

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



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CHAIRPERSON

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WAYNE K. KATAYAMA
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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

STAFF SUBMITTAL

COMMISSION ON WATER RESOURCE MANAGEMENT

October 31, 2024
Honolulu, Hawai'i

Derrick's Well Drilling & Pump Services, LLC
APPLICATION FOR WELL CONSTRUCTION AND PUMP INSTALLATION PERMITS
HHL Irrigation Well (State Well No. 8-6527-001), TMK (3) 4-5-002:016
Irrigation Use for 0.003 mgd
Honokaa Aquifer System Area, Hawaii

CONTRACTOR

Derrick's Well Drilling & Pump Services, LLC
P.O. Box 2187
Keaau, HI 96749

LAND OWNER:

Stephen Winter
P.O. Box 189
Honokaa, HI 96727

SUMMARY OF REQUEST

The applicant requests that the Commission on Water Resource Management (Commission) approve well construction and pump installation permits for the HHL Irrigation well (State Well No. 8-6527-001).

BACKGROUND

The proposed well will be part of a farm development consisting of a single-family residence, a caretaker's cottage (farm dwelling), a greenhouse, a barn, pasture, and related improvements on two (2) shoreline parcels totaling 30.165 acres. The project site is located within the Hawaii County Special Management Area, and the anticipated daily demand is 0.003 million gallons per day (mgd).

The proposed well is located near Papuaa stream, which is approximately 0.5 mile away. The ground elevation of the well is approximately 200 ft mean sea level (msl) and the elevation at the pump setting is close to mean sea level. The stream elevation is approximately 130 feet msl. Impacts to stream flow are not anticipated based on these elevations.

LOCATION MAP



Figure 1 – Location Map

APPLICATION AND INITIAL STAFF REVIEW

The well application was submitted on May 15, 2024, and is attached as Exhibit 1. Staff did an initial review, with the following assessments/actions:

- 1) Deposited \$300 filing fee and assigned a well number for this well.
- 2) Verified that the land owner on application matches tax records.
- 3) Consulted with the Commission's Stream Protection and Management Branch and found that no streams will likely be impacted by the proposed well use.
- 4) Checked the proposed well section, and determined that the proposed design will comply with the Hawai'i Well Construction and Pump Installation Standards (see Exhibit 2).
- 5) Made an initial determination that there will be "no adverse impacts on historic properties" associated with the Commission's issuance of this permit.
- 6) Ran a background check of the licensed contractor and assessed that they have no outstanding issues with Commission staff for overdue paperwork or actions.
- 7) Conducted a search of wells within 1-mile of the proposed well (see Exhibit 3).
- 8) Confirmed the contractor's C-57 license is valid and in good standing.
- 9) Ran a query on OHA's Kipuka database and found there are no significant features in the subject area.

AGENCY COMMENTS

Staff routed the application to the following agencies, and comments received are summarized for each respective agency (see Exhibit 4).

- **Department of Health Safe Drinking Water Branch (DOH SDWB)** This well will not be a source for a public water system as defined by DOH SDWB. Commission staff routinely forwards standard DOH SDWB Private Water Wells comments to the driller and sends copies to both the well and land owner.
- **Department of Health Wastewater Branch (DOH WWB)** DOH WWB indicated that there is a septic tank located adjacent to the proposed well. DOH WWB comments are transmitted to the well owner / land owner for information only, but the Commission doesn't restrict the location of wells proximal to sources of contamination because treatment of water can remove contaminants.
- **Department of Health Clean Water Branch (DOH CWB)** DOH CWB comments are consistent for all well applications. The Commission staff routinely forwards standard National Pollutant Discharge Elimination System (NPDES) comments to the driller and copies the well and land owner. These comments pertain to the disposal of drilling fluids associated with both the construction of the well, as well as pump tests where necessary.
- **Department of Land and Natural Resources (DLNR), Land Division (LD)** DLNR LD was sent a copy of the application but did not provide comments.
- **DLNR State Historic Preservation Division (SHPD)** Commission staff made an initial assessment that "no historic properties are affected" by the proposed well construction / pump installation, and DLNR SHPD concurred with this finding.

- **County of Hawai‘i, Department of Planning (HDOP)** HDOP stated that the proposed well is located in the Special Management Area (SMA). The facility has received an SMA permit (SMA permit no. PL-SMA-2023-43). HDOP commented to check with DLNR Office of Conservation and Coastal Lands (OCCL) if a Conservation District Use Permit (CDUP) or SPA is required.
- **DLNR Office of Conservation and Coastal Lands (OCCL)** DLNR OCCL indicated that the well is not located in a Conservation district.
- **DLNR, Aha Moku** Aha Moku was sent a copy of the application and requested a copy of this submittal, so that they could provide written support.

CHAPTER 343 – ENVIRONMENTAL ASSESSEMENT (EA) COMPLIANCE

EA Triggers

In accordance with §HRS 343-5(a), the applicant’s proposed action does not trigger the need for an EA, as none of the items below are a trigger for the proposed well.

Potential triggers: (1) use of state land; (2) use of county land; (3) use of state funds; (4) use of county funds; (5) use of conservation district lands; (6) use within shoreline setback area; (7) use of historic site designated on the National register; (8) use of historic site designated on the Hawaii register; (9) use of land in the Waikiki Special District; (10) amendment to county general plan which results in designations other than agriculture, conservation or preservation not initiated by the county; (11) proposes any reclassification of conservation land by LUC; (12) relationship to the construction/modification of helicopter facilities that may affect conservation district lands/a shoreline setback area/a historic site; (13) proposal to build (a) wastewater treatment units (except IWS or WTU serving <50 SFR dwellings or the equivalent), (b) waste-to-energy facility (c) landfill, (d) oil refinery, (e) power generating facility.

TRADITIONAL AND CUSTOMARY PRACTICES

Ka Pa‘akai Analysis

In *Ka Pa‘akai O Ka ‘Āina v. Land Use Commission*, the Hawai‘i Supreme Court recognized that the State has an obligation to protect Hawaiian traditional and customary practices to the extent feasible, and that the proponent of an action must show sufficient evidence that these types of practices are protected, if they exist in the location in question. This “Ka Pa‘akai framework” was created by the Court “to help ensure the enforcement of traditional and customary native Hawaiian rights while reasonably accommodating competing private development interests.” The Commission is obligated to conduct a “Ka Pa‘akai analysis” of a proposed action requiring CWRM approval independent of the entity proposing the action. This analysis should be used to inform any decision on the impact of the proposed action on traditional and customary practices.

Consequently, the Court required an assessment of the following:

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

A Ka Pa‘akai Analysis and the 2023 Archeological Inventory Survey are attached as Exhibit 1 and 1a.

Staff’s analysis: The well will be located mauka of a 40’ setback from the pali. Fishing from the pali was identified as a traditional and customary exercise of native Hawaiian rights. Data were based on research, and fieldwork conducted for the 2003 Archeological Inventory Survey (AIS). The objective of the AIS is to satisfy the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) inventory requirements, Hawai’i Administrative Rules, Title 13, DLNR, Subtitle 13, Chapters 276 and 284, State Historic Preservation Rules.

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

The applicant states that “There will be no such impairment. ...The well and the pastures, orchards, and gardens it would irrigate are all removed from the area where fishing takes place.”

Staff’s analysis: The well is not located in the area where fishing takes place and will not impede access to the fishing sites. In addition, on August 22, 2024, DLNR SHPD responded that the well is located in an area that has been previously cleared and permitting process may continue. As a previously cleared site, the development of the well site will not impair any traditional and customary practices.

The proposed daily demand estimate is about 0.003 mgd to service a farm development totaling of 30.165 acres. The proposed well is located in the Honokaa Aquifer System Area, which has a sustainable yield (SY) of 29 mgd. Based on the proportion of the well’s use in relation to sustainable yield (less than 1%), and the lack of known springs in the vicinity of the well, staff agrees with the applicant’s assessment that impacts to groundwater dependent ecosystems and traditional and customary practices along the coastline will be minimal.

(3) *“the feasible action, if any, to be taken ... to reasonably protect native Hawaiian rights if they are found to exist.”*

Staff’s analysis: Staff concurs with the applicant that the well will have no effect on the historic properties and no impact on Native Hawaiian rights. Additionally, the landowner plans to install new fencing in both parcels and to conduct a program of invasive species removal. Also, the landowner proposes to preserve the coastal access path that runs along the shoreline in this area and provides access for fishermen, and other gathering uses. These proposed actions are identified in the Special Management Permit Application (PL-SMA-2023-000043) and findings. In addition, if the proposed well is found to impact those rights, the landowner would take prompt action to redress the matter. For example, if the volume of pumpage would infringe on those rights, the landowner would reduce the pumpage. Standard condition 7 of the well construction permit and standard condition 8 of the pump installation permit state that pumpage may need to be reduced in the future should any legal uses, such as traditional & customary practices, be impacted.

RECOMMENDATION:

Staff recommends that the Commission approve the issuance of well construction and pump installation permits for the HHL Irrigation (State Well No. 8-6527-001), subject to the standard well construction permit conditions listed in Exhibit 5 and the standard pump installation conditions listed in Exhibit 6.

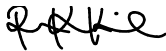
Respectfully submitted,



CIARA W.K. KAHAHANE
Deputy Director

- Exhibits:
- 1 (Application)
 - 1a (Archaeological Inventory Survey)
 - 2 (Well design check)
 - 3 (1-mile radius map)
 - 4 (Agency comments)
 - 5 (Well Construction Permit Standard Conditions)
 - 6 (Pump Installation Permit Standard Conditions)

APPROVED FOR SUBMITTAL:



DAWN N. S. CHANG
Chairperson



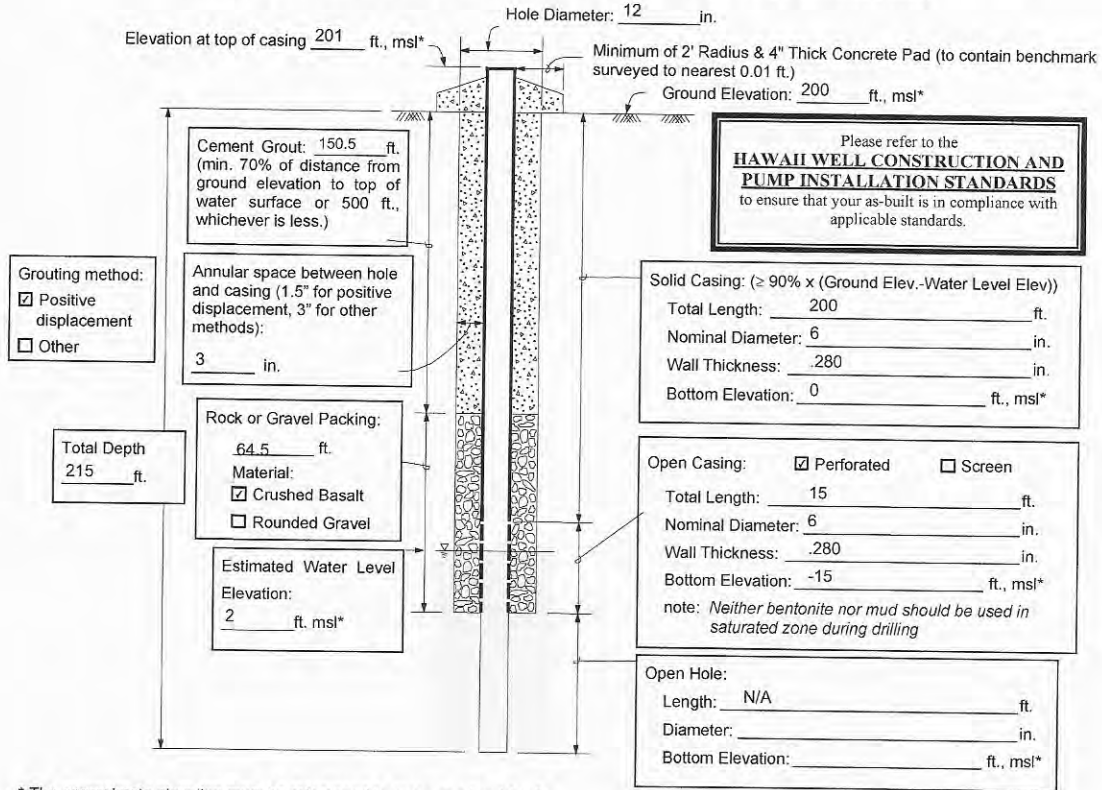
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
APPLICATION FOR A WELL CONSTRUCTION /
PUMP INSTALLATION PERMIT

For Official Use Only:

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

WELL LOCATION INFORMATION					
1. STATE WELL NO. (if assigned)	2. WELL NAME HHLIrrigation Well	3. ISLAND Hawaii	4. TMK (3) 4 5 002 016 <small>island zone sec plat parcel lot</small>		
5. WELL COORDINATES (latitude and longitude, referenced to NAD 83, degrees, minutes, seconds to 1 decimal place) and ADDRESS (street, city, zip code) 20° 05' 50.31" (N) 155° 27' 40.42" (W) 45-5034 Nanaina Kai Rd., Honokaa, HI 96727					
The following must be attached before this application is accepted as complete: <ul style="list-style-type: none"> • Property tax map, showing well location referenced to established property boundaries • Photograph of the proposed well site • A photo or schematic diagram showing the well site, access road and proposed well infrastructure • Attach written permission from the landowner listed below, that acknowledges the work proposed by this application. If the landowner changes during construction, a new permission statement is required. 					
6. WELL OPERATOR'S NAME/COMPANY Stephen Winter		Well Operator's Contact Stephen Winter		7. LANDOWNER'S NAME/COMPANY Winter, Stephen D / Winter, Cheryl A	
Well Operator's Mailing Address PO Box 189 Honokaa, HI 96727-0189		Landowner's Mailing Address PO Box 189 Honokaa, HI 96727-0189			
Well Operator's Phone 313-701-7071	Well Operator's Fax	Well Operator's E-mail winter@winterplc.com	Landowner's Phone 313-701-7071	Landowner's Fax	Landowner's E-mail winter@winterplc.com
PROPOSED WELL CONSTRUCTION			PROPOSED PUMP INSTALLATION		
8. Proposed Work <input checked="" type="checkbox"/> Construct New Well <input type="checkbox"/> Modify Existing Well <input type="checkbox"/> Abandon/Seal Well		9. Construction Type <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Dug <input type="checkbox"/> Shaft <input type="checkbox"/> Tunnel		11. Proposed Work <input checked="" type="checkbox"/> Install New Pump <input type="checkbox"/> Replace Pump	
				13. Proposed Pump Capacity, gpm (gallons per minute) 40	
				14. Proposed Amount of Withdrawal, gpd (gallons per day) 3000	
				12. Method of flow measurement <input checked="" type="checkbox"/> Totalizer flowmeter <input type="checkbox"/> Other (explain)	
10. Is this well part of a battery of wells? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
15. Proposed Surveyor name and license number (a surveyor is required for all Well Construction Permits and may be required for some Pump Installation Permits) Deferred					
PROPOSED USE <i>If the well water will be treated, please describe how (reverse osmosis, ultra violet, etc.) and disposal method of resulting effluent, reject water, etc.</i>					
<input type="checkbox"/> 16. Municipal (water systems serving greater than 25 individuals or 15 service connections)					
<input type="checkbox"/> 17. Domestic Number of units to be served: _____					
<input type="checkbox"/> 18. Industrial (describe)					
<input checked="" type="checkbox"/> 19. Irrigation (describe crop and no. of acres) trees / 25 acres					
<input type="checkbox"/> 20. Military (describe)					
<input type="checkbox"/> 21. Other (describe)					
OTHER LEGAL REQUIREMENTS <i>If required, items 22. and 23. must be obtained before the Commission can legally issue a permit:</i>					
22. Conservation District Use Permit (CDUP) <input type="checkbox"/> Well is in Conservation District <input type="checkbox"/> Required, CDUP # _____ date approved _____ <input type="checkbox"/> Not Required (attach documentation from OCOL)			23. Special Management Area Permit (SMAP) <input checked="" type="checkbox"/> Well is in the Special Management Area <input type="checkbox"/> Required, SMA # PL-SMA-2023-000043 date approved 4/04/2024 <input type="checkbox"/> Not Required (attach documentation from applicable County agency)		
<input checked="" type="checkbox"/> Well is not in Conservation District			<input type="checkbox"/> Well is not in the Special Management Area		
24. State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources (Hawaii Revised Statute, Chapter 6E, Section 106) <input checked="" type="checkbox"/> I understand that after CWRM sends me a copy of the "SHPD concurrence request", that I must create a HICRIS record and upload the required documents described in the attached instructions.					
25. Chapter 343 <input type="checkbox"/> An Environmental Assessment was completed, and <input type="checkbox"/> An Environmental Impact Statement was required and has been accepted (attach letter of acceptance). Publication date in The Environmental Notice: _____ <input type="checkbox"/> A Finding of No Significant Impact has been determined (attach letter). Publication date in The Environmental Notice: _____ This project proposes: <input type="checkbox"/> Use of state or county lands, or use of state or county funds <input type="checkbox"/> Use within a state conservation district <input type="checkbox"/> Use within a shoreline setback area <input type="checkbox"/> Use within a national or Hawaii registered historic site <input type="checkbox"/> Use within the Waikiki Special District <input type="checkbox"/> The construction, expansion or modification of helicopter facility <input type="checkbox"/> A wastewater treatment unit <input type="checkbox"/> Waste-to-energy facility <input type="checkbox"/> Landfill <input type="checkbox"/> Oil refinery <input type="checkbox"/> Power-generating facility <input checked="" type="checkbox"/> None of the above 11 items					
26. Water Use Permit No. (if applicable): <u>N/A</u> Additional remarks, explanations, etc. (attach additional sheet if more space is needed)					
NOTE: Signing below indicates that the signatories understand and swear that the information provided is accurate and true to the best of their knowledge. Further, the signatories understand that upon permit approval: 1) the proposed work is to be completed within two (2) years of the approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within 30 days after the completion date of the permitted work; 3) if the landowner changes during construction, a new permission statement is required; 4) in the event that the application is not completed correctly, any permit may be suspended until the item is brought in to compliance, and any work done while the permit is in suspension may result in fines of up to \$5000/day.					
27. WELL DRILLER (Must be filled out if application is for Well Construction) Derrick's Well Drilling & Pump Services, LLC C-28001 Licensee business name C-57 License No. Derrick Moreira Signature Print Date P.O. Box 2187 Kea'au, HI 96749 Address 808-982-7627 808-982-7698 derrickswelldrilling07@gmail.com Phone Fax E-mail			28. PUMP INSTALLER (Must be filled out if application is for Pump Installation) Derrick's Well Drilling & Pump Services, LLC C-28001 Licensee business name C-57/C-57a/A License No. Derrick Moreira Signature Print Date P.O. Box 2187 Kea'au, HI 96749 Address 808-982-7627 808-982-7698 derrickswelldrilling07@gmail.com Phone Fax E-mail		

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



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

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

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

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

Note: Unless a variance is requested and approved, if the well is greater than 1/4 of the theoretical aquifer thickness, the well may have to be backfilled to bring the depth into compliance.

Solid Casing Material:

Carbon Steel: compliant with (check one or more): ANSI/AWWA C200 API Spec. 5L ASTM A53 ASTM A139

And compliant with (check one or more): ASTM A242 (or A606) Type E Type S Grade B Other

Stainless Steel: (check one): ASTM A409 (production wells) ASTM A312 (monitor wells)

ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one) Schedule 40 Schedule 80

PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one): Schedule 40 Schedule 80 Schedule 120

Thermoset Plastic: (check one)

- Filament Wound Resin Pipe conforming to ASTM D2996
- Centrifugally Cast Resin Pipe conforming to ASTM D2997
- Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
- Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
- PTFE Fluorocarbon Tubing conforming to ASTM D3296
- FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:

Carbon Steel: compliant with (check one or more): ANSI/AWWA C200 API Spec. 5L ASTM A53 ASTM A139

And compliant with (check one or more): ASTM A242 (or A606) Type E Type S Grade B Other

Stainless Steel: (check one): ASTM A409 (production wells) ASTM A312 (monitor wells)

ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one) Schedule 40 Schedule 80

PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one): Schedule 40 Schedule 80 Schedule 120

Thermoset Plastic: (check one)

- Filament Wound Resin Pipe conforming to ASTM D2996
- Centrifugally Cast Resin Pipe conforming to ASTM D2997
- Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
- Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
- PTFE Fluorocarbon Tubing conforming to ASTM D3296
- FEP Fluorocarbon Tubing conforming to ASTM D3296



Derrick's Well Drilling and Pump Services, LLC.

P.O. Box 2187 Kea'au, HI 96749

16-150 Wiliama Place Kea'au, HI 96749

Office: (808) 982-7627 • Fax: (808) 982-7698 • Cell: 557-5309 • derrickswelldrilling07@gmail.com

Derrick's Well Drilling & Pump Services, LLC
P.O. Box 2187
Kea'au, HI 96749

To: Commission on Water Resource Management:

This letter is to inform you that I Stephen Winter

(landowner) give permission to Derrick's Well Drilling & Pump Services, LLC, to perform work as stated in the accompanied Well Construction and Pump Installation application on the noted TMK.

TMK: 3-4-5-002-016

Respectfully,

Stephen Winter
Landowner

15 Apr 2024
Date



Derrick's Well Drilling & Pump Services, LLC a BBB Accredited Business

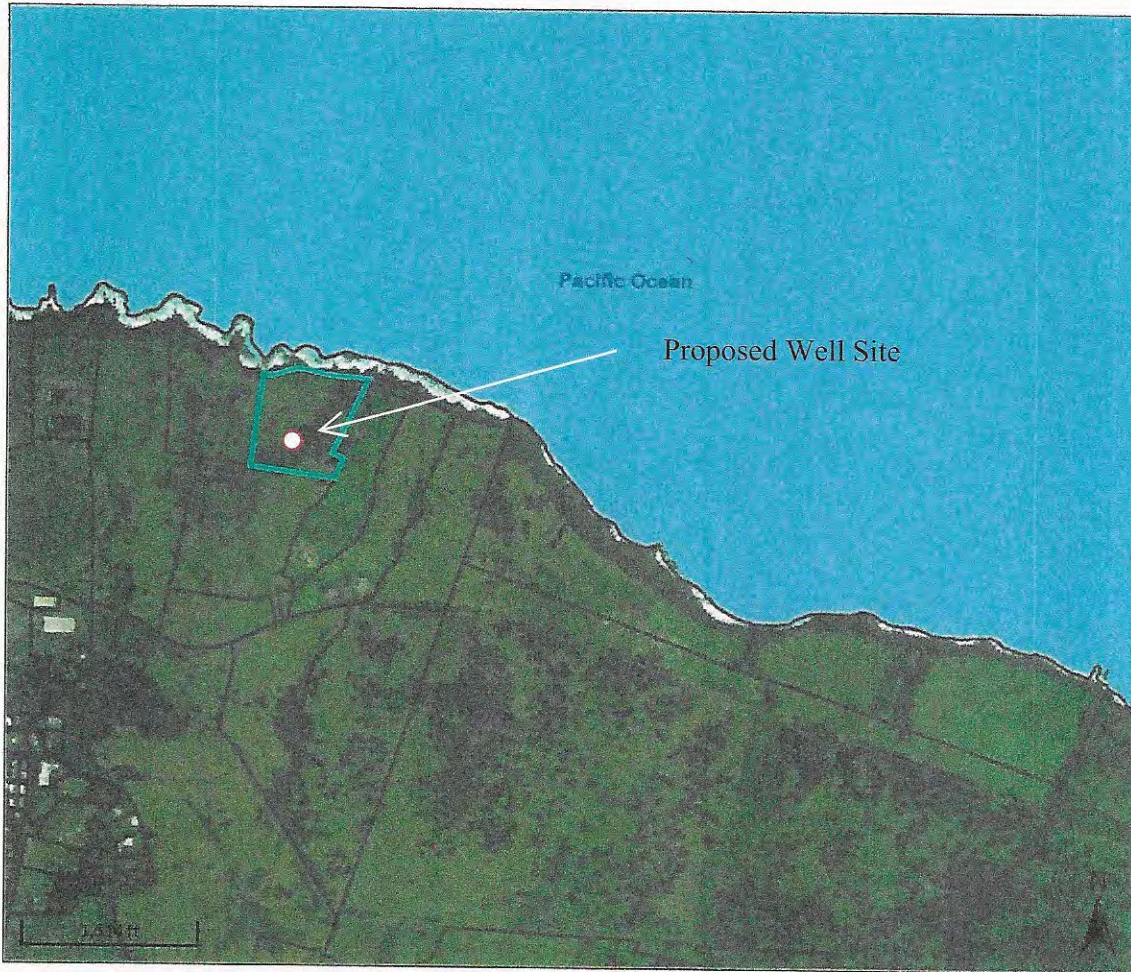
STEPHEN WINTER
TMK: (3) 4-5-002:016
HHL Irrigation Well

15. KA PA'AKAI ANALYSIS:

- a. The proposed well, and the irrigation system it would supply, were part of an SMA major application granted by the Windward Planning Commission. The well and irrigation system would both be located mauka of a 40' setback from the pali. Fishing from the pali was identified as a traditional and customary exercise of Native Hawaiian rights. That takes place in an area outside that planned for the well and irrigation system.

- b. There will be no such impairment. As stated above, the well and the pastures, orchards, and gardens it would irrigate are all removed from the area where fishing takes place.


- c. The well and irrigation system pose no threat to Native Hawaiian rights. Hence, no action to protect them is needed.



Overview



Legend

 Parcels

Parcel ID	450020160000	Situs/Physical Address	45-5034 NANAINA KAI ROAD	Market Land Value	\$1,299,700	Last 2 Sales Date		Reason	Qual
Acreage	14.574	Mailing Address	WINTER,STEPHEN D TR	Dedicated Use Value	\$6,100	5/20/2021	\$1220000	ARMS LENGTH TRANSACTION	Q
Class	AGRICULTURAL		PO BOX 189 HONOKAA HI 96727 0189	Land Exemption	\$0	5/26/2010	0	n/a	U
				Net Taxable Land Value	\$6,100				
				Assessed Building Value	\$0				
				Building Exemption	\$0				
				Net Taxable Building Value	\$0				
				Total Taxable Value	\$1299700				

Brief Tax Description: LOT 4 14.574 AC DES POR RPGR 2465 LCAW 10281 RP 7028 HAINA PALI KAI ESTATES TOG/APPURTENANT ESMTS TOG/NONEXCL ESMT SUBJ/ESMT
(Note: Not to be used on legal documents)

*Hawaii County makes every effort to produce the most accurate information possible. No warranties, expressed or implied, are provided for the data herein, its use or interpretation. The assessment information is from the last certified taxroll. All data is subject to change before the next certified taxroll. The 'parcels' layer is intended to be used for visual purposes only and should not be used for boundary interpretations or other spatial analysis beyond the limitations of the data. The 'parcels' data layer does not contain metes

Proposed Well Site

ADVANCE SUBJECT TO REVISIONS

THIRD ZONE	DI 4
CONTAINING	SEC 5
SCALE: 1" = 100'	

PRINTED

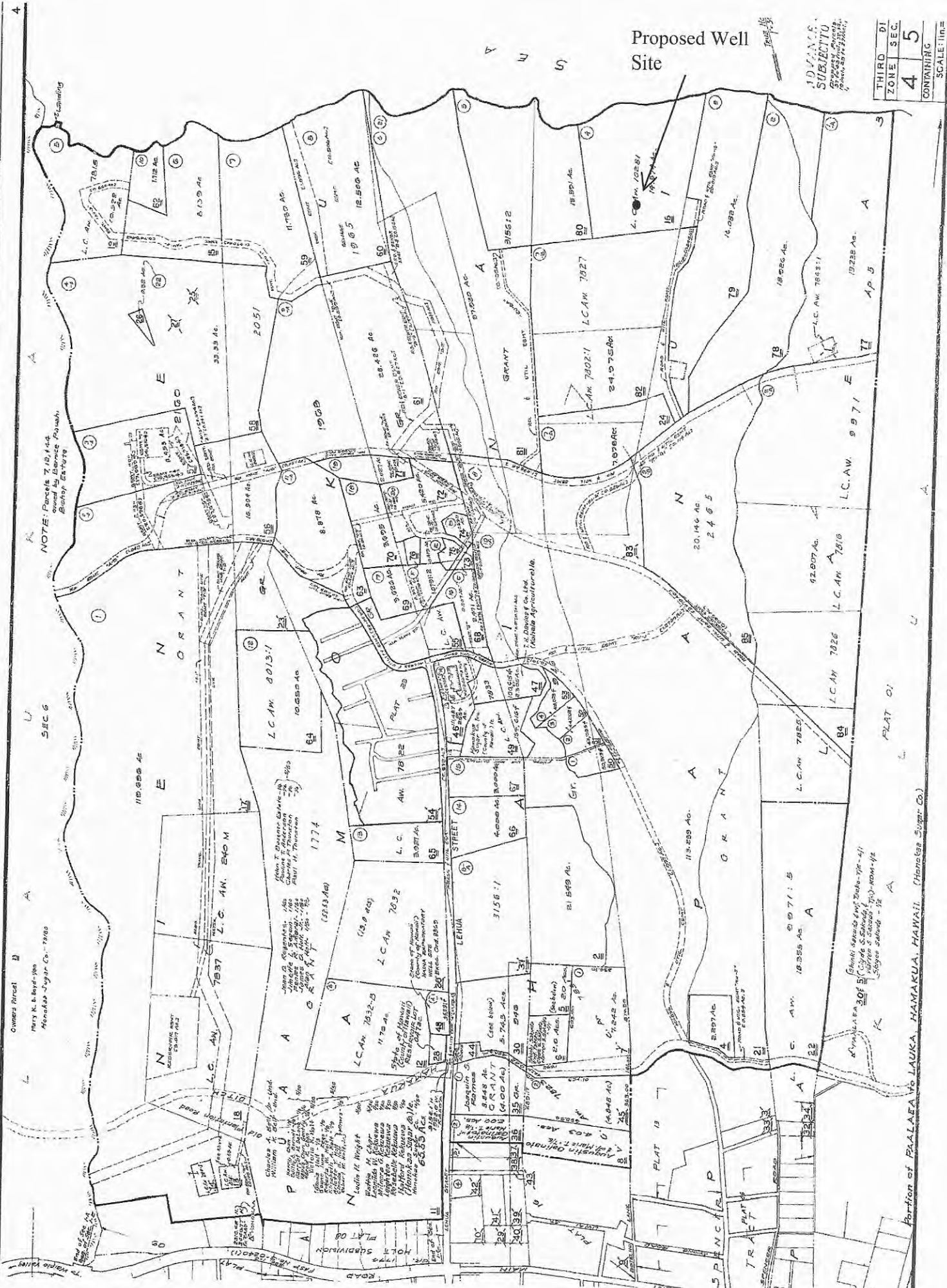


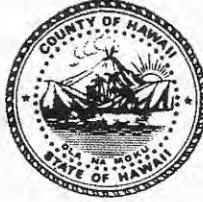
Exhibit 1 Application



Exhibit 1 Application

Mitchell D. Roth
Mayor

Deanna S. Sako
Managing Director



Dennis Lin, Chair
Louis Daniele III, Vice Chair
Lauren Balog
Wayne De Luz
Matthias Kusch
Chantel Perrin

County of Hawai'i

WINDWARD PLANNING COMMISSION

Aupuni Center • 101 Pauahi Street, Suite 3 • Hilo, Hawai'i 96720
Phone (808) 961-8288 • Fax (808) 961-8742

April 20, 2024

Sidney Fuke
Planning Consultant
P.O. Box 1345
Hilo, HI 96720
VIA EMAIL

Dear Mr. Fuke:

SUBJECT: Special Management Area Use Permit Application (PL-SMA-2023-000043)
Applicant: Stephen and Cheryl Winter
Permitted Use: Allows the Development of a Farm Consisting of a Single-Family Residence, Caretaker's Cottage (Farm Dwelling), Greenhouse, Barn, Pasture, and Related Improvements
Tax Map Key: (3) 4-5-002:016 and 080, Hāmākua, Hawai'i

The Windward Planning Commission, at its duly held public hearing on April 4, 2024, voted to approve the above-referenced request to allow the development of a farm consisting of a single-family residence, caretakers' cottage (farm dwelling), greenhouse, barn, pasture, and related improvements on two (2) shoreline parcels totaling 30.165-acres all within the Special Management Area. The project sites are located on Pā'auhau Road approximately 1,200-feet north from its intersection with Nānaina Kai Road, Haina, Portion of Pa'alaea to Lauka, Hāmākua, Hawai'i.

