject: Pre consultation EA - 728 Food Campus Master Plan

Dear Mr. Park,

Thank you for the opportunity to comment on the subject project. Hawaiian Electric Company has no objection to the project. Should Hawaiian Electric have existing easements and facilities on the subject property, we will need continued access for maintenance of our facilities. We appreciate your efforts to keep us apprised of the subject project in the planning process. As the proposed Food Campus project comes to fruition, please continue to keep us informed.

Please contact me at 808-772-2135 should there be any questions.

Rouen Liu (WA3 – PTA)
Permits Engineer
Hawaiian Electric Company
PO Box 2750
Honolulu Hawaii 96840-0001

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DEPARTMENT OF FACILITY MAINTENANCE
KA 'OIHANA MĀLAMA HALE
CITY AND COUNTY OF HONOLULU

1000 ULU'OHIA STREET, SUITE 215, KAPOLEI, HAWAII 96707
PHONE: (808) 768-3343 • Fax: (808) 768-3381 • WEBSITE: honolulu.gov

RICK BLANGIARDI
MAYOR
MEIA



GENE C. ALBANO, P.E.
DIRECTOR AND CHIEF ENGINEER
PO'O A ME LUNA NUI 'ENEKINIA

WARREN K. MAMIZUKA
DEPUTY DIRECTOR
HOPE PO'O

IN REPLY REFER TO:
DRM 24-322

August 29, 2024

Waianae Coast Comprehensive Health Center
86-260 Farrington Highway
Waianae, Hawaii 96792
Attention: Mr. Gerald Park, Principal

Dear Mr. Park:

Subject: Right of Entry 728 Food Campus Masterplan
Tax Map Key: 8-6-001: 012, 024, 025, 026
Lualualei, District of Waianae, Oahu

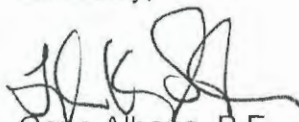
Thank you for the opportunity to review and to give our input regarding the proposed community resiliency hub, food campus masterplan located at Tax Map Key: 8-6-001: 012, 024, 025, 026 in Waianae dated August 1, 2024.

The Department of Facility Maintenance have no comments at this time as we do not have any facilities or easements on the subject property.

For your information, Mailiilii Road adjacent to the proposed development is under the jurisdiction of the City and County of Honolulu.

If you have any questions, please call Mr. Dustin Harbottle of the Division of Road Maintenance at (808) 768-3600.

Sincerely,

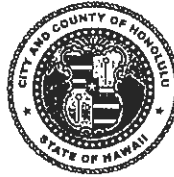

Gene Albano, P.E.
Director and Chief Engineer


DEPARTMENT OF PLANNING AND PERMITTING
KA 'OIHANA HO'OLĀLĀ A ME NĀ PALAPALA 'AE
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041 • WEBSITE: honolulu.gov/dpp

received
9.9.24

RICK BLANGIARDI
MAYOR
MEIA



DAWN TAKEUCHI APUNA
DIRECTOR
PO'O

BRYAN GALLAGHER, P.E.
DEPUTY DIRECTOR
HOPE PO'O

REGINA MALEPEAI
2ND DEPUTY DIRECTOR
HOPE PO'O KUALUA

September 3, 2024

2024/ELOG-1507 (LP)

SENT VIA EMAIL

Mr. Gerald Park
gpark@gpup.biz

Dear Mr. Park,

SUBJECT: Pre-Draft Environmental Assessment (EA)
92-100 Kamoana Place – Wai'anāe
Tax Map Keys (TMKs): 8-6-001: 003, 012, 024, 025, and 026

This is in response to your letter, received August 5, 2024, requesting comments on the scope and content to be addressed in a Draft EA (DEA), for a "food campus" consisting of a food warehouse, training kitchen, administrative area with meeting spaces, agriculture support area, and Hawaiian cultural area on five zoning lots with a combined lot area of 15.11 acres. The Project site is located in the P-1 Restricted Preservation District (P-1 District), P-2 General Preservation District (P-2 District), and Special Management Area (SMA). The Project site is also in Flood Zone X, which includes areas that have been determined to be outside the 0.2 percent annual chance floodplain. Additionally, adjacent to the Project site is the Wai'anāe Coast Comprehensive Health Center (WCCHC) located on TMK 8-6-001: 003 in the B-2 Community Business District. The Project site is owned by the State of Hawai'i and will be leased to WCCHC to expand their campus. Our step-by-step instructions for the preparation of EAs can be found on our website at the link below. Please utilize this resource as you prepare the disclosure document:

www.honolulu.gov/dpp/permitting/zoning-permits

In addition, the following items should be addressed in the DEA:

- Planning Policies: The DEA should describe the Project's consistency with the Oahu General Plan, and Wai'anāe Sustainable Communities Plan.
- Land Use Consistency: For the purposes of Revised Ordinances of Honolulu (ROH) Chapter 21, the Land Use Ordinance (LUO), it appears the uses are defined as the following:

Proposed Use	Defined LUO Use	Comment
Food warehouse	Agricultural product processing	Not permitted in the P-2 District.
Administrative area with meeting spaces	Meeting facility	Not permitted in the P-2 District.
Training kitchen	More information needed	More information needed to assess if use is permitted.
Agricultural support area	More information needed	More information needed to assess if use is permitted.
Hawaiian cultural area	More information needed	More information needed to assess if use is permitted.

The purpose of the Preservation District is to preserve and manage major open space and recreation lands and lands of scenic and other natural resource value. As a result, the Preservation District is limited on the types of uses permitted. Some of the proposed uses are not permitted in the P-2 Preservation District and other proposed uses require more information in order for the Department of Planning and Permitting to make a determination on the use. Further, uses and structures within the P-1 District are governed by the State agency and not the City and County. A more detailed description should be provided in the DEA.

Additionally, development activities must comply with the development standards applicable to the zoning districts. Project compliance with these standards should be presented and evaluated in the DEA. The LUO is available on our website at:

https://www.honolulu.gov/rep/site/dpp/dpp_docs/land-use-ordinance.pdf

- State Land Use District: Part of the Project site is in the P-1 District and Conservation District which is regulated by the State. Any development within this area will need approval from the Office of Conservation and Coastal Lands, Department of Land and Natural Resources. Plans should show the zoning district overlayed on the proposed development.
- Existing and Proposed Structures: The DEA should describe any existing or proposed structures, including when the existing structures were built, and identify any associated building permits or other land use approvals.
- SMA: The Project would require a SMA Permit. The DEA should also analyze the Project's consistency with ROH Chapter 25, the SMA Ordinance; and, Hawai'i Revised Statutes (HRS) Chapter 205A. The DEA should include the Project valuation and construction schedule. Instructions for preparation of an SMA Permit application are available on our website at:

www.honolulu.gov/dpp/permitting/coastal-area-permits

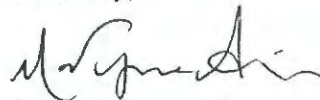
Mr. Gerald Park
August 3, 2024
Page 3

- Other Permits and Approvals: The DEA should include a discussion of any other discretionary permits and approvals that the proposed Project will require prior to the Project's implementation. It appears that the Project will overlap between different TMK parcels. A Conditional Use Permit for joint development is required for multiple parcels to be developed jointly and be treated as one zoning lot or a subdivision to consolidate is required.
- Cultural Impact Assessment (CIA): The Draft EA must include a discussion analyzing the impact of the proposed Project on cultural practices and features associated within the Project area. The content requirements for a CIA are as detailed in Hawai'i Administrative Rules Sections 11-200-10 and 16 through 18.
- Historic Properties: The Draft EA should include a discussion identifying historic properties within the Project area, the potential impacts as a result of the Project, and the appropriate mitigation to be implemented. Additionally, the Project should be submitted to the State Historic Preservation Division (SHPD) for review and comment under HRS Chapter 6E-42. Please include our request for comment letter when submitting the Project to the SHPD. Our letter is available online through the link found on page one of this letter.

Copies of available records for the Subject property can be obtained from our Data Access and Imaging Branch. Please note that any request for permit research and/or copies (e.g., a Certificate of Occupancy, or a specific land use or building permit) must be accompanied with a research request fee. A money order or certified check in the amount of \$5.00, made payable to the City and County of Honolulu, will initiate the process of researching and copying the specific records you are interested in obtaining. There will also be a copy charge of \$0.50 for the first page of every record, and \$0.25 for each page of the same record, thereafter. In addition to the copy charge, there is a research fee of \$5.00 per 10 minutes, or fraction thereof, of research time. Shipping and handling charges will also be added to your total cost for this type of request. These charges will be imposed separately from the zoning clearance and confirmation request fee. Please contact our Customer Service Division at (808) 768-8272 for cost estimates to initiate the request.

