Conservation District Use Application

Improvements in the Conservation District at Haina and Pāpaʻanui

Hāmākua District, Hawaiʻi Island

Applicants:
Stephen & Cheryl Winter

Agent:
PBR HAWAII & Associates, Inc.

January 2026

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& ASSOCIATES, INC.

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January 7, 2026

Mr. Michael Cain
Administrator
State of Hawaiʻi
Department of Land and Natural Resources
Office of Conservation and Coastal Lands
Kalanimoku Building
1151 Punchbowl Street, Room 131
Honolulu, HI 96813

ATTN: Tiger Mills, Staff Planner

SUBJECT: IMPROVEMENTS IN THE CONSERVATION DISTRICT AT HAINA AND PĀPAʻANUI – 45-5058 NĀNAINA KAI ROAD, HONOKAʻA, HAWAIʻI, TMKs (3) 4-5-002: 080 AND 016

Dear Mr. Cain,

On behalf of Stephen and Cheryl Winter ("Applicants"), we submit this Departmental Conservation District Use Application (CDUA) for Improvements in the Conservation District at Haina and Pāpaʻanui, located in the Hāmākua District of Hawaiʻi Island.

The Applicants propose very limited facilities and activities for the portions of their properties that are located in the State Land Use Conservation District (CD), which would require a Departmental Conservation District Use Permit (CDUP):

1. Removal of invasive plants that have come to dominate the area;
2. Replacement of removed invasive trees with native or Polynesian-introduced trees;
3. Extension of non-potable irrigation lines for irrigation to support native plant installation under drought conditions, these lines being fed from a remote, onsite non-potable well that is located outside the CD; and
4. Installation of walls and fences in several areas in the CD. A hogwire cross-fence will extend across both properties 40 feet inland of the certified shoreline to accommodate the public access corridor makai of the fence. A rock wall will be built on the western boundary. Total new rock wall in the CD is 299 feet, and total hogwire fencing is 1,986 feet.

The proposed walls and fences are necessary to: a) keep out the cattle that range freely in this area; b) exclude the feral pigs that are also present in numbers in this vicinity; c) contain a dog; d) qualify for participation in Natural Resources Conservation Service (NRCS) programs; and e) provide security for the Applicants and their property. The Applicants have had frequent intrusions by trespassers, incidents of serious crimes (including the theft of two vehicles owned by their contractors and the forced entry into two storage containers where construction equipment, tools, and furnishings are kept), several incidents of minor theft, and direct threats to their persons and property, including racial epithets and declarations of intent to steal their construction equipment and do them physical harm.

The Applicants are ***not*** requesting a permit for diversified agriculture in the CD at this time.

With this letter, we are additionally seeking a determination from the Department of Land and Natural Resources (DLNR) Office of Conservation and Coastal Lands (OCCL) that the proposed minor improvements are exempt from the preparation of an Environmental Assessment (EA) pursuant to the administrative rules promulgated under the authority of Hawaiʻi Revised Statutes (HRS) Chapter 343-6, and specifically under Hawaiʻi Administrative Rules (HAR) §11-200.1-15, §11-200.1-16, and §11-200.1-17, and the DLNR Exemption List (concurred on by the Environmental Council on November 10, 2020).

HAR §11-200.1-15(a) states: *"Some actions, because they will individually and cumulatively probably have minimal or no significant effects, can be declared exempt from the preparation of an EA."* Under HAR §11-200.1-15(c), actions eligible for an exemption from preparing an EA include:

> *(1) Operations, repairs, or maintenance of existing structures, facilities, equipment, or topographical features, involving minor expansion or minor change of use beyond that previously existing;*
>
> *(3)(D) Water, sewage, electrical, gas, telephone, and other essential public utility services extensions to serve such structures or facilities; accessory or appurtenant structures including garages, carports, patios, swimming pools, and fences; and acquisition of utility easements;*
>
> *(4) Minor alterations in the conditions of land, water, or vegetation;*

More specifically, the DLNR Exemption List allows for the following exemptions, which are applicable to the proposed improvements:

> ***General Exemption Type 1, Part 1***
>
> *1. Removal of boulders, rocks, hazardous trees, marine debris, and other similar hazards necessary to maintain lands and waters in a safe condition*
>
> *27. Maintenance of lands and waters to remove weeds, brushes, grass and other unwanted vegetation.*
>
> *28. Routine pruning, trimming, thinning, and removal of trees, excluding commercial logging.*
>
> ***General Exemption Type 3, Part 1***
>
> *2. Construction of security features, including fencing, gates, cameras, and other similar items.*
>
> *6. Installation and removal of irrigation systems.*
>
> ***General Exemption Type 4, Part 1***
>
> *2. Minor vegetation clearing and management, including mowing, pruning, trimming, and application of federal and state approved herbicides in conformance with label instructions.*
>
> *3. Removal of invasive vegetation utilizing cutting, mowing, application of federal and state approved herbicides in conformance with label instructions, distribution of*

biocontrol agents already approved and permitted by the State of Hawaii, and other approved methods. This exemption would not apply to issuing permits for initial releases of biocontrol of invasive species which are regulated and permitted by the Department of Agriculture or commercial logging.

5. Establish temporary or permanent vegetative cover including trees, shrubs, grasses, and sod for landscaping, reforestation, soil stabilization, watershed protection, native wildlife habitat, native ecosystem restoration, and rare plant preservation; provided, however, that this exemption shall not apply to vegetation that is likely to be invasive or for tree plantings for which harvesting is planned or is reasonably foreseeable.

7. Minor ground adjustments (e.g., grading, grubbing, cutting, clearing, or filling) that do not require grading permits.

16. The reintroduction or supplementation (e.g., stocking) of native, formerly native, or established species into suitable habitat within their historic or established range, where no or negligible environmental disturbances are anticipated.

Thank you for your consideration that the proposed improvements be exempt from the preparation of an EA pursuant to HAR §11-200.1-15 and the DLNR Exemption List. We look forward to working with your office in the processing of this Departmental CDUA and EA Exemption Request.

If you have any questions or would like any additional information, please contact me at (808) 521-5631 or gnakai@pbrhawaii.com.

Sincerely,

Greg Nakai
Planner/Senior Associate

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CONSERVATION DISTRICT USE APPLICATION (CDUA)

All permit applications shall be prepared pursuant to HAR 13-5-31

File No.:	
Acceptance Date:	180-Day Expiration Date:
Assigned Planner:	

for DLNR Use

PROJECT NAME: Improvements in the Conservation District at Haina and Pāpa‘anui

Conservation District Subzone: Limited

Identified Land Use: Removal of invasive species; Land and resource management (Basic land management; Planting of native and endemic plants and fence maintenance; Installation of new fence).