Approval of this permit is subject to the following conditions:

1. The applicant(s), its successor(s) or assign(s) shall be responsible for complying with all the stated conditions of approval.
2. The applicants shall secure all necessary approvals and permits from other affected Federal, State, and County agencies as necessary to comply with all applicable laws and regulations.
3. Prior to any development, the applicants shall secure approval from the Department

Hawai'i County is an Equal Opportunity Provider and Employer

Exhibit 1 Application

of Land and Natural Resources (DLNR) Office of Conservation and Coastal Lands (OCCL) for any proposed land uses located within the State Land Use Conservation District portions of the project area. If the applicants are unable to secure approval from the DLNR-OCCL for work in the Conservation District, the applicants will submit for review and approval and Amended Special Management Area Use Permit to exclude all activities within the Conservation District.

4. The applicants will ensure that no less than 40 feet of open area remains between the top of the pali and the fencing that runs along the shoreline. If, at any time, the shoreline erodes to less than 40 feet between the pali and the fence, the applicants will move the fence mauka to maintain consistent access along this shoreline.
5. Construction and operation of the proposed farm and residential development shall be conducted in a manner that is substantially representative of plans and details as contained within the Special Management Area Use Permit application dated October 18, 2023, and representations made to the Windward Planning Commission.
6. The applicants shall ensure that no County water will be used for agricultural purposes at any time.
7. The applicants will install a reduced type backflow prevention assembly within five (5) feet of each meter on private property. The installation shall be inspected and approved by the Department of Water Supply prior to any development or use.
8. Construction of the proposed development shall be completed within five (5) years from the effective date of this permit.
9. All driveway connections to Nānaina Kai Road shall conform to Chapter 22, County Streets, of the Hawai‘i County Code.
10. All construction and maintenance activities on the subject parcel shall comply with Chapter 27, Floodplain Management, of the Hawai‘i County Code.
11. All earthwork and grading shall conform to Chapter 10, Erosion and Sedimentation Control of the Hawai‘i County Code.
12. Artificial light from exterior lighting fixtures, including, but not necessarily limited to floodlights, up-lights or spotlights used for decorative or aesthetic purposes shall be prohibited if the light directly illuminates, or is directed to project across property boundaries, or toward the shoreline and ocean waters, except as may otherwise be permitted pursuant to Section 205A-71(b), Hawai‘i Revised Statutes.

13. All development generated runoff shall be disposed of on-site and shall not be directed toward any adjacent properties.
14. During construction, measures shall be taken to minimize the potential of both fugitive dust and runoff sedimentation. Such measures shall be in compliance with construction industry standards and practices utilized during construction projects of the State of Hawai'i.
15. A National Pollutant Discharge Elimination System (NPDES) permit, if required, shall be secured from the State Department of Health before the commencement of construction activities.
16. In the event that surface or subsurface historic resources, including human skeletal remains, structural remains (e.g., rock walls, terraces, platforms, etc.), cultural deposits, marine shell concentrations, sand deposits, or sink holes are identified during the demolition and/or construction work, cease work in the immediate vicinity of the find, protect the find from additional disturbance and contact the State Historic Preservation Division at (808) 933-7651. Subsequent work shall proceed upon an archaeological clearance from DLNR-SHPD when it finds that sufficient mitigation measures have been taken.
17. An initial extension of time for the performance of conditions within this permit may be granted by the Planning Director upon the following circumstances:
 - A. The non-performance is the result of conditions that could not have been foreseen or are beyond the control of the applicant, successors, or assigns, and that are not the result of their fault or negligence.
 - B. Granting of the time extension would not be contrary to the General Plan or Zoning Code.
 - C. The granting of the time extension would not be contrary to the original reasons for the granting of this permit.
 - D. The time extension granted shall be for a period not to exceed the period originally granted for performance (i.e., a condition to be performed within one year may be extended for up to one additional year).
 - E. If the applicants should require an additional extension of time, the Planning Department shall submit the applicants' request to the Planning Commission for appropriate action.

Sidney Fuke
Planning Consultant
April 20, 2024
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18. Should any of the foregoing conditions not be met or substantially complied with in a timely fashion, the Planning Director may initiate procedures to revoke the permit.

This approval does not, however, sanction the specific plans submitted with the application as they may be subject to change given specific code and regulatory requirements of the affected agencies.

Approval of this request is based on the reasons given in the enclosed Findings Report.

Should you have any questions, please contact Alex Roy of this department at (808) 961-8140 or by email at alex.roy@hawaiicounty.gov

Sincerely,



April 20, 2024

Dennis Lin, Chairman
Windward Planning Commission

P:\wp60\PC\PCC2024-2\LWinterPL-SMA-2023-043wpc

Enclosure: Planning Commission Findings Report
Site Plan

cc w/enclosure via email: Stephen and Cheryl Winter
County Real Property Tax Division
Department of Water Supply
State Department of Health
Office of Planning and Sustainable Development
GIS Section

**COUNTY OF HAWAI‘I PLANNING DEPARTMENT
PLANNING COMMISSION FINDINGS**

**STEPHEN AND CHERYL WINTER
 SPECIAL MANAGEMENT AREA USE PERMIT APPLICATION
 (PL-SMA-2023-000043)**

Based on the following findings Special Management Area Use Permit No. PL-SMA-2023-000043 is hereby **approved by the Windward Planning Commission to develop a farm consisting of a single-family residence, caretakers’ cottage (farm dwelling), greenhouse, barn, pasture, and related improvements on two (2) shoreline parcels totaling 30.165-acres all within the Special Management Area.** The subject parcels are located on Pā‘auhau Road approximately 1,200-feet north from its intersection with Nānaina Kai Road, Haina, Portion of Pa‘alaea to Lauka, Hāmākua, Hawai‘i, TMK’s: (3) 4-5-002:016 & :080.

The applicants request a Special Management Area Use Permit to develop the project area into a working animal and plant farm which will include a single-family residence, a caretaker’s cottage (farm dwelling), greenhouse, barn, pastures, fencing, water tank and related improvements on two (2) separate parcels owned by the applicants.

The grounds for approving development within the Special Management Area are based on HRS, Chapter 205A-26(2) (Special Management Area guidelines) and Rule 9-11(e) of the Planning Commission Rules of Practice and Procedure. Planning Commission Rule 9-11(e) states that the Authority (Planning Commission) may permit the proposed development only upon finding that:

1. The development will not have any substantial adverse environmental or ecological effect except as such adverse effect is minimized to the extent practicable and is clearly outweighed by public health, safety or compelling public interest;
2. The development is consistent with the objectives and policies and the Special Management Area guidelines as provided by Chapter 205A, HRS;
3. The development is consistent with the General Plan, Community Plan, Zoning Code and other applicable ordinances;
4. The development will, to the extent feasible, reasonably protect native Hawaiian rights if they are found to exist, including specific factual findings regarding:
 - a. The identity and scope of valued cultural historical or natural resources in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area;
 - b. The extent to which those resources including traditional and customary native Hawaiian rights, will be affected or impaired by the proposed action; and
 - c. The feasible action, if any, to be taken by the Authority to reasonably protect any valued cultural, historical or natural resources including any existing traditional and customary native Hawaii rights.

In review of the SMA guidelines as listed under HRS 205A-26(2)(A), the

proposed development will not have any substantial adverse environmental or ecological effect, except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health, safety, or compelling public interest. In considering the significance of potential environmental effects, the Director shall consider the sum of those effects that adversely affect the quality of the environment and shall evaluate the overall and cumulative effects of the action on the Special Management Area. Such adverse effects shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect and eliminate planning options.

The proposed project did not meet the criteria in State law for the requirement of an environmental assessment or environmental impact statement under Hawaii Revised Statutes (HRS) Ch. 343-5, however, the applicants chose to complete an Archaeological Inventory Survey (AIS) in order to ensure any valid resources were preserved and protected in light of this new proposed development project. The proposed project provides an opportunity to properly manage and utilize this area after years of neglect and decades of previous sugar cane farming activities that have impacted these parcels. This proposed project does not represent a significant impact on the area as it aims to reestablish various farming activities along with working to remove non-native and invasive species to establish the farm and residential development. Staff notes that the most sensitive areas are the coastal portion of the project site, and the applicants propose to construct a fence 40-feet inland from the top of pali which represents the shoreline. This area is also within the State Land Use (SLU) Conservation District, and as such any work in that area will require a permit or approval from the Department of Land and Natural Resources (DLNR) prior to land use actions. The project is utilizing the designated zoning of the site, and as such will be in-line with the existing entitlements related to zoning and appropriate land uses, as well as establishing a residential component to minimize further impacts to the site and surrounding area by the lack of management and upkeep. The proposed project, as designed, will not generate any adverse effects that cannot be mitigated with proper Best Management Practices (BMP), or are lands that are already impacted by previous land work including significant grading and grubbing from years of sugar cane farming. Staff believes that the past poor management of the area has led to a decline in natural resources, and this project aims to repair some of the damage while setting up the project site into a more comprehensive management regime.

In review of the SMA guidelines as listed under HRS 205A, the proposed development is consistent with the objectives and policies as provided by Chapter 205A, HRS, and Special Management Area guidelines contained in Rule No. 9 of the Planning Commission Rules of Practice and Procedure.

The purpose of Chapter 205A, Hawai'i Revised Statutes (HRS) and Special Management Area Rules and Regulations of the County of Hawai'i, is to preserve, protect, and where possible, to restore the natural resources of the coastal zone areas. Therefore, special controls on development within an area along the shoreline are necessary to avoid permanent loss of valuable resources and the foreclosure of management options. The objectives and policies of Chapter 205A, HRS include, but are not limited to, the protection of coastal recreational resources, historic resources, scenic

and open space resources, coastal ecosystems, marine resources, beaches, and controlling development in coastal hazard areas.

Coastal Recreational Resources: All proposed improvements will occur on State Land Use (SLU) Agricultural designated lands, and no improvements are proposed within the shoreline setback area of the project site that is also within the SLU Conservation District. Staff notes that some fencing or other land uses may occur within the SLU Conservation District portion of the shoreline frontage of the project site which will require a separate permit or approval from the DLNR. As this area is used now, and in the past as a fishing site for local residents, the project aims to continue this access along the shoreline to the modern fishing sites. There are coastal resources that are currently enjoyed by community members and visitors to the area. Access to the shoreline is via a well-established jeep road that runs along the entire length of the shoreline in this area. The project will not block that access, and fishermen will still be able to access their established fishing areas. The proposed project will not impact the current level of access to the shoreline or interfere with shoreline access in this area. Based on the proposed activities being outside the shoreline area, as well as the removal of invasive species, and on-going land management, the Planning Department believes there will be no anticipated impact to coastal recreational resources. Therefore, the proposed project will not have any impact on the coastline or other areas utilized for public recreational activities at the shoreline, nor would it impede or hinder the public's ability to access the shoreline.

Historic and Cultural Resources: An Archeological Inventory Survey (AIS) was conducted on the entire project area to satisfy the current historic preservation regulatory review for the State Historic Preservation Division (SHPD). The AIS identified four (4) sites with a total of eight (8) features. The sites consist of an historic road (Site 50-10-08-31348), a complex of five terraces interpreted as historic agricultural features (Site 50-10-08-31349), a terrace interpreted as an historic/modern temporary encampment (Site 50-1008-31350), and a livestock control wall (Site 50-10-08-31351). The sites possess integrity of location, design, setting, materials, workmanship, feeling, and association. They are assessed as significant under Criterion "d" and have yielded information important for understanding historic habitation, transportation, agriculture, and ranching activity in the area. According to the AIS "No traditional Hawaiian sites were identified in the project area. This is not unexpected because of the extensive mechanized cultivation of sugar cane that would have destroyed most evidence of the traditional use of the area." The documentation of Site 31348, 31349, 31350, and 31351 adequately documents them and no further work or preservation is recommended. In a letter dated October 23, 2023, SHPD stated that they have reviewed the AIS and concur with the findings of the AIS (no further work or preservation is required).

Scenic and Open Space Resources: The proposed project involves the development of a farm that will be setback hundreds of feet from the shoreline. The proposed Project will be set back from the shoreline and will not obstruct public views along the shoreline, ensuring that the quality of existing coastal scenic and open space resources will be minimally impacted. The proposed development will not include above ground utility lines or poles that would alter views and will add on-going management and upkeep to the area to ensure continued access and use.

Coastal Ecosystems, Marine Resources, Beaches: The proposed project will not directly impact coastal ecosystems, including reefs, as it is set back from the shoreline, and no work will occur within the shoreline setback area. BMPs (such as silt fences) will be implemented during all construction activities to prevent erosion and stormwater runoff during the construction phase. All work to conform to the Hawai'i County Grading Ordinance. No construction activity (other than cattle fencing), vehicles, stockpiles, etc. will occur within the Conservation District, which will require separate review and approval from the State DLNR.

Coastal Hazards: The proposed projects development will be located within Flood Zone X which represents *areas determined to be outside the 500-year flood plain*; no development other than fencing and animal husbandry are proposed along the coastal portions of the project site (within the Conservation District). The development will be subject to the requirements of Chapter 27 - Flood Control, of the Hawai'i County Code in order to minimize the effects of coastal hazards. In addition, all buildings will be constructed in conformance with Uniform Building Code specifications. In the event of a tsunami or other major weather event, the evacuation of this site would be via the private access roadway to Nānaina Kai Road.

The proposed development is consistent with the County General Plan, Hāmākua Community Development Plan (HCDP), Zoning Code, and other applicable ordinances. The General Plan Land Use Pattern Allocation Guide (LUPAG) for the County of Hawai'i is a policy document expressing the broad goals and policies for the long-range development of the Island of Hawai'i. The General Plan (GP) was adopted by ordinance in 1989 and revised in 2005. As described previously, the project site and surrounding area is zoned Agricultural 40-acre (A-40a) by the County, and as presented by the applicants, the proposed project and activities are consistent with the land use pattern stated in the General Plan which is important agricultural lands and open zoned lands. Staff notes that the State is required to protect and preserve ial lands to promote diversified agriculture and increase agricultural self-sufficiency. This project is designed to promote both aspects of ial, by creating a diverse agricultural farm (both plant and animal farming practices, as well as utilizing local resources such as a well for irrigation which will not put a burden on the County's water resources.

The significance of this project type is highlighted in the HCDP under the Land Use Community Objective 2 which states: protect and restore viable agriculture lands and resources, and to protect and enhance viewplanes and open spaces that exemplify Hāmākua's rural character. The General Plan also lists the County's goals for Hāmākua, and more specifically ial lands to "protect and encourage the intensive and extensive utilization of the County's important agricultural lands. With regards to public access, the General Plan indicates that "*appropriate public access to and along the shoreline shall be ensured as a condition of SMA exemptions and Permits*". As presented, the applicants will maintain the exiting level of access in this area by ensuring the lateral shoreline access path remains available to fishermen and local residents.

The project area is adequately served with essential services such as water, electricity, and telephone. Wastewater will be directed to IWS built for each of the residential structures, and stormwater will be managed on site via approved drainage and other supporting structures and not to be directed towards the shoreline or coastal areas.

As such the proposed development is consistent with the County General Plan, Zoning Code, and Hāmākua Community Development Plan.

The development will to the extent feasible, reasonably protect native Hawaiian rights if they are found to exist. In view of the Hawai‘i State Supreme Court’s “PASH” and “*Ka Pa‘akai O Ka‘Aina*” decisions, the issue relative to native Hawaiian rights, such as gathering and fishing rights, must be addressed in terms of the cultural, historical, and natural resources and the associated traditional and customary practices of the site.

Investigation of valued resources: An Archaeological Inventory Survey (AIS) was completed in November 2022 to satisfy regulatory requirements related to historic preservation. No other reviews or information was provided by the applicants regarding the investigation of valued resources.

The valuable cultural, historical, and natural resources found in the area:

The AIS identified four sites with a total of eight features. The sites consist of an historic road (Site 50-10-08-313481), a complex of five terraces interpreted as historic agricultural features (Site 50-10-08-31349), a terrace interpreted as an historic/modern temporary encampment (Site 50-10-08-31350), and a livestock control wall (Site 50-10-0831351). The sites possess integrity of location, design, setting, materials, workmanship, feeling, and association. They are assessed as significant under Criterion “d” and have yielded information important for understanding historic habitation, transportation, agriculture, and ranching activity in the area. The documentation of Site 31348, 31349, 31350, and 31351 adequately documents them and no further work or preservation is recommended. The AIS also documented evidence of the modern use of the project area. This consists of three clusters of modern features located in the seaward portion of the parcel, consisting of mounds and terraces potentially used as sitting areas, fire pits, fishing pole holders and a concentration of mortared bricks, likely created and used by local fisherman.

Possible adverse effects or impairment of valued resources: Given the limited scope of the proposed activities within the project site, the applicants are not able to identify any irreversible or irretrievable commitment of cultural, historical, recreational, or ecological resources as a result of the proposed improvements. As mentioned above, this application presents a proposal that protects valued coastal resources in the area by minimizing development along the coastal region. The landowner plans to install new fencing in both parcels, and to conduct a program of invasive species removal. The program will include the elimination of Christmas berry (*Schinus terebinthifolius*), turkey berry (*Solanum torbum*), and spiny amaranth (*Amaranthus spinosus*), and the trimming of coastal ironwoods (*Casuarina equisetifolia*) and the removal of dead ironwood trees and branches.

Feasible actions to protect native Hawaiian rights: The landowner plans to install new fencing in both parcels, and to conduct a program of invasive species removal. The program will include the elimination of Christmas berry (*Schinus terebinthifolius*), turkey berry (*Solanum torbum*), and spiny amaranth (*Amaranthus spinosus*), and the trimming of coastal ironwoods (*Casuarina equisetifolia*) and the removal of dead ironwood trees and branches. Additional work to protect native Hawaiian rights includes preserving the coastal access path that runs along the shoreline in this area and provides access for

fishermen, and other gathering uses.

Lastly, this approval is made with the understanding that the applicants remain responsible for complying with all other applicable government requirements in connection with the approved use, prior to its commencement or establishment upon the subject property. Additional governmental requirements may include the issuance of building permits, the installation of approved wastewater disposal systems, compliance with Fire Code, installation of improvements required by the American with Disabilities Act (ADA), among many others. Compliance with all applicable governmental requirements is a condition of this approval; failure to comply with such requirements will be considered a violation that may result in enforcement action by the Planning Department and/or the affected agencies.

Plan, Scheme & Design
565 S. Old Woodward
Suite 100
Birmingham, AL 35209
313-701-7071
www@winetoppc.com

Site Master Plan

Hamakua House

Date: 11/03/2023
Drawn By: Author
EX04
Scale: 1" = 60' - 0"

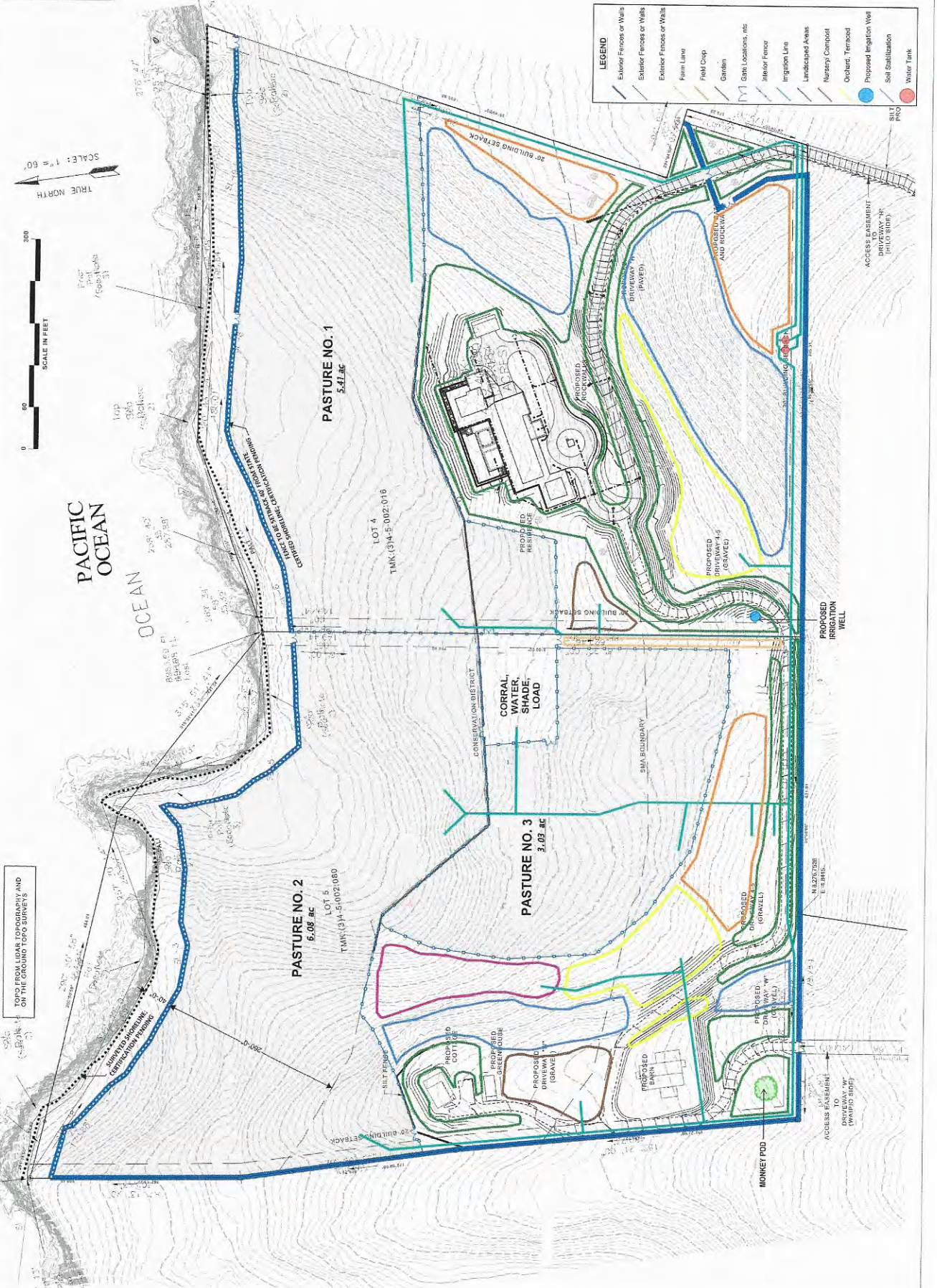


Exhibit 1 Application

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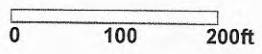


Exhibit 1 Application

FINAL
ARCHAEOLOGICAL INVENTORY SURVEY
TMK: (3) 4-5-002:016 AND 4-5-002:080



HAINA AND PAPA'ANUI AHUPUA'A
HAMAKUA DISTRICT, ISLAND OF HAWAI'I

HAUN & ASSOCIATES

ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL RESOURCE MANAGEMENT SERVICES
73-4161 KAAO ROAD, KAILUA-KONA HI 96740
PHONE: 808-325-2402 FAX: 808-325-1520

FINAL

ARCHAEOLOGICAL INVENTORY SURVEY

TMK: (3) 4-5-002:016 AND 4-5-002:080

HAINA AND PAPA'ANUI AHUPUA'A

HAMAKUA DISTRICT

ISLAND OF HAWAI'I

Prepared by:

Alan E. Haun, Ph.D.,
Solomon Kailihiwa, M.S.,
and
Dave Henry, B.S.

Prepared for:

Stephen and Cheryl Winter
555 S. Old Woodward Avenue, Unit 1308
Birmingham, MI 48009

November 2022

HAUN & ASSOCIATES

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PHONE: 808-325-2402 FAX: 808-325-1520

MANAGEMENT SUMMARY

Haun & Associates conducted an archaeological inventory survey (AIS) of the 14.574-acre TMK: (3) 4-5-002:016 and the 15.591-acre TMK: (3) 4-5-002:080. Parcel 016 is situated in Papa'anui Ahupua'a, and Parcel 080 is located in both Haina and Papa'anui Ahupua'a, in the Hamakua District on the Island of Hawai'i. The archaeological inventory survey objective is to satisfy current historic preservation regulatory review inventory requirements of the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD), as contained within Hawai'i Administrative Rules, Title 13, DLNR, Subtitle 13, Chapters 276 and 284, State Historic Preservation Rules.

The AIS identified four sites with a total of eight features. The sites consist of an historic road (Site 50-10-08-31348¹), a complex of five terraces interpreted as historic agricultural features (Site 50-10-08-31349), a terrace interpreted as an historic/modern temporary encampment (Site 50-10-08-31350), and a livestock control wall (Site 50-10-08-31351). The sites possess integrity of location, design, setting, materials, workmanship, feeling, and association. They are assessed as significant under Criterion "d" and have yielded information important for understanding historic habitation, transportation, agriculture and ranching activity in the area. The documentation of Site 31348, 31349, 31350, and 31351 adequately documents them and no further work or preservation is recommended.

The AIS also documented evidence of the modern use of the project area. This consists of three clusters of modern features located in the seaward portion of the parcel, consisting of mounds and terraces potentially used as sitting areas, fire pits, fishing pole holders and a concentration of mortared bricks, likely created and used by local fisherman.

The landowner plans to install new fencing in both parcels, and to conduct a program of invasive species removal. The program will include the elimination of Christmas berry (*Schinus terebinthifolius*), turkey berry (*Solanum torbum*), and spiny amaranth (*Amaranthus spinosus*), and the trimming of coastal ironwoods (*Casuarina equisetifolia*) and the removal of dead ironwood trees and branches. The proposed development in the parcel will have no effect on the historic properties due to the aforementioned recommendations.

Cover photo: Project area overview (view to north)

¹ All sites listed on the State Inventory of Historic Places (SIHP). Site numbers are 5 digit sequential numbers by island : 50 = State of Hawai'i, 10= Island of Hawai'i, 08=Honoka'a Quadrangle,31348=Site number

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INTRODUCTION

At the request of the landowner, Stephen and Cheryl Winter, Haun & Associates completed an archaeological inventory survey (AIS) of the 14.574-acre TMK: (3) 4-5-002:016 located in Papa'anui Ahupua'a and the 15.591-acre TMK: (3) 4-5-002:080 situated in both Haina and Papa'anui Ahupua'a. Both parcels are located in the Hamakua District on the Island of Hawai'i (**Figure 1** and **Figure 2**). The objective of the survey is to satisfy historic preservation regulatory review requirements of the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD), as contained within Hawai'i Administrative Rules, Title 13, DLNR, Subtitle 13, State Historic Preservation Rules (2003).

The landowner plans to install new fencing in both parcels, and to conduct a program of invasive species removal. The program will include the elimination of Christmas berry (*Schinus terebinthifolius*), turkey berry (*Solanum torbum*), and spiny amaranth (*Amaranthus spinosus*), and the trimming of coastal ironwoods (*Casuarina equisetifolia*) and the removal of dead ironwood trees and branches. The extent of this activity is presented in **Figure 3**.

The AIS fieldwork was conducted between September 20, 2021 and June 10, 2022 by Haun & Associates Project Supervisors Solomon Kailihiwa, M.S and Juliana Kailihiwa, B.A., and Field Archaeologists Dan Trout, B.A., Leesha Villacorte, B.A., and Nicole Lui, under the direction of Dr. Alan Haun. Approximately 117 labor hours were required to complete the fieldwork. Described in this final report are the project scope of work, field methods, background information, survey findings, and significance assessments of the sites with recommended treatments.