Thank you for the opportunity to comment on this proposal. Should you have any questions, please contact Lena Phomsouvanh, of our Zoning Regulations and Permits Branch, at (808) 768-8052 or via email at lena.phomsouvanh@honolulu.gov.

Sincerely,



FOR Dawn Takeuchi Apuna
Director

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

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



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

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

P.O. BOX 621
HONOLULU, HAWAII 96809

September 3, 2024



LD 0114

Gerald Park, Principal
95-595 Kaname'e Street, #324
Mililani, Hawaii 96789

Via email: gpark@gpup.biz

SUBJECT: Right of Entry 728 Food Campus Masterplan, Lualualei, Waianae, Island of Oahu, Hawaii,
TMK: (1) 8-6-001: 012, 024, 025, 026

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 comments received from our Engineering Division. Should you have any questions, please feel free to contact Timothy Chee via email at timothy.chee@hawaii.gov. Thank you.

Sincerely,

Russell Tsuji

Russell Y. Tsuji
Land Administrator

Attachments

cc: Central Files

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

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



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

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

P.O. BOX 621
HONOLULU, HAWAII 96809

August 7, 2024

LD 0114

MEMORANDUM

FROM: ~~TO:~~

DLNR Agencies:

- X Div. of Aquatic Resources (via email: kendall.l.tucker@hawaii.gov)
- X Div. of Boating & Ocean Recreation (via email: richard.t.howard@hawaii.gov)
- X Engineering Division (via email: DLNR.Engr@hawaii.gov)
- X Div. of Forestry & Wildlife (via email: Rubyrosa.T.Terrago@hawaii.gov)
- X Div. of State Parks (curt.a.cottrell@hawaii.gov)
- X Commission on Water Resource Management (via email: DLNR.CWRM@hawaii.gov)
- X Office of Conservation & Coastal Lands (via email: Sharleen.k.kuba@hawaii.gov)
- X Land Division – Oahu District (via email: barry.w.cheung@hawaii.gov)
- X Aha Moku (via email: leimana.k.damate@hawaii.gov)

TO: ~~FROM:~~

Russell Y. Tsuji, Land Administrator

Russell Tsuji

SUBJECT:

Right of Entry 728 Food Campus Masterplan

LOCATION:

Lualualei, Waianae, Island of Oahu, Hawaii

APPLICANT:

TMK: (1) 8-6-001: 012, 024, 025, 026

Waianae Coast Comprehensive Health Center

Transmitted for your review and comment is information on the above-referenced project. Please submit any comments to timothy.chee@hawaii.gov at the Land Division by the internal deadline of **September 1st, 2024**. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Timothy Chee 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:

Division:

Date:

[Signature]
Carty S. Chang, Chief Engineer

Engineering Division

Aug 19, 2024

Attachments

Cc: Central Files

**DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION**

LD/Russell Y. Tsuji

Ref: Right of Entry 728 Food Campus Masterplan

LOCATION: Lualualei, Waianae, Island of Oahu, Hawaii

TMK(s): (1) 8-6-001: 012, 024, 025, 026

Applicant: Waianae Coast Comprehensive Health Center

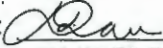
COMMENTS

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). Be advised that 44CFR, Chapter 1, Subchapter B, Part 60 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 for researching the Flood Hazard Zone designation for the project. Flood zones subject to NFIP requirements are identified on FEMA's Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA's Map Service Center (msc.fema.gov). Our Flood Hazard Assessment Tool (FHAT) (fhathawaii.gov) could also be used to research flood hazard information.

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) 270-7139.
- Kauai: County of Kauai, Department of Public Works (808) 241-4849.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: Aug 19, 2024

**BOARD OF WATER SUPPLY
KA 'OIHANA WAI
CITY AND COUNTY OF HONOLULU**

630 SOUTH BERETANIA STREET • HONOLULU, HAWAII 96843
Phone: (808) 748-5000 • www.boardofwatersupply.com

received
9.6.24

RICK BLANGIARDI
MAYOR
MEIA

ERNEST Y. W. LAU, P.E.
MANAGER AND CHIEF ENGINEER
MANAKIA A ME KAHU WILIKI

ERWIN KAWATA
DEPUTY MANAGER
HOPE MANAKIA



NĀ'ĀLEHU ANTHONY, Chair
JONATHAN KANESHIRO, Vice Chair
BRYAN P. ANDAYA
KAPUA SPROAT
LANCE WILHELM
EDWIN H. SNIFFEN, Ex-Officio
GENE C. ALBANO, P.E., Ex-Officio

September 3, 2024

Mr. Gerald Park
Gerald Park Urban Planner
95-595 Kaname'e Street, #324
Mililani, Hawaii'i 96789

Dear Mr. Park:

Subject: Your Letter Dated August 1, 2024, Requesting Comments on the Preparation of an Environmental Assessment for the Proposed Food Campus Master Plan in Wai'anae, Mailiili Road – Tax Map Key: 8-6-001: 012, 024, 025, 026, 027, 028

Thank you for your letter regarding the proposed food campus master plan.

The existing water system is generally adequate to accommodate the proposed food campus center master plan 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.

To aid in our evaluation of the availability of water, the Draft Environmental Assessment should break down the potable water requirements for the commercial, agricultural, and residential needs of the proposed food campus.

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 developer should investigate the feasibility of using non-potable water for irrigation of the proposed agricultural projects. If non-potable water is either unavailable or infeasible, a report of the investigation including proposed irrigation demands should be submitted to us before we will consider the use of potable water.

Water conservation measures are required for all proposed developments. These measures include utilization of non-potable 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.

Mr. Gerald Park
September 3, 2024
Page 2

Proposed mixed-use developments are required to install separate domestic meters and laterals serving the residential and non-residential spaces.

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 Daniel Koge, Project Review Branch of our Water Resources Division at (808) 748-5444.

Very truly yours,



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



Gerald Park

From: Justin Medeiros <justin.medeiros@hawaiiantel.com>
Sent: Tuesday, September 24, 2024 5:21 PM
To: gpark@gpup.biz
Cc: Sean Cross; HT-Plan Reviews
Subject: RE: Letter from Waianae Coast Comprehensive Health Center
Attachments: Letter from Waianae Coast Comprehensive Health Center - 08-01-24.pdf

Hi Gerald,

I apologize for the delay in getting our initial comments to you about the Food Campus Masterplan in Waianae.

Please be aware that Hawaiian Telcom does have aerial facilities along the front of the property. When the project plans are available, please send them to our HT-PlanReviews@hawaiiantel.com email address for review. Feel free to send me an email if you have any questions.

Thank you,

Justin Medeiros
OSP Engineer I
Hawaiian Telcom
C: 808.888.1509
Email: justin.medeiros@hawaiiantel.com



EXHIBIT F

Draft Environmental Assessment Comments and Responses

PROJECT: 'Elepaio Food Campus Master Plan
Draft EA Comments and Responses

Published in the Environmental Notice	June 8, 2025
Start of 30-day Public Review Period	June 8, 2025
End of Public Review Period	July 8, 2025

Count	Affiliation / Individual	Author	Date Received	Response Required?	Remarks
1	Pacific Fish and Wildlife Office	J. Browing	6/12/2025 (em)	No	
2	DOH, Clean Air Branch	L Kitahara	6/12/2025 (em)	No	
3	Hawaiian TelCom	G. Kawachi	6/23/2025 (em)	No	
4	Office of Hawaiian Affairs	K. Ibarra	6/26/2025 (em)	No	
5	Honolulu Fire Department	K. Mokulehua	6/28/2025	Yes	
6	Dept of Environmental Services	R. Babcock	6/28/2025	Yes	
7	Hawaiian TelCom	S. Tercino	7/02/2025 (em)	No	
8	Dept of Planning and Permitting	J. Duyvejonck	7/08/2025 (em)	Yes	

Late Comments

9	DLNR – Land Division	I. Hirokawa	7/09/2025 (em)	No	
10	DLNR – OCCL	D. Vierra	7/09/2025 (em)	No	
11	Board of Water Supply	Ernest ??	7/14/2025	No	
12	DLNR – WRC	C. Kahahane	7/15/2025 (em)	No	
13	DLNR – DOFAW	J. Omick	7/15/2025 (em)	No	
14	Dept of Facility Maintenance	?? for G. Albano	7/16/2025	No	

Note: (em) = email

Gerald Park

From: Browning, Joy <joy_browning@fws.gov>
Sent: Thursday, June 12, 2025 1:13 PM
To: gpark@gpup.biz
Subject: 'Elepaio Food Campus Master Plan - Draft Environmental Assessment

Aloha,

To assist with your project planning, please see below for instructions on identifying species that may be in your area and avoidance and minimization measures that may need to be incorporated into your project.