(See Hawai‘i Administrative Rules (HAR) §13-5-22 through §13-5-25)

Project Address: 45-5058 Nānaina Kai Road, Honoka‘a, HI 96727

Ahupuaʻa, District, Island: Haina and Pāpa‘anui Ahupua‘a, Hāmākua District, Hawai‘i Island

Tax Map Key(s): 3-4-5-002-080 and 3-4-5-002-016

Proposed Commencement Date: February 1, 2026

Proposed Completion Date: July 1, 2026

Estimated Project Cost: $100,000

Type of permit sought ☐ Board or ☒ Departmental

ATTACHMENTS

$ 250 Application fee. 2.5% of project cost for Board Permits, but no less than $250, up to a maximum of $2500; $250 for Departmental Permits (*ref §13-5-32 through 34)*.

$ 250 Public hearing fee if required *($250 plus publication costs; ref §13-5-40)*

- ☒ 6 copies of CDUA (*5 hard + 1 digital copy) (disc or cloud share; no flash drives)*
- ☐ Draft / Final Environmental Assessment (EA) *or* Final Environmental Impact Statement (EIS) *or* Statement of Exemption
- ☒ State Historic Preservation Division (SHPD) HRS 6E submittal form *or* Determination letter (dlnr.hawaii.gov/shpd/review-compliance/forms)
- ☐ Management plan *or* Comprehensive management plan (*ref §13-5-39)* if required
- ☒ Special Management Area determination *(ref Hawai‘i Revised Statutes 205A)*
- ☐ Shoreline certification (*ref §13-5-31(a)(8))* if land use is subject to coastal hazards.
- ☐ Kuleana documentation (*ref §13-5-31(f))* if applying for a non-conforming kuleana use.
- ☐ Boundary determination *(ref §13-5-17)* if land use lies within 50 feet of a subzone boundary.

LIST OF ATTACHMENTS

REQUIRED SIGNATURES

Applicant
Name: Stephen & Cheryl Winter
Title; Agency: Owner
Mailing Address: PO Box 189, Honoka'a, HI 96727-0189
Contact Person & Title: Stephen Winter, Owner
Phone: (313) 701-7071
Email: winter@winterplc.com
Interest in Property: Owner

Signature: _____ Date: 5 Jan '26
Signed by an authorized officer if for a Corporation, Partnership, Agency or Organization

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Landowner (if different than the applicant)
Name: Stephen and Cheryl Winter Trusts
Title; Agency: Click or tap here to enter text.
Mailing Address: same as above
Phone: Click or tap here to enter text.
Email: Click or tap here to enter text.

Signature: _____ Date: _____
For public lands, the government entity with management control shall sign as landowner.

Agent or Consultant
Agency: PBR HAWAII & Associates, Inc.
Contact Person & Title: Greg Nakai, Senior Associate
Mailing Address: 1001 Bishop Street, Suite 650, Honolulu, HI 96813
Phone: (808) 521-5631
Email: gnakai@pbrhawaii.com

Signature: _____ Date: 1/5/2026

For DLNR Managed Lands
Chairperson, Board of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai'i 96809-0621

Signature: _____ Date: _____

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PROPOSED USE

Total area of proposed use (indicate in acres or sq. ft.): Approx. 8.5 acres within Conservation District

Please provide a detailed description of the proposed land use(s) in its entirety. Information should describe what the proposed use is; the need and purpose for the proposed use; the size of the proposed use (provide dimensions and quantities of materials); and how the work for the proposed use will be done (methodology). If there are multiple components to a project, please answer the above for each component. Also include information regarding secondary improvements including, but not limited to, grading and grubbing, placement of accessory equipment, installation of utilities, roads, driveways, fences, landscaping, etc.

Attach all associated plans such as a location map, site plan, floor plan, elevations, and landscaping plans drawn to scale (*ref §13-5-31)*.

Stephen and Cheryl Winter ("Applicants") own two adjacent shoreline properties makai of Honokaʻa in the Hāmākua District of Hawaiʻi Island (Attachment 4 and Attachment 5). The terrain consists of rolling slopes ending at a steep, rocky *pali* that varies from 80 to 165 feet above sea level. No streams are present. The land is covered in grasses, ironwood, turkey berry, Christmas berry, spiny amaranth, and other non-native species, all under drought conditions and many of which are dead. About two-thirds of the site (extending from the *pali* various distances mauka) is within the Special Management Area (SMA). The mauka portion of the properties is within the State Land Use Agricultural District, while the makai portion – the "subject area" for this application – is within the Conservation District (CD) (see Attachment 6).

The Applicants are in the process of building a single-family residence, a cottage, a greenhouse, and miscellaneous other minor structures on the portion of these properties within the State Land Use Agricultural District. The land is experiencing drought and the Applicants will implement infrastructure improvements such as an irrigation well and lines, invasive species removal, a shop/equipment storage building, and additional fencing. The fencing is necessary to: a) keep out the cattle that range freely in this area; b) exclude the feral pigs that are also present in numbers in this vicinity; c) contain a dog; d) qualify for participation in Natural Resources Conservation Service (NRCS) programs; and e) provide personal security (see Attachment 7 for Site Plan). The properties have been surveyed for archaeological and biological resources, and all facilities have been designed to avoid impact to these resources. The Windward Planning Commission on 4/20/24 granted SMA Permit (PL-SMA-2023-000043 – see Attachment 3 for permit) to allow all these actions.

In addition to the SMA permit, a Departmental Permit is required for the very limited facilities and activities located within the CD (see Attachment 6), which are the focus of this application:

1. Removal through cutting, mowing, grubbing and very limited grading for stump removal of invasive plants that have come to dominate the area, specifically 47 ironwood trees (*Casuarina equisetifolia*) with diameters larger than 12 inches, and removal of about three acres of stands of Christmas berry (*Schinus terebinthifolius*), turkey berry (*Solanum torvum*), smaller ironwood trees, and other invasives (see Attachment 8 – Vegetation Management Map and Attachment 9 – New Native and Polynesian Tree Planting Map).

Ironwood groves on the west and east side of Conservation District Boundary line will be thinned in places to accommodate native tree plantings.