Scope of Work

Based on DLNR-SHPD rules for inventory surveys the following specific tasks were determined to constitute an appropriate scope of work for the project:

1. Conduct background review and research of existing archaeological and historical documentary literature relating to the project area and its immediate vicinity--including examination of Land Commission Awards, *ahupua'a* records, historic maps, archival materials, archaeological reports, and other historical sources;
2. Conduct a high intensity, 100% pedestrian survey coverage of the project area;
3. Conduct detailed recording of all potentially significant sites including scale plan drawings, written descriptions, and photographs, as appropriate;
4. Conduct limited subsurface testing (manual excavation) at selected sites to determine feature function;
5. Analyze background research and field data; and
6. Prepare and submit Final Report.

Project Area Description

The project area consists of two adjacent roughly trapezoidal-shaped parcels located in coastal Haina and Papa'anui Ahupua'a at elevations ranging from approximately 10 to 245 feet. The elevations presented in this report are in feet above mean sea level. The parcels are accessed by an easements along the south side of TMK: (3) 4-5-002:016 and along the north side of TMK: (3) 4-5-002:080 (see **Figure 2**). The parcels are bordered on the north by coastal cliffs, and on the east, west and south sides by undeveloped land (**Figure 4**). A 40-foot wide shoreline setback is located along the seaward portion of the parcels, inland of the coastal cliffs.

An existing modern dirt road extends through the southern portion of TMK: (3) 4-5-002:016 (**Figure 5** and see **Figure 18** in Findings section). An historic dirt road, designated as Site 31348 in the Findings section, extends through the seaward portion of the subject parcels (see **Figure 19** and **Figure 20** in Findings section, and on the cover of this



Figure 1. Portion of USGS 1995 7.5' Honokaa Quadrangle showing project area (obtained from usgs.gov).

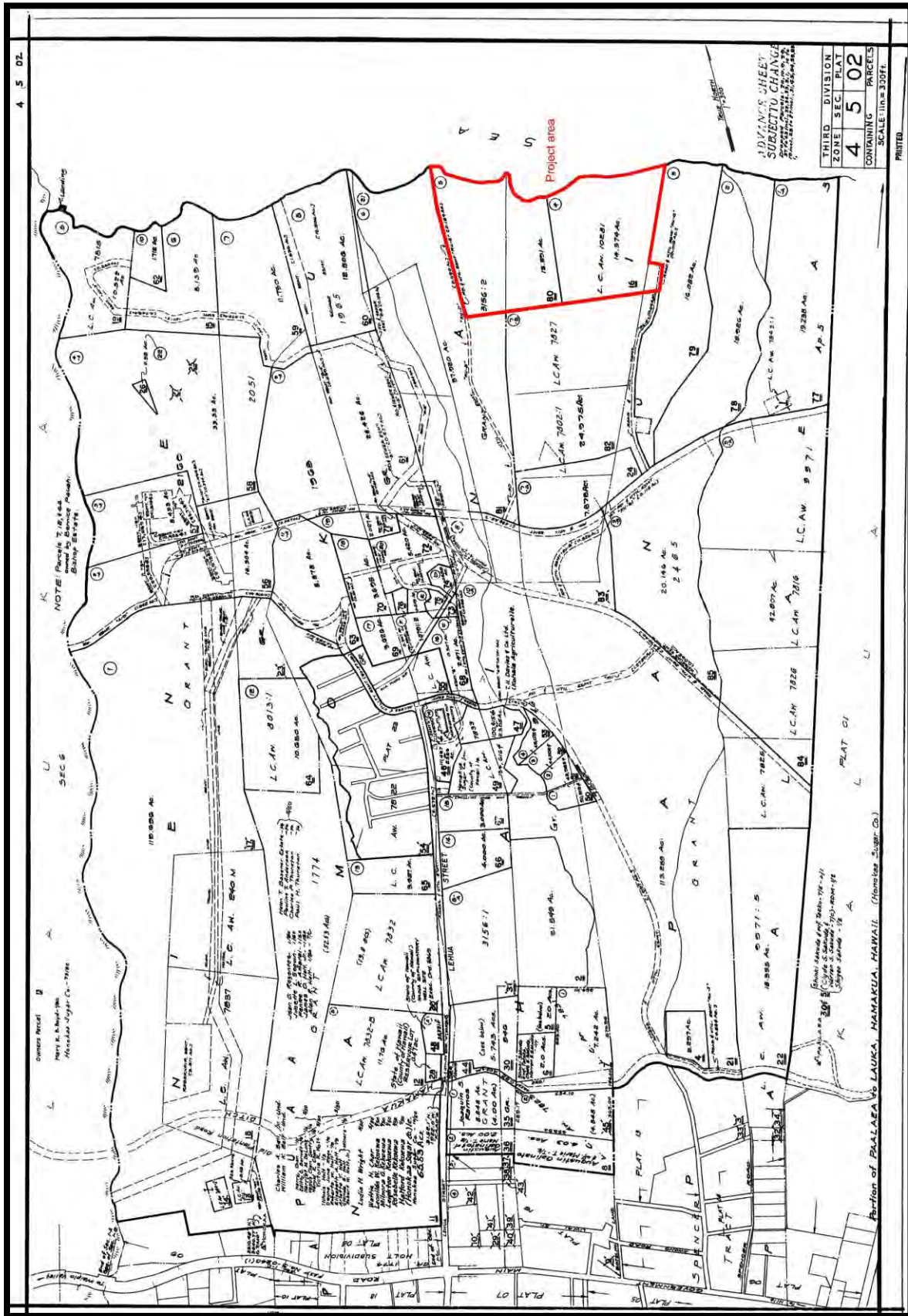


Figure 2. Tax Map Key (3) 4-5-002 showing project area parcels (obtained from hawaiicounty.gov).

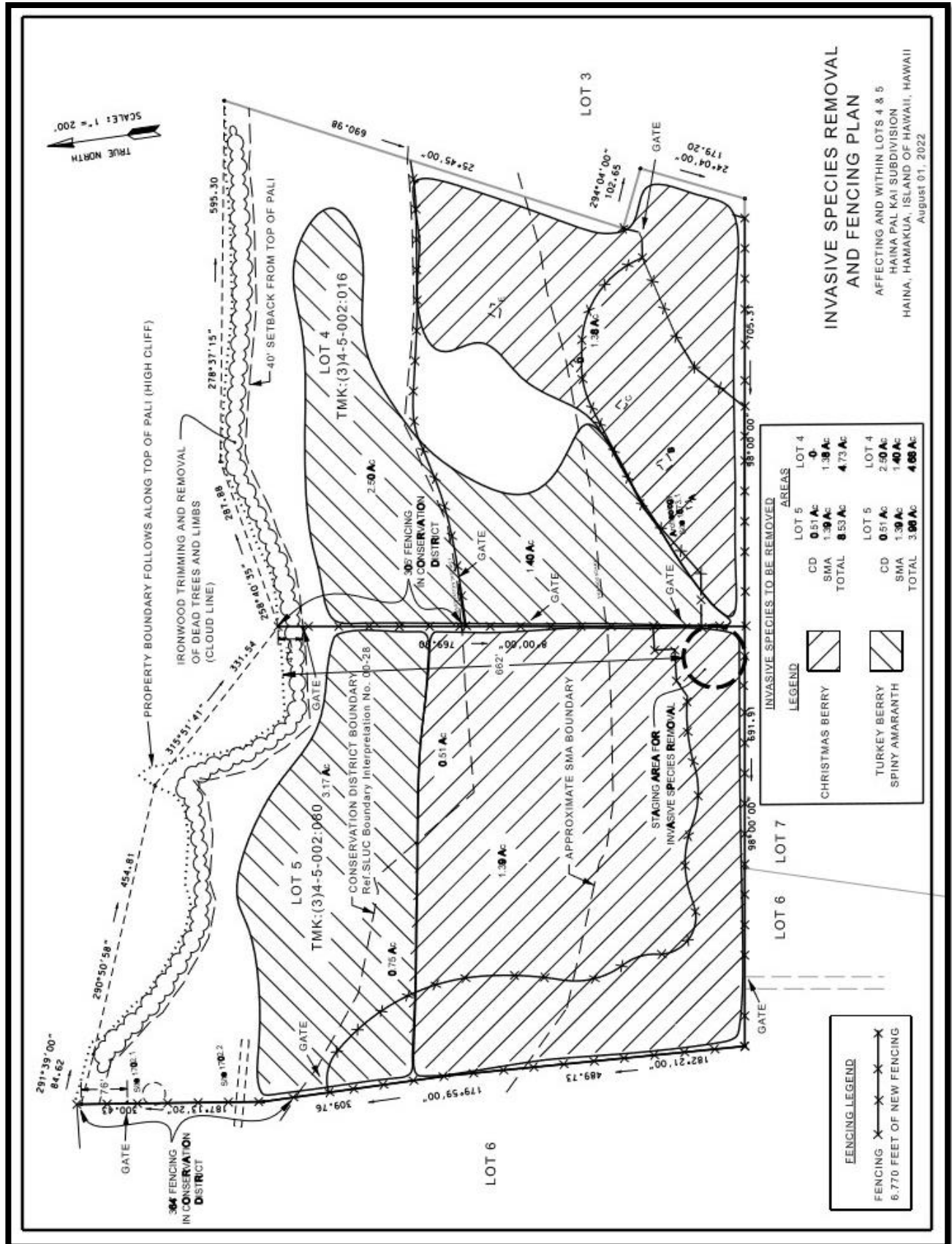


Figure 3. Proposed development within project area.



Figure 4. June 6, 2019 aerial view of project area vicinity (obtained from Google Earth).



Figure 5. Existing dirt road (view to northwest).

report). There is a modern house present in the east-central portion of TMK: (3) 4-5-002:016. A review of Google Earth images shows that the house was constructed sometime between 2005 and 2010.

The terrain in the project area slopes gently to steeply to the north and northwest towards the ocean. Vegetation in the parcel consists of ironwood trees (*Casuarina equisetifolia*), koa (*Acacia koa*), Christmas berry (*Schinus terebinthifolius*), banyan (*Ficus macrocarpa*), castor bean (*Ricinus communis*), Jamaica vervain (*Stachytarpheta jamicensis*), spiny amaranth (*Amaranthus spinosus*), nightshade or horse thistle (*Silybum marianume*), horse weed (*Erigeron canadensis*), sleeping grass (*Achantherum robustum*), New Zealand spinach (*Tetragonia tetragonioides*), turkey berry (*Solanum torbum*), fireweed (*Chamaenrion angustifolium*), and guinea grass (*Megathyrsus maximus*). Overviews of the project area are presented on the cover of this report and in **Figure 6**. A sloping ridge extends through the western portion of the parcel in a northeast by southwest direction.



Figure 6. Project area overview (view to northwest).

The soil in this area is Kukaiau silty clay loam with various slopes that range from 6 to 20% (Sato et al. 1973: 32-33). This soil series is characterized by a 10" surface layer of very dark grayish brown silty clay loam, over 40" of dark brown silty clay loam, over basalt. The soil has a moderately rapid permeability, slow to medium runoff and a slight to moderate erosion hazard, and is classified primarily as suitable for sugar cane. The underlying lava was deposited during the Pleistocene Era from Hamakua Volcano lava flows (Wolfe and Morris 2001: Sheet 1, page 14). Rainfall in the project area vicinity ranges from approximately 74 inches per year in the lower slopes to more than 93 inches per year just inland of the Mamalahoa Highway. This is based on data collected from the Paauhau Sugar Plant weather station by the University of Hawai'i at Manoa (Giambelluca et al. 2013).

Methods

Archival research was conducted at the Hamilton Library Hawai'i and Pacific Collection at the University of Hawai'i at Manoa, the University of Hawai'i at Hilo Hawaiian Collection, the Land Survey Office and the Archives Division of

the Hawai'i Department of Accounting and General Services, the Bishop Museum Archives, the State Historic Preservation Division library in Hilo, the State Survey Division, and the Hawai'i State Public Libraries in Honolulu and Hilo.

The field work portion of the project consisted of a 100% surface examination of the parcel with the surveyors walking transects at 5 to 10-meter intervals. Ground surface visibility throughout the parcel was fair to excellent. The sites identified during the survey were flagged with pink and blue flagging tape and their locations were determined with the aid of a Spectra Precision Mobile Mapper 20 device using the North American Datum (NAD) 1983 datum. The accuracy of the GPS device for a single point is +/- 1 to 2 meters. This accuracy was increased by taking multiple points including property corners and overlying the plotted points on a scaled map using AutoCAD software.

Four sites were identified during the survey, consisting of an historic road (Site 31348), a complex of five terraces interpreted as historic agricultural features (Site 31349), a terrace interpreted as an historic/modern temporary encampment (Site 31350), and a livestock control wall (Site 31351). The extent of the Site 31348 road and the Site 31351 wall were determined with the Mobile Mapper device. Detailed plan maps were prepared for the Site 31350 terrace and for each of the five Site 31349 features using hand tapes and a compass. Standardized site forms were prepared for each site and the sites were photo-documented. A series of modern sites (Modern 1, 2 and 3), likely associated with local fishing activities were also identified in the seaward portion of the project area. Plan maps and photographs of these modern sites were also obtained.

A 0.3 meter diameter shovel test (ST-1704.1) was excavated at the Site 31350 terrace. The shovel test was excavated in stratigraphic layers and was terminated on bedrock. The soil removed during excavation was screened through ¼ inch mesh hardware cloth. Following the excavation, a section drawing depicting the stratigraphy was prepared and post-excavation photographs were taken. The shovel test was described using standard terminology, referencing USDA Soil Survey descriptions and Munsell Soil and Rock color notations. Texture and inclusion content were also noted. Recovered cultural material was transported to Haun & Associates laboratory for analysis.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Historical Documentary Research

The project area is situated in Haina and Papa'anui Ahupua'a in the Hamakua District. These adjacent *ahupua'a* originate along the shoreline between Leinakekua and Mahiki Points and extends inland nearly three miles to approximately 1,700 ft elevation (**Figure 7**). Originally, *ahupua'a* in the region were probably centered on the main drainages and the boundaries typically followed readily identified natural features such as ridges and drainages (Cordy 1994). The presence of numerous other small *ahupua'a* along the coast undoubtedly is a result of fissioning of land units in the lower elevation areas where traditional agriculture and settlement were concentrated. Such fissioning would likely have occurred with the separation of the smaller 'ili -level subdivisions of an *ahupua'a*, which originally were parallel strips of land perpendicular to the shoreline with access to the full range of natural resources. The 'ili was an important late prehistoric-early historic land unit because of its association with the 'ohana as the family land holding unit, an important social element in the traditional Hawaiian land use system.

According to *Nā Puke Wehewehe* (Wehewehe.org), Haina translates as cruel, unmerciful or hard-hearted, or to act unkindly, to be ungrateful, or to be unmindful of others. No traditional Hawaiian reference to Papa'anui Ahupua'a was found. King Kalakaua (1972) described the region as follows:

In the time of Līloa [c. 1400s], and later, this plateau was thickly populated, and requiring no irrigation, was cultivated from the sea to the line of frost. A few kalo patches are still seen, and bananas grow, as of old, in secluded spots and along the banks of the ravines; but the broad acres are green with cane, and the whistle of the sugar cane-mill is heard above the roar of the surf...(Kalakaua 1972:284)

One of the first western descriptions of the windward coast of Hawai'i Island comes from the naturalist Menzies, who was a member of Vancouver's expedition in 1793.

The land we passed in the forenoon rose in a steep bank from the water side and from thence the country stretched back with an easy acclivity for about four or five miles, and was laid out into little fields, apparently well cultivated and interspersed with habitations of the natives. Beyond this the country became steeply rugged and woody, forming the mountains of great elevation. (Menzies 1920:51-52)

The Reverend William Ellis sailed up the coast between Hilo and Hawi in 1823 and provides the following description:

The country by which we sailed, was fertile, beautiful, and apparently populous. The numerous plantations on the eminences and sides of the steep ravines or valleys, by which it was intersected, with the stream meandering through them into the sea, presented altogether a most agreeable prospect (Ellis 1963:244).

This part of the island, from the district of Waiakea to the northern point, appears to have remained many years undisturbed by volcanic eruptions. The habitations of the natives generally appear in clusters at the openings of the valleys, or scattered over the face of the high land. The soil is fertile, and herbage abundant (*ibid.* 1963:251).

Cordy (1994) used missionary records, Boundary Commission (BC) records, Land Commission Award (LCA) testimony, early historic accounts, and other sources to develop a model for early historic settlement patterns in the windward, East Hamakua region. The model consists of four zones: the seashore, seaward upland slopes, 'Ohi'a-Koa forest, and gulches. The shoreline, which primarily consists of a narrow marine bench, was almost solely used for marine exploitation. Ahupua'a boundary markers, consisting of stone cairns, were present on the shore.

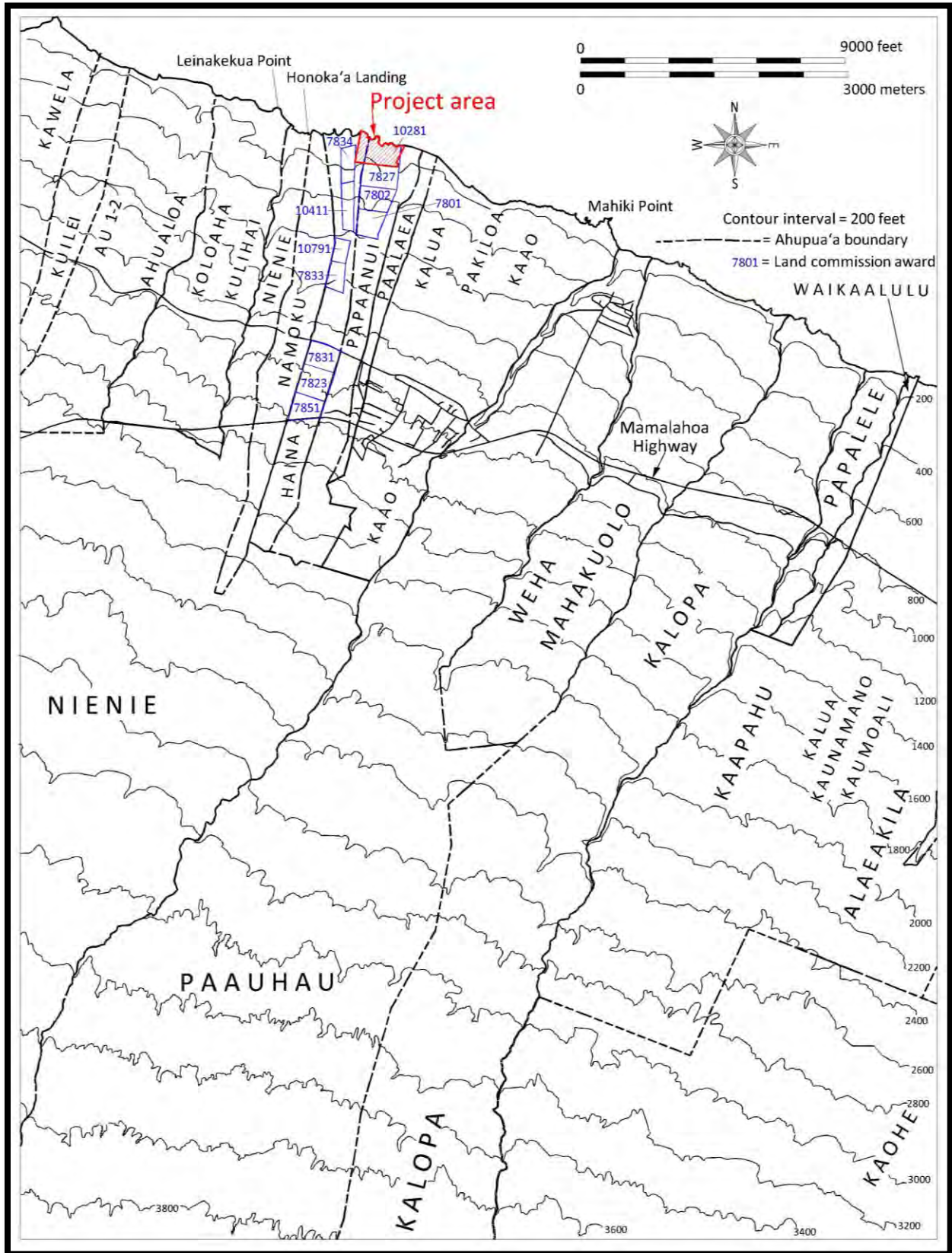


Figure 7. Ahupua'a boundaries (adapted from USGS 1995 7.5' USGS Honokaa Quadrangle).

According to Cordy (1994), the seaward upland slopes were the primary focus of habitation and agriculture. There were numerous houses and fields clustered along the Alanui Aupuni, or Government Road, that was the main trail paralleling the coast between 0.3 and 1.3 miles inland and generally following the route of today's Hawaii Belt Road. Houses and fields were also found seaward of the trail above the high sea cliffs. The residential structures were large, housing 3-4 families. Agriculture consisted of dryland fields predominantly planted in taro. Bananas and sweet potatoes were also cultivated. Hedges of sugar cane frequently surrounded cultivated plots. Livestock consisted of pigs, dogs, and chickens. *Ahupua'a* boundaries were marked by low stone walls and cairns. At least ten *heiau* were present along the coast between Kukuihaele and Koholalele, although none were reported in Haina or Papa'anui, and a *holua* slide was reportedly situated at Keahua.

The 'Ohi'a-Koa forest zone was connected to the lower elevation habitation areas by trails. The zone was a source for bark for fish nets, bird feathers, and logs for canoes. Scattered plots of bananas and taro probably were present near the seaward edge of the forest. Stone cairns marking *ahupua'a* boundaries were present in gulches.

In the 1840s, political acts of the Hawaiian Kingdom government would change the land tenure system in Hawai'i. All lands were segregated into one of three categories: "Crown Lands" owned by the occupant of the throne, "Government Lands" controlled by the state, and "*Konohiki* Lands" controlled by the chiefs; and "were all subject to the rights of native tenants" (Chinen 1958:29, Beamer 2014:143). In 1846, King Kamehameha III appointed a Board of Commissioners commonly known as the Land Commissioners, to "confirm or reject all claims to land arising previously to the 10th day of December, AD 1845." Notices were frequently posted in *The Polynesian* (Moffat and Kirkpatrick 1995); however, the legislature did not acknowledge this act until June 7, 1848 (Chinen 1958:16; Moffat and Kirkpatrick 1995:48-49) and the act is known today as *The Great Māhele*. In 1850, the Kingdom government passed laws allowing foreigners to purchase fee simple lands (Speakman 2001:91). The Kuleana Act of 1850 allowed for fee simple land ownership by commoners.

The Waihona 'Aina database (2000); which is a compilation of data from the Indices of Awards (Indices 1929), Native Register (NR n.d.), Native Testimony (NT n.d.), and Foreign Testimony (FT n.d.); lists five claims in Papa'anui and seven in Haina (Table 1). Of the 12 claims, 11 were awarded and their locations are shown on Figure 7.

Table 1. Land Commission Awards in Papa'anui and Haina.

Land Commission Award	Claimant	Ili	Awarded	Acres	Royal patent	Notes
Haina Ahupua'a						
7823	Kahoopahee, wahine	Kaluahawaii	Yes	10.75	5405	3 mala of sweet potatoes, 2 of taro, 1 of wauke
7831	Kekoa	Pahoa	Yes	9.4	7024	1 mala of wauke
7833	Kaiwinaaupo	Kaaloakumu	Yes	6.66	6652	4 mala and 1 kula
7834	Kailieele	n/a	Yes	7.8	7415	1 wauke kihapai, taro kihapai, 2 houses
7851	Kawi	Heeka	Yes	11.1	n/a	1 apana, 2 houses
10411	Naihepahee	Pahoa	Yes	10.6	6766	6 mala and 1 mala of coffee, 2 houses
10791	Pau	Haleolono	Yes	6.01	7416	9 kihapai, 1 mala of coffee, 1 bamboo clump.
Papaanui Ahupua'a						
7801	Kaanaana	Kalihi	Yes	10.0	5101	1 apana, a grove on the south
7802	Kaheana	Hianaulua	Yes	8.2	n/a	2 apana, 2 houses, coconut grove
7827	Kaelepulu	Kalihi	Yes	12.9	6790	5 mala, 1 orange tree, 1 kula and 4 kihapai.
8226	Kalua	n/a	No	n/a	n/a	8 mala, 4 coconut trees & 1 orange tree
10281	Manuia	Panipohku, Paalaea	Yes	14.14	7028	1 apana, 2 orange trees

The awarded parcels range in area from 6.01 to 14.14-acres. The testimonies refer to nine 'ili land divisions for Papa'anui and Haina consisting of Haleolono, Heeka, Hianaulua, Kaaloakumu, Kalihi, Kaluahawaii, Paalaea, Pahoa, and Panipohku. Of these nine 'ili, seven are mentioned only once, with Pahoa and Kalihi cited twice. All of the claims

are located seaward of the upper Government Road (Highway 240) at approximately 1,100 feet elevation, with most (n=8) located below 680 feet. The eastern portion of the present project area is located within LCA 10281 awarded to Manuia, which according to testimony included one 'āpana and two orange trees. No mention of a house or other structure is mentioned.

Figure 8 is a portion of an 1879 government survey map of the Hamakua area by Lyons and Emerson obtained from the Archives Division of the Hawai'i Department of Accounting and General Services (DAGS; <http://ags.hawaii.gov/survey/map-search>). This map shows the previously discussed Land Commission Awards within the project area *ahupua'a*, as well as several land grants. Two parcels in Haina Ahupua'a were obtained by W.H. Rickard as Grant 3156 in 1873. These parcels total 65.8-acres. The seaward-most parcel includes a portion of the current project area. According to documentation obtained from the Hawaii State Digital Archives (<https://digitalcollections.hawaii.gov>); Rickard purchased the parcels for \$2 per acre (**Figure 9**).

Additional grants in the area consist of Grant 946 to Kiwi, Grant 1073 to George Hardy in Grant 1155 to G.M. Coffin. The latter two are located on the inland side of the Government Road. Two stores are present on either side of the road, with one labeled "W. Dart Store". A school house and "Moses Chinese Store are located to the west in the nearby *ahupua'a* of Nienie.

Figure 10 is a close up section of the **Figure 8** map depicting the project area. This map shows a structure labeled "Old Heiau" in TMK: (3) 4-5-002:080, on the boundary between Haina and Papa'anui (see **Figure 18** in Findings section). The reported area of this heiau was carefully examined during the present project and no evidence of a structure is present.

The historic use of the project area vicinity was dominated by sugar cane plantation agriculture beginning in the late 1870s and continuing in some areas until the 1990s. Plantation worker camps were scattered over the countryside connected by roads to the plantation villages at the sugar mills at Pa'auhau, Honokaa and Pa'auilo. The sugar mill at Pa'auhau is located approximately 1.5 miles east-southeast of the project area in the seaward portion of the *ahupua'a* connected to the Government Road by an inland-seaward oriented road. The location of the mill is presented on an 1889 map by J. M. Lydgate (**Figure 11**) also obtained from DAGS. This map shows Honokaa Landing located to the west of the project area, with Honokaa Village located on the inland side of the Old Government Road.

The following summary of the Pa'auhau Plantation is from the Hawaii Sugar Planters' Association Plantation Archives:

The Pa'auhau Plantation Company was started in 1878 by Samuel Parker, R.A. Lyman, W.G. Irwin and Claus Spreckels. The first cane was ground by a 3-roller mill on July 13, 1880. W.F. Irwin & Co. were the agents at that time. Paauhau Plantation Company incorporated on February 28, 1899 and became Paauhau Sugar Plantation Company. In 1910, C. Brewer & Co. became the agents.

Paauhau had an innovative system for transporting cane, which was the first of its kind in the Islands. The smooth fields Paauhau made possible the practical operation of a gravity railroad system. Cane was collected on wagons and lifted by derrick to the tramcars. Double tracks extended for a mile down the slope. The loaded car traveled by gravity to the mill on one track and cable connections drew the empty cars back to the fields on the other track. The plantation eventually had five of these tramways in operation, each having the capacity of delivering 300 tons of cane in ten hours. From the lower levels on the plantation, the cane cars were hauled to the mill by locomotive. The plantation had two locomotives, 250 cane cars and approximately fifteen miles of track.