The Pacific Island Fish and Wildlife Office (PIFWO) has transitioned to the use of the Information for Planning and Consultation (IPaC) online portal, <https://ipac.ecosphere.fws.gov/>, for federal action agencies and non-federal agencies or individuals to obtain official species lists, including threatened and endangered species and designated critical habitat in your project area. Using IPaC expedites the process for species list distribution and takes minimal time to complete.

Please note that the accuracy of your species list should be verified after 90 days. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change the species list. Verification can be completed by visiting the IPaC website at regular intervals during project planning and implementation. An updated list may be requested through the IPaC system by completing the same process used to obtain the initial species list. We hope this process provides efficiencies to our partners in obtaining a species list.

For recommended avoidance and minimization measures, you can visit the following webpage <https://www.fws.gov/office/pacific-islands-fish-and-wildlife/library>

Respectfully,

Joy Browning

Gerald Park

From: DOH.CABPASS <DOH.CABPASS@doh.hawaii.gov>
Sent: Thursday, June 12, 2025 1:24 PM
To: gpark@gpup.biz
Subject: Draft Environmental Assessment of 'Elepaio Food Campus Master Plan

Hello Gerald Park
Gerald Park Urban Planner

Thank you for the opportunity to review Draft Environmental Assessment of 'Elepaio Food Campus Master Plan in the June 08, 2025 edition of the TENs. Please go to the Clean Air Branch (CAB) website to download and utilize our Standard Comments for Land Use Reviews. The link is included below.

<https://health.hawaii.gov/cab/clean-air-branch/standard-comments-for-land-use-reviews/>

Lisa Kitahara
Planning & Administrative Support Staff Supervisor | Clean Air Branch
Hawai'i State Department of Health | Ka 'Oihana Olakino
2827 Waimano Home Road #130 | Pearl City, Hawaii 96782
Office: (808) 586-4200

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Gerald Park

From: Greg Kawachi <Greg.Kawachi@hawaiiantel.com>
Sent: Monday, June 23, 2025 4:32 PM
To: gpark@gpup.biz; jgriego@wcchc.com
Cc: HT-Plan Reviews
Subject: Elepaio Food Campus Master Plan
Attachments: Gerald Park `Elepaio Food Campus Master Plan.pdf

Hi Gerald,

We're reaching out to confirm receipt of your letter. For future requests, can you please email it to HT-PlanReviews@hawaiiantel.com and you can update the POC to me. Please let me know if you have any additional questions. Thank you!

Greg Kawachi

Manager II – Network OSP

O: 808.546.7666

C: 808.779.8324



NOTICE: This message is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged information. If you are not the intended recipient, any review, retransmission, dissemination, copying or other use of this message is strictly prohibited. If you received this message in error, please contact the sender immediately by reply email, delete this message from all computers, and destroy any printed copies.

Gerald Park

From: Kaweni Ibarra <kawenii@oha.org>
Sent: Thursday, June 26, 2025 9:08 AM
To: jgriego@wcchc.com; gpark@gpup.biz
Cc: Kamakana Ferreira
Subject: OHA Comment Re: DEA for Elepaio Food Campus Master Plan, Waianae, Oahu

Aloha e John and Gerald,

The Office of Hawaiian Affairs (OHA) is in receipt of your letter dated June 9, 2025 regarding the Draft Environmental Assessment (DEA) for the Elepaio Food Campus Master Plan in Waianae, Oahu.

At this time, OHA requests that we be provided with copies of any current and future comments provided by the State Historic Preservation Division (SHPD).

Mahalo for your time. We look forward to receiving the requested information. Please feel free to contact me should you have any questions.

Mahalo,

Kaweni Ibarra

Kaweni Ibarra

Compliance Advocate

Office of Hawaiian Affairs

**HONOLULU FIRE DEPARTMENT
KA 'OIHANA KINAI AHI O HONOLULU
CITY AND COUNTY OF HONOLULU**

636 SOUTH STREET • HONOLULU, HAWAII 96813
PHONE: (808) 723-7139 • FAX: (808) 723-7111 • WEBSITE: honolulu.gov

received
6.28.25

RICK BLANGIARDI
MAYOR
MEIA



SHELDON K. HAO
FIRE CHIEF
LUNA NUI KINAI AHI

JASON SAMALA
DEPUTY FIRE CHIEF
HOPE LUNA NUI KINAI AHI

June 27, 2025

Mr. Gerald Park, Principal
Gerald Park Urban Planner
95-595 Kaname'e Street, Suite 324
Mililani, Hawaii'i 96789

Dear Mr. Park:

Subject: 'Elepaio Food Campus Master Plan
Tax Map Keys: 8-6-001: 012, 024-028
Lualualei, District of Wai'anae, O'ahu, Hawaii'i

In response to your letter dated June 9, 2025, regarding the abovementioned subject, the Honolulu Fire Department (HFD) reviewed the submitted information and requires that the following be complied with:

1. Fire apparatus 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 apparatus access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; 2021 Edition, Section 18.2.3.2.2).

A fire apparatus 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; 2021 Edition, Section 18.2.3.2.1.).

2. Fire apparatus access roads shall be in accordance with NFPA 1, 2021 Edition, Section 18.2.3.

Mr. Gerald Park, Principal

Page 2

June 27, 2025

3. 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 NFPA 1, 2021 Edition, Sections 18.3 and 18.4.
4. Civil drawings submitted to your department shall be routed to the HFD for review and approval.

The abovementioned provisions are required by the HFD and may necessitate that additional requirements be met as determined by other agencies.

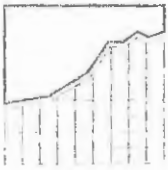
Should you have questions, please contact Battalion Chief Pao-Chi Hwang of our Fire Prevention Bureau at 808-723-7151 or hfdfpb1@honolulu.gov.

Sincerely,



KEVIN MOKULEHUA
Assistant Chief

KM/MD:sk



GERALD PARK
Urban Planner

Planning
Land Use

Research

Environmental
Studies

1145 Kahanu Dr
Honolulu, Hawaii

96813-5007

Telephone:
313-622-9626

Email:
gpark@gpup.biz

July 28, 2025

Sheldon K. Hao, Fire Chief
Honolulu Fire Department
636 South Street
Honolulu, HI 96813-5007

Dear Chief Hao:

Subject: 'Elepaio Food Campus Master Plan
TMK: [1] 8-6-001: 012, 024, 025, 026, 027, 028
Lualualei, District of Wai'anae, O'ahu

Thank you for reviewing the Draft Environmental Assessment prepared for the subject project. We offer the responses below in the order your comments were presented.

1/2. Vehicle and fire apparatus access was discussed in Section 1, B. Development Phasing, d. access (page 9). Two, 24-foot wide driveways will provide vehicle and fire apparatus access to the Food Warehouse and the upper sections of the Project Area.

3. The buildings will be equipped with a fire sprinkler system

4. Civil drawings will be routed to the Honolulu Fire Department for review and approval.

Honolulu Fire Department participation in the environmental assessment review process is appreciated.