2. Replacement of removed trees with 69 native or Polynesian-introduced trees, including *ʻōhiʻa* (*Metrosideros polymorpha*), *kukui* (*Aleurites moluccana*), *ʻulu* (*Artocarpus altilis*), *kamani* (*Calophyllum inophyllum*), *hala* (*Pandanus tectorius*), *kou* (*Cordia subcordata*), *milo* (*Thespesia populnea*) and *ʻohe makai* (*Polyscias sandwicensis*) (see Attachment 9 – New Native and Polynesian Tree Planting Map).
3. Extension of non-potable irrigation lines for irrigation to support native plant installation under drought conditions, these lines being fed from a remote, onsite non-potable well that is located outside the Conservation District.
4. Installation of walls and fences in several areas in the Conservation District, as shown in the site plan (Attachment 7). A hogwire cross-fence will extend across both properties 40 feet inland of the certified shoreline to accommodate the public access corridor makai of the fence. A rock wall will be built on the western boundary. Total new rock wall in the Conservation District is 299 feet, and total hogwire fencing is 1,986 feet.

Shoreline fishing occurs makai of this and other properties in the area. Fishing sites are accessed by proceeding east from near the Honokaʻa Wastewater Treatment Plant along the upper edge of the *pali*. The public access corridor in the subject area will be maintained to ensure that it remains passable for hikers and fishers engaged in lateral access across the subject area. Regardless of future coastal erosion, Condition 4 of SMA Permit 2023-000043 (see Attachment 3) requires that the Applicants "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."

EXISTING CONDITIONS

Please describe the following, and attach maps, site plans, topo maps, colored photos, and biological or archaeological surveys as appropriate:

Prior Conservation District Use Permits or Site Plan Approvals (if applicable):
CDUP HA-3986 (approved November 10, 2025) for the consolidation and re-subdivision of land.

Existing access to site:
The Applicants' road access to the properties, including the subject area, are via driveways utilizing various easements from Nānaina Kai Road, as shown in Attachment 10. No changes to road access would occur. Lateral shoreline access by the public to the subject area is along an unpaved coastal "jeep road" that passes through various properties west of the Applicants' properties.

Existing buildings/structures:
There are no existing buildings or structures within the Conservation District portion of the properties.

Existing utilities (electrical, communication, gas, drainage, water & wastewater):
No electricity, telecommunications, or wastewater treatment facilities are available or needed for any of the activities proposed for the subject area, including the fence/wall and removal of invasive species. Existing utilities are limited to four segments of non-potable irrigation lines for sprinkler and drip irrigation, fed from a remote, onsite non-potable well; said lines totaling 500 feet long at the mauka end of the Conservation District. There will be no adverse impact to any public or private utilities.

Physiography (geology, topography, & soils):
Geologically, this part of Hāmākua is located on the lower flank of Mauna Kea volcano. The surface consists of weathered soils derived from regional ash deposits and alkalic basalt lava flows dated at 65,000-200,000 years before the present. Elevations on the sloping subject area range from 80 to about 200 feet above sea level. The subject area soil is classified by the U.S. Department of Agriculture Natural Resources Conservation Service as Pā'auhau medial silty clay loam, various slope levels. This soil is formed from ash fields on pahoehoe lava flows and if irrigated can be considered prime farmland. This type of soil was formerly used mostly for sugar cane cultivation and now typically supports diversified agriculture, secondary forest, or pasture.

Hydrology (surface water, groundwater, coastal waters, & wetlands):
There are no surface waters or wetlands on the properties. The makai portion of the properties is on an 80-foot to 165-foot cliff that is sheer to the sea. No portion of the proposed action within the Conservation District abuts coastal waters. The properties are also located makai of the Underground Injection Control Line.

Flora & fauna (indicate if rare or endangered plants and/or animals are present):
The natural vegetation of this part of Hāmākua was most likely lowland rain forest dominated by *ʻōhiʻa* (*Metrosideros polymorpha*) and *koa* (*Acacia koa*). This original community was long ago eradicated or heavily degraded by plantation-era sugar cane cultivation, cattle over-grazing, and clearing for small farms and residences. The vegetation outside towns in Hāmākua is now either managed (i.e., farms, pasture or landscaped grounds) or adventive "communities" of various alien weeds. Small remnants of native vegetation remain only in the far mauka areas of Hāmākua, on some sea cliffs, and on the sides of certain gulches.

A Google Earth image from 2004 shows grass, a few ironwood trees and little else mauka of the makai road. Since that time, tree and shrub cover by invasive non-native plants has rapidly increased on the properties.

Environmental Setting: Flora

The site was systematically inspected for plants by Dr. Ron Terry in June 2024. Special attention was paid to locating any native species. The steep *pali* face, which will not be affected and is highly hazardous to survey or even closely approach, was not inspected. The site was dominated by a large variety of non-native grasses, herbs and shrubs. Most prominent were Chinese violet (*Asystasia gangetica*), Bermuda grass (*Cynodon dactylon*), *Digitaria spp.*, Guinea grass (*Megathyrsus maximus*), Dallis grass (*Paspalum dilatatum*), tobacco (*Nicotiana tabacum*), turkey berry (*Solanum torvum*), lovegrass (*Eragrostis spp.*), fireweed (*Senecio madagascariensis*), plantain (*Plantago spp.*), ironwood (*Casuarina equisetifolia*) and spiny amaranth (*Amaranthus spinosa*). Native species included *ʻahinahina* (*Artemisia australis*), *ʻenaʻena* (*Pseudognaphalium sandwicensium*) and *naupaka* (*Scaevola taccada*) near the edge of the *pali*, and *popolo* (*Solanum americanum*) in a few inland spots. All of these common native species are indigenous (found in Hawaiʻi and elsewhere) except for *ʻenaʻena*, which is endemic (only found in Hawaiʻi). No rare, threatened or endangered plant species were found on or near the subject area.

Environmental Setting: Fauna

During the biological reconnaissance, only five species of birds were observed: common waxbill (*Estrilda astrild*), common myna (*Acridotheres tristis*), spotted dove (*Streptopelia chinensis*), Japanese white-eye (*Zosterops japonicus*) and saffron finch (*Sicalis flaveola*). Typical expected birds in this part of Hāmākua would also include northern cardinal (*Cardinalis cardinalis*), house finch (*Carpodacus mexicanus*), and striped dove (*Geopelia striata*), among others. The subject area itself is poor native bird habitat because of its separation from the rocky shoreline and shorebird habitat, its lack of native vegetation, and its low elevation that encourages mosquitos and the avian malaria that precludes most native forest birds. However, three native birds are likely present at times. The Pacific golden-plover (*Pluvialis fulva*) is often seen in grassy areas throughout the island during its winter residency in Hawaiʻi. *Pueo* or short-eared owl (*Asio flammeus sandwichensis*) may hunt or

even nest in the area. The third native bird is the Hawaiian hawk (*Buteo solitarius*), which likely hunts and could nest in the area. As this raptor is listed as endangered by the State of Hawai‘i, it deserves detailed attention.