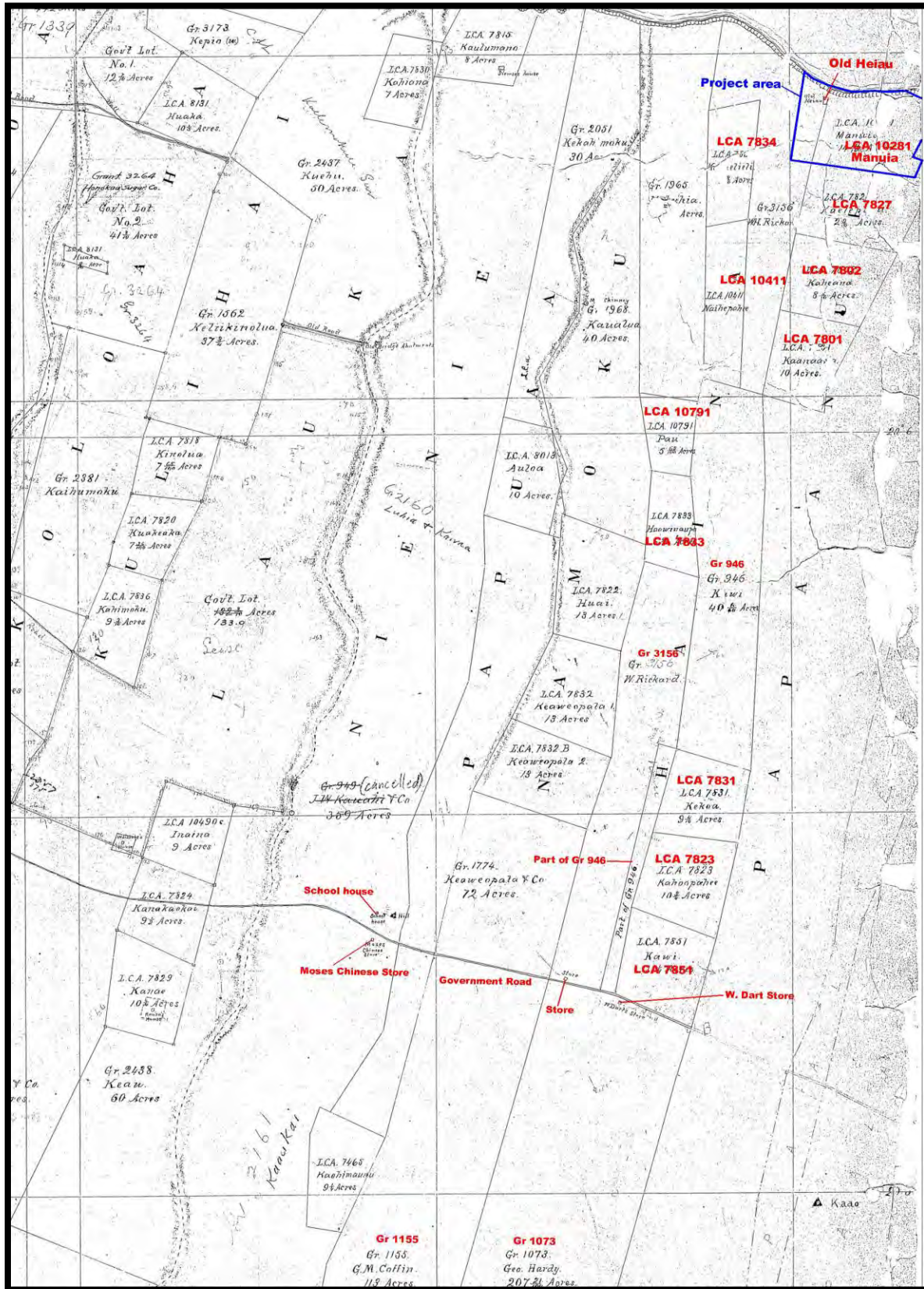


Figure 8. Portion of Lyons and Emerson's 1879 map of the Hamakua Area (obtained from DAGS).

RICKARD., W. H. To the Min. of Interior.

CLASS INT. DEPT. YEAR 1874 MONTH April 23.

Enclosing an order for \$90 to perfect the purchase of the tract of land in Haina 1 in Hamakua, Hawaii - As there are 2 pieces of land, he desires that a deed be made out for the largest tract containing 43 acres and ask that the same be made in his father's name. Also states that the purchase of the smaller tract will be perfected shortly &c.

RICKARD., W. H. Re to

CLASS INT. DEPT. Bk. 13 p. 65 YEAR 1875 MONTH Aug. 30

In letter from Min. of Interior to G. W. D. Halemanu, in regard to the above person's Taxes. Informing him that said person has bought 2 pieces of land in Haina 1 piece contains 45.38 acres, the other contains 20.42 acres a total area of 65.80 acres at \$2.- an acre making a total value of \$133.60 & \$5.- for Royal Patent making a grand total of \$138.60. That said person paid \$90.- & upon payment of the balance a Royal Patent will be issued. He is in possession of the lands & therefore is liable to the taxes thereon.

Figure 9. Grant 3156 documentation (obtained from <https://digitalcollections.hawaii.gov>).

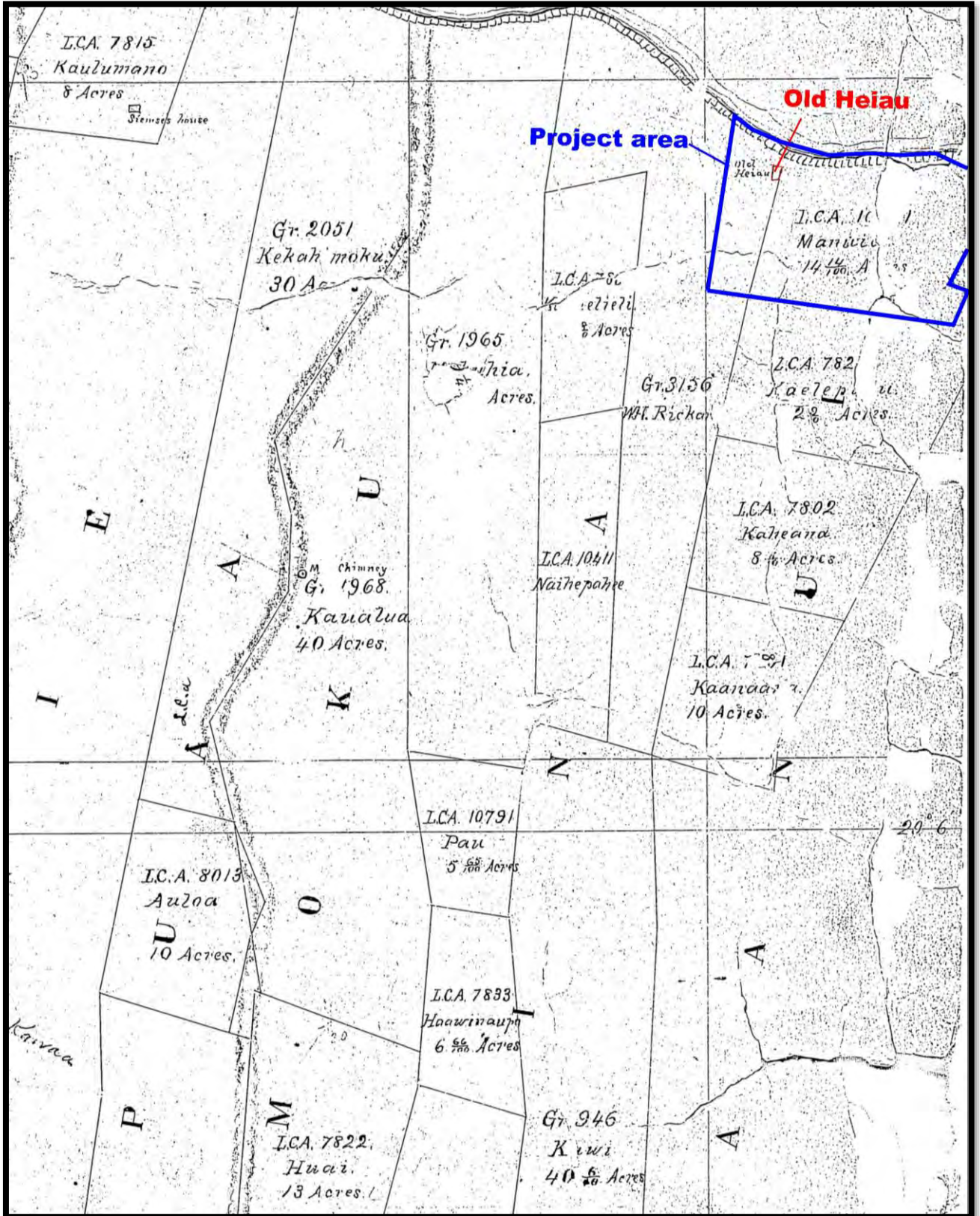


Figure 10. Close up of Lyons and Emerson's 1879 map showing "Old Heiau" in Parcel 80 (obtained from DAGS).

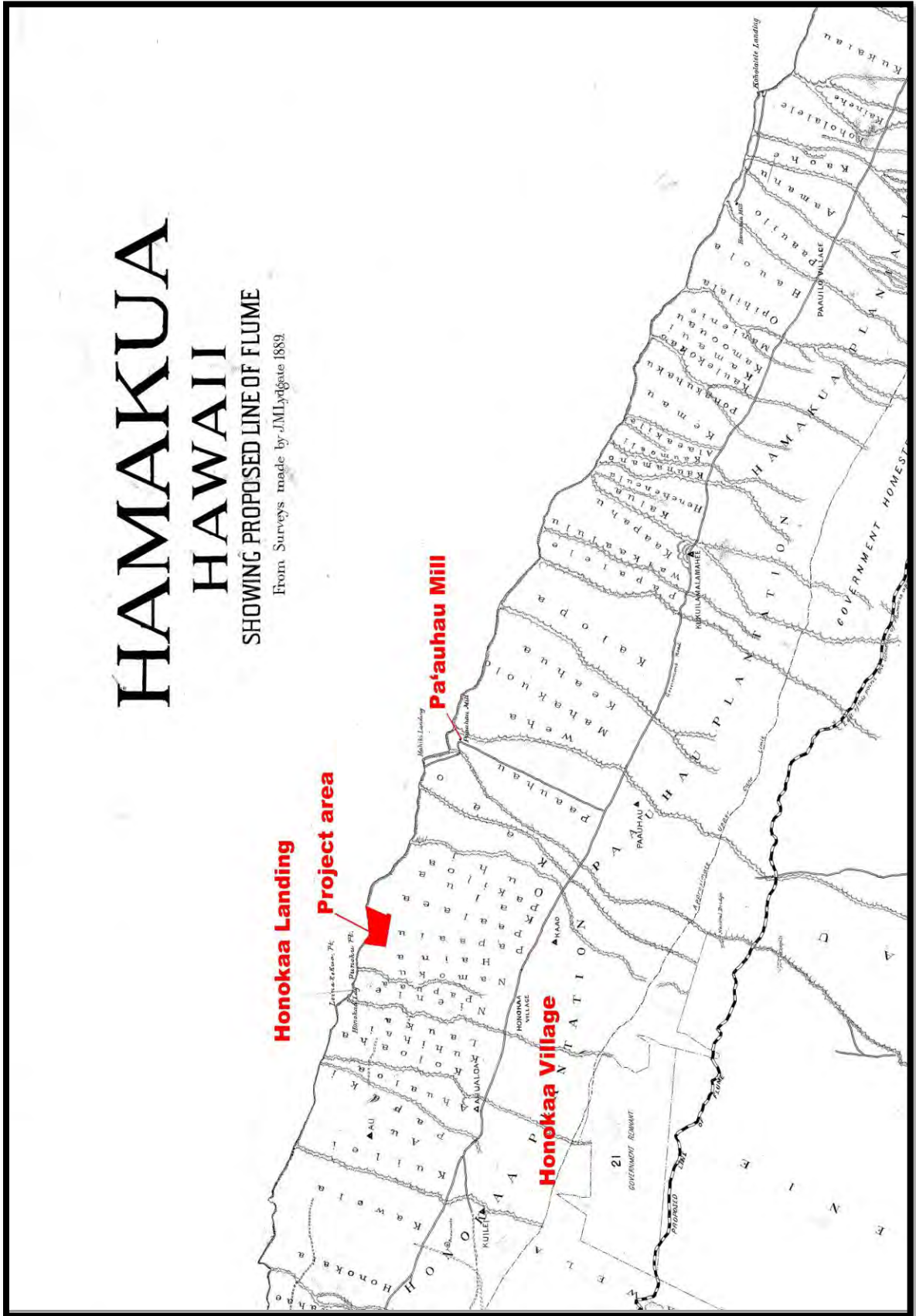


Figure 11. Portion of Lydgate's 1889 map of Hamakua, Hawaii (obtained from DAGS).

In 1903, a new nine-roller mill was installed and by 1914 another three-roller mill was added, making Paauhau a modern twelve-roller mill. The finished sugar product was loaded on to steamers by means of a wire rope landing system, which was constructed in 1908. It had a capacity of handling 1,500 bags of sugar per hour. All freight received at the plantation was brought up from the steamers to the landing by the same system.

Because of Paauhau's location, irrigation was a primary concern. In 1910, a contract was signed with Hawaiian Irrigation Company to deliver 20,000,000 gallons of water daily. By 1911, two reservoirs were constructed to help conserve water. Paauhau was one of the first fully irrigated plantations.

Hawaiian and Chinese laborers planted and harvested the first sugar cane crops at Paauhau. Later on Japanese, Portuguese, Puerto Ricans, Koreans, Filipinos, and Europeans were employed as day laborers and contract workers. The plantation had about 200 houses for the fee use of its employees. Since the mill was situated on the bluff near the ocean, the manager's and other salaried employees' residences were located nearby. Farther back from the ocean were the laborers quarters, a company store, post office, school, and other buildings. A dense forest of ironwood trees surrounded the village giving protection from the wind (Hawaii Sugar Planters' Association Plantation Archives 1989:1).

Figure 12 is a March 25, 1909 article from the Evening Bulletin, Industrial Edition that describes the operation of the Pa'auhau Sugar Plantation. At the time the article was written, the plantation controlled 5,200 acres of land that were planted in sugar cane and was managed by Mr. James Gibb. The article also indicates that the plantation utilized a unique method of plowing the fields:

The soil is plowed by placing a Fowler steam engine at each end of the field, the engines being 1200 feet apart and connected to the plows by an endless wire cable. This cable is wound on a drum under the engine and draws the plows to and fro across the field. In making one trip of 1200 feet, the plows turn over four furrows and break ground 1200 feet in length and from four to five feet in width. With this system an area of twelve acres can be plowed to a depth of from fourteen to sixteen inches in a day of ten hours. Two sets of Fowler steam tackles are in use.

According to the Hawaii Sugar Planters Association archives, the Hamakua Ditch Company, Ltd., was incorporated in 1904 and subsequently changed its name to the Hawaii Irrigation Company, Ltd (Hawaiian Sugar Planters Association Archives: 2012). The purpose of the company was to provide water to the sugar plantations along the Hamakua Coast, the Pacific Sugar Company, the Honokaa Sugar Company and the Pa'auhau Plantation. To accomplish this, two major ditches were proposed for the region, the Lower Hamakua Ditch and the Upper Hamakua Ditch.

The Lower Hamakua Ditch extends through the coastal portion of Haina and Papa'anui, inland of the project area. The Upper Ditch extends through the inland portion of area at approximately 2,300 ft elevation. **Figure 13** is a 1908 map by A. J. Williamson, also obtained from DAGS, that shows the extent of the Upper and Lower Hamakua ditches. The map also shows the location of the Honokaa and Pa'auhau mills and landings, and the previously discussed Land Commission Awards in Haina and Papa'anui . The construction of the irrigation ditches is described by Thrum as follows:

The construction work on the Upper Ditch appears to have commenced in April 1906. The Ditch was completed in January of 1907 and was initially able to deliver 15 MGD [million gallons per day]. Four reservoirs were completed by the end of 1910. The original contract of January 24, 1906

PAUHAU SUGAR PLANTATION COMPANY

Where Big Problems In Handling Cane Have To Be Overcome.

THE property of the Pauha Sugar Plantation Company is situated fifty miles from Hilo and comprises a total area of 3200 acres, all of which is planted to cane of the Yellow Caledonia variety and on the highlands some Striped Tip cane. About one-half the cane is plant and one-half ratoon.

The soil is plowed by placing a Fowler steam engine at each end of a field, the engines being 1200 feet apart and connected to the plows by an endless wire cable. This cable is wound on a drum under the engine and draws the plows to and fro across the field. In making one trip of 1200 feet the plows run over four furrows and break ground 1200 feet in length and from four to five feet in width. With this system an area of 1000 acres can be plowed to a depth of from fourteen to sixteen inches in a day of ten hours. Two sets of Fowler steam tackles are in use.

The lowest altitude that cane is planted on the Pauha lands is 300 feet, while the greatest elevation is 2000 feet. From the bluffs that form the ocean boundary of the property the land rises in a beautiful slope to the forest line, the soil being a black deep loam. The first cane planted on the Pauha lands was about twenty-seven years ago, when the Lahaina variety was grown exclusively.

Interesting Cane Transportation.

The method of transporting the ripened cane from the field to the mill is decidedly interesting. The cane is loaded in the fields direct to the wagons, which have a capacity of from two and one-half to three tons, and conveyed to the gravity tramways, which intersect the plantation at suitable points, where permanently established loading stations or derricks are equipped with overhead travelling cranes operated by mules. The empty cars coming up the incline tramway are stopped directly under the crane and by one movement the entire load of cane is removed from the wagon and deposited in the car. Trains are made up and sent down to the bottom of the incline or on a level with the main track, where they are picked up by the steam engine and conveyed to the mill.

The plantation is supplied with about fifteen miles of railroad and gravity trackage and 250 cars, having a capacity of three tons of cane each. Two engines furnish the motive power. The capacity of any one of the five gravity tramways is 300 tons in a day of ten hours. It appears to be a very effective method of keeping the mill supplied. The average yield of all weighed cane is four tons of sugar to the acre, or eight tons of cane to a ton of sugar, although it has averaged five tons of sugar to the same acre.

Cooperative Labor.

Labor on the plantation is carried on both by the day and profit-sharing system. Contracts are made with certain parties for planting, cultivating, fertilizing, etc., for which they receive a certain sum per ton of cane produced upon the lands under their charge. 200 acres are divided into homestead tracts of 20 acres each. The laborers who have taken them up work for the plantation, but tend to their cane in off hours and realize about \$3.50 per ton from it. Cane cutting, plowing, mule cultivation, and transporting the product to the mill are performed by day labor. At the present time about 700 contract and day laborers are employed.

The average of cane for the 1908 crop was

approximately 2350 acres, the sugar output being 10450 tons.

The Water Problem.

In the Hamakua district where the rainfall averages from fifty to sixty inches annually, the question of water is an important item as the country is entirely dependent upon what is stored. Several reservoirs are maintained, which are filled from streams that contain a supply only during a



JAMES GIBB
Manager Pauha Sugar Plantation Co., Hawaii.

Jainy season. The plantation obtains 20,000,000 gallons of water daily from the Hamakua Ditch Co., and by means of friction during the dry seasons, the tonnage of cane grown upon these irrigated lands is almost doubled. A small portion of the water supply is used for fluming cane to the gravity tramways.

Mill and Machinery.

In the operation of the mill the loaded cars are run alongside the endless carrier, and the cane discharged thereon direct. The cane is carried to a National shredder, and from thence to three three-roller mills and subjected to an average hydraulic pressure of 310 tons upon each mill.

The new mill was erected in 1903 by the Honolulu Iron Works. The most modern appliances are in use, including seven clarifiers, seven mud-presses, triple effect, five centrifugals of the Weston type, and six of the Hopworth patent, one sixteen, one eighteen and one eighteen-ton vacuum pans, juice strainers and other mechanical appliances.

The entire machinery in and about the mill is operated by steam power, all three mills being driven by a new 26x54 Hamilton-Corliss engine. The eleven centrifugals are operated by an independent engine. The power to operate the engines is developed by two 25-horse-power Heine boilers supplied by the Risdon Iron Works of San Francisco. One 250-horse-power multi-tubular Lanson boiler is also in use.

A new steel overhead travelling crane for

manipulating heavy machinery has been installed.

Directly alongside of the main engine room are the machine shops, where all repair work is done. Adjoining the machine shops is the 12-light General Electric lighting plant, where power is generated by an automatic engine to supply the mill and grounds with electric lights. The mill has a capacity for turning out 80 tons of raw sugar in twenty-four hours, and the average mill extraction is about 91 per cent of the sucrose in the cane. The residue from the mill or cane trash is conveyed by an endless carrier to the furnace room, where it is dropped upon automatic trash feeders and conveyed direct to the furnaces, where it falls upon steep-ladder grate bars. Water for the mill for steam and other purposes is obtained from several cisterns. The condensed vapor from the triple effect is conveyed outside of the mill to a series of cooling floors and returned again to the mill to be utilized.

At the mill two grades of sugar are manufactured, known as the A and B grades. The sugar room is a capacious affair, where, in addition to packing the sugar, there is a large storage capacity.

Over the sugar room, trash room and boiler house, a new steel frame structure has been erected 50x160 feet to replace the old structure.

A new self-supporting smoke stack 100 feet high and 6-feet 3-inch in diameter has been erected.

The only ice plant in the Hamakua district has been installed here and supplies ice to Pauha and Honokaa.

Shipping the Sugar.

From the mill the sugar is conveyed by gravity tramway to the landing, a short distance away, where a most complete system for receiving and delivering freight of all kinds from the steamers has been erected. A new landing has been put in capable of handling 1500 bags of sugar per hour. Two large cranes are in use and swing the bags directly from the cars into the boats. A warehouse is connected with the landing with a capacity of 18,000 bags of sugar.

James Gibb has been manager of the Pauha Sugar Plantation Company since March 1, 1901, and has been actively identified with the sugar industry for twenty years.

Following are the employees:

Head Overseer, Wm. Grother; Chief Mill Engineer, Theo. Murray; Bookkeeper, Rollin W. Barker; Assistant Bookkeeper, Louis Wilson; Time-keeper, Wm. Hall; Sugar Boiler, R. Lougher; Chemist, E. Westly; Store Manager, Wm. Lennox; Steam Plow Engineer, J. Gomez; Carpenter, Jas. Cronley; Physician, Dr. Buff-It.

The officers of the company are:

W. G. Irwin, President.
Albert Meyer, Vice President.
Dan'l. Meyer, Treasurer.
H. W. Thomas, Secretary.
B. G. May, Auditor.
Honolulu Agents, W. G. Irwin & Co.

HUTCHINSON SUGAR PLANTATION COMPANY

THE prosperous Hutchinson Sugar Plantation is situated in the district of Kau upon the leeward side of the island of Hawaii. The property consists of nearly 90,000 acres, 4300 of which is good cane land, the balance being devoted to forest and pasture. These vast holdings extend from Waihoahu through Naalehu and Honoupa to Hilea.

The first cane was planted upon these lands many years ago by Mr. Hutchinson at Waihoahu, where was also erected the first mill for grinding the cane. The rollers of this mill were only 8x14 inches. John Nott was one of the early planters.

have been constructed, some of them twelve miles apart, to be drawn upon when needed for fluming purposes.

Eight miles of trackage connects Naalehu, Honoupa and Hilea, two Baldwin locomotives and forty cane and sugar cars being used upon this railroad.

Three hundred oxen and 175 horses and mules are found necessary upon the place.

Seven hundred laborers are employed on the plantation, classified as follows: Hawaiian 58, Portuguese 26, Porto Rican 29, Chinese 47, Koreans 71, Japanese 450, Spaniards 4, Americans 15.

The homestead plan has been tried in



Fluming Sugar Cane into Honoupa Mill, Kau, District of Hawaii.

The 4300 acres under cultivation are planted principally to Rose Bamboo and Yellow Caledonia canes. There are about forty acres of Lahaina.

The 1908 crop amounted to 8000 tons of sugar. The estimate for 1909 is about the same.

this region, and some 12 homesteads are experimenting with cane, sisal and pineapples, the plantation lets some of these take 30 to 50 acres to plant in cane. The laborers work on the plantation, but care for their cane in off hours selling the crop when ready to cut to the plantation. They appear to be perfectly satisfied with this

Figure 12. March 25, 1909 Evening Bulletin article.

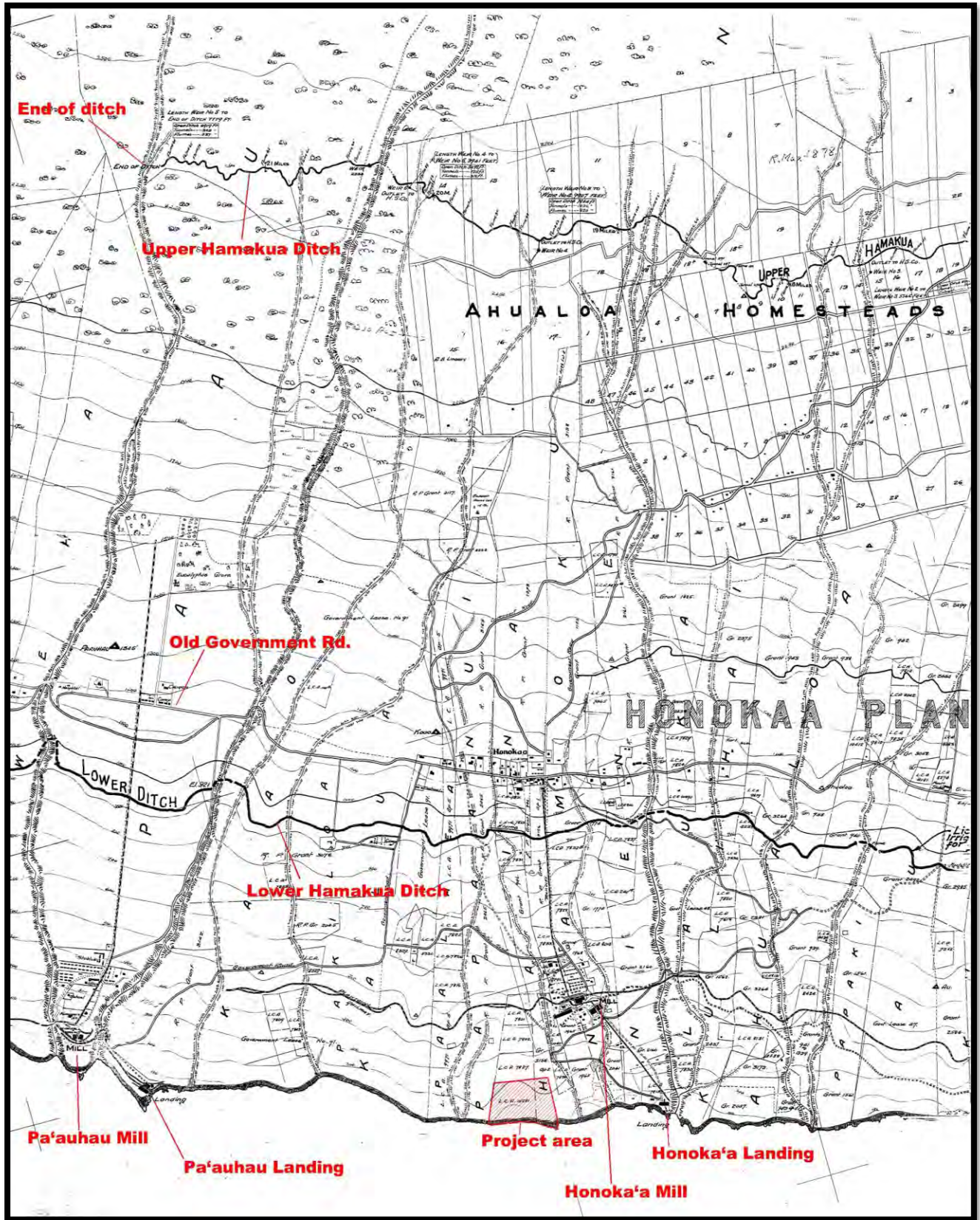


Figure 13. Williamson's 1908 map of Northwestern Part of Hamakua, Hawaii (obtained from DAGS).

for water distribution was with Honokaa Sugar Company. Pacific Sugar Mill and Paauhau Sugar Company were included in the 1910 agreement.

The water sources were the Kawainui and the Alakahi streams, as well as general runoff from the watershed into the ditch. The Upper Ditch was approximately 23 miles in length and some 15 miles of it ran through Honokaa Sugar Co. and Pacific Sugar Mill land. Originally the Upper Ditch consisted of dirt ditches and galvanized flumes patched with lumber. This was a continual source of frustration, as much water was lost through leakage. When the plantations took over the management of the ditch in 1915, reconstruction work was carried out. The total cost of the Upper Ditch stands on the books in December 31, 1920 as \$359,500.43.

Construction work on the lower ditch began in May 1909, and was brought to a close with June, 1910, so that its opening July 1, was made a memorable event ...The source of the supply is the Waipio Stream, in Hamakua, which has its origin in the Kohala mountains, and is the confluence of four streams known as Kawainui, Alakahi, Koiawe and Waima, which by a series of tunnels (56,932 feet), flumes (6739 feet), and open ditches (57,934 feet), is brought out and conveyed to Paauhau Plantation, eastward, a distance of twenty-four and three-fourths miles, supplying en route by flumes and open ditches the needs of Kukuihaele and Honokaa plantations (Thrum 1908:139).

Figure 14 is a portion of the 1911 U.S. Geologic Survey Honokaa quadrangle obtained from the University of Hawai'i at Manoa online library (<http://magis.manoa.hawaii.edu>). This map shows the Honoka'a and Pa'auhau Mills and components of the unique gravity railroad system discussed above. Traditional railroad tracks extended to the east and west from the Honoka'a and Pa'auhau Mills, with a "cable hoist" extending inland from the Pa'auhau Mill. This cable system was used to transport the empty railcars inland to the fields after they had been emptied. Additional "cable hoists" are located in Mahukuolo and Kalopa Ahupua'a to the east.

Figure 15 is an aerial view of the project area vicinity taken on September 28, 1954 by the U.S. Geological Survey and obtained from the University of Hawai'i at Manoa online library (<http://magis.manoa.hawaii.edu>). This map shows the community of Haina inland of the project area, with no development within its boundaries. The area surrounding the Honoka'a Village is obscured by clouds, although the project area and surrounding area appears to have been extensively cleared, likely in association with historic sugar cane cultivation. An apparent road parallels the coastline in this photograph, with another road extending through the southeastern portion. The coastal road corresponds to Site 31348, discussed in the Findings section of this report. No evidence of the road in the southeastern portion of the parcel was identified during the AIS. The sloping ridge that extends through the western portion of the parcel is clearly visible on this photograph.

Figure 16 is a portion of the 1957 U.S. Geologic Survey Honokaa quadrangle obtained from DAGS. This map also shows the community of Haina and depicts an unimproved road extending into and out of the project area. A second unimproved road extends through the southeastern corner of the parcel. The map also depicts the newly constructed Mamalahoa Highway extending through the area inland of Honoka'a Village.

In 1972, the Hamakua Mill Company became part of the Laupahoehoe Sugar Company and the milling operation was moved to Laupahoehoe. The Pa'auhau Sugar Company Plantation was purchased in 1972 by Theo Davies, which already controlled the Laupahoehoe and Honoka'a plantations. The merged companies subsequently formed the Hamakua Sugar Company, the largest plantation in the state with over 35,000 acres in cultivation. In 1984, Francis Morgan purchased the Hamakua Sugar Company. The company declared bankruptcy in 1993.