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park, Principal

c:J. Griego, WCCHC

**DEPARTMENT OF ENVIRONMENTAL SERVICES
KA 'OIHANA LAWELawe KAIĀPUNI
CITY AND COUNTY OF HONOLULU**

1000 ULU'ŌHI'A STREET, SUITE 308 • KAPOLEI, HAWAII 96707
PHONE: (808) 768-3486 • FAX: (808) 768-3487 • WEBSITE: honolulu.gov

received
6.28.25

RICK BLANGIARDI
MAYOR
MEIA



June 25, 2025

ROGER BABCOCK, JR., Ph.D., P.E.
DIRECTOR
PO'O

DANIEL BRIECK, P.E.
DEPUTY DIRECTOR
HOPE PO'O

MICHAEL O'KEEFE
SECOND DEPUTY DIRECTOR
KA LUA O KA HOPE PO'O

IN REPLY REFER TO:
PRO 25-047

Mr. Gerald Park
Urban Planner
95-595 Kaname'e Street
Mililani, Hawaii 96789

Dear Mr. Park:

SUBJECT: 'Elepaio Food Campus Master Plan
Draft Environmental Assessment
TMK: (1) 8-6-001:012, 024, 025, 026, 027, 028

We have reviewed the subject document as requested in your letter dated June 9, 2025. We hope the following comments will be helpful towards the success of your project:

1. Attached is a map showing the project area and the nearby City sewer system.
2. A Sewer Connection Application should be submitted to the Department of Planning and Permitting, Site Development Division, Wastewater Branch. This application should be submitted at an early stage to determine whether sewer capacity is available or if off-site sewer improvements are needed to accommodate the project.
3. Should the project include construction in City-owned streets, or otherwise plan to dedicate sewer lines constructed for this project to the City, the project should follow our Wastewater System Design Standards, which are available at our website, www.honolulu.gov/env/.

If you have any questions, please contact Paul Christiansen, Civil Engineer, at (808) 768-3470 or email p.christiansen@honolulu.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Roger Babcock Jr.", is written over a horizontal line.

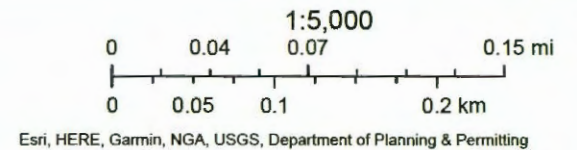
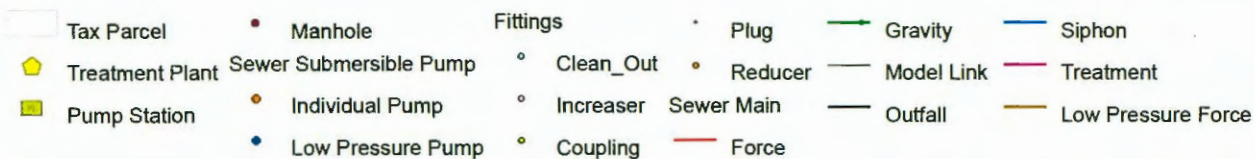
Roger Babcock, Jr. Ph.D. P.E.
Director

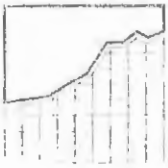
Attachment

'Elepaio Food Campus Master Plan



June 23, 2025





GERALD PARK
Urban Planner

Planning
Land Use
Research
Environmental
Studies
1515 Kalia Avenue, Suite 308
Honolulu, Hawaii 96815
Phone: (808) 955-9626
Email: gerald@geraldpark.com

July 28, 2025

Roger Babcock, Jr. Ph.D, P.E., Director
Department of Environmental Services
City and County of Honolulu
1000 Ulu'ōhi'a Street, Suite 308
Kapolei, HI 96707

Dear Director Babcock:

Subject: Elepaio Food Campus Master Plan
TMK: [1] 8-6-001: 012, 024, 025, 026, 027, 028
Lualualei, District of Wai'anae, O'ahu

Thank you for reviewing the Draft Environmental Assessment prepared for the subject project. We offer the responses below in the order your comments were presented.

1. Thank you for providing a map of the nearby City sewer system.
2. A Sewer Application Permit will be submitted to the Department of Planning and Permitting, Site Development Division, Wastewater Branch for determination of sewer capacity and if off-site improvements are needed.
3. The sewer system will be designed Department of Environmental Services Wastewater System Design Standards.

The participation of the Department of Environmental Services in the environmental assessment review process is appreciated.

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park, Principal

c. J.Griego, WCCHC

7/2/2025

Gerard Park
95-595 Kaname-e Street #324
Mililani, Hawaii 96789

Subject: Elepaio Food Campus Environmental Assessment

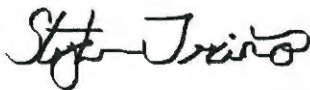
Dear Mr. Park,

Thank you for allowing us to review and comment on your plans for the **Elepaio Food Campus Environmental Assessment** project.

Hawaiian Telcom Inc. has no comments or concerns regarding this EA and how it impacts our facilities.

If you have any questions, feel free to call me at 808-492-2983 or email
Stephen.tercino@hawaiiantel.com

Thank you,



Stephen Tercino
Outside Plant Engineer – Network Development
Hawaiian Telcom Inc.

c: J.L.Kwan

DEPARTMENT OF PLANNING AND PERMITTING
KA 'OIHANA HO'OLĀLĀ A ME NĀ PALAPALA 'AE
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041 • WEBSITE: honolulu.gov/dpp

received
7. 8. 2025

RICK BLANGIARDI
MAYOR
MEI



DAWN TAKEUCHI APUNA
DIRECTOR
PO'O

BRYAN GALLAGHER, P.E.
DEPUTY DIRECTOR
HOPE PO'O

REGINA MALEPEAI
2ND DEPUTY DIRECTOR
HOPE PO'O KUALUA

July 8, 2025

2025/ELOG-1135 (LP)

SENT VIA EMAIL

Mr. Gerald Park
gpark@gpup.biz

Dear Mr. Park:

SUBJECT: Chapter 343 Hawaii Revised Statutes
Draft Environmental Assessment (EA)
The 'Elepaio Food Campus Master Plan
92-100 Kamoana Place – Wai'anae
Tax Map Keys (TMKs): 8-6-001: 012 and 024 through 028

This is in response to your letter, received June 12, 2025, requesting comments on the scope and content to be addressed in a Draft EA, for a "food campus" consisting of a food warehouse, training kitchen, administrative area with meeting spaces, agriculture support area, and Hawaiian cultural area on six zoning lots with a combined lot area of 25.11 acres. The Project is located in the P-2 General Preservation District (P-2 District). Parcel 12 is owned by the State of Hawai'i and Parcels 24 through 28 is owned by the Department of Hawaiian Home Lands (DHHL). The following comments should be addressed:

- Land Use Permits Division Comments:
 - Parcels 24 through 28 are owned by the DHHL. Under provisions of the Hawaiian Homes Commission Act, 1920, as amended, the DHHL is not subject to compliance with Revised Ordinances of Honolulu (ROH) Chapter 21, the Land Use Ordinance (LUO) or ROH Chapter 22, the Subdivision regulations..
 - Parcel 12 is owned by the State of Hawai'i and is regulated by ROH Chapter 21. For the purposes of ROH Chapter 21, LUO, it appears Parcel 12 will be developed with a dumpster. More information in the EA should be provided if there will be any development on this parcel.
 - Plans show parking and driveway improvements on the adjacent lot, TMK 8-6-001: 003, which is in the Special Management Area (SMA). More information is needed to determine if the work is considered development and if an SMA Permit is required.

- Figure 1 Vicinity Map calls out existing kupuna housing on the Project site. The EA should describe any existing or proposed structures, including when the existing structures were built, and identify any associated building permits or other land use approvals.
- The EA must include recommendations to mitigate any impact to historical properties on the site. Additionally, the Project should be submitted to the State Historic Preservation Division (SHPD) for review and comment under HRS Chapter 6E-42. An appendix for the referenced draft archaeological literature review and field inspection report and draft cultural assessment should also be added.
- A short assessment of traffic should accompany the proposed Project design in the EA. Discuss anticipated traffic and circulation impacts associated with the Project design.
- Traffic Review Branch Comments:
 - A timeline or phasing plan of the anticipated dates to obtain major building permit(s) for demolition/construction work, including the projected date of occupancy or opening, shall be prepared by the Applicant in a format acceptable to the Department. The timeline should identify when the construction management plan (CMP) and the traffic management plan (TMP) will be submitted for review and approval in relation to when approvals for construction plans, building and occupancy permits will be necessary. Typically, the CMP should be submitted for review and approval prior to the issuance of demolition/building permits for major construction work. The TMP should be submitted and approved prior to the issuance of the (temporary) certificate of occupancy.
 - The CMP shall identify the type, frequency and routing of heavy trucks and construction related vehicles. Every effort shall be made to minimize impacts from these vehicles and related construction activities. The CMP should identify and limit vehicular activity related to construction periods outside of the peak periods of traffic, utilizing alternate routes for heavy trucks, provisions for either on-site or off-site staging areas for construction related workers and vehicles to limit the use of on-street parking around the project site and other mitigation measures related to traffic and potential neighborhood impacts. Preliminary or conceptual traffic control plans should also be included in the CMP. The applicant shall document the condition of roadways prior to the start of construction activities and provide remedial measures, as necessary, such as restriping, road resurfacing and/or reconstruction if the condition of the roadways has deteriorated as a result of the related construction activities. A CMP should be done for each phase of the development.
 - A TMP shall include traffic demand management (TDM) strategies to minimize the amount of vehicular trips for daily activities by residents. TDM strategies could

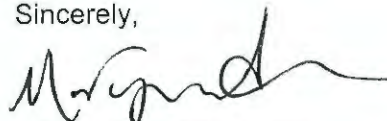
Mr. Gerald Park
July 8, 2025
Page 3

include carpooling and ride sharing programs, transit, bicycle and pedestrian incentives and other similar TDM measures. The TMP should address where pick-up/drop-off would occur and how delivery trucks would access/egress the site and how it will be managed. A post TMP will be required after full build-out, to validate the relative effectiveness of the various TDM strategies identified in the initial report. The TMP should include how drive-up food distribution drives will be managed to minimize traffic impacts to Ma'ili'i Road.