The Hawaiian hawk was formerly federally listed as endangered, and is still listed by the State of Hawai‘i. It generally prefers *‘ōhi‘a* forest habitat but is known to breed successfully in both native and non-native forests. It occurs throughout the island of Hawai‘i from sea level to 8,530 feet in elevation. Hawks often forage in forests near agricultural tracts and nest in tall trees of a variety of species. Most nesting occurs in native *‘ōhi‘a* trees, although hawks may also nest in non-native trees, including eucalyptus, ironwood, mango, coconut palm and macadamia. Nest construction is protracted, beginning up to two months before the first egg is laid and continuing into the nestling period. Egg-laying generally occurs from March to June, and fledging from July to September. Both sexes contribute to nest-building. Clutch size is nearly always one, but clutches of two and three have been reported. Both sexes incubate, although females perform most of the brooding of nestlings; males provide most of the food to chicks and females. Both adults feed fledglings, which are dependent on adults for up to nine months. When nests are present, grading, tree removal and other construction activities can disturb them. Given the vegetation context with tall ironwood trees, there is a small possibility that hawks sometime nest on or very near the subject area.

Finally, as with all of the island of Hawai‘i, several listed seabirds may overfly the area between the months of May and November, including the endangered Hawaiian petrel (*Pterodroma sandwichensis*), the endangered band-rumped storm petrel (*Oceanodroma castro*), and the threatened Newell’s shearwater (*Puffinus auricularis newelli*). These seabirds hunt over the ocean during the day and fly to higher elevations at night to nest. The Hawaiian petrel was formerly common on the Island of Hawai‘i. This pelagic seabird reportedly nested in large numbers on the slopes of Mauna Loa and in the saddle area between Mauna Loa and Mauna Kea, as well as at the mid-to-high elevations of Hualālai. It has within recent historic times been reduced to relict breeding colonies located at high elevations on Mauna Loa, Kohala and, possibly, Hualālai. The Hawaiian petrel (as well as the band-rumped storm petrel) generally nests on the Big Island well above 5,000 feet in elevation. Some Hawaiian petrel nests have recently been found at lower elevations on Kohala volcano. Both the Newell’s shearwater and Hawaiian petrel are known to burrow under ferns on forested mountain slopes. These burrows are used year after year, usually by the same pair of birds. Although capable of climbing shrubs and trees before taking flight, they need an open downhill flight path through which they can become airborne. Once abundant on all the main Hawaiian islands, most Newell’s shearwater colonies are today found in the steep terrain between 500 to 2,300 feet on Kaua‘i. Band-rumped storm petrels have recently been discovered to be nesting on the Mauna Loa side of the saddle between this mountain and Mauna Kea. Although each of these seabirds may fly over on their way to and from mountain nesting areas and the open ocean, no suitable nesting habitat for any of them is present on the subject area.

The primary cause of mortality in these seabird species in Hawai‘i is thought to be predation by alien mammals at the nesting colonies. Collision with man-made structures is another significant cause. Night-flying seabirds, especially fledglings on their way to sea in the summer and fall, can become disoriented by exterior lighting. Disoriented seabirds may collide with manmade structures and, if not killed outright, become easy targets of predatory mammals including cats and mongooses.

It is also highly likely that Hawaiian hoary bats (*Lasiurus cinereus semotus*), the only native Hawaiian land mammals, are sometimes present in the subject area. They have been found throughout most of the island of Hawai‘i. Bats may forage for flying insects here on a seasonal basis and may also roost in trees and large shrubs. Bats are often visible while they are feeding on flying insects near dusk and dawn at various locations around the island of Hawai‘i. The presence of these bats can also be verified by echolocation detectors. If a bat is detected during a night’s study, this merely indicates that they were present in the area. Conversely, the absence of bat detections does not indicate an absence of bats, which may have been absent for only a night, a week, or a season, or may have simply gone undetected. Determination of bat populations or usage patterns requires much more sophisticated, long term studies. No bats were observed in Dr. Ron Terry’s surveys, which took place in daylight and did not use any detection equipment. It is assumed that Hawaiian hoary bats are present at least some of the time, as they have been frequently seen and detected in forests with groves of ironwood interspersed with shrubs and herbs. Hawaiian hoary bats are vulnerable to disturbance during the summer pupping season and require special mitigation, as discussed below.

Other mammals in the area are all introduced species, including feral cats (*Felis catus*), feral pigs (*Sus scrofa*), small Indian mongooses (*Herpestes a. auropunctatus*) and various species of rats (*Rattus spp.*), along with the domestic cattle (*Bos taurus*) (owned not by applicants but by area ranchers) that graze on the properties. None are of conservation concern, and all are deleterious to native flora and fauna. There are no native terrestrial reptiles or amphibians in Hawai‘i. No reptiles were seen but there may be species of skink (Family: *Scincidae*) and gecko (*Gekkonidae*) present. The highly invasive coqui frog (*Eleutherodactylus coqui*) was not detected but may be present in the area.

No invertebrate survey was undertaken as part of the survey, but in general, rare invertebrates are unlikely but not definitively absent from this subject area because of the lack of native vegetation. There is a possibility that the endangered Blackburn’s sphinx moth (*Manduca blackburnii*) is present. Once thought to be extinct, it is now known to be abundant at certain locations on several of the Hawaiian Islands, including about 20 miles away in coastal areas of South Kohala. It is not generally known from Hāmākua. The adult moth feeds on nectar from native plants including beach morning glory (*Ipomoea pes-caprae*), *‘ilie‘e* (*Plumbago zeylanica*), and *maiapilo* (*Capparis sandwichiana*), which are not present in the area. Moth larvae historically fed upon the native *‘aiea*

(*Nothocestrum sp.*), which is found in dry to moist forests at elevations ranging from 1,500 to 5,000 feet. Today, with *ʻaiea* extremely rare, the moth appears to have adapted to feed on other members of the tomato family, especially the non-native tree tobacco (*Nicotiana glauca*). This weedy pest occupies disturbed areas such as open fields and roadway margins. There is no *ʻaiea* on or near the subject area, and tree tobacco is very unlikely to be present in wetter areas such as Hāmākua and was not observed in the botany survey. The moth is also reported to be capable of feeding on tobacco (*Nicotiana tabacum*), which is unusual in most locations in Hawaiʻi but common in the subject area (https://xerces.org/endangered-species/species-profiles/at-risk-butterflies-moths/blackburns-sphinx-moth). Another tomato family member, the turkey berry shrub, was seen in abundance, but it is not known as a host for the endangered moth.