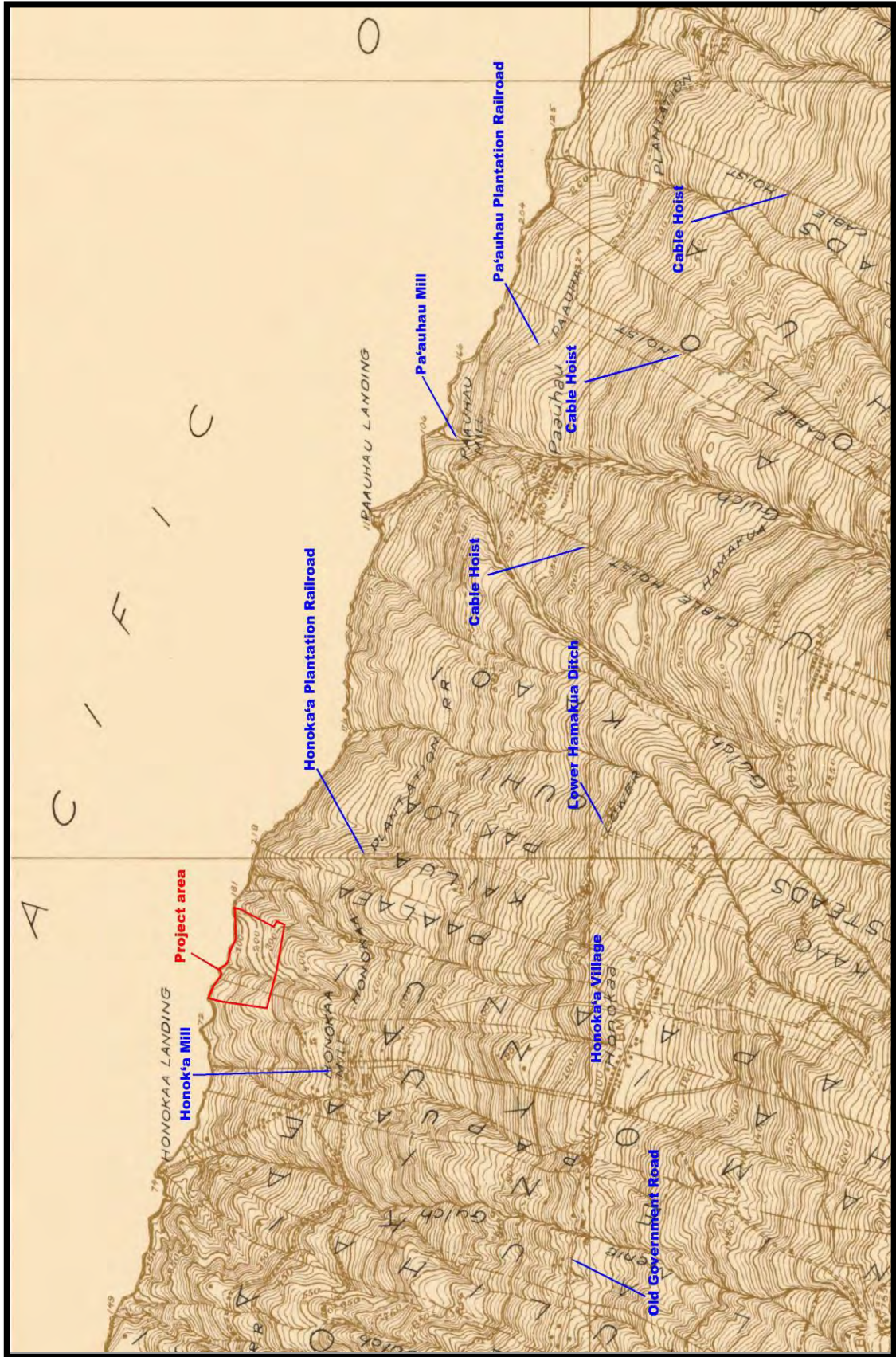


Figure 14. Portion of 1911 U.S. Geologic Survey Honokaa quadrangle showing project area vicinity (obtained from <http://magis.manoa.hawaii.edu>).

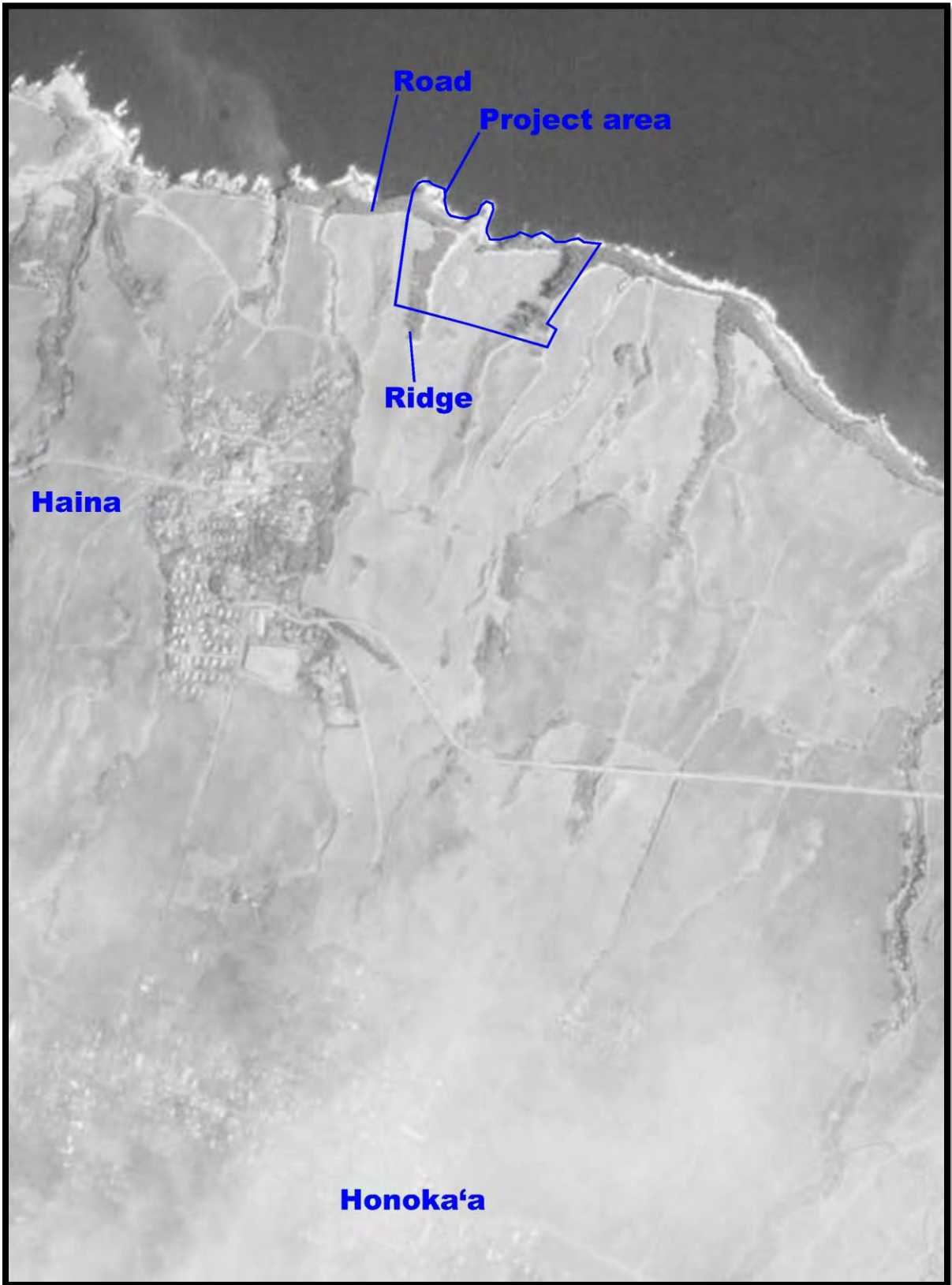


Figure 15. Portion of September 28, 1954 aerial photograph of project area vicinity (obtained from <http://magis.manoa.hawaii.edu>).

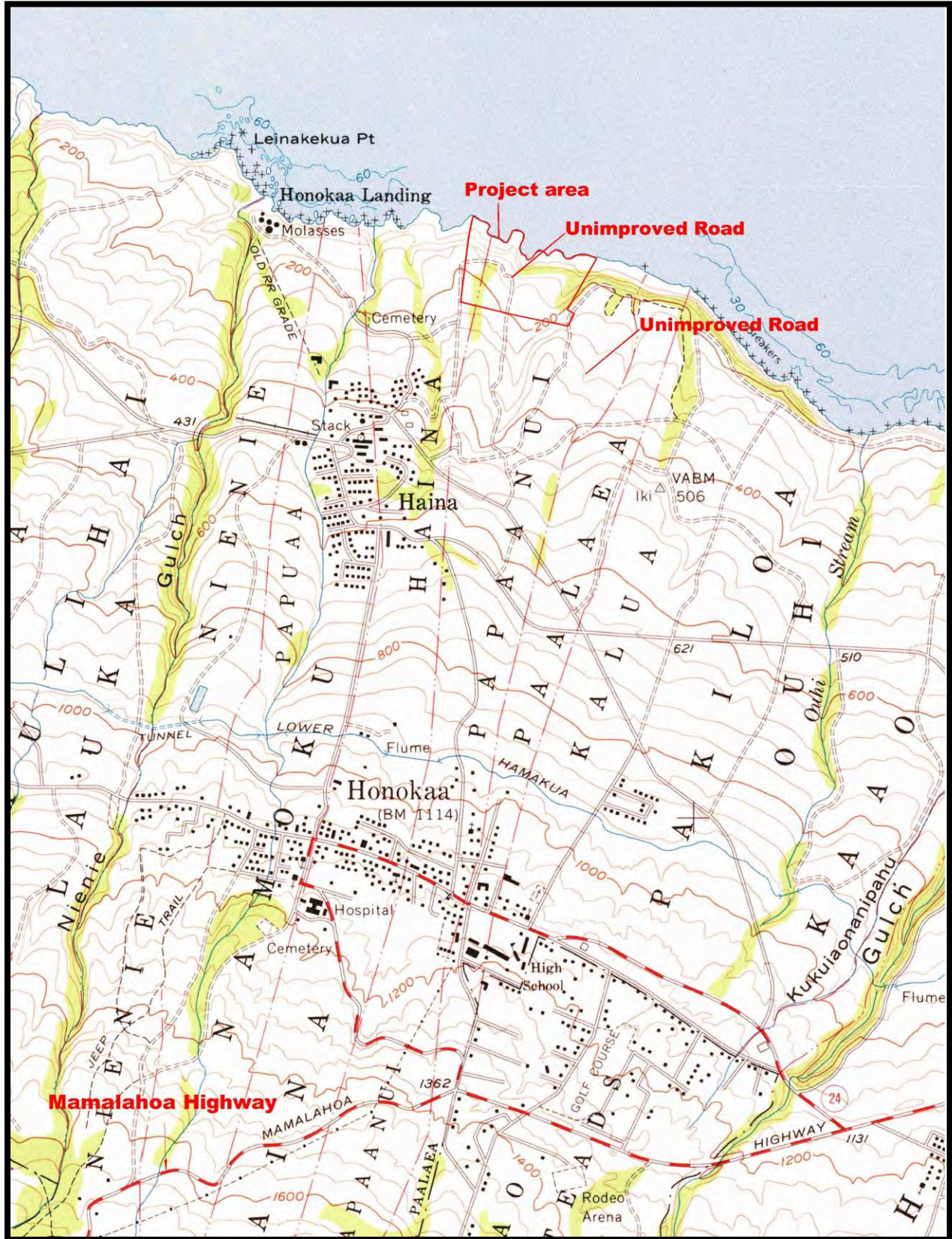


Figure 16. Portion of 1957 USGS Honokaa quadrangle showing project area vicinity (obtained from <http://magis.manoa.hawaii.edu>).

PREVIOUS ARCHAEOLOGICAL WORK

A search of the DLNR-SHPD archaeological report database and other sources indicates limited archaeological work has been conducted in the general project area vicinity (**Figure 17**). Not included in this figure are the studies by Stokes (cited in Stokes and Dye 1991) and Thrum (1908), which focused on major sites, primarily *heiau* throughout Hawaii Island, and a survey of east Hawaii by Hudson (1932). None of the previous studies included the current project area. Cordy (1994) reviewed the studies by Thrum, Stokes, and Hudson and found references to ten *heiau* in eastern Hamakua, east of Waipio Valley. Only one, Ka Loa Heiau at Ahualoa, was seen by Stokes and Thrum. Hudson was unable to relocate it in 1931, and presumed it was destroyed. No *heiau* were reported for Haina or Papa'anui.

In 1992, Paul H. Rosendahl, Inc. (PHRI) conducted an archaeological inventory survey (AIS) of two parcels totaling 186 acres between 1,150 ft and 1,690 ft elevation in the *ahupua'a* of Papa'anui, Paalaea, Haina, Namoku, Papuaa, and Nienie (Head and Goodfellow 1992). Only two sites were identified during this survey of former sugar cane lands. The sites consist of two portions of the same lava tube system. The sites were interpreted to be temporary habitations. Two charcoal samples recovered by excavations at one site produced age ranges of 1634-1955, and 1680-1744 or 1802-1938. Two volcanic glass flakes were also recovered from the site. The dates and volcanic glass support an interpretation of the site as being occupied between the 1600s and the early historic period.

Later in 1992, PHRI conducted a second AIS in the general area, consisting of 174 acres in the *ahupua'a* of Hauola, Opihilala, and Manienie (Head and Rosendahl 1992). The survey area ranged from 700 to 1,000 ft elevation. Three historic sites were identified consisting of a road and three bridges. Two of the bridges were constructed in the 1910s by the Hamakua Mill Company, which was based in Pa'auilo Ahupua'a.

PHRI (Rosendahl 1991 and Thompson and Rosendahl 1994) conducted an AIS archaeological survey and subsurface testing of a 15 acre parcel situated at approximately 1,200 ft elevation in Haina and Namoku. No sites or features were present.

In 2001, Rechtman Consulting undertook an AIS of two water tank sites in Ahualoa at approximately 1,250 and 1,650 feet elevation (Rechtman 2001). No sites or features were identified.

In 2001, Cultural Surveys Hawaii conducted an inventory survey of 335 miles of road corridor for a proposed fiber optic cable project (Hammatt 2001). This project followed County of Hawaii right of ways around nearly the entirety of the island and consisted of inspecting existing the pavement and road shoulders. The portion of this project in the vicinity of the current project area was designated as Section 12. No sites or features were identified in this section and it was classified as exhibiting Low Potential for containing archaeological resources.

In 2002, Haun & Associates conducted an archaeological inventory survey of 36.5 acres in the *ahupua'a* of Ka'apahu (Haun and Henry 2002). The survey area ranged from 1,875 ft to 2,000 ft elevation and included two homestead lots. The survey identified five historic sites with six features including an oven, pit, hearth, troughs, and terrace.

In 2006, Haun & Associates conducted an AIS of a 700 acre parcel in Kamoauau, Manienie, Opihilala, Hauola, Pa'auilo and A'amanu Ahupua'a (Haun and Henry 2006). This survey identified two sites with four features. One site consisted of a terrace and retaining walls potentially associated with early 1900s homestead use of the parcel. The other site is a concrete wall that retains a dirt road. The use of formed concrete indicates a probable 1900s age for the site. The road is part of a network of roads that provided access to sugar cane fields and it is likely that the site was constructed by the Hamakua Sugar Company.

In 2014, Haun & Associates conducted an AIS of a 33.021 acre parcel in Pa'auhau Ahupua'a, and documented three sites with a total of eight features (Haun and Henry 2014). The identified features consist of two roads, three culverts and three ditches, all associated with historic sugar cane cultivation.

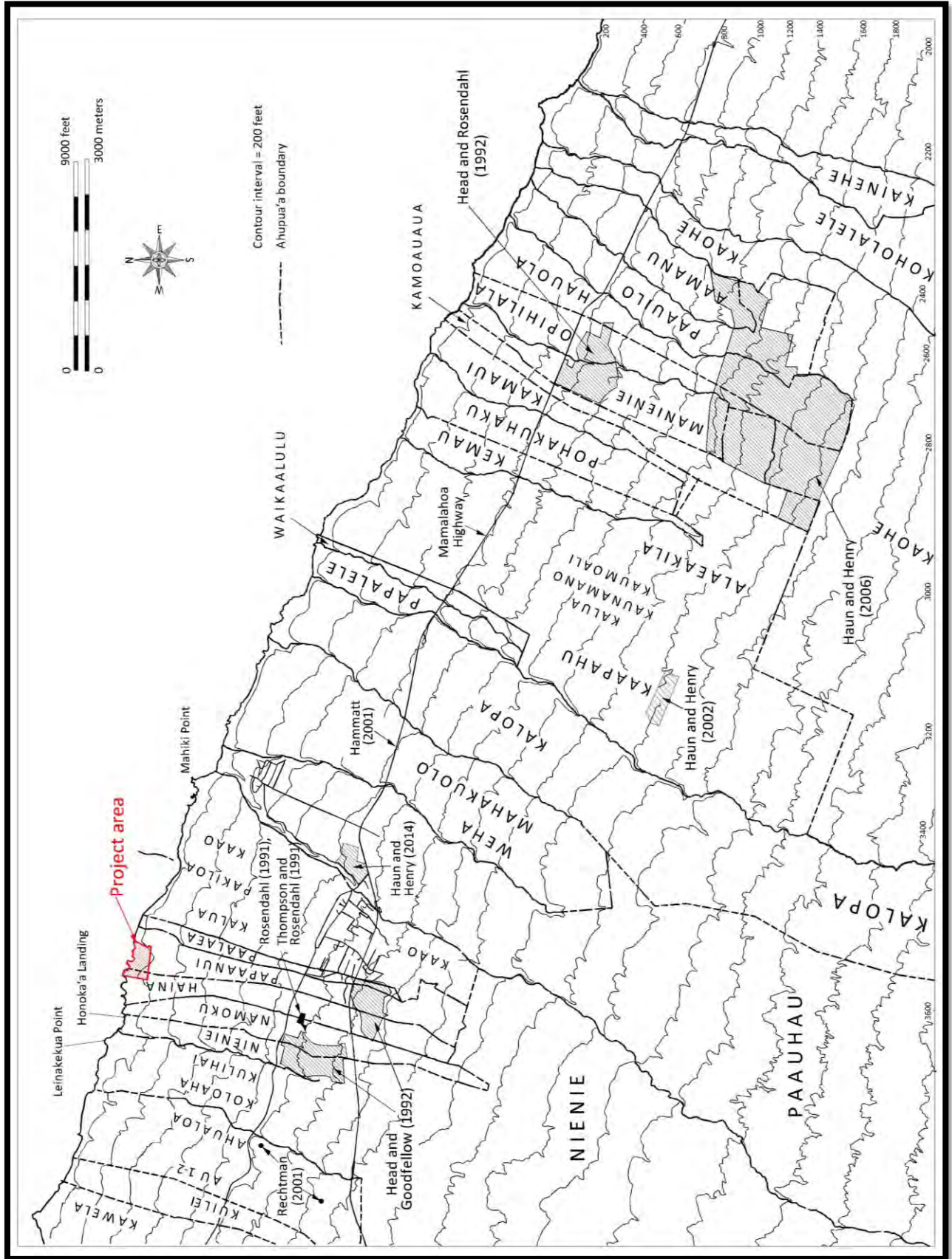


Figure 17. Previous archaeological work in vicinity of project area (adapted from USGS 1995 7.5' USGS Honokaa Quadrangle).

The modern studies discussed above examined more than 1,150 acres between 700 and 2,200 ft elevation; however, they identified only 15 sites with 24 features. The only traditional Hawaiian sites are two chambers of a lava tube system identified by Head and Goodfellow (1992). The near absence of traditional sites is attributed to the massive ground disturbance of sugar cane cultivation and pasture development. Historic remains identified by the surveys consist of 13 sites with 22 features. The historic features consist of sugar plantation-related infrastructure, and habitation and ranch-related associated with homestead lots.

PROJECT EXPECTATIONS

The project area is situated within Cordy's (1994) seaward upland slopes area as discussed in the Historic Background section of this report. Based on historical documentary research, traditional Hawaiian site types in this area could potentially include habitation structures and agricultural sites and features associated with the dryland cultivation of taro, bananas and sweet potatoes. The landscape throughout the Hamakua coast has been impacted by the extensive sugar cane industry. Historic sites associated with this activity could also be present in the project area, consisting of houses, roads, irrigation and drainage ditches, and sugarcane plantation- related infrastructure.

FINDINGS

The archaeological inventory survey identified four sites with a total of eight features. The sites consist of three single feature sites (Sites 31348, 31350 and 31351) and one complex with five features (Site 31349). The features consist of six terraces, one road and one wall, with functional types consisting of historic agriculture (n=5), historic transportation (1), historic/modern temporary habitation (1), and possible historic livestock control (1). The sites are summarized in **Table 2** and their locations are presented in **Figure 18**.

As discussed in the Historic Documentary Research section of this report, an historic map of the area depicts a structure labeled “Old Heiau” in the eastern portion of the TMK: (3) 4-5-002:080 (see **Figure 10**). The reported area of this heiau was carefully examined during the present project and no evidence of a structure is present. Three clusters of modern features were however identified during the AIS. These consist of five terraces, four mounds, two fire pits, two fishing pole holders, and a scatter of mortared bricks. These clusters are designated as Modern 1, 2 and 3 and are located within the 40 foot shoreline setback adjacent to the coastal cliffs. The archaeological sites and modern features are described below.

Table 2. Summary of identified sites.

SIHP Number	Type	Function	No. of features	Formal Type			Function				GPS Coordinates		Haun & Associates temporary site number
				Terrace	Road	Wall	Historic Agriculture	Historic Transportation	Historic/modern Temporary Habitation	Possible Historic Livestock Control	Easting	Northing	
31348	Road	Historic Transportation	1		1			1			242368	2224410	1704.2
31349	Complex	Historic Agriculture	5	5			5				242636	2224148	1673.1
31350	Terrace	Historic/Modern Temporary Habitation	1	1					1		242381	2224464	1704.1
31351	Wall	Possible Historic Livestock Control	1			1				1	242462	2224336	1704.4
Total			8	6	1	1	5	1	1	1			

Site 31348 is an historic road that enters the project area in the northwestern portion of TMK: (3) 4-5-002:080 at approximately 60 feet elevation. It extends through this parcel in an easterly direction a distance of 240 meters, then enters the adjacent TMK: (3) 4-5-002:016 at approximately 45 feet elevation. The road continues to the east for 103 meters, then turns to the south-southwest for an additional 107 meters where it terminates at approximately 180 feet elevation. The portion of the road in the current project area evidences an overall length of 450 meters and ranges in width from 3.0 to 4.0 meters wide with no apparent evidence of formal construction (see **Figure 18**). The surface of the road is level soil with no cultural material present (**Figure 19** and **Figure 20**).

Site 31348 is interpreted as an historic transportation route through the area based on its formal type and appearance. This road corresponds to a road depicted on the 1954 aerial photograph of the area (see **Figure 14**), although it is not shown on the 1957 U.S Geologic Survey Honokaa quadrangle (see **Figure 15**). The portion of the road in the project area is unaltered and in good condition, and retains its integrity of location, design, setting, materials, workmanship, feeling and association. It is assessed as significant per HAR §13-284-6 under Criterion d (information content) and is recommended for no further work.

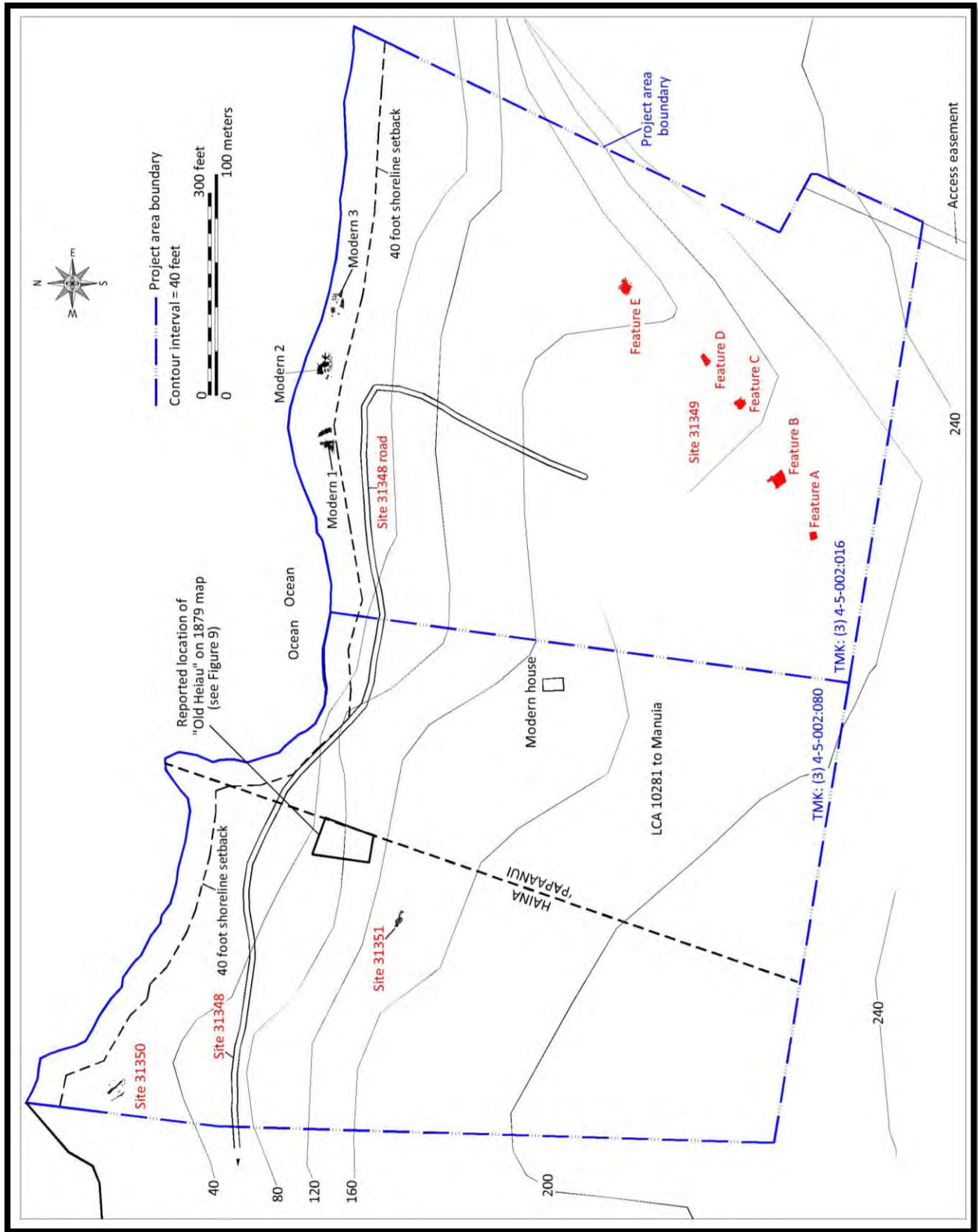


Figure 18. Site location map.



Figure 19. Site 31348 road (view to west).



Figure 20. Site 31348 road (view to west).

Site 31349 is a complex of five terraces arranged in a rough alignment along the side of a steep slope (approximately 30 degrees) in the southeastern portion of the project area. The location of the five terraces is shown on **Figure 18**. The alignment is approximately 45 meters long (northeast by southwest). No cultural material is present on any of the five features. The Site 31349 features are described below.

The **Feature A** terrace is located at the southwestern end of the alignment at approximately 185 feet elevation. The terrace is roughly square-shaped and is situated on a steep slope to the north (**Figure 21**). The terrace is 3.4 meters long (north-northwest) and 3.4 to 4.3 meters wide, with areas of collapse along the southern side. The north, east and west sides of the feature are stacked subangular basalt boulders and cobbles sloping inward from the base, likely to stabilize the structure on the steep slope. The north side is 1.7 meters high, with the east and west sides ranging in height from 0.85 to 1.0 meters. The southern upslope side is level with the adjacent ground surface. The surface of the terrace is roughly level but unpaved boulders and cobbles.

Feature B is situated 24 meters to the northeast of Feature A, slightly downslope from it at approximately 175 feet elevation. The terrace is rectangular in shape and is 5.8 meters long (north-northwest by south-southeast) and 5.4 to 5.5 meters wide (**Figure 22**). The ground slopes moderately to the north-northwest. The north, east and west sides slope inward slightly from the base, built of stacked subangular basalt boulders and cobbles, and ranging in height from 1.7 to 2.45 meters. The northeast and northwest corners of the structure have collapsed. The southern side is level with the adjacent ground surface. The surface is relatively level but unpaved.

The **Feature C** terrace is located 34 meters to the northeast of Feature B at approximately 155 feet elevation. The terrace is roughly square-shaped and is 3.8 meters long (northwest by southeast) and 3.3 to 3.9 meters wide (**Figure 23**). The ground surface in this area slopes steeply to the northwest. The northwest and southwest sides of the feature are stacked subangular basalt boulders and cobbles, ranging in height from 0.9 to 1.4 meters. The northeast side is concealed by a large fallen log and the southeast side is level with the sloping soil. The surface throughout most of the terrace slopes down to the northwest, although there is a relatively level but unpaved area in the southern portion.

Feature D is situated 20 meters to the northeast of Feature C, slightly downslope from it at approximately 140 feet elevation. The feature is located just south of the existing driveway. It is rectangular in shape and is 4.7 to 5.3 meters long (northeast by southwest) and 2.0 to 3.0 meters wide (**Figure 24**). The ground slopes moderately to the north. The northwest, northeast and southwest sides slope inward slightly from the base, built of stacked subangular basalt boulders and cobbles, and ranging in height from 0.6 to 1.8 meters. The southeast side is level with the adjacent ground surface. The surface is relatively level but unpaved.