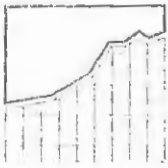
- o The Hawai'i State Department of Transportation should be consulted regarding the need for a Traffic Impact Assessment Report for the intersection at Farrington Highway.
- o The EA should provide more information about the anticipated daily traffic generated by the various uses of the project. The narrative should explain how each use will operate on a daily basis. Describe the number of vehicles accessing the site, how parking stalls be used and managed, if any of the uses will overlap, and if parking will be shared. Additionally, clarify if there will be special events that are larger than normal and how will the parking be affected for larger events.
- o Construction plans for all work within or affecting public streets should be submitted to the DPP Traffic Review Branch for review and approval. Traffic control plans during construction should also be submitted for review and approval, as required. Vehicular access points should be constructed as standard City dropped driveways and to provide 20-foot minimum width for two-way traffic. Adequate vehicular sight distance shall be provided and maintained at all driveways to pedestrians and other vehicles.
- o Driveway grades shall not exceed five percent for a minimum distance of 25-feet from the back of the designated pedestrian walkway. Any entry gates or guard shack, if used, should be recessed as far into the driveway as necessary to avoid any queuing onto public streets. All loading and parking areas shall be designed such that vehicles enter and exit, front first.

Thank you for the opportunity to comment on this proposal. Should you have any questions, please contact Lena Phomsouvanh, of our staff, at (808) 768-8052 or via email at lena.phomsouvanh@honolulu.gov.

Sincerely,



FOR
Dawn Takeuchi Apuna
Director



GERALD PARK
Urban Planner

■
Planning
Land Use
Research
Environmental
Studies

■
95-595 Kamehame St.
#324
Mililani, Hawaii
96769

■
Cell phone:
808-625-9626
Email:
gerald@geraldpark.com

July 28, 2025

Dawn Takeuchi Apuna, Director
Department of Planning and Permitting
City and County of Honolulu
650 S. King Street, 7th Floor
Honolulu, HI 96813

Dear Director Apuna:

Subject: Draft Environmental Assessment\
'Elepaio Food Campus Master Plan
Tax Map Keys: 8-6-001, 012 and 024-028
2025/ELOG-1135 (LP)

Thank you for reviewing and commenting on the Draft Environmental Assessment prepared for the subject project. Our responses are provided in the order your comments were presented.

Land Use Permits Division Comments

- Acknowledged.
- At this time, development is not proposed on parcel 012. Parcel 012 is owned by the Department of Hawaiian Home Lands.
- Parking and driveway improvements on parcel 003 are not proposed for the 'Elepaio Food Campus. Said improvement, however, will be proposed in an updated development plan for the Wai'anae Coast Comprehensive Health Center ("WCCHC").
- The Vicinity Map does not call out the Kupuna Housing as an existing project. It is a proposed project to be developed by others. The housing developer has informed the WCCHC planning office that plans for the housing project will not be available until 2027.
- Mitigating measures for historic properties were not included because none were proposed pending HRS 6E consultation with the State Historic Preservation Division (SHPD). 'Elepaio Social Services will comply with mitigating measures recommended by SHPD.

Four technical reports were prepared for the 'Elepaio Food Campus Master Plan. An archaeological Literature Review / Field Inspection Report, Cultural Impact Assessment, Natural Resources Assessment, and a Drainage Study. These reports should have been listed in the Draft Environmental Assessment but were mistakenly omitted. An Exhibit sheet will be included in the Final Environmental Assessment identifying the reports and stating electronic file will be available upon request.

- Measures for mitigating traffic impacts during construction and potential long-term impacts on traffic circulation primarily on Mā'ili'ili Road and mitigating measures were disclosed in the environmental assessment.

Traffic Review Branch Comments

- A generalized timeline for the proposed improvements is presented in Tables 2 and 3 of the Draft Environmental Assessment. Table 2 indicates the improvements projected for the three phases and Table 2 projects the years but not by calendar years the improvements would commence.

A timeline for permit procurement, construction, and occupancy is not available for submittal at this early site planning stage. Applicant will prepare a timeline contingent on availability of a complete or near complete set of construction plans, secured funding, a licensed contractor retained, and a construction management team assembled. Timelines will be prepared and submitted prior to each development phase and include Construction and Traffic Management Plans.

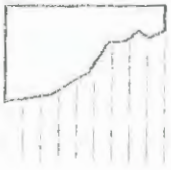
- A Construction Management Plan (CMP) has not yet been prepared. The 'Elepaio Food Campus is currently in the planning stage as evidenced by the scant number of plans in the Draft Environmental Assessment. Besides from the 'Elepaio Food Campus Master Plan only a Conceptual Site and Utility Plan and Conceptual Grading and Drainage Plan have been prepared. The two conceptual plans provide the food campus planners with a preliminary order of magnitude of construction and cost estimate for site and building improvements.

The information you are requesting for general frequency, routing, and movement of construction vehicles are unknowns at this time. A CMP will be prepared after hiring a General Contractor or a Site Work Contractor. They would be able to chart out how site work should proceed, types of equipment required, movement and routing of said vehicles, and locating staging areas for workers and the earth moving activities to follow.

A CMP or CMPs will be submitted for review and approval prior to each development phase.

- Residential development is not proposed for the Food Campus. A *kupuna* housing project, however is proposed by others on two lots adjoining the eastern end of the Food Campus. Traffic Demand Management strategies as stated in his comment should be directed to that developer.

Delivery trucks would access the Food Campus from the existing main entry to the WCCHC on Mā'ili'ili Road. A driveway will be provided to the Service Yard



and Food Warehouse Loading Dock. From the Service Yard trucks would egress through a one-way driveway to Mā'ili'ili Road.

Food distribution drives would be set up in the parking lot fronting the Multi-Purpose building. Vehicles would enter the two-way driveway, drive to the pick-up point, and exist via the one-way driveway for delivery vehicles on the western side of the parking lot.

Left turn movements from Mā'ili'ili Road into the two-way driveway would not be allowed. Movement into the distribution area would be right-turn only from Mā'ili'ili Road. A section of the *mauka* side of the road is proposed for widening which would allow a storage lane for queuing vehicles.

- The Hawai'i Department of Transportation was included as an agency to be consulted during the environmental assessment review process.
- The best estimate of anticipated daily traffic is the number of employees projected to staff the various uses. The Draft EA talked about a cadre of 40 employees for the various uses and facilities. Twenty-eight employees are projected for Phase 1 with 16 for the 'Elepaio Food Campus Office, 6 for the Hawai'i Food Bank, and 6 for the Growing Field and Farm House. Employees will be added as the other facilities are built during Phases II and III.

How each use would operate on a daily basis is unknown at this time. 'Elepaio Social Services, who will manage the Food Campus, will occupy space in the Food Warehouse. As managers, they should operate daily (Monday-Friday), but working hours have not been determined.

The Hawai'i Food Bank will determine its hours of operation. The frequency of food deliveries to distribution sites and pickups from food vendors and suppliers has not been determined.

The most extreme event would occur if the Multi-Purpose Building is used as an emergency shelter. The building could function as a communications center for emergency personnel, assembly / respite area for first responders, and shelter households displaced by a disaster even.

A combination of the above will fill the parking lot fronting the Food Warehouse and Multi-Purpose Building to capacity. Parking is available elsewhere on-site and vehicles would be marshalled or signs posted directing drivers to those areas.