Fence and wall construction along with mowing and some grubbing and grading for removal of invasive vegetation will be required. Except for the removal of dead or dying ironwood trees, no vegetation removal will be conducted in the area directly adjacent to the *pali* edge, which supports limited native vegetation. No adverse effects to native vegetation or rare, threatened or endangered plants will occur.

There is currently no protocol for dealing with the potential of Blackburn's sphinx moth feeding on tobacco plants. In the interest of being conservative, unless advised elsewhere by resource agencies, the Applicants plan to leave plants larger than three feet in place, which is similar to the protocol for dealing with tree tobacco.

The following measures will be implemented to help avoid impacts to endangered Hawaiian hoary bats and threatened or endangered native birds:

- To minimize impacts to the endangered Hawaiian hoary bat, trees taller than 15 feet will not be removed or trimmed during the bat birthing and pup rearing season (June 1 through September 15). Top-strand barbwire will be avoided.
- To avoid potential seabird downing through interaction with outdoor lighting, the proposed action involves no construction lighting.
- To minimize impacts to Hawaiian hawks, removal of large trees in the subject area will be avoided during the hawk breeding season (March through the end of September). If this time period cannot be avoided, the Applicants will contract for a hawk nest search to be conducted by a qualified biologist. If hawk nests are present in or near the subject area, all tree removal will cease until the expiration of the breeding season.

Natural hazards (erosion, flooding, tsunami, seismic, etc.):
Floodplain status for many areas of the island of Hawaiʻi has been determined by the Federal Emergency Management Agency (FEMA), which produces the National Flood Insurance Program's Flood Insurance Rate Maps (FIRM). The flood zones for this region were recently mapped, and

digital maps are available from the Department of Land and Natural Resources at http://gis.hawaiinfip.org/fhat/ (Attachment 11). The properties are classified in Flood Zone X, areas with minimal flood hazards, including tsunami inundation. No impacts to floodplains or flooding would be expected from the proposed action.

Property near the shoreline is subject to natural coastal processes including erosion and accretion, which can be affected by human actions such as removal of sand or shoreline hardening. Cliff retreat may adversely affect not only a property owner's improvements but also State land and waters, along with the recreational and ecosystem values they support.

Because of the high sea cliff in front the subject area, the major concern is cliff retreat and its effect on the public access area mauka of the *pali*. The sea cliffs in Hāmākua tend to be fairly stable for long periods of time. Over the long-term, the average rate of retreat is generally measured in fractions of an inch per year. However, fairly stable periods can be punctuated by sudden collapses such as occurred at Waipunalei in about 2000, or by high ongoing rates of retreat such as those occurring at one location near Honoli'i, where the cliff eroded almost 10 meters in 54 years. Based on many studies in the area, geologists have identified many factors that can contribute to cliff retreat, including the depth and position of volcanic ash layers, the lithology and structure of lava flows, the extent of weathering, groundwater movement, faults and voids, relative sea level rise, and the intensity and direction of wave energy input, among others. Without detailed field studies of the geological setting, evaluations of the potential rate of retreat at any given location in Hāmākua are not possible. Even with such studies, it is usually not possible to predict exactly when and by how much any given section of cliff will retreat.

Because public access will be expected to be maintained over many decades, it is important to examine the potential for future sea level rise, factoring in the potential for standard coastal retreat and erosion as well. An overall global (or eustatic, meaning not attributable to local factors) rise in sea level of 3.3 feet by the end of the 21st century was proposed by Fletcher (2010) and others. More recent scientific assessments posit 4 feet as a reasonable upper bound. Some recent research that concentrates on the potential for Antarctic melting to contribute more to sea level than generally modeled envisions as much as an additional 3 feet of sea level rise. Not only the magnitude of sea level rise but also the timing is the subject of debate. According to the Hawai'i Climate Change Mitigation and Adaptation Commission (HCCMAC) (2017:v):

> *While the IPCC's "business as usual" scenario, where GHG emissions continue at the current rate of increase, predicts up to 3.2 feet of global sea level rise by year 2100 (IPCC 2014), recent observations and projections suggest that this magnitude of sea level rise could occur as early as year 2060 under more recently published highest-end scenarios.*

Relative sea-level rise is a result of the combined eustatic water rise and land subsidence. In some locations such as Puna on the Big Island, the effects of eustatic sea level rise can be magnified substantially by subsidence. Rates of subsidence in the Hāmākua District are far less impactful, on the order of 0.1/inch per year. A highly conservative estimate of overall sea level change in the subject area by the year 2070, accounting for a eustatic rise of 5 feet and local tectonic sinking of about 1, is 6 feet. The greatest rate of SLR will take place during the second half of this century according to recent modeling. Sea level rise exposure maps from the State of Hawai'i indicate that the Applicants' properties themselves, at more than 80 feet above sea level, are not at risk from near-term sea level rise. Although sea level rise will make cliff retreat around the Hawaiian Islands more likely, the degree can only be speculated on.

The irrigation (to support indigenous and endemic species replacement plantings and to combat drought), invasive species removal, and fencing activities proposed to be undertaken by the Applicants inside the Conservation District are not at risk from adverse effects related to sea level rise or coastal erosion. The only consideration is the possibility – very small in any given decade – of substantial cliff erosion. Condition 4 of SMA Permit 2023-000043 (see Attachment 3) requires that the Applicants "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." This provision will ensure that public lateral access is maintained in the unlikely event of substantial cliff erosion.

Historic & cultural resources:

An Archaeological Inventory Survey (AIS) of the Applicants' properties was conducted by Haun & Associates for the SMA application and is attached as Attachment 12. Readers interested in detailed information and most maps and figures are referred there. The AIS addressed archaeological sites, researched cultural background information, and identified several sites that had value for contemporary cultural practices.

The fieldwork portion of the survey consisted of a 100% surface examination of the Applicants' properties, 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.