The **Feature E** terrace is located 40 meters to the northeast of Feature D at approximately 115 feet elevation. The terrace is rectangular in shape and is 4.7 meters long (northeast by southwest) and 3.0 to 4.0 meters wide (**Figure 25**). The ground surface in this area slopes steeply to the north-northwest. The northwest, northeast and southwest sides are stacked subangular basalt boulders and cobbles, ranging in height from 0.55 to 1.35 meters. The northeast and southwest sides have collapsed. The surface is uneven boulders and cobbles with two banyan trees growing out of it. The southeast side is level with the sloping terrain.

Site 31349 is interpreted as a series of historic agricultural features on their formal type and appearance. The site is unaltered and in fair condition and retains its integrity of location, design, setting, materials, workmanship, feeling and association. It is assessed as significant per HAR §13-284-6 under Criterion d (information content) and is recommended for no further work.

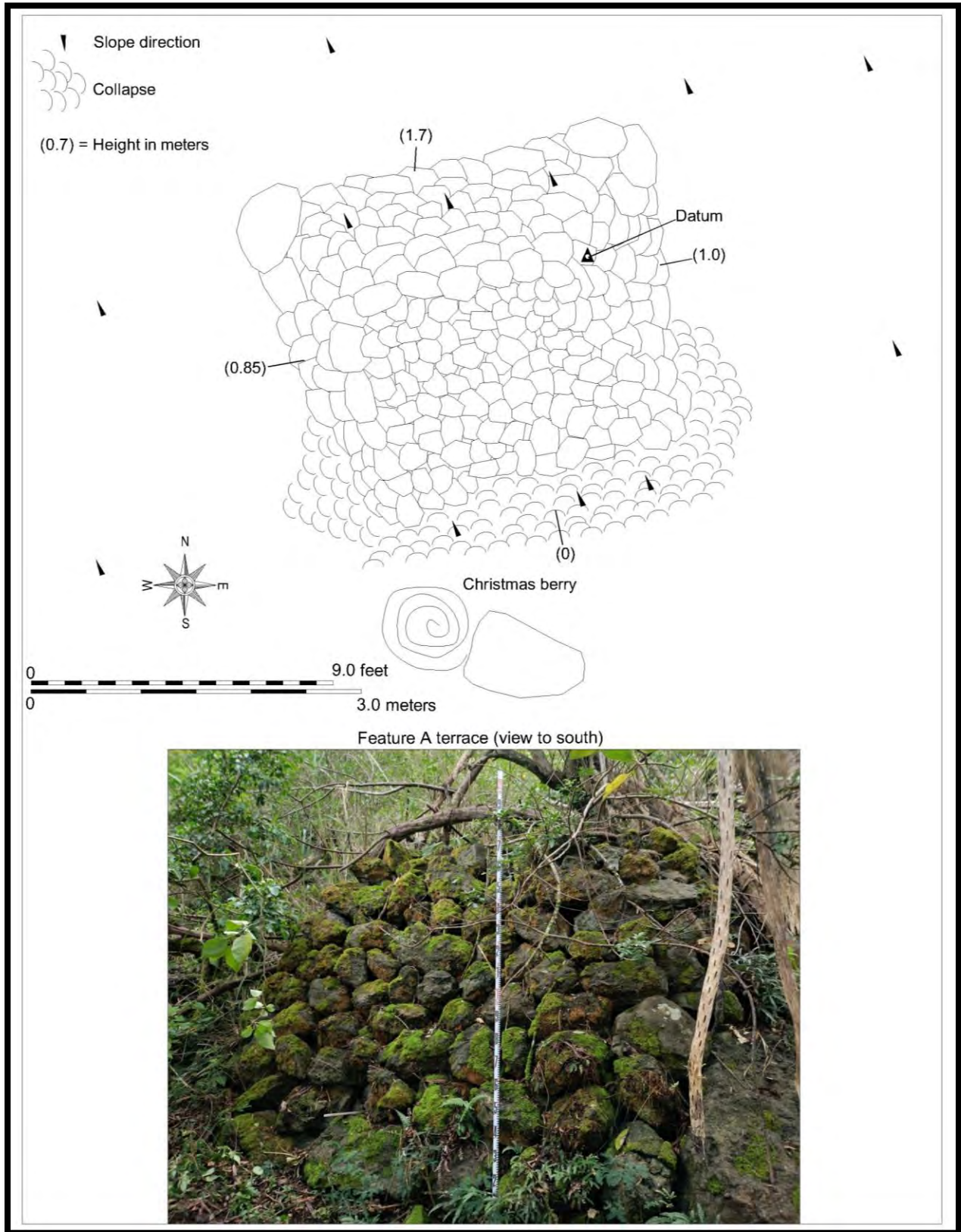


Figure 21. Site 31349, Feature A plan map and photograph.

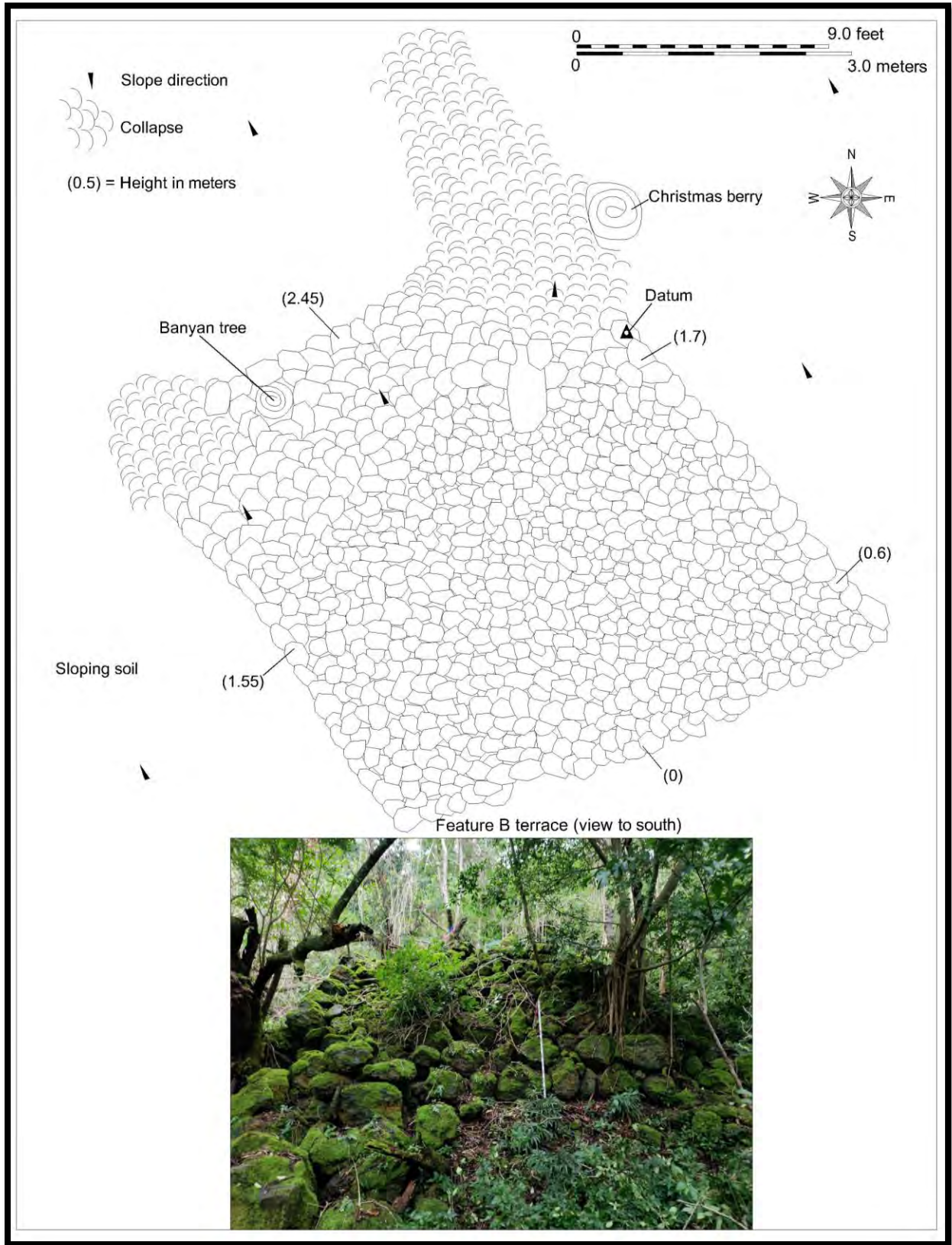


Figure 22. Site 31349, Feature B plan map and photograph.

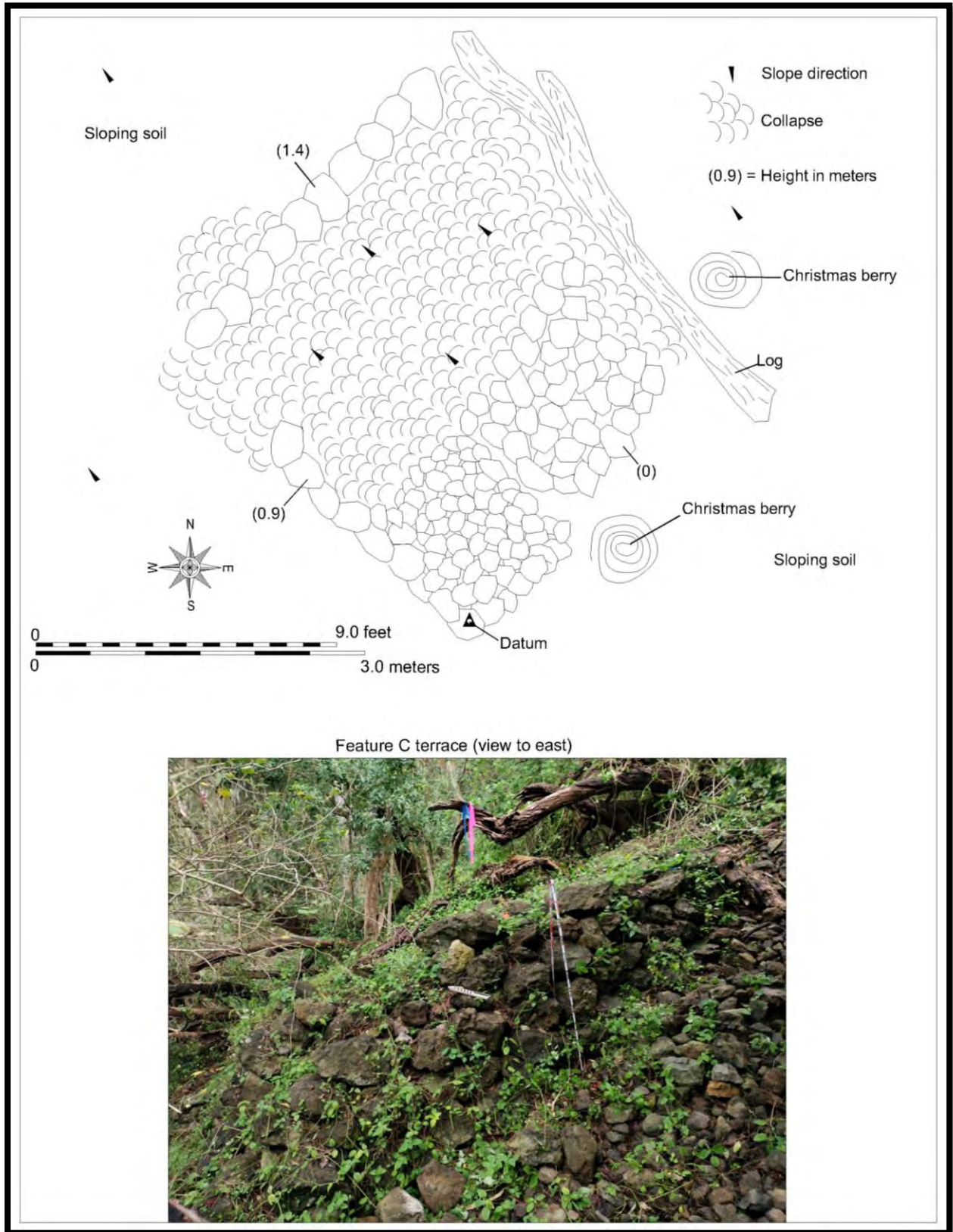


Figure 23. Site 31349, Feature C plan map and photograph.

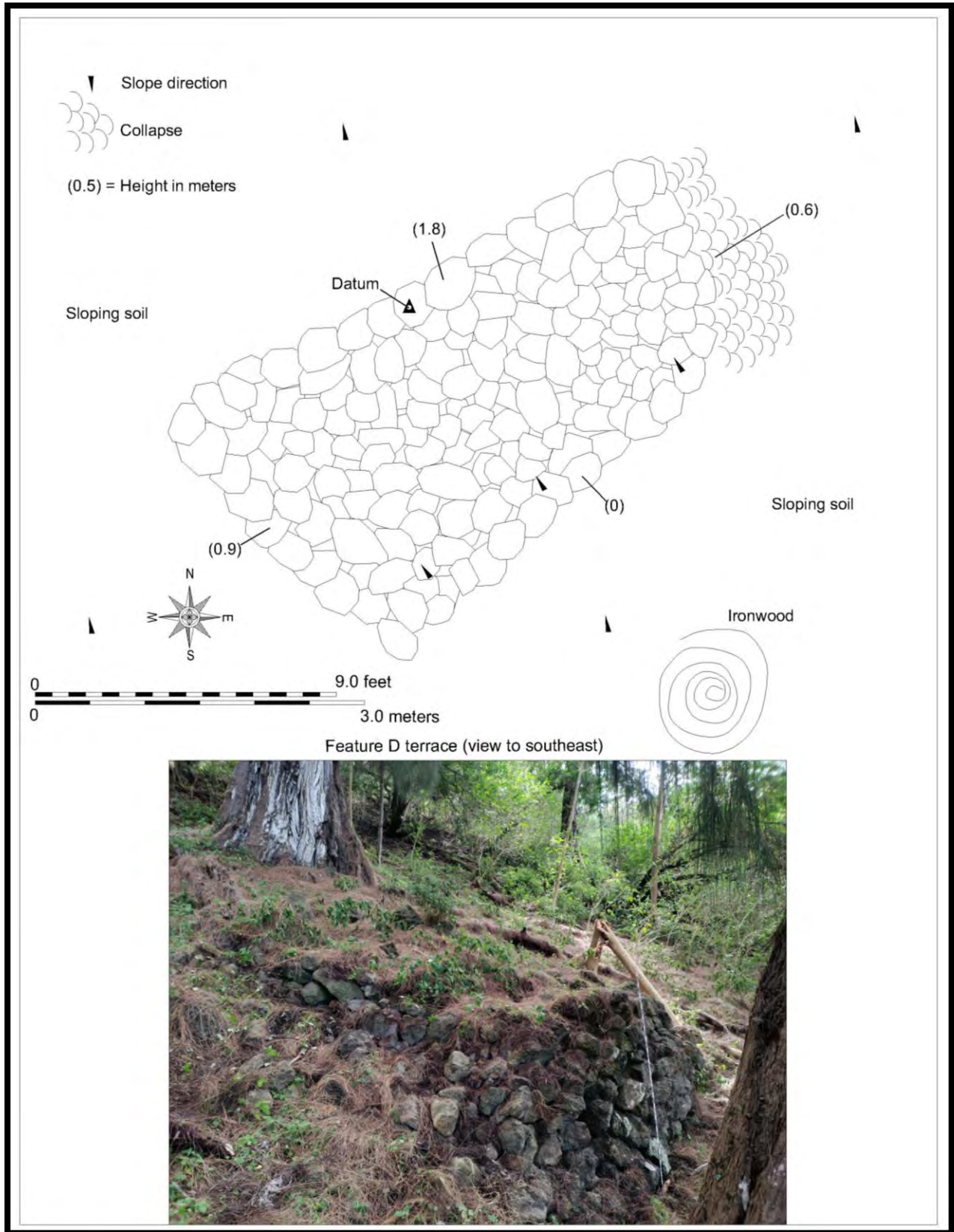


Figure 24. Site 31349, Feature D plan map and photograph.

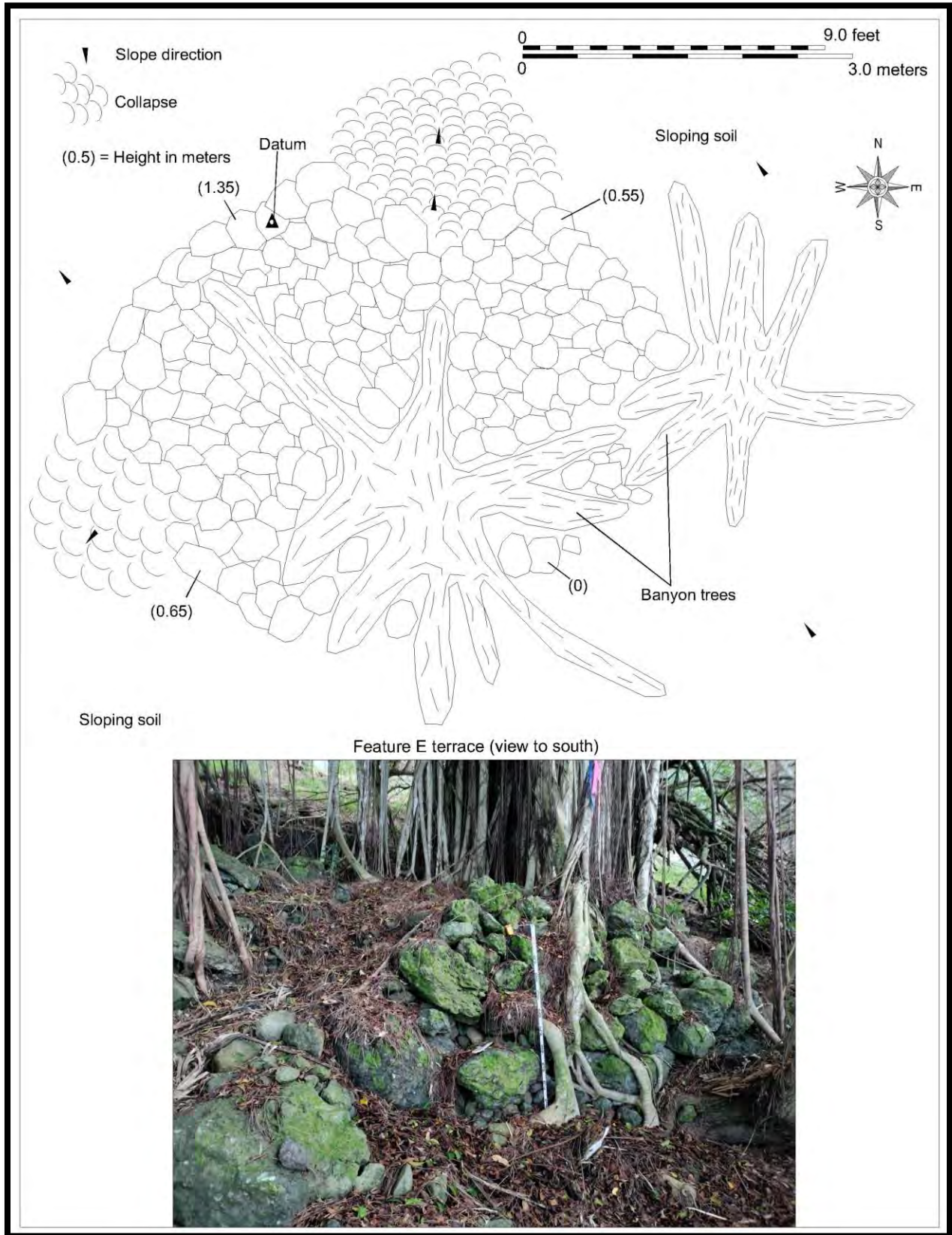


Figure 25. Site 31349, Feature E plan map and photograph.

Site 31350

Site 31350 is a terrace with two parallel retaining walls located at the northern end of the western leg of the project area at approximately 20 foot elevation. The site is situated approximately 40 meters inland of the coastal sea cliffs within a grove of large ironwood trees in Haina Ahupua'a. A blanket of ironwood needles covers the ground surface, and numerous fallen ironwood logs and pieces of bamboo are scattered throughout the area. The site encompasses an area 10.7 meters long (north-northwest by south-southeast) and 4.2 to 7.7 meters wide (**Figure 26**).

The inland retaining wall is comprised of roughly stacked and piled waterworn basalt boulders and cobbles located in an area 3.8 meters long (north-northwest by south-southeast) and 0.3 to 0.65 meters wide (**Figure 27**). An ironwood log is present at the southern end of the retaining wall. The upslope side of the retaining wall is level with the adjacent sloping soil and the downslope side varies in height from 0.4 to 0.45 meters.

The area to the east of the inland retaining wall is a deposit of level soil that is 3.0 to 4.6 meters wide. There is a piece of particle board located at the northwest end, and several displaced waterworn basalt boulders at the southern end. There is small concrete pier block (0.14 meters square and 0.08 meters high) set into the ground in the southeast corner of the soil surface (**Figure 28**). Fragments of blue and aqua glass bottles are scattered throughout this area, along with the dented lid of an aluminum pot.

There is a large piece of concrete mortar located in an area of sloping soil to the south of the terrace, measuring 0.7 meters long, 0.5 meters wide and 0.45 meters thick (**Figure 29**). The necks and bases of modern clear, amber, green and aqua glass bottles are imbedded into the mortar.

A second retaining wall extends along the seaward side of the level soil area, comprised of piled angular basalt boulders, cobbles and ironwood logs. It is 5.2 meters long (northwest by southeast), and 0.3 to 0.4 meters wide (**Figure 30** and **Figure 31**). There is a pile of ironwood logs and bamboo present at the northern end. A second concrete pier block and several displaced waterworn basalt boulders are located to the east of the retaining wall.

A 0.3 meter diameter shovel test (ST-1704.1) was excavated into the surface of the Site 31350 terrace, adjacent to the western retaining wall (see **Figure 26**). The excavation revealed two layers over bedrock (**Figure 32**). Layer I is 0.08 to 0.09 meters of very dark grayish brown (10YR 3/2) silty loam with 25% pebble inclusions. Cultural material from this deposit consisted of 17 fragments of green bottle glass (14.7 grams) and six fragments of olive colored bottle glass (47.6 grams). The waterworn basalt stones comprising the adjacent retaining wall are imbedded in the Layer I soil.

Layer II is 0.16 to 0.26 meters of sandy silt with 50% pebble inclusion. No cultural material is present. The excavation of ST-1704.1 was terminated on bedrock (**Figure 33**).

Site 31350 is interpreted as an historic/modern temporary encampment likely constructed by local fisherman visiting the area. This is based on its formal type and close proximity to the coastal cliffs. The presence of the glass fragments suggests a probable historic use, while the particle board, concrete block with bottles, and the aluminum pot lid suggests a modern utilization. The concrete pier blocks and sections of ironwood and bamboo may have been used to erect a temporary structure. The site is altered and in poor condition; however, it still retains integrity of setting, location, design, materials, workmanship, feeling and association. It is assessed as significant per HAR §13-284-6 under Criterion d (information content) and recommended for no further work.

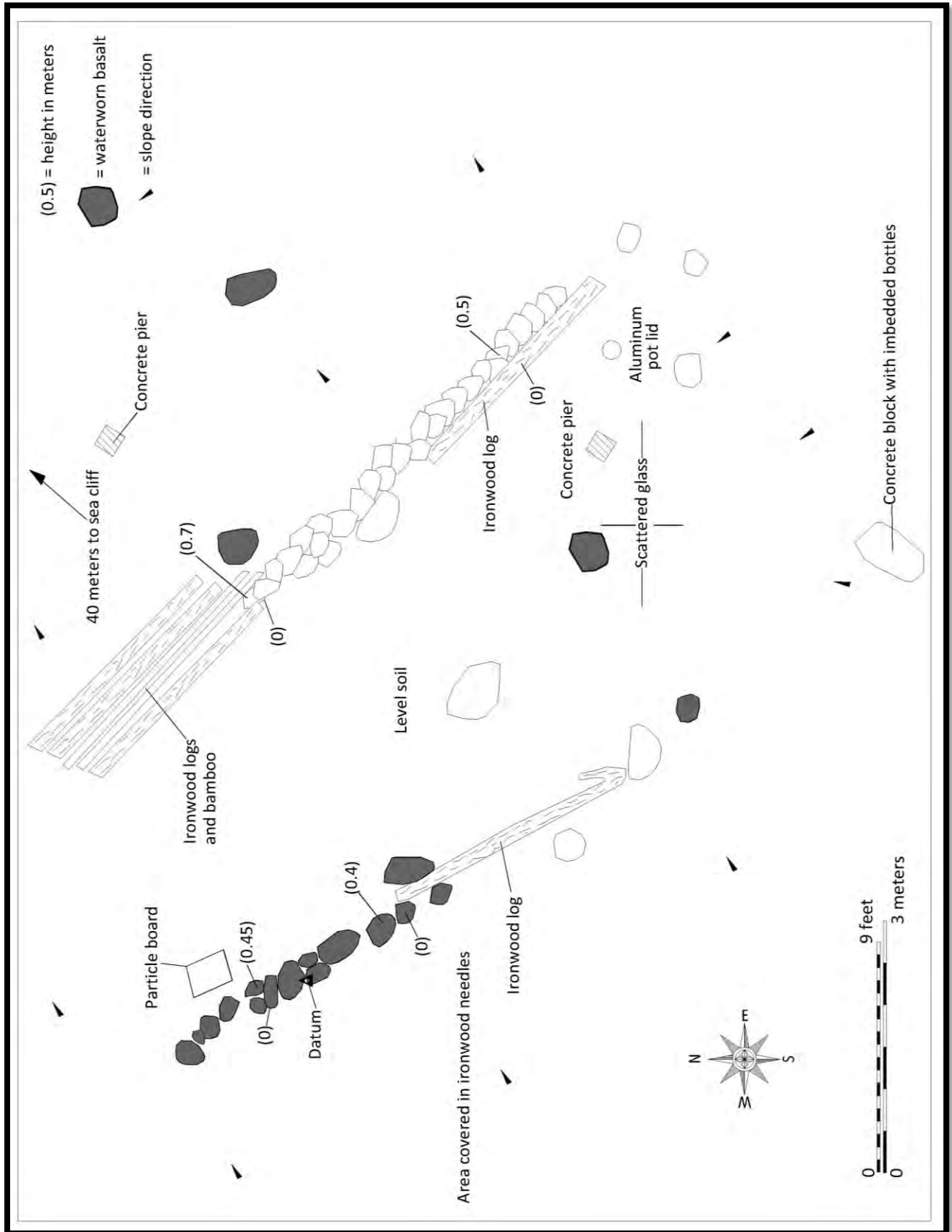


Figure 26. Site 31350 plan map.



Figure 27. Site 31350, upslope retaining wall of waterworn stones (view to west).



Figure 28. Site 31350, soil surface of terrace (view to northwest).



Figure 29. Site 31350, concrete mortar with embedded bottles (view to southwest).



Figure 30. Site 31350, downslope retaining wall of angular basalt stones (pier block on right; view to west).



Figure 31. Site 31350, downslope retaining wall of angular stones (pier block in foreground, mortar block with bottles in background; view to south).

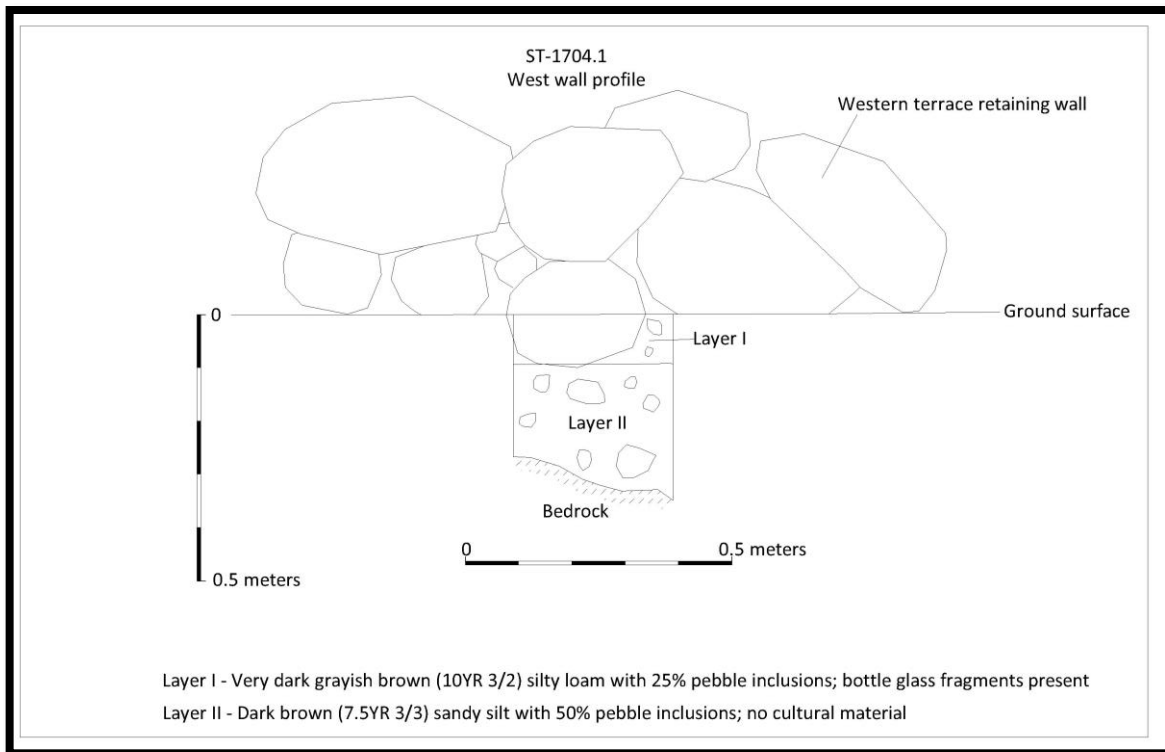


Figure 32. ST-1704.1 west wall profile.



Figure 33. ST-1704.1 post-excavation photograph (view to west).