- Construction plans for work in or adjacent to Mā'ili'ili Road will be submitted to the Traffic Review Branch. Two driveways are proposed. A 24-foot width, two-way driveway to the parking area fronting the Food Warehouse and a 20-foot width exit only driveway for delivery vehicles departing the Food Warehouse Service Yard. This driveway will also provide a second exit for vehicles from the

Dawn Takeuchi Apuna
Page 4

Food Warehouse parking area. The turning movement will be right turn only at Mā'ilī'ili Road. Traffic control plans will be submitted if required.

- A pedestrian walkway is not planned. A gate is proposed for the Food Warehouse exit driveway. A guard shack is posted at main entry to the WCCHC but none is proposed for the Food Campus. Loading and parking areas are designed such that vehicles enter and exit, front first.

Department of Planning and Permitting participation in the environmental assessment review process is appreciated. We look forward to the Department of Planning and Permitting's continued support for the 'Elepaio Food Campus.

Sincerely,

GERALD PARK URBAN PLANNER



Gerald Park, Principal

c: J. Griego, WCCHC

Comments Received After the 30-Day Review Period Ending on July 8, 20025.
Responses Are Not Required.

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

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



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

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

P.O. BOX 621
HONOLULU, HAWAII 96809

July 8, 2025

received
7.7.2025

Gerald Park Urban Planner
95-595 Kaname'e St. #324
Mililani, Hawaii 96789
Ph: 808-625-9626

via email: gpark@gpup.biz

SUBJECT: Wai'anae Coast Comprehensive Health Center 'Elepaio Food Campus Master Plan – Draft Environmental Assessment – Anticipated Finding of No Significant Impact (DEA-AFONSI), TMK: (1) 8-6-001: 012, 024, 025, 026, 027, 028
Lualualei, District of Wai'anae, O'ahu, Hawaii

Dear Mr. Park:

Thank you for the opportunity to review and comment on the subject matter. The Land Division of the Department of Land and Natural Resources (DLNR) distributed or made available a copy of your request pertaining to the subject matter to DLNR's Divisions for their review and comment.

Please find enclosed, comments from the Office of Conservation and Coastal Lands, on the subject matter. Should you have any questions, please feel free to contact Dayna Vierra at (808) 587-0423 or email: dayna.k.vierra@hawaii.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Ian H." followed by a stylized flourish.

Ian Hirokawa
Acting Land Administrator

cc: Julie-Ann Cachola, DHHL
John Griego, WCCHC

Enclosure(s)

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

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE



HONOLULU
LAND DIVISION

2025 JUN 25 PM 2:39



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

RECEIVED
OFFICE OF CONSERVATION
AND COASTAL LANDS

DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

P.O. BOX 621
HONOLULU, HAWAII 96809

June 19, 2025

RUSH

MEMORANDUM

TO:

DLNR Agencies:

- ☒ Div. of Aquatic Resources (kendall.i.tucker@hawaii.gov)
- ☐ Div. of Boating & Ocean Recreation
- ☒ Engineering Division (DLNR.ENGR@hawaii.gov)
- ☒ Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
- ☐ Div. of State Parks
- ☒ Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
- ☒ Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
- ☒ Land Division – O'ahu District (barry.w.cheung@hawaii.gov)
- ☒ Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

FROM:

Ian C. Hirokawa, Acting Land Administrator

SUBJECT:

**Wai'anae Coast Comprehensive Health Center 'Elepaio Food Campus
Master Plan – Draft Environmental Assessment – Anticipated Finding of
No Significant Impact (DEA-AFONSI)**

LOCATION:

Lualualei, District of Wai'anae, O'ahu, Hawai'i, TMK: (1) 8-6-001:012, 024,
025, 026, 027, 028

APPLICANT:

Gerald Park, Urban Planner on behalf of Wai'anae Coast Comprehensive
Health Center, Planning and Design

Transmitted for your review and comment is information on the above-referenced subject matter.
Please use the following link to access project information:

[2025-06-08-OA-DEA-Elepaio-Food-Campus-Master-Plan.pdf](#)

Please submit comments by **July 7, 2025**. If no response is received by this date, we will assume
your agency has no comments. Should you have any questions about this request, please contact
Dayna Vierra at dayna.k.vierra@hawaii.gov. Thank you.

BRIEF COMMENTS:

Proposed work appears to be
outside of the Conservation District
and, in part, on DHHL lands.
OCCL does not have jurisdiction
over DHHL lands

- ☐ We have no objections.
- ☐ We have no comments.
- ☐ We have no additional comments.
- ☒ Comments are included/attached.

Signed:

Print Name:

Division:

Date:

Trevor Fitzpatrick
Trevor Fitzpatrick
OCCL
6/25/2025

Attachments

**BOARD OF WATER SUPPLY
KA 'OIHANA WAI
CITY AND COUNTY OF HONOLULU**

630 SOUTH BERETANIA STREET • HONOLULU, HAWAII 96843
Phone: (808) 748-5000 • www.boardofwatersupply.com

RICK BLANGIARDI
MAYOR
MEIA

ERNEST Y. W. LAU, P.E.
MANAGER AND CHIEF ENGINEER
MANAKIA A ME KAHU WILIKI

ERWIN KAWATA
DEPUTY MANAGER
HOPE MANAKIA



NĀ'ĀLEHU ANTHONY, Chair
JONATHAN KANESHIRO, Vice Chair
BRYAN P. ANDAYA
LANCE WILHELM
KĒHAULANI PU'U
EDWIN H. SNIFFEN, Ex-Officio
GENE C. ALBANO, P.E., Ex-Officio

July 11, 2025



Mr. Gerald Park
Gerald Park Urban Planner
95-595 Kaname'e Street, #324
Mililani, Hawai'i 96789

Dear Mr. Park:

Subject: Your Letter Dated June 9, 2025 Requesting Comments on the Draft
Environmental Assessment for the Proposed 'Elepaio Food Campus Master
Plan in Wai'anae – Tax Map Key: 8-6-001: 012, 024, 025, 026, 027, 028

Thank you for your letter regarding the proposed food campus master plan.

The existing water system is adequate to accommodate the proposed food campus center master plan 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.

The developer should investigate the feasibility of using non-potable water for irrigation of the proposed agricultural projects. If non-potable water is either unavailable or infeasible, a report of the investigation including proposed irrigation demands should be submitted to us before we will consider the use of potable water.

Water conservation measures are required for all proposed developments. These measures include utilization of non-potable 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.

Mr. Gerald Park
July 11, 2025
Page 2

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.

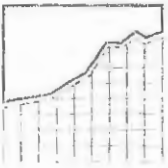
The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

If you have any questions, please contact Daniel Koge, Project Review Branch of our Water Resources Division at (808) 748-5444.

Very truly yours,

A handwritten signature in black ink, appearing to read "Ernest Y. W. Lau".

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



GERALD PARK
Urban Planner

Planning
Land Use

Research

Environmental
Studies

95-595 Kamehame St.
#324

Mililani, Hawaii
96769

Telephone-
(808) 625-2626

e-mail:
gspark@sparkbiz

July 28, 2025

Ernest W. Lau, P.E., Manager
Board of Water Supply
630 South Beretania Street
Honolulu, HI 96813

Dear Mr. Lau:

Subject: 'Elepaio Food Campus Master Plan
Tax Map Key: [1] 6-6-001: 012, 024, 025, 026, 027, 028
Lualualei, District of Wai'anae

Thank you for your comments on the Draft Environmental Assessment for the 'Elepaio Food Campus Master Plan. We offer the responses below in the order your comments were presented.

Thank you for confirming that the existing water system is adequate to accommodate the proposed food campus project. It is understood that the availability of water will be confirmed when the building permit applications are submitted.

Applicant will pay the Water System Facilities Charges for resource development, transmission, and daily storage.

Applicant is investigating the feasibility of using non-potable water for irrigating the agriculture growing field and landscaping. The subject has been broached with the Director of the Department of Environmental Services. Wastewater from the Waianae Wastewater Treatment Plan would be treated and recycled for the above irrigation uses. Infrastructure improvements at the treatment plan will be planned, designed, constructed, and funded by the Wai'anae Coast Comprehensive Health Center. The Board of Water Supply will be included in ensuing discussions.

Construction plans will be submitted for BWS approval.

Fire protection requirements will be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

Participation of the Board of Water Supply in the environmental assessment review process is appreciated.