The AIS identified four sites with a total of eight features (Attachment 13), of which two sites and a total of six features are located in the portion of the properties within the State Agricultural District. The sites located within the State Conservation District consist of an historic road (Site 50-10-08-31348), and a terrace interpreted as an historic/modern temporary encampment (Site 50-10-08-31350). The sites located outside of the State Conservation District include a complex of five

terraces interpreted as historic agricultural features (Site 50-10-08-31349), and a livestock control wall (Site 50-10-08-31351). The sites possessed integrity of location, design, setting, materials, workmanship, feeling, and association. They were assessed as significant under Criterion "d" and have yielded information important for understanding historic habitation, transportation, agriculture, and ranching activity in the area. No traditional Hawaiian sites were identified in the subject area. This was expected because of the extensive mechanized cultivation of sugar cane that would have destroyed most evidence of the traditional use of the area. The archaeologist's evaluation was that Sites 31348, 31349, 31350, and 31351 were adequately documented and no further work or preservation was recommended. In a letter dated October 23, 2023, Department of Land and Natural Resources, State Historic Preservation Division (DLNR-SHPD) stated that based on their review, the agency concurred with the findings of the AIS (refer to letter included at the end of Attachment 2).

Effects to Archaeological Resources

Given the archaeological findings and the concurrence from DLNR-SHPD, there are no historic properties affected, and the fencing/wall/irrigation line installation and invasive species removal will not affect historic sites. As a further precaution, a condition of the SMA permit stipulates that if historic properties such as lava tube openings, concentrations of artifacts, structural remains or human skeletal remains are found during construction activities, work in the immediate vicinity of the find should cease. The Applicants will be required to protect the find from additional disturbance and contact DLNR-SHPD. Work may only proceed with an archaeological clearance from the Planning Director that certifies that sufficient mitigative measures have been taken for the discovery, with written guidance from DLNR-SHPD.

EVALUATION CRITERIA

The Department or Board will evaluate the merits of a proposed land use based upon the following eight criteria (*ref §13-5-30(c))*

1. **The purpose of the Conservation District is to conserve, protect, and preserve the important natural and cultural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. How is the proposed land use consistent with the purpose of the conservation district?** *(ref §13-5-1)*

   The proposed actions are in conformance with the purpose of the Conservation District. They are identified uses within the Conservation District, requiring a Departmental Permit for such uses. The Applicants will implement the SMA condition of approval that they preserve a 40-foot setback to assure continued public access to the shoreline for fishing and gathering. Additionally, due to the careful and limited nature of the proposed activities, there would be beneficial and no significant adverse impacts on the natural or cultural resources of the area. The removal of invasive plant species and their replacement with indigenous and endemic species will improve the natural resources of the subject area.

2. **How is the proposed use consistent with the objectives of the subzone of the land on which the land use will occur?** *(ref §13-5-11 through §13-5-15)*

   Per §13-5-12, the objective of the Limited subzone "…The objective of this subzone is to limit uses where natural conditions suggest constraints on human activities." The proposed invasive species removal is consistent with HAR §13-5-22, P-4 REMOVAL OF INVASIVE SPECIES (B-1) *Removal of invasive species including chemical and mechanical control methods, in an area greater than one acre*. The proposed planting of native and endemic plants and fence maintenance is consistent with HAR §13-5-22, P-13 LAND AND RESOURCE MANAGEMENT (B-2) *Planting of native and endemic plants and fence maintenance*. The proposed installation of walls/fencing is an identified use under HAR §13-5-22 P-13 LAND AND RESOURCE MANAGEMENT (C-1) *Installation of a new fence or shelter*.

3. **Describe how the proposed land use complies with the provisions and guidelines contained in chapter 205A, HRS, entitled "Coastal Zone Management"** *(see 205A objectives on p. 9).*

   The proposed land use complies with provisions and guidelines contained in Chapter 205A, Hawai'i Revised Statutes (HRS), entitled Coastal Zone Management, as discussed in the SMA Permit (PL-SMA-2023-000043 – see Attachment 3).

4. **Describe how the proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.**

   Because of the context and the relatively minor nature of the proposed action, no valuable natural resources would be substantially impacted. Several common native plants are present on the edge of the *pali*, including *naupaka*, *'ena'ena* and *'ahinahina*. This area will not be affected. The remainder of the subject area is dominated by non-native species. Impacts to the island wide-ranging endangered Hawaiian hoary bat and Hawaiian hawk will

be avoided through timing of vegetation removal and/or hawk survey. No effect on any coastal ecosystem will occur, because of the wide setback to the shoreline for fencing along with planned precautions for preventing soil runoff during invasive species removal. The proposed action will also preserve the public's access to the shoreline.

5. **Describe how the proposed land use, including buildings, structures and facilities, is compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.**

   The proposed uses will not adversely affect nearby properties or how these properties are utilized. The proposed uses are not located in a flood zone nor would they affect one. There is very long-term potential for cliff retreat, but the conditions of the SMA permit require relocating the cross-fence as necessary to ensure that a 40-foot wide corridor for public access remains available in the event of cliff retreat. No lighting is planned that would detract from dark skies.

6. **Describe how the existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon.**

   The proposed removal of invasive species (and their replacement with native and indigenous plant species) and construction of a cross-fence to delineate the public lateral access area, will help protect, preserve and improve upon the natural features of the area. The removal of invasives and replacement with native and Polynesian-introduced trees will enhance natural resources and habitat.

7. **If applicable, describe how subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.**

   Not applicable.

8. **Describe how the proposed land use will not be materially detrimental to the public health, safety and welfare.**

   No aspect of the proposed action will adversely affect the public health, safety, and welfare.

CULTURAL IMPACTS

Articles IX and XII of the State Constitution, other state laws, and the courts of the State, require government agencies to promote and preserve cultural beliefs, practices, and resources of Native Hawaiian and other ethnic groups.

Please provide the identity and scope of cultural, historical, and natural resources in which traditional and customary native Hawaiian rights are exercised in the area.

An archaeological inventory survey of the Applicants' properties was conducted by Haun & Associates and is attached as Attachment 12. Readers interested in detailed information and most maps and figures are referred there. The AIS addressed archaeological sites, researched cultural background information, and identified several sites that had value for contemporary cultural practices.

Archaeological Investigations and Resources

Review of prior archaeological studies in the region that covered more than 1,150 acres between 700 and 2,200 feet in elevation found that they identified only 15 sites with 24 features. The only traditional Hawaiian sites were two chambers of a lava tube system. 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 primarily of sugar plantation-related infrastructure.