Site 31351

Site 31351 is the disturbed remnant of a stone wall located in the Haina Ahupua'a portion of the project area at approximately 130 feet elevation. The site consists of the basal course of a wall that is 7.8 meters long (west-northwest by east-southeast) and 0.85 to 1.4 meters wide (**Figure 34**). It is comprised of a single course of aligned angular basalt boulders with cobbles present within and adjacent to the boulder alignments, bisected by an animal trail in the eastern portion. No cultural material is present in association with the wall.

Site 31351 is interpreted as the probable foundation for an historic wall based on its formal type and appearance. The wall may have potentially functioned as a cattle wall that was impacted by the historic/modern cultivation of sugarcane within the project area. The wall is altered and in poor to fair condition; however, it still retains integrity of setting, location, design, materials, workmanship, feeling and association. It is assessed as significant per HAR §13-284-6 under Criterion d (information content) and is recommended for no further work.

Modern Features

The AIS identified three clusters of modern features (Modern 1, 2 and 3) located in the seaward portion of the project area, within the 40 foot shoreline setback adjacent to the coastal cliffs (see **Figure 18**). The clusters are described below.

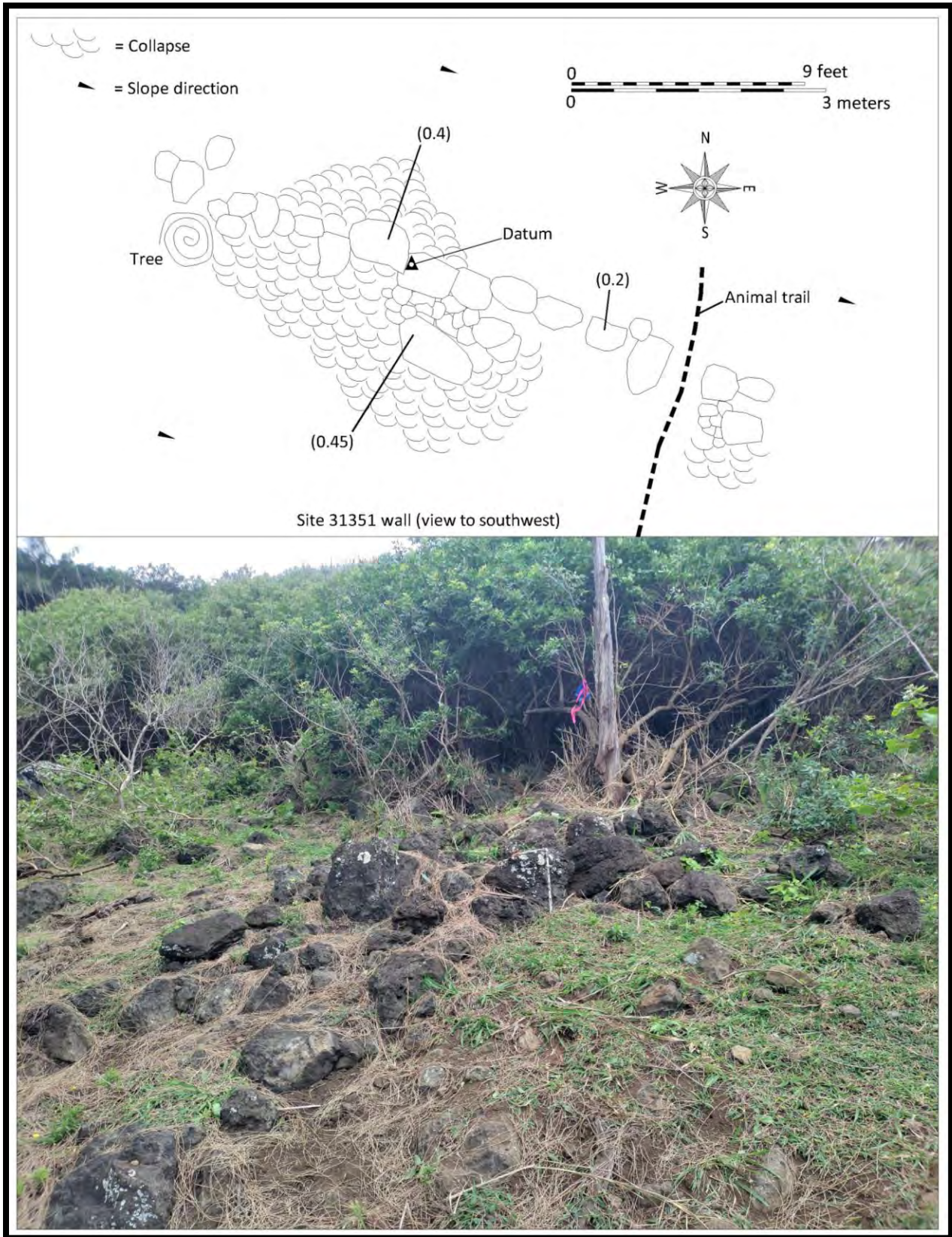


Figure 34. Site 31351 plan map and photograph.

Modern 1 is comprised of two adjacent mounds located seaward of the Site 31350 road, 10 meters inland of coastal cliff. The mounds range in length from 6.3 to 6.8 meters long, 0.75 to 5.6 meters wide and 0.3 to 1.05 meters in height, built of piled subangular basalt boulders and cobbles (**Figure 35**). The mounds appear to be recently constructed based on recent trash and a rusted car rim present within the fill material. These mounds likely function as modern windbreaks for people who utilize the cliff for camping and fishing. An inland-seaward two-track road is present to the west of the mounds.

Modern 2 is a cluster of seven component features located 25 meters east of Modern 1 and 4.0 meters inland of the coastal cliffs. The features consist of two fire pits, four terraces and an area of scattered mortared bricks, located in an area 12.0 meters long (east-west) and 6.5 meters wide (**Figure 36**). The fire pits are roughly oval-shaped and are constructed of stacked and piled subangular basalt boulders and cobbles. They range in length from 1.3 to 1.7 meters long, 1.2 to 1.3 meters wide, and 0.4 to 0.6 meters high (**Figure 37** and **Figure 38**).

The terraces consist of one built of aligned subangular basalt boulders (2.1 meters long, 0.45 meters wide and 0.4 meters high), and three comprised of piled subangular basalt boulders and cobbles that range in length from 1.4 to 2.4 meters, in width from 0.55 to 0.7 meters, and in height from 0.45 to 0.5 meters (**Figure 39**). The terraces likely serve benches for the nearby fire pits.

There is a concentration of white bricks that have been mortared into the ground located in the central portion of the site. It is roughly L-shaped and is 4.8 meters long (north-south) and 4.6 meters wide (**Figure 40**). Several water rounded basalt boulders are scattered throughout the area. The bricked surface likely served as a roughly prepared floor used in conjunction with the terraces and fire pits.

Modern 3 is a cluster of five component features located 18.0 meters east of Modern 2 and adjacent to the cliff edge to the south. The features consist of two mounds, a terrace and two fishing pole holders located in an area 9.5 meters long (east-west) and 6.0 meters wide (**Figure 41**). The mounds and terraces consist of subangular basalt boulders and cobbles that appear to have been bulldozed into place. They range in length from 2.5 to 4.4 meters, in width from 1.4 to 1.7 meters and in height from 0.4 to 1.5 meters (**Figure 42** and **Figure 43**). A fishing pole anchor is incorporated into the mound along the cliff edge. Two additional small fishing pole holders are located at the east and west ends of the site (**Figure 44** and **Figure 45**). The terraces and mounds likely serve as sitting areas for fishermen visiting the area.

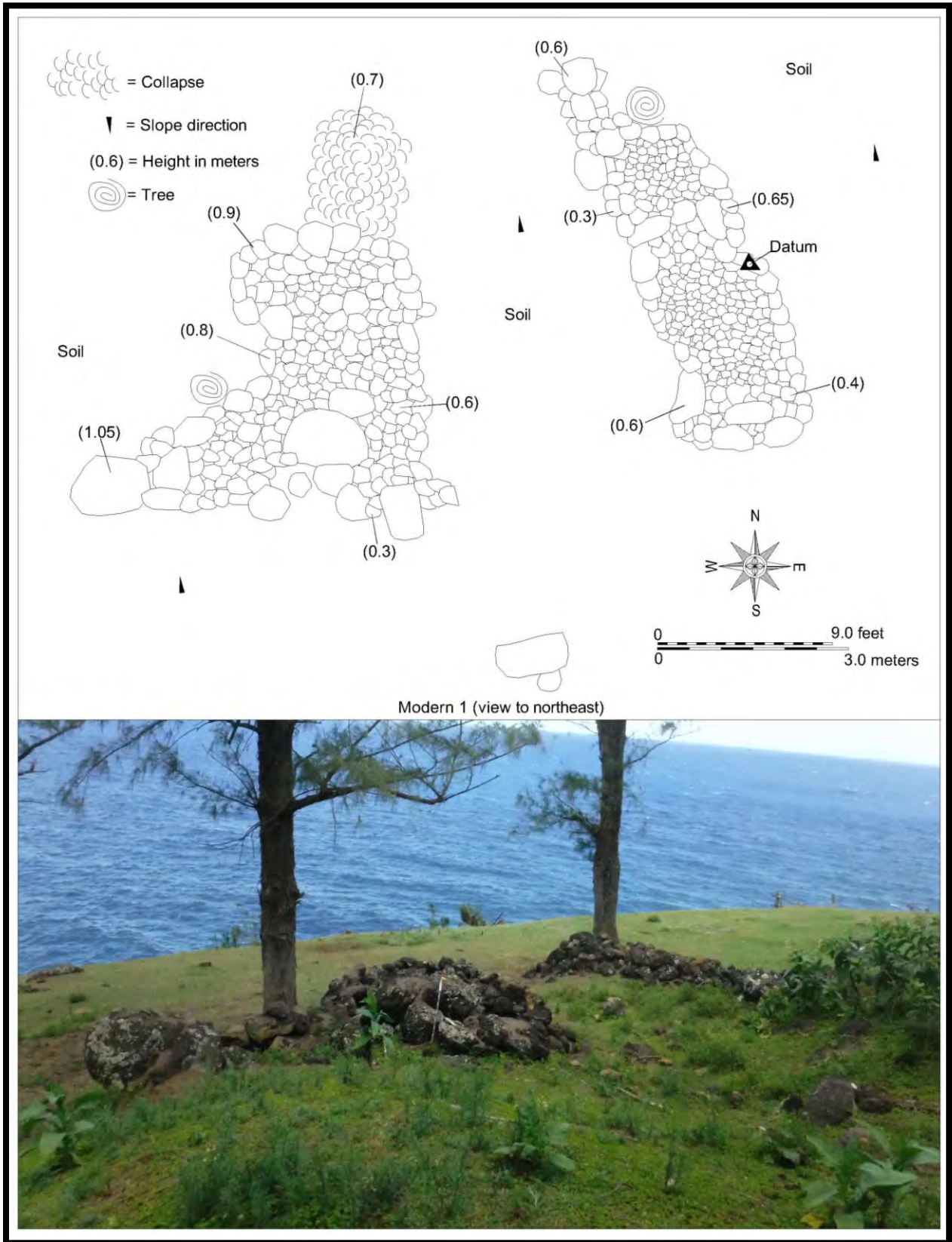


Figure 35. Modern 1 plan map and photograph.

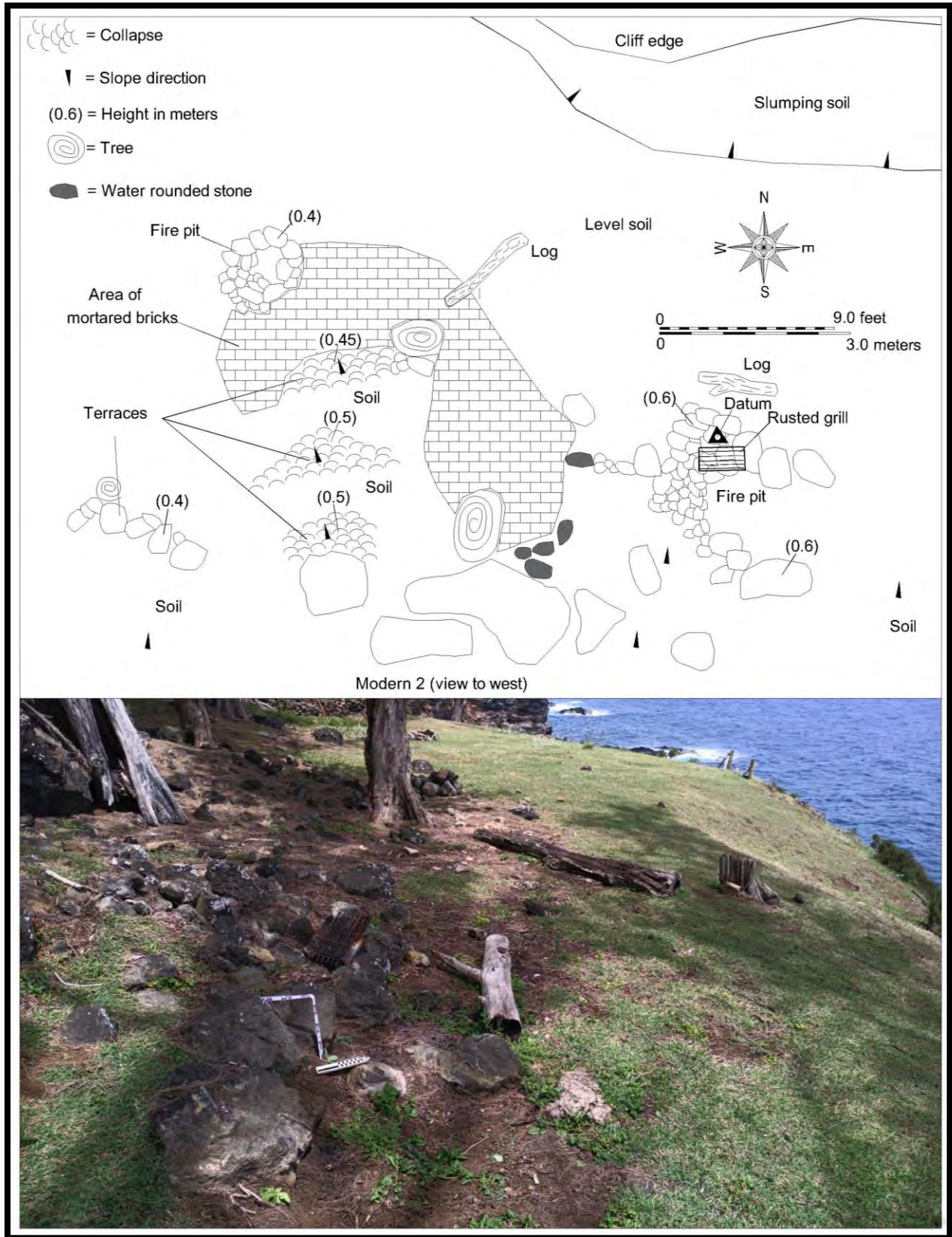


Figure 36, Modern 2 plan map and photograph.



Figure 37. Modern 2, firepit (view to north).



Figure 38. Modern 2, fire pit (view to east).



Figure 39. Modern 2, terraces (view to south).



Figure 40. Modern 2, brick concentration (view to northwest).

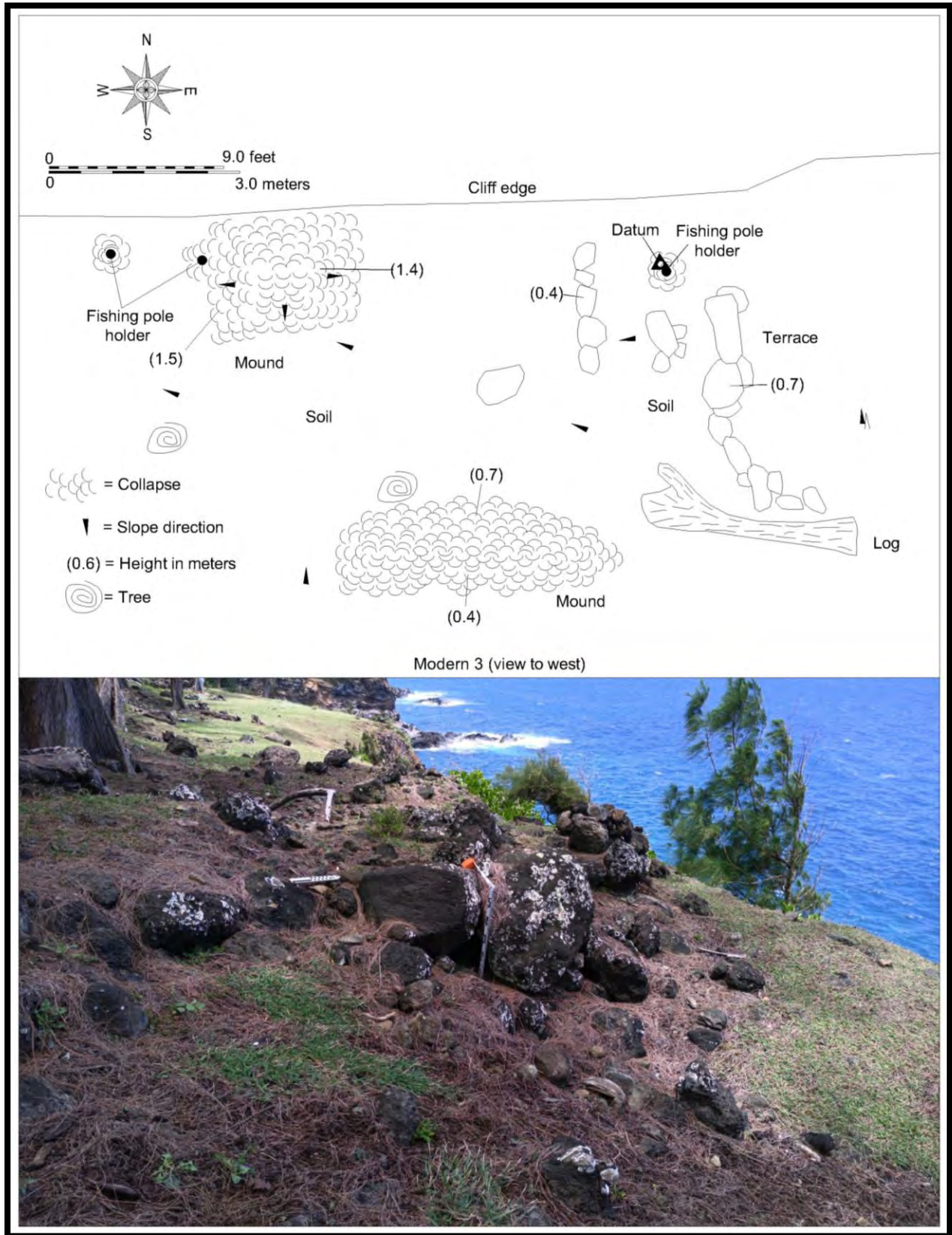


Figure 41. Modern 3 plan map and photograph.



Figure 42. Modern 3, terrace with fishing pole holder in background (view to east).



Figure 43. Modern 3, mound (view to northeast).



Figure 44. Modern 3, eastern fishing pole holder (view to east).



Figure 45. Modern 3, western fishing pole holder (view to east).

CONCLUSION

Discussion

The identified sites conform to expected historic remains within the project area. The sites consist of an historic road (Site 31348), a complex of historic agricultural features (Site 31349), an historic/modern temporary encampment potentially used by local fisherman (Site 31350), and the disturbed remnants of a possible cattle wall (Site 31351). A portion of the project area is located within LCA 10281 awarded to Manuia, which according to testimony included one 'āpana and two orange trees. No mention of a house or other structure is mentioned and no physical evidence of this LCA was noted during the project.

No traditional Hawaiian sites were identified in the project area. This is not unexpected because of the extensive mechanized cultivation of sugar cane that would have destroyed most evidence of the traditional use of the area. Evidence of the modern use of the project area was also identified in the seaward portion of the parcel. These consist of mounds and terraces potentially used as sitting areas, fire pits, fishing pole holders and a concentration of mortared bricks, likely created and used by local fisherman.

Significance Assessments

The sites identified during the survey is assessed for significance based on Hawai'i Administrative Rules (HAR) §13-284-6. According to (HAR) §13-284-6 (b), a site must possess integrity of location, design, setting, materials, workmanship, feeling, and/or association and shall meet one or more of the following criteria:

1. **Criterion "a"**: Be associated with events that have made an important contribution to the broad patterns of our history;
2. **Criterion "b"**: Be associated with the lives of persons important in our past;
3. **Criterion "c"**: Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value;
4. **Criterion "d"**: Have yielded, or is likely to yield, information important for research on prehistory or history; and
5. **Criterion "e"**: Have an important traditional cultural value to the native Hawaiian people or to another ethnic group of the state due to associations with traditional 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.

The four sites in the project area possess integrity of location, design, setting, materials, workmanship, feeling and association. The sites are assessed as significant under Criterion "d" and have yielded information important for understanding historic transportation, agriculture, temporary habitation and livestock control in the area.

Treatment Recommendations

The documentation of Sites 31348, 31349, 31350, and 31351 adequately document them and no further work or preservation is recommended. The landowner plans to install new fencing in both parcels, and to conduct a program of invasive species removal. The program will include the elimination of Christmas berry (*Schinus terebinthifolius*), turkey berry (*Solanum torbum*), and spiny amaranth (*Amaranthus spinosus*), and the trimming of coastal ironwoods (*Casuarina equisetifolia*) and the removal of dead ironwood trees and branches (see **Figure 3**). This proposed activity will have no effect on the historic properties due to the aforementioned recommendations.

TRANSLATION OF HAWAIIAN WORDS¹

ahupua'a - traditional Hawaiian land unit usually extending from the uplands to the sea

'āpana - piece, slice, portion

heiau - Pre-Christian place of worship, shrine

holua - sled, especially the ancient sled used on grassy slopes; the sled course.

'ili - land section, next in importance to *ahupua'a* and usually a subdivision of an *ahupua'a*

kihapai - small land division, smaller than a *paukū*; cultivated patch, garden, orchard, field

konoiki - headman of an *ahupua'a* land division under the chief

kuleana - small piece of property, as within an *ahupua'a*

Māhele - land division of 1848

māla - garden, plantation, patch, cultivated field

¹ - from wehewehe.org

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Well Check Program

3/23/21 - Revised for update to Well Standards (February 2004)

Data Input			
Date	6/21/2024		
Well Number	8-6527-001		
Well Name	HHL Irrigation		
Ground Elevation (msl, feet)	200		
Cement Grout (feet)	150.5		
Grouting Method	positive displacement		
Hole Diameter (inches)	12		
Total Depth (feet)	215	215	okay
Water Level Elevation (feet msl)	2	Depth to water	198
Public Water Supply Well?	no		
Solid Casing Material	pvc plastic	plastic	
Solid Casing Specification	Schedule 40		
Solid Casing Length (feet)	200		
Solid Casing Diameter (inches)	6		
Solid Casing Wall Thickness (inches)	0.280		
Open / Perforated / Screen Casing Length (feet)	15		
Open Hole Length (feet)	0		
Results			
Well Depth (1/4 thickness)			
Theoretical Thickness of Aquifer	82		
1/4 Aquifer Thickness	20.5		
Elevation of 1/4 thickness (msl)	-18.5		
<i>Elevation of total well depth</i>	-15	okay	Section 2.2
Well Depth (1/2 thickness)			
Theoretical Thickness of Aquifer	82		
1/2 Aquifer Thickness	41		
Elevation of 1/2 thickness (msl)	-39		
<i>Elevation of total well depth</i>	-15	okay	
Well Casing			
Minimum Wall Thickness			
Material	pvc plastic		
Minimum Thickness per standards	no requirement		
<i>Wall Thickness Provided</i>	0.28	no standard	Section 2.4(b)
Minimum Length of Solid Casing			
90% of ground to top of aquifer	178.2		
<i>Length of solid casing Provided</i>	200	okay	Section 2.4(c)
<i>Casing Material</i>	Schedule 40	in compliance	Section 2.4(d)
<i>(for pvc only - check for 200' limit)</i>		okay	Section 2.4(d)
Annular Space			
Depth of Grouting			
Calculated Depth of Grouting	138.6		
<i>Depth of Grouting provided</i>	150.5	okay	Section 2.6(c)
Minimum Annular Space required	1.5		
<i>Thickness of Annular Space</i>	3	okay	Section 2.6(d)

Exhibit 2 Well design check

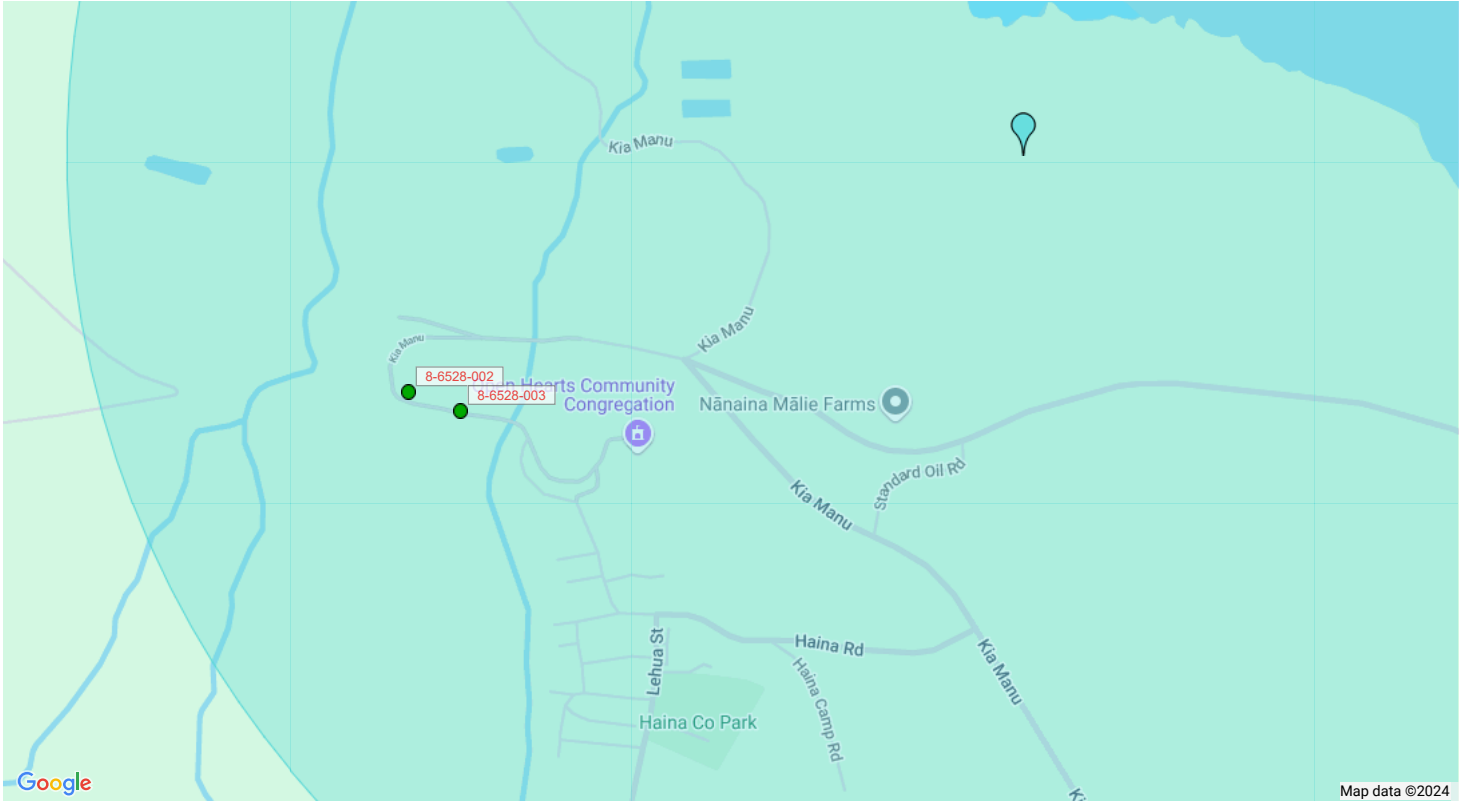


1-Mile Radius Tool

1. Move the blue pin or right click on the map to select a center position.
2. Click on "Go" button to find a well within the specified radius from the center position.

Latitude: Longitude: Radius: mile Include 12-MAV

2 wells found. [Download KML](#) | [Download Excel](#)



2 matching results found.

Sort By: Well Number

Well Number	Aquifer System	Well Name	Well Owner/Operator	Water Use Reporter	Land Owner	TMK	Use	Year Drilled	Latest 12-MAV	Last Reported Date
8-6528-002	80201 Honokaa	Enserch 1	Hamakua Energy Partners	David Cummings (Hamakua Energy Partners)	Hamakua Energy LLC	(3) 4-5-002:056	INDEL	1998	0.000	7/31/2024
8-6528-003	80201 Honokaa	Enserch 2	Hamakua Energy Partners	David Cummings (Hamakua Energy Partners)	Hamakua Energy LLC	(3) 4-5-002:056	INDEL	2000	0.216	7/31/2024

Exhibit 3 1-mile radius map



STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
EMD/CWB

05023PDCL.18

May 10, 2018

MEMORANDUM

SUBJECT: Clean Water Branch Standard Project Comments

TO: Agencies and Project Owners

FROM: ALEC WONG, P.E., CHIEF *Alec Wong*
Clean Water Branch

This memo is provided for your information and sharing. You are encouraged to share this memo with your project partners, team members, and appropriate personnel.

The Department of Health (DOH), Clean Water Branch (CWB) will no longer be responding directly to requests for comments on the following documents (Pre-consultation, Early Consultation, Preparation Notice, Draft, Final, Addendums, and/or Supplements):

- Environmental Impact Statements (EIS)
- Environmental Assessments (EA)
- Stream Channel Alteration Permits (SCAP)
- Stream Diversion Works Permits (SDWP)
- Well Construction/Pump Installation Permits
- Conservation District Use Applications (CDUA)
- Special Management Area Permits (SMAP)
- Shoreline Setback Areas (SSA)

For agencies or project owners requiring DOH-CWB comments for one or more of these documents, please utilize the DOH-CWB Standard Comments below regarding your project's responsibilities to maintain water quality and any necessary permitting. DOH-CWB Standard Comments are also available on the DOH-CWB website located at: <http://health.hawaii.gov/cwb/>.