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park
Gerald Park, Principal

c: J. Griego, WCCHC

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

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



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

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

P.O. BOX 621
HONOLULU, HAWAII 96809

received
7.15.25

July 11, 2025

Gerald Park Urban Planner
95-595 Kaname'e St. #324
Mililani, Hawaii'i 96789

via email: gpark@gpup.biz

SUBJECT: Wai'anae Coast Comprehensive Health Center 'Elepaio Food Campus Master Plan - Draft Environmental Assessment – Anticipated Finding of No Significant Impact (DEA-AFONSI), Lualualei, Wai'anae, O'ahu, Hawaii'i

Dear Mr. Park,

Thank you for the opportunity to review and comment on the subject matter. In addition to our previous comments dated July 8, 2025, enclosed are comments from the Division of Forestry and Wildlife and the Commission on Water Resource Management on the subject matter. Should you have any questions, please feel free to contact Dayna Vierra at (808) 587-0423 or email: dayna.k.vierra@hawaii.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Ian H", is written over a horizontal line.

Ian Hirokawa
Land Administrator

cc: Julie-Ann Cachola, DHHL
John Griego, WCCHC

Enclosure(s)



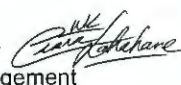
STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'
DEPARTMENT OF LAND AND NATURAL RESOURCES | KA 'OIHANA KUMUWAIWAI 'ĀINA
COMMISSION ON WATER RESOURCE MANAGEMENT | KE KAHUWAI PONO
P.O. BOX 621
HONOLULU, HAWAII 96809

CIARA W.K. KAHAHANE
DEPUTY DIRECTOR

July 9, 2025

REF: RFD.6470.3

TO: Mr. Ian Hirokawa, Acting Administrator
Land Division

FROM: Ciara W.K. Kahahane, Deputy Director 
Commission on Water Resource Management

SUBJECT: Wai'anae Coast Comprehensive Health Center Elepaio Food Campus Master Plan

FILE NO.: RFD.6470.3
TMK NO.: (1) 8-6-001:012, (1) 8-6-001:024, (1) 8-6-001:025, (1) 8-6-001:026, (1) 8-6-001:027, (1) 8-6-001:028

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at <http://dlnr.hawaii.gov/cwrn>.

Our comments related to water resources are checked off below.

- ☐ 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.
- ☐ 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
- ☐ 3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.
- ☒ 4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at <http://www.usgbc.org/leed>. A listing of fixtures certified by the EAP as having high water efficiency can be found at <http://www.epa.gov/watersense>.
- ☒ 5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at <http://planning.hawaii.gov/czm/initiatives/low-impact-development/>
- ☐ 6. We recommend the use of alternative water sources, wherever practicable.
- ☒ 7. We recommend participating in the Hawaii Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at <http://energy.hawaii.gov/green-business-program>.
- ☒ 8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH_Irrigation_Conservation_BMPs.pdf.

- ☒ 9. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.
- ☐ 10. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water. The Water Use Permit may be conditioned on the requirement to use dual line water supply systems for new industrial and commercial developments.
- ☐ 11. The Hawaii Water Plan is directed toward the achievement of the utilization of reclaimed water for uses other than drinking and for potable water needs in one hundred per cent of State and County facilities by December 31, 2045 (§174C-31(g)(6), Hawaii Revised Statutes). We strongly recommend that this project consider using reclaimed water for its non-potable water needs, such as irrigation. Reclaimed water may include, but is not limited to, recycled wastewater, gray water, and captured rainwater/stormwater. Please contact the Hawai'i Department of Health, Wastewater Branch, for more information on their reuse guidelines and the availability of reclaimed water in the project area.
- ☐ 12. A Well Construction Permit(s) is (are) required before the commencement of any well construction work.
- ☐ 13. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.
- ☐ 14. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.
- ☐ 15. Ground-water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
- ☐ 16. A Stream Channel Alteration Permit(s) is (are) required before any alteration can be made to the bed and/or banks of a stream channel.
- ☐ 17. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is constructed or altered.
- ☐ 18. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.
- ☒ 19. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.

☒ OTHER: Planning -

The proposed water source(s) and projected water demands for the project, both potable and non-potable, should be identified and the calculations used to estimate demands should be provided. A discussion of the potential impacts on water resources and other public trust uses of water should be included, and any proposed mitigation measures described. Water conservation and efficiency measures to be implemented should also be discussed.

If you have any questions, please contact Ryan Imata of the Groundwater Regulation Branch at (808) 587-0225 or Katie Roth of the Planning Branch (808) 587-0216.

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

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



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

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

P.O. BOX 621
HONOLULU, HAWAII 96809

RUSH

June 19, 2025

MEMORANDUM

FROM: **DLNR Agencies:**
X Div. of Aquatic Resources (kendall.l.tucker@hawaii.gov)
 Div. of Boating & Ocean Recreation
X Engineering Division (DLNR.ENGR@hawaii.gov)
X Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
 Div. of State Parks
X Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
X Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
X Land Division – O'ahu District (barry.w.cheung@hawaii.gov)
X Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

TO: Ian C. Hirokawa, Acting Land Administrator *J. 7/1*

SUBJECT: **Wai'anae Coast Comprehensive Health Center 'Elepaio Food Campus Master Plan – Draft Environmental Assessment – Anticipated Finding of No Significant Impact (DEA-AFONSI)**

LOCATION: Lualualei, District of Wai'anae, O'ahu, Hawaii, TMK: (1) 8-6-001:012, 024, 025, 026, 027, 028

APPLICANT: Gerald Park, Urban Planner on behalf of Wai'anae Coast Comprehensive Health Center, Planning and Design

Transmitted for your review and comment is information on the above-referenced subject matter. Please use the following link to access project information:

[2025-06-08-OA-DEA-Elepaio-Food-Campus-Master-Plan.pdf](#)

Please submit comments by **July 7, 2025**. If no response is received by this date, we will assume your agency has no comments. Should you have any questions about this request, please contact Dayna Vierra at dayna.k.vierra@hawaii.gov. Thank you.

BRIEF COMMENTS:

- () We have no objections.
() We have no comments.
() We have no additional comments.
(☒) Comments are included/attached.

Signed: *JD*
Print Name: JASON D. OMICK, Wildlife Prog. Mgr
Division: Forestry and Wildlife
Date: Jul 9, 2025

Attachments

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

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



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

DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

July 8, 2025

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

RYAN K.P. KANAKA'OLE
FIRST DEPUTY

CIARA W.K. KAHANE
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

Log no. 5083

MEMORANDUM

TO: IAN C. HIROKAWA, Acting Land Administrator
Land Division

FROM: JASON D. OMICK, Wildlife Program Manager
Division of Forestry and Wildlife

SUBJECT: Wai'anae Coast Comprehensive Health Center 'Elepaio Food Campus
Master Plan – Draft Environmental Assessment – Anticipated Finding of
No Significant Impact (DEA-AFONSI); Lualualei, District of Wai'anae,
O'ahu, Hawai'i; TMK: (1) 8-6-001:012, 024, 025, 026, 027, 028

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has received your request for comments regarding the DEA-AFONSI for 'Elepaio Social Services, the social services arm of the Wai'anae Coast Comprehensive Health Center (WCCHC), which proposes to develop a food campus and resiliency hub at 86-134 Mā'ili'i Road, in the ahupua'a of Lualualei, District of Wai'anae. The project will be developed on approximately 10.5 acres east of and adjoining the WCCHC. The area to be developed is part of 6 lots comprising 25.1 acres owned by the Department of Hawaiian Home Lands.

The project proposes to construct a food warehouse, approximately 2 acres for agricultural growing fields, a 1,000 square foot "Farm House," a 6,500 sq. ft. multi-purpose building, a 3,500 sq. ft. teaching kitchen and dining area, and a 10,000 sq. ft. two-level administration building. A hula mound and healing garden, "Ka 'Āina Ho'opulapula O' Kamaki Kanahale" are also proposed. The project will be built in three phases over a projected seven years beginning in 2025 or 2026. Site work, infrastructure installation, road improvements, and construction of the food warehouse and growing field are proposed for Phase 1 construction. The proposed project site is located within State Land Use Designation Urban and Conservation and is zoned Preservation and Agriculture by the City and County.

A biological survey of the proposed project site was conducted and found two endemic plants: koki'o ke'oke'o (*Hibiscus arnottianus*) and loulou (*Pritchardia sp.*). Neither are rare, threatened, or endangered or proposed for said status. No threatened or endangered mammals or birds were noted during the survey.

DOFAW concurs with the measures included in the DEA intended to avoid construction and operational impacts to State-listed seabirds. 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>.