According to the AIS (Attachment 12), the fieldwork portion of the survey consisted of a 100% surface examination of the Applicants' properties, with the surveyors walking transects at 5- to 10-meter intervals. The AIS identified four sites with a total of eight features (Attachment 13), of which two sites and a total of six features are located in the portion of the properties within the State Agricultural District. The sites located within the State Conservation District consist of an historic road (Site 50-10-08-31348), and a terrace interpreted as an historic/modern temporary encampment (Site 50-10-08-31350). The sites located outside of the State Conservation District include a complex of five terraces interpreted as historic agricultural features (Site 50-10-08-31349), and a livestock control wall (Site 50-10-08-31351). The sites possessed integrity of location, design, setting, materials, workmanship, feeling, and association. They were assessed as significant under Criterion "d" and have yielded information important for understanding historic habitation, transportation, agriculture, and ranching activity in the area. No traditional Hawaiian sites were identified in the subject area. This was expected because of the extensive mechanized cultivation of sugar cane that would have destroyed most evidence of the traditional use of the area. The archaeologist's evaluation was that Sites 31348, 31349, 31350, and 31351 were adequately documented and no further work or preservation was recommended. In a letter dated October 23, 2023, Department of Land and Natural Resources, State Historic Preservation Division (DLNR-SHPD) stated that based on their review, the agency concurred with the findings of the AIS (refer to letter included at the end of Attachment 2).

Effects to Archaeological Resources

Given the archaeological findings and the concurrence from DLNR-SHPD, there are no historic properties affected, and the fencing/wall/irrigation line installation and invasive species removal should be free to proceed without affecting historic sites. As a further precaution, a condition of the SMA permit stipulates that if historic properties such as lava tube openings, concentrations of artifacts, structural remains or human skeletal remains are found during construction activities, work in the immediate vicinity of the find should cease. The Applicants will be required to protect the find from additional disturbance and contact DLNR-SHPD. Work may only proceed with an archaeological clearance from the Planning Director that certifies that sufficient mitigative measures have been taken for the discovery, with written guidance from DLNR-SHPD.

Identify the extent to which those resources, including traditional and customary Native Hawaiian rights, will be affected or impaired by the proposed action.

The AIS (Attachment 12) addressed archaeological sites, researched cultural background information, and identified several sites that had value for contemporary cultural practices. The SMA permit process involved an application reviewed by the Planning Department, public notice, and a public hearing. This process systematically addressed the issue of valued natural, cultural and natural resources, impacts to them, and feasible measures that the Planning Commission could include to avoid, reduce or mitigate any impacts (aka a *Ka Paʻakai* analysis). Additionally, consultation inquiring about general issues and cultural concerns was conducted with the Office of Hawaiian Affairs, the District 1 County Councilperson, the Sierra Club, and several neighbors.

The AIS revealed the prevalence over a long period of time during the plantation era and its aftermath of accessing fishing sites from the *pali* fronting the Applicants' properties. During their search for archaeological features, the researchers documented three clusters of modern features (not historic properties) near the edge of the *pali* likely created and used by local fisherman. These consisted of mounds and terraces potentially used as sitting areas, fire pits, fishing pole holders and a concentration of mortared bricks. A constant, through history, has been the tradition of fishing and collecting food and other resources from the ocean, shoreline and nearby groves. This orientation to the shoreline and the traditional practices developed in Hawaiʻi are still passed down from generation to generation. Fishers and gatherers employ knowledge of their ancestors to select fishing locations, proper bait, and techniques. Fishers throw net, fish by rod and reel, or spear fish at different locations along the shoreline on Hawaiʻi, even the challenging environment of the Hāmākua *pali*. Fishers catch *āholehole, ʻāweoweo, kala, kole, moi, kūmū, manini, mamo, moana* and many other types of fish. They catch *pūhi* to fish for *ʻulua* along the cliffs. In addition, the traditional collection of *ʻōpihi, ʻaʻama*, and *limu* along the rocky shoreline is still practiced in places. Traditional Hawaiian fishing practices, shoreline gathering practices, and ocean access are protected by State law.

Aside from the practices related to fishing and gathering of marine resources, no other cultural sites or practices were noted from the subject area during research or through public review during the SMA process. Some parts of the Island of Hawaiʻi contain legendary hills, stone formations, offshore rocks, or other features with legendary significance. In other areas, iwi

kupuna are known to be present. The subject area does not contain any caves, famed groves of trees, legendary rock formations, springs, or similar natural resources with specific cultural importance. Aside from fishing practices, no specific traditional cultural practices are known to exist or have taken place within the subject area. A meticulous archaeological survey demonstrated the absence of pre-plantation archaeological sites and *iwi kūpuna*. The Office of Hawaiian Affairs (OHA) was notified concerning the proposed action. To date, no response has been received from the agency.

As part of the SMA permit process, the following questions related to Rule 9-11(e) of the Planning Commission Rules of Practice and Procedure were addressed by the Hawai'i County Planning Department:

- What are the identity and scope of valued cultural historical or natural resources in the area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area?
- To what extent will any such resources, including traditional and customary native Hawaiian rights, be affected or impaired by the proposed action? Adverse effects to be considered shall include 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.
- What is 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 their analysis of the SMA application, the Planning Department wrote in part:

> *"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 … remove non-native and invasive species to establish the … residential development. Staff notes that the most sensitive areas are the coastal portion of the subject area, 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 subject area into a more comprehensive management regime."*

From the standpoint of reviewing the Conservation District activities, the Planning Department's conclusions thus included a cumulative impact perspective. After reviewing the proposal and the staff recommendations, this finding was affirmed by the vote of the Windward Planning Commission on April 20, 2024.

What feasible action, if any, could be taken by the Board of Land and Natural Resources regarding your application to reasonably protect Native Hawai'i rights?

An inventory of the County's public access to the shoreline developed in 1979 characterized the shoreline conditions between Honoka'a Landing and Pā'auhau Landing (which includes the subject area) as "Cliffs over 20 feet." John R. K. Clark's comprehensive Beaches of the Big Island notes that: "Along the rugged coast from Hilo to Waipio, Laupahoehoe is the best of the few places where canoes can land safely…" He describes no beaches at all between Laupāhoehoe and Waipi'o. Despite the challenging conditions, fishers have long used the *pali* fronting the subject area. The Archaeological Inventory Survey (AIS) conducted by Haun & Associates (Attachment 12) documented evidence of modern use of this area. This consists of three clusters of modern features ("Modern 1", "Modern 2" and "Modern 3" as shown on Attachment 14) located near the edge of the *pali* likely created and used by local fishers. The features consist of mounds and terraces presumably used as sitting areas, fire pits, and fishing pole holders, as well as a concentration of mortared bricks.