Exhibit 4 Agency comments

DOH-CWB Standard Comments

The following information is for agencies and/or project owners who are seeking comments regarding environmental compliance for their projects with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program.

1. Any project and its potential impacts to State waters must meet the following criteria:
 - a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
 - b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
 - c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).
2. You may be required to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage for point source water pollutant discharges into State surface waters (HAR, Chapter 11-55). Point source means any discernible, confined, and discrete conveyance from which pollutants are or may be discharged.

For NPDES general permit coverage, a Notice of Intent (NOI) form must be submitted at least 30 calendar days before the commencement of the discharge. An application for a NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. To request NPDES permit coverage, you must submit the applicable form ("CWB Individual NPDES Form" or "CWB NOI Form") through the e-Permitting Portal and the hard copy certification statement with the respective filing fee (\$1,000 for an individual NPDES permit or \$500 for a Notice of General Permit Coverage). Please open the e-Permitting Portal website located at: <https://eha-cloud.doh.hawaii.gov/epermit/>. You will be asked to do a one-time registration to obtain your login and password. After you register, click on the Application Finder tool and locate the appropriate form. Follow the instructions to complete and submit the form.

Some of the activities requiring NPDES permit coverage include, but, are not limited to:

a. Discharges of Storm Water

- i. For Construction Activities Disturbing One (1) or More Acres of Total Land Area.

By HAR Chapter 11-55, an NPDES permit is required before the start of the construction activities that result in the disturbance of one (1) or more acres of total land area, including clearing, grading, and excavation. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale.

- ii. For Industrial Activities for facilities with primary Standard Industrial Classification (SIC) Codes regulated in the Code of Federal Regulations (CFR) at 40 CFR 122.26(b)(14)(i) through (ix) and (xi). If a facility has more than one SIC code, the activity that generates the greatest revenue is the primary SIC code. If revenue information is unavailable, use the SIC code for the activity with the most employees. If employee information is also unavailable, use the SIC code for the activity with the greatest production.

- iii. From a small Municipal Separate Storm Sewer System (along with certain non-storm water discharges).

- b. Discharges to State surface waters from construction activity hydrotesting or dewatering
- c. Discharges to State surface waters from cooling water applications
- d. Discharges to State surface waters from the application of pesticides (including insecticides, herbicides, fungicides, rodenticides, and various other substances to control pest) to State waters
- e. Well-Drilling Activities

Any discharge to State surface waters of treated process wastewater effluent associated with well drilling activities is regulated by HAR Chapter 11-55. Discharges of treated process wastewater effluent (including well drilling slurries,

lubricating fluids wastewater, and well purge wastewater) to State surface waters requires NPDES permit coverage.

NPDES permit coverage is not required for well pump testing. For well pump testing, the discharger shall take all measures necessary to prevent the discharge of pollutants from entering State waters. Such measures shall include, if necessary, containment of initial discharge until the discharge is essentially free of pollutants. If the discharge is entering a stream or river bed, best management practices (BMPs) shall be implemented to prevent the discharge from disturbing the clarity of the receiving water. If the discharge is entering a storm drain, the discharger must obtain written permission from the owner of the storm drain prior to discharge. Furthermore, BMPs shall be implemented to prevent the discharge from collecting sediments and other pollutants prior to entering the storm drain.

3. A Section 401 Water Quality Certification (WQC) is required if your project/activity:
 - a. Requires a federal permit, license, certificate, approval, registration, or statutory exemption; and
 - b. May result in a discharge into State waters. The term “discharge” is defined in Clean Water Act, Subsections 502(16), 502(12), and 502(6).

Examples of “discharge” include, but are not limited to, allowing the following pollutants to enter State waters from the surface or in-water: solid waste, rock/sand/dirt, heat, sewage, construction debris, any underwater work, chemicals, fugitive dust/spray paint, agricultural wastes, biological materials, industrial wastes, concrete/sealant/epoxy, and washing/cleaning effluent.

Determine if your project/activity requires a federal permit, license, certificate, approval, registration, or statutory exemption by contacting the appropriate federal agencies (e.g. Department of the Army (DA), U.S. Army Corps of Engineers (COE), Pacific Ocean Division Honolulu District Office (POH) Tel: (808) 835-4303; U.S. Environmental Protection Agency, Region 9 Tel: (415) 947-8021; Federal Energy Regulatory Commission Tel: (866) 208-3372; U.S. Coast Guard Office of Bridge Programs Tel: (202) 372-1511). If your project involves work in, over, or under waters of the United States, it is highly recommended that you contact the Army Corp of Engineers, Regulatory Branch regarding their permitting requirements.

To request a Section 401 WQC, you must complete and submit the Section 401 WQC application. This application is available on the e-Permitting Portal website located at: <https://eha-cloud.doh.hawaii.gov/epermit/>.

Please see HAR, Chapter 11-54 for the State's Water Quality Standards and for more information on the Section 401 WQC. HAR, Chapter 11-54 is available on the CWB website at: <http://health.hawaii.gov/cwb/>.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of \$25,000 per day per violation and up to two (2) years in jail.
5. It is the State's position that all projects must reduce, reuse, and recycle to protect, restore, and sustain water quality and beneficial uses of State waters. Project planning should:
 - a. Treat storm water as a resource to be protected by integrating it into project planning and permitting. Storm water has long been recognized as a source of irrigation that will not deplete potable water resources. What is often overlooked is that storm water recharges ground water supplies and feeds streams and estuaries; to ensure that these water cycles are not disrupted, storm water cannot be relegated as a waste product of impervious surfaces. Any project planning must recognize storm water as an asset that sustains and protects natural ecosystems and traditional beneficial uses of State waters, like community beautification, beach going, swimming, and fishing. The approaches necessary to do so, including low impact development methods or ecological bio-engineering of drainage ways must be identified in the planning stages to allow designers opportunity to include those approaches up front, prior to seeking zoning, construction, or building permits.
 - b. Clearly articulate the State's position on water quality and the beneficial uses of State waters. The plan should include statements regarding the implementation of methods to conserve natural resources (e.g. minimizing potable water for irrigation, gray water re-use options, energy conservation through smart design) and improve water quality.
 - c. Consider storm water Best Management Practice (BMP) approaches that minimize the use of potable water for irrigation through storm water storage and reuse, percolate storm water to recharge groundwater to revitalize natural hydrology, and treat storm water which is to be discharged.

- d. Consider the use of green building practices, such as pervious pavement and landscaping with native vegetation, to improve water quality by reducing excessive runoff and the need for excessive fertilization, respectively.
- e. Identify opportunities for retrofitting or bio-engineering existing storm water infrastructure to restore ecological function while maintaining, or even enhancing, hydraulic capacity. Consideration should be given to areas prone to flooding, or where the infrastructure is aged and will need to be rehabilitated.

Private Water Wells

WARNING! As the owner of a privately-owned well, you should **NOT** assume that water from your well is safe for consumption. It is your responsibility to make sure that your well water is safe to drink. The only way to do this is to have your well regularly tested for bacteriological and chemical contaminants.

There are no regulations controlling water quality in private wells serving individual residences as there are for public water systems (public or privately-owned utilities supplying water to 25 or more people or 15 service connections). In other words, there are no enforceable limits for contaminants and no requirements for regular testing. Private wells are often found in rural areas, where many activities such as onsite wastewater disposal can contaminate the ground water.

U.S. Environmental Protection Agency (EPA) Recommendations

The EPA recommends that private well owners test their well water each year for such contaminants as Total Coliform bacteria, Nitrates, as well as any other contaminants that may be of concern in your area. More frequent testing may be appropriate if you suspect a problem. EPA also suggests that you consider testing for pesticides, organic chemicals, and heavy metals before using it for the first time. Please refer to the EPA website on Private Drinking Water Wells at <http://www.epa.gov/privatewells>.

Other Contaminants

Water testing can be very expensive. It is important that you spend time to identify what other potential contaminants may be of concern. Please refer to the EPA website on Private Drinking Water Wells at <http://www.epa.gov/privatewells/key-steps-protect-your-well> for more information. Be aware of what and how you use and dispose of household and garden chemicals. Also determine the location of nearby septic tanks or cesspools, and agricultural or industrial activities in the area. General information on known chemical contamination of ground water in Hawaii can be found at the DOH website <http://health.hawaii.gov/sdwb/groundwater-contamination-viewer>.

Laboratories

Whenever possible, utilize a laboratory that is certified or approved for the specific drinking water tests and carefully follow their instructions for collecting, storing, and transporting the samples. Be sure to ask the lab to use EPA approved methods for drinking water analysis. A Directory of Drinking Water Laboratories Certified or Approved by the Hawaii Department of Health, State Laboratories Division can be found at <http://health.hawaii.gov/sdwb/files/2018/01/Labs2017Dec.pdf>. As lab certification status changes constantly, confirm their status when you contact the lab. Please note that the list is limited to currently regulated contaminants in public water systems.

Results


Once the lab provides you with the test results, you will be in a better position to determine if your well water is safe to drink or what contaminant you need to treat for. Generally, you should compare the results with Federal (www.epa.gov/safewater/mcl.html) and State (<http://health.hawaii.gov/sdwb/files/2014/07/MCL-Fct-2014-07-10.pdf>) Maximum Contaminant Level (MCL) drinking water standards. Where your test results are greater than the Federal or State maximum contaminant levels, your well water should be considered as **unsafe** for consumption.



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

Jun 28, 2024

TO: Kenneth Fink, M.D., Director
Department of Health
Attention: Jonathan Nagato, Acting Chief, Wastewater Branch

FROM: Dean D. Uyeno, Acting Deputy Director for
Dawn N.S. Chang, Chairperson
Commission on Water Resource Management 

SUBJECT: Well Construction/Pump Installation Permit Application
HHL Irrigation Well (Well No. 8-6527-001) TMK: (3) 4-5-002:016
Well address: 45-5034 Nanaina Kai Road **Paalaea-Lauka, Honokaa, HI 96727**

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. **Please respond by returning this cover memo form by August 5, 2024.** If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Queenie Komori of the Commission staff at (808) 636-8503.

QK:ss
Attachment(s)

RESPONSE:

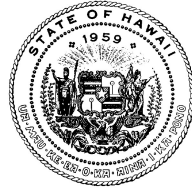
- This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 25 or more people at least 60 days per year or has 15 or more service connections) and **must** receive Director of Health approval **prior** to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-20-29.
- This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year or 15 service connections) and if the well water is used for drinking, the private owner **should** test for bacteriological and chemical presence before initiating such use and routinely monitor the water quality thereafter. However, if future planned use from this source increases to meet the public water system definition then Director of Health approval is required **prior** to implementation.
- If the well is used to supply both potable and non-potable purposes in a single system, the user shall eliminate cross-connections and backflow connections by physically separating potable and non-potable systems by an air gap or an approved backflow preventer, and by clearly labeling all non-potable spigots with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices should be routinely inspected and tested.
- It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.
- For the applicant's information, a source of possible wastewater contamination **is** **is not** located near the proposed well site (information attached).
- An NPDES permit is required. **Septic Tank, Permit 72373 ONLY Approved to Build 2023 11 03 - 1 pdf.**
- Other relevant DOH rules/regulations, information, or recommendations are attached.
- In the event that the location of the well changes but is still within the parcel described on this application, our division considers the comments to still be applicable, and we do not need to review the new location.
- An injection well permit is required for the disposal of the effluent from this well.
- No comments/objections

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

Signed: Mark Tomomitsu Date: 7/2/2024

WB LUD 6788

JOSH GREEN, M.D.
GOVERNOR OF HAWAII
KE KIA'AINA O KA MOKU'AINA 'O HAWAII



KENNETH S. FINK, MD, MGA, MPH
DIRECTOR OF HEALTH
KA LUNA HO'OKELE

STATE OF HAWAII
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

November 3, 2023

John A Younger
PO Box 14
Pepeekeo, HI 96783

Dear Sir/Madam:

Subject: Individual Wastewater System (IWS) for
Owner/Lessee: Stephen Winter
Project Site: 45-5034 Nanaina Kai Road, Honokaa, HI
TMK: 345002016
IWS File No.: 72373 Septic Tank E-Filed
Old File No.: N/A

The subject wastewater plans have been reviewed by the Wastewater Branch for conformance to applicable provisions of Hawaii Administrative Rules, Title 11, Chapter 62, entitled Wastewater Systems. The IWS plan conforms to applicable provisions of Chapter 11-62.

As the professional engineer responsible for the design of the above wastewater plan, it is your responsibility to inform the owner/lessee of the property that: **a) the IWS plans must be attached to each set of permit construction plans, b) the IWS must be installed by a licensed contractor holding A, C-9, C-37, C-37a or C-43 license, c) inspected and certified by the designing engineer, d) authorized in writing by the Department of Health before use, and e) IWS approval expires in one year without concurrent active building permit.**

For new dwellings, the Department of Health will process an applicable county building permit application provided that all information submitted as part of the IWS plan and county building permit application are consistent with each other and meet applicable provisions of Chapter 11-62, HAR at the time of permit application.

For renovation projects that require abandoning the existing cesspool and/or require building modifications to the existing dwelling (require separate permit) to comply with Chapter 11-62, HAR, the new IWS and/or required modifications to the existing dwelling must be completed **prior** to applying for a County Building Permit for the project. For clarification purposes, the separate building modifications permit to the existing dwelling will be considered completed when the County Building Permit is properly closed for that work.

If you have any questions, please contact Mark Tomomitsu of my staff at (808) 586-4294.

Sincerely,

SINA PRUDER, P.E.
Chief, Wastewater Branch

JOSH GREEN, M.D.
GOVERNOR | KE KĀĀINA
SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KĀĀINA



DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
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ACTING DEPUTY DIRECTOR - WATER
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CONSERVATION AND COASTAL LANDS
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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

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

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

August 22, 2024

IN REPLY REFER TO:
Project No. 2024PR.00846
Doc. No. 2408JG14

MEMORANDUM

TO: Dean D. Uyeno, Acting Deputy Director
State Commission on Water Resource Management
P.O. Box 621, Honolulu, Hawai'i 96809
c/o Queenie Komori, queenie.k.komori@hawaii.gov

FROM: Joshua Gastilo, Hawai'i Island Historic Preservation Archaeologist III

SUBJECT: Chapter 6E-42 Historic Preservation Review
Well Construction/Pump Installation Permit Application, HHL Irrigation Well
(Well No. 8-6527-001)
Papa'anni Ahupua'a, Hāmākua District, Island of Hawai'i
TMK: (3) 4-5-002.016

RESPONSE:

This is a public (county or state) project private project and will may affect historic properties.

SHPD's determination is **no historic properties affected** for the work described under this permit
(no historic properties have been identified within or near the proposed project area)

Pursuant to HAR §13-284-7(e), when the SHPD agrees that the action will not affect any significant historic properties, this is the SHPD's written concurrence and historic preservation review ends. The historic preservation review process is ended. The permit issuance process may proceed.

Please attach to permit: In the unlikely event that subsurface historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sink holes are identified during the demolition and/or construction work, cease work in the immediate vicinity of the find, protect the find from additional disturbance, and contact the State Historic Preservation Division, at (808) 933-7651.

Contact Joshua Gastilo at joshua.gastilo@hawaii.gov for any questions regarding this letter.

Signed:

Susan A. Lebo

Susan A. Lebo, PhD
Archaeology Branch Chief
Acting Administrator, State Historic Preservation Division

cc. Stephen Winter, winter@winterplc.com
Derrick Moreira, derrickswelldrilling07@gmail.com

From: [Roy, Alex](#)
To: [Komori, Queenie K](#)
Subject: [EXTERNAL] Well No. 8-6527-001
Date: Friday, August 2, 2024 7:45:19 AM
Attachments: [DOC176.pdf](#)

Queenie,

See attached well form, they have an active SMA permit for the parcel.

Just check with OCCL as some of the parcel is within the SLU Conservation District, they were supposed to get a CDUP for the project.

Thanks!

Alex Roy
COH-Planning (SMA)



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

Jun 28, 2024

Mr. Zendo Kern
Planning Director
Planning Department
County of Hawaii
101 Aupuni Street, Suite 3
Hilo, HI 96720

Aloha Mr. Kern:

Special Management Area Use Permit Requirements for
Well Construction/Pump Installation Permit Application
HHL Irrigation Well (Well No. 8-6527-001) TMK: (3) 4-5-002:016

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

We would appreciate your comments on the captioned application with regard to the SMA permitting requirements specific to your division. **Please respond by returning this cover memo form by August 5, 2024.** If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Queenie Komori of the Commission staff at (808) 636-8503.

Ola i ka wai,

DEAN D. UYENO
Acting Deputy Director

QK:ss

RESPONSE:

This well project requires [] does not require an SMA permit. If an SMA permit is required, SMA permit no. _____
 has [] has not been approved and is [] is not currently active.

PL-SMA-2023-43

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

[] No objections

Other comments: CHECK w/OCCL IF CDUP OR SPA IS REQUIRED

Contact Person: ALEX ROY

Phone: 961-9140

Signed:

Date: 8/2/24

From: [Chenet, Robert F](#)
To: [Komori, Queenie K](#)
Subject: RE: 8-6527-001 HHL Irrigation stream review
Date: Friday, June 21, 2024 2:09:23 PM
Attachments: [image001.png](#)

Aloha Queenie,

I don't believe that the HHL irrigation Well will impact the stream located ~ 0.5 miles away. As you noted the elevation of the Stream is 133' MSL while the Well is cased to 1.0' MSL. Even with a 40 gpm pump, I don't believe the cone of depression would be that far.

Mahalo,
Bob

Please stay Safe & Healthy!!

-

Have a Great Weekend!!

Robert (Bob) Chenet
Geologist, Survey Branch
State of Hawaii
Commission of Water Resources Management
1151 Punchbowl Street, Room 227
Honolulu, Hawaii 96813
robert.f.chenet@hawaii.gov
Office: (808) 587-0243
Fax (808) 587-0219

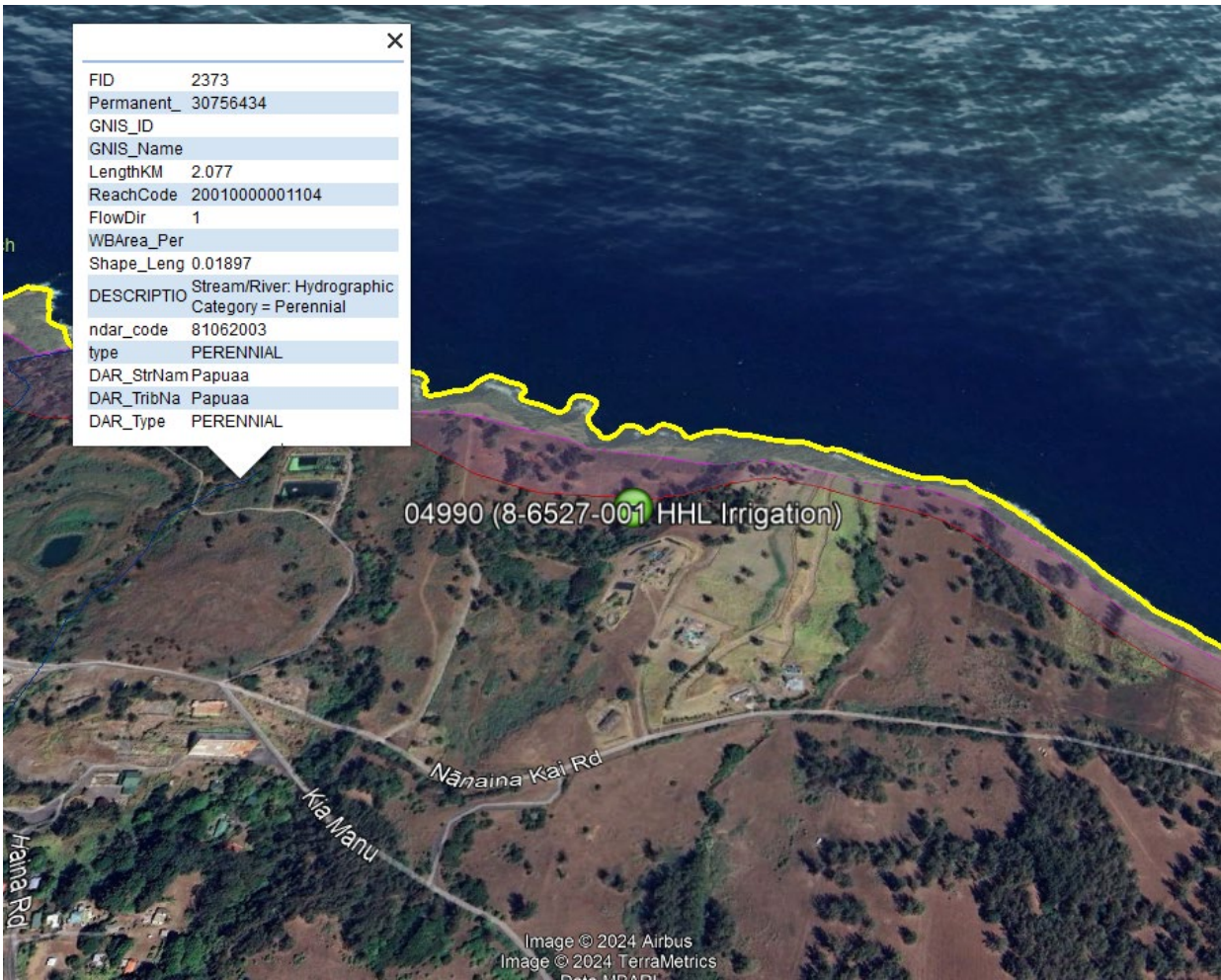
From: Komori, Queenie K <queenie.k.komori@hawaii.gov>
Sent: Friday, June 21, 2024 1:12 PM
To: Chenet, Robert F <Robert.F.Chenet@hawaii.gov>
Subject: 8-6527-001 HHL Irrigation stream review

Aloha Bob:

We are processing the attached Well/Pump Installation application 8-6527-001 HHL Irrigation located on Hawaii (TMK: 345002016) in Honokaa. See attached WCPIA

Please provide review and comment of any well impact.

- The proposed well is located near Papuaa stream (about 0.5 mile) See map below.
- Ground elevation is 182' (well). Stream is about 133' elevation.
- The proposed pump capacity is 40 gpm which is not required to do any pump test.



Mahalo,
Queenie



HA-25-48 MC

DAWN N. S. CHANG
CHAIRPERSON

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

RECEIVED
OFFICE OF CONSERVATION
AND COASTAL LANDS

DEAN D. UYENO
ACTING DEPUTY DIRECTOR

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

2024 AUG 30 P 12:16

Aug 30, 2024

DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

TO: Mr. Michael Cain, Administrator
Office of Conservation and Coastal Lands

FROM: Dean D. Uyeno, Acting Deputy Director
Commission on Water Resource Management *Dean Uyeno*

SUBJECT: Well Construction/Pump Installation Permit Application
HHL Irrigation Well (Well No. 8-6527-001)

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

It appears that the subject well project is in conservation land. We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. **Please respond by returning this cover memo form by September 30, 2024.** If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Queenie Komori of the Commission staff at (808) 636-8503.

QK:ss
Attachment(s)

RESPONSE:

This well project [] requires does not require a CDUP. If a CDUP is required it [] has [] has not been approved and [] is [] is not currently active.

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

[] No objections

Other comments: *well site appears to be outside the Conservation District*

RECEIVED
COMMISSION ON WATER
RESOURCE MANAGEMENT
2024 SEP 16 AM 8:15

Contact Person: Michael Cain Phone: 587-0375

Signed: *Michael Cain* Date: 9-11-24

WELL CONSTRUCTION PERMIT
HHL Irrigation Well, Well No. 8-6527-001

Note: This permit shall be prominently displayed at the construction site until the work is completed

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the construction and testing of HHL Irrigation Well (Well No. 8-6527-001) at TMK (3) 4-5-002:016, Island of Hawaii, subject to the Hawaii Well Construction & Pump Installation Standards (HWCPIIS - February 2004) which include but are not limited to the following conditions:

1. The Chairperson of the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work authorized by this permit commences and staff shall be allowed to inspect installation activities in accordance with §13-168-15, Hawaii Administrative Rules (HAR).
2. This permit shall be prominently displayed, or made available, at the site of construction work until work is completed.
3. The well construction permit shall be for construction and testing of the well only. The permittee shall coordinate with the Chairperson and conduct a pumping test in accordance with the HWCPIIS (the latest pump test worksheet can be obtained by contacting Commission staff or at <http://files.hawaii.gov/dlnr/cwrm/forms/APTR.pdf>). The permittee shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson. No withdrawal of water shall be made for purposes other than testing without a Certificate of Pump Installation Completion. The permitted pump capacity described on the pump installation permit **may be reduced** in the event that the pump test does not support the capacity.
4. In basal ground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical thickness (41 times initial head) of the basal ground water unless otherwise authorized by the Chairperson. If it can be shown that the well does not tap basal ground water then this condition may be waived after consultation with and acceptance by Commission staff. However, in no instance can the well be drilled deeper than one-half (1/2) of the theoretical thickness without Commission approval.
5. The permittee shall incorporate mitigation measures to prevent construction debris from entering the aquatic environment, to schedule work to avoid periods of high rainfall, and to revegetate any cleared areas as soon as possible.
6. In the event that historically significant remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee shall stop work and immediately contact the Department of Land and Natural Resources' State Historic Preservation Division. Work may recommence only after written concurrence by the State Historic Preservation Division.
7. The proposed well construction shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to construct the well shall not constitute a determination of correlative water rights.
8. The Well Completion Report Part I shall be submitted to the Chairperson within thirty (30) days after completion of work (please contact staff or visit <http://files.hawaii.gov/dlnr/cwrm/forms/WCR1.pdf> for current form).
9. The permittee shall comply with all applicable laws, rules, and ordinances; non-compliance may be grounds for revocation of this permit.
10. The well construction permit application and, if relevant, any related staff submittal approved by the Commission are incorporated into this permit by reference.
11. If the HWCPIIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.
12. Any variances from the HWCPIIS shall be approved by the Chairperson prior to invoking the variance.
13. The work proposed in the well construction permit application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than the date the permit expires.
14. If the well is not to be used it must be properly capped. If the well is to be abandoned during the course of the project then the permittee must apply for a well abandonment permit in accordance with §13-168-12(f), HAR, prior to any well sealing or plugging work.
15. The permittee, its successors, and assigns shall indemnify, defend, and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, or death arising out of any act or omission of the applicant, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit.
16. This permit shall apply to the location shown on the application only. If the well is to be relocated, the permittee shall apply for a new well construction/pump installation permit in accordance with §13-168-12(f), HAR.
17. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

Date of Approval:

Dawn N.S. Chang, Chairperson

Expiration Date: **Two (2) years from approval date**

Commission on Water Resource Management

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed and understand that I shall not commence work until I have signed, dated, and returned the permit to the Commission. I understand that this permit is not to be transferred to any other entity. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to \$5,000 per day starting from the permit date of approval.

Driller's Signature: _____ C-57 License #: C-28001 Date: _____

Printed Name: Derrick Moreira Firm or Title: Derrick's Well Drilling & Pump Services, LLC

Please sign both copies of this permit, return one copy to the Commission office, and retain the other for your records.

Attachment

PUMP INSTALLATION PERMIT
HHL Irrigation Well, Well No. 8-6527-001

Note: This permit shall be prominently displayed at the site until the work is completed

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the pump installation for HHL Irrigation Well (Well No. 8-6527-001) at TMK (3) 4-5-002:016, Island of Hawaii, subject to the Hawaii Well Construction & Pump Installation Standards (HWCPIS - February 2004) which include but are not limited to the following conditions:

1. The Chairperson to the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work covered by this permit commences and staff shall be allowed to inspect installation activities in accordance with §13-168-15, Hawaii Administrative Rules (HAR).
2. No withdrawal of water shall be made other than for testing until a Certificate of Pump Installation Completion has been issued by the Commission.
3. This permit shall be prominently displayed, or made available, at the site of construction work until work is completed.
4. The pump installation permit shall be for installation of a 40 gpm rated capacity, or less, pump in the well. This permanent capacity may be reduced in the event that the pump test data does not support the capacity.
5. A water-level measurement access shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels.
6. The permittee shall install an approved meter or other appropriate means for measuring and reporting withdrawals and appropriate devices or means for measuring chlorides and temperature at the well head.
7. Well Completion Report Part II shall be submitted to the Chairperson within thirty (30) days after completion of work (please contact staff or visit <http://files.hawaii.gov/dlnr/cwrm/forms/WCR2.pdf> for current form).
8. The permittee, well operator, and/or well owner shall comply with all applicable laws, rules, and ordinances, and non-compliance may be grounds for revocation of this permit.
9. The pump installation permit application and, if relevant, any related staff submittal approved by the Commission are incorporated into this permit by reference.
10. If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.
11. Any variances from the HWCPIS shall be approved by the Chairperson **prior** to invoking the variance.
12. The work proposed in the pump installation permit application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than the date the permit expires.
13. The permittee, its successors, and assigns shall indemnify, defend, and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, or death arising out of any act or omission of the applicant, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit.
14. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

Date of Approval:

Dawn N.S. Chang, Chairperson

Expiration Date: **Two (2) years from approval date**

Commission on Water Resource Management

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed and understand that I shall not commence work until I and the pump installer have signed, dated, and returned the permit to the Commission. I understand that this permit is not to be transferred to any other entity. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to \$5,000 per day starting from the permit date of approval.

Installer's Signature: _____ C-57, C-57a, or A License #: C-28001 Date: _____

Printed Name: Derrick Moreira

Derrick's Well Drilling & Pump Services,
Firm or Title: LLC

Please sign both copies of this permit, return one copy to the Commission office, and retain the other for your records.

Attachments

Exhibit 6 Pump Installation Permit