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 'ōpe'ape'a or Hawaiian hoary bat (*Lasiurus 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 in any construction as bats can become ensnared and killed by such fencing material during flight.

For nighttime work that might be required, DOFAW recommends all lights used be fully shielded to minimize the attraction of seabirds. Nighttime work which requires outdoor lighting should be avoided during the seabird fledging season from September 15 through December 15, when young seabirds make their maiden voyage to sea. If nighttime construction is required during the seabird fledgling season, we recommend a qualified biologist be present at the project site to monitor and assess the risk of seabirds being attracted or grounded due to the lighting. If seabirds are seen circling the area, lights should be turned off. If a downed seabird is detected, please follow DOFAW's recommended response protocol by visiting <https://dlnr.hawaii.gov/wildlife/seabird-fallout-season/>

The State endangered pueo or Hawaiian short-eared owl (*Asio flammeus sandwichensis*) could potentially occur in the project vicinity. Pueo are most active during dawn and dusk twilights. Remove and exclude non-native mammals such as mongoose, cats, dogs, and ungulates from the nesting area. Minimize habitat alterations and disturbance during pueo breeding season. These birds nest on the ground, and active nests have been found year-round. Before any potentially disturbing activities—like clearing vegetation, especially ground-based disturbance, DOFAW recommends a qualified biologist conduct surveys during crepuscular hours. Observation surveys should be done at those times from vantage points where they can see the whole project area for 2-3 nights before construction is to start. If any breeding displays are observed, it is likely there could be a nest. If pueo nests are detected in the area, a buffer zone should be established in which no activity occurs within a minimum buffer distance of 100 meters until the nesting cycle is complete, and the chicks are capable of flight. O'ahu Branch DOFAW staff should be notified at (808) 973-9778 of any nests or adult displayed breeding behavior.

State-listed waterbirds such as ae'o or Hawaiian stilt (*Himantopus mexicanus knudseni*), 'alae ke'oke'o or Hawaiian coot (*Fulica alai*), 'alae 'ula or Hawaiian gallinule (*Gallinula chloropus sandvicensis*), and koloa maoli or Hawaiian duck (*Anas wyvilliana*) could potentially occur at or in the vicinity of the proposed project site. It is against State law to harm or harass these species. If any of these species are present during construction, all activities within 100 feet (30 meters) should cease and the bird or birds should not be approached. Work may continue after the bird or birds leave the area of their own accord. If a nest is discovered at any point, please contact the O'ahu Branch DOFAW Office at (808) 973-9778 and establish a buffer zone around the nest.

DOFAW is concerned about the impacts of nonnative predators such as cats, rodents, and mongoose, on native and endangered waterbirds, seabirds, and forest birds. DOFAW recommends no feeding of feral cats should occur on the premises, as predation is instinctive and even well-fed cats will hunt and kill wildlife. Take action to minimize predator presence; remove cats, place bait stations for rodents and mongoose, and provide covered trash receptacles.

DOFAW recommends using native plant species for landscaping that are appropriate for the area; i.e., plants for which climate conditions are suitable for them to thrive, plants that historically occurred there, etc. DOFAW also recommends referring to www.plantpono.org for guidance on the selection and evaluation of landscaping plants and to determine the potential invasiveness of plants proposed for use in the project.

Avoid importing soil or other plant material from off-island. Soil and plant material may contain fungi (e.g., rapid 'ōhi'a death) and other pathogens which could harm our native species and ecosystems. We recommend consulting the Hawai'i Interagency Biosecurity Plan at <http://dlnr.hawaii.gov/hisc/plans/hibp/> in the planning, design, and construction of the project.

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. Soil and plant material may contain detrimental fungal pathogens (like rapid 'ōhi'a death), vertebrate and invertebrate pests (e.g. little fire ants, and coconut rhinoceros beetle), or invasive plant propagules (e.g. albizia, pampas grass, fireweed, etc.) that will harm our native ecosystems, and the unique native found within them. Therefore, DOFAW advances the guidance that all equipment and personal items—to include clothing and foot ware should be cleaned of excess soil and debris to minimize the risk of spreading invasive species. Additionally, DOFAW recommends minimizing the movement of plant or soil material between worksites. Suspect pests should be reported through the statewide pest hotline. Photos, videos, and locations can be shared at www.643pest.org or call: 743-PEST. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species.

To prevent the spread of rapid 'ōhi'a death (ROD), DOFAW requests that removal, pruning/trimming, and potentially injury to 'ōhi'a trees be avoided as much as possible. Wounds serve as entry points for ROD fungus and increase the odds that the tree will be infected and die. Also, clean gear/tools, clothes, footwear, and vehicles before and after use. Make sure to removal all loose soil from the aforementioned items, spray gear/tools with 70% rubbing alcohol, and wash clothes with hot water and soap. Wash tires and undercarriages of all vehicles/machinery with a high-pressure water source. If 'ōhi'a trees must be removed or pruned/trimmed, please conduct these activities on a still day to minimize blown sawdust and use a sharp saw to create chips rather than dust. Seal all wounds to these trees with a stump seal product (e.g. Spectricide, etc.). For more information, please consult <https://cms.ctahr.hawaii.edu/rod>.

The invasive coconut rhinoceros beetle (*Oryctes rhinoceros*) or CRB is widespread on the island of O'ahu. CRB have been detected on other islands with moderate infestation on Kaua'i, one incipient site on Hawai'i Island, and only one positive site on Maui in 2023. Hawai'i Department of Agriculture interim rule 24-1 restricts the movement of CRB-host material from the island of O'ahu, which is defined as the Quarantine Area. Regulated material (host material or host plants) is considered a risk for potential CRB infestation. Host material for the beetle specifically includes 1) entire dead trees; 2) mulch, compost, trimmings, fruit and vegetative scraps, and 3) decaying stumps. CRB host plants include the live palm plants in the following genera: *Washingtonia*, *Livistona*, and *Pritchardia* (all commonly known as fan palms), *Cocos* (coconut palms), *Phoenix* (date palms), and *Roystonea* (royal palms). When such material or these specific plants are moved there is a risk of spreading CRB because they may contain CRB in any life stage. Inspection and/or treatment approved by HDOA is mandatory before inter-island transport. For more information regarding CRB, please visit <https://dlnr.hawaii.gov/hisc/info/invasive-species-profiles/coconut-rhinoceros-beetle/>.

We recommend that Best Management Practices are employed during and after construction to contain any soils and sediment with the purpose of preventing damage to near-shore waters and marine ecosystems.

Due to the arid climate, high fine fuel load (grasses) surrounding the worksite, and risks of wildfire to listed species and native habitats, we recommend coordinating with the Hawai'i Wildfire Management Organization at (808) 850-0900 or admin@hawaiiwildfire.org, on how wildfire prevention can be addressed in the project area. When engaging in activities that have a high risk of starting a wildfire—like wielding in/near tall grass, it is recommended that you: 1) wet down the area before starting your task, 2) continuously wet down the area as needed, 3) have a fire extinguisher on hand, and 4) in the event that your vision is impaired, (i.e. welding goggles) have a spotter to watch for fire ignitions. Additionally, do not park any vehicles in or near tall grass as heat from the engine/exhaust may ignite dry vegetation.

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 Kelli Yamaguchi, Protected Species Habitat Conservation Planning Associate via email at kelli.yamaguchi.researcher@hawaii.gov.

Sincerely,

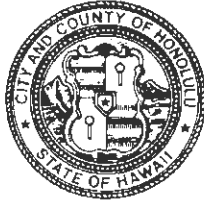


JASON D. OMICK
Wildlife Program Manager

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DEPUTY DIRECTOR
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IN REPLY REFER TO:
DRM 25-192

July 11, 2025



Mr. Gerald Park, Principal
Gerald Park Urban Planner
95-595 Kanamee Street #324
Mililani, Hawaii 96789

Dear Mr. Park:

Subject: Elepaio Food Campus Master Plan
TMK: (1) 8-6-001: 012, 024, 025, 026, 027, 028
Lualualei, District of Waianae

Thank you for the opportunity to review and comment on the subject project.

We have no comments at this time, however, we would appreciate receiving your Phase 1 construction plans, so we may review and comment on the site work, infrastructure installation, road improvements and construction of the food warehouse and growing field.

If you have any questions, please call Mr. Ray Jyo of the Division of Road Maintenance at (808) 768-3697.

Sincerely,

A handwritten signature in black ink, appearing to read "Gene C. Albano".

 Gene C. Albano, P.E.
Director and Chief Engineer