Attachment 14 also depicts how the public (fishers and some hikers) access this area, via Kia Manu Road (referred to in County maps as Makālae Road) and a loop road that encircles the Honoka'a Wastewater Treatment Plant (HWWTP). Historically, Kia Manu Road extended to Honoka'a Landing, a rocky terrace on the shoreline area more easily reached by foot than most other shoreline spots under the *pali*. From the HWWTP loop road, an informal "jeep road" is used by the public to access the shoreline resources of the subject area. As shown in Attachment 14, there is only one property, TMK 4-5-002:081, between the HWWTP and the Applicants' properties. As with the HWWTP and the Applicants' properties (and properties to the east), development of TMK 4-5-002:081 is regulatorily constrained by the 40-foot shoreline setback and the State Conservation District. Accordingly, there are no current obstructions to lateral shoreline access within the shoreline setback area between the HWWTP loop road and the access corridor above the *pali* fronting the subject area.

OTHER IMPACTS

Does the proposed land use have an effect (positive/negative) on public access to and along the shoreline or along any public trail?

Use of and access to the fishing sites used by local residents is being promoted by the proposed action. The proposed action will not block that access, and fishermen will still be able to access their established fishing areas. Based on the proposed activities being outside the shoreline area, as well as the removal of invasive species, and ongoing land management, the Planning Department determined there will be no anticipated impact to coastal recreational resources or any hindrance to the public's ability to access the shoreline.

Does the proposed use have an effect (positive/negative) on beach processes?

No, as the developable area of the Applicants' properties within the Conservation District can be characterized as a rocky *pali* roughly 80 to 165 feet above the beach/shoreline.

Will the proposed use cause increased sedimentation?

Analysis as part of the SMA application by Younger Engineering Services, the project civil engineer, indicated that a large plantation-era holding pond blocks most stormwater runoff from entering the Applicants' two properties. The home and caretaker's house will have relatively small, hardened footprints relative to the areas of the two properties and have been designed with both temporary and permanent erosion control measures that have been required and carefully engineered as part of grading and National Pollutant Discharge Elimination System (NPDES) permits. The features constructed mauka of the subject area are thus not likely to cause water quality impacts within the Conservation District portion of the Applicants' properties, the subject area itself.

The removal of invasive species (which, aside from ironwood trees, are mostly shrubs) through grubbing and very limited grading for stump removal will interdict destabilization and make room for plantings that will reduce the risk of sedimentation. Grubbing and grading will include Best Management practices (BMP) to minimize the potential for sedimentation, erosion and pollution of coastal waters.

Will the proposed use cause any visual impact on any individual or community?

There would be no effect to views from the Hawai'i Belt Road, Māmane Street in Honoka'a, or any scenic vantage point. The fences/walls and removal of invasive species would have minimal scenic impact. No lighting is involved.

Please describe any sustainable design elements that will be incorporated into the proposed land use (*e.g., the use of efficient ventilation and cooling systems; renewable energy generation; sustainable building materials; permeable paving materials; efficient energy and water systems; efficient waste management systems; etc.).*

No ventilation or cooling systems, energy generation, building, paving or waste disposal is involved. The irrigation system will be fed by a remote, solar powered on-site well.

If the project involves landscaping, please describe how the landscaping is appropriate to the Conservation District (*e.g., use of indigenous and endemic species; xeriscaping in dry areas;*

minimizing ground disturbance; maintenance or restoration of the canopy; removal of invasive species; habitat preservation and restoration; etc.)

The proposed project does not include landscaping. Within the Conservation District, the Applicants propose to remove invasive plant species such as ironwoods, turkey berry and Christmas berry and revegetate with native and Polynesian species (Attachment 9 – New Native and Polynesian Tree Planting Map). All existing Turkey Berry and Christmas Berry will be removed completely. Any existing Ironwood tree, with a trunk diameter on 10" or larger, proposed to be removed will be replaced on a one-for-one basis with, *kukui* (*Aleurites moluccana*), *kamani* (*Calophyllum inophyllum*), *ʻōhiʻa* (*Metrosideros polymorpha*), *lauhala* (*Pandanus tectorius*), *ʻulu (Artocarpus altilis*), *kou* (*Cordia subcordata*), *ʻohe makai* (*Reynoldsia polyscias*), and *milo* (*Thespesia populnea*).

Please describe Best Management Practices that will be used during construction and implementation of the proposed land use.

The Applicants will ensure all earthwork and grading is conducted in conformance with:

(a) "Storm Drainage Standards," County of Hawaiʻi, October, 1970, and as revised.
(b) Applicable standards and regulations of Chapter 27, "Flood Control," of the Hawaiʻi County Code.
(c) Applicable standards and regulations of the Federal Emergency Management Agency (FEMA).
(d) Applicable standards and regulations of Chapter 10, "Erosion and Sedimentation Control," of the Hawaiʻi County Code.
(e) Any additional best management practices required by the Board of Land and Natural Resources.

The Applicants will require that the construction contractor implement the following BMPs:

- Keep the total amount of grubbing and other land disturbance at any given time to a minimal area, which will be delineated to the contractor prior to the commencement of any onsite work.
- Take special precautions so as to not allow any sediment to leave the work areas, particularly towards the sea. Prior to the start of construction, contractors will implement erosion control measures, including silt fences along the lower margin of grading, silt barriers (snakes) around stockpiles etc., to prevent any sediment from leaving the construction areas, especially towards the ocean.
- Refrain from activities with the potential to produce stormwater run-off during periods of unusually heavy rains or storm conditions.
- Replant or stabilize grubbed or graded areas as soon as possible following grubbing activity.

Please describe the measures that will be taken to mitigate the proposed land use's environmental and cultural impacts.

The proposed action may induce minor and mostly short-term impacts to noise, air and water quality and scenery. These would be mitigated by Best Management Practices for earthwork and grubbing required by the Conservation District Use Permit and SMA Permit. The site has been

surveyed for threatened and endangered plants, and none are present. Impacts to the island wide-ranging endangered Hawaiian hoary bat will be avoided through timing of vegetation removal. Cultural practices in the form of fishing and gathering sometimes occur makai of the lot. They will not be adversely affected and in fact will be enhanced by the affirmative designation of a public access corridor at the makai end of the Applicants' properties.

Regardless of future coastal erosion, the fenced-off, 40-foot wide public access corridor will be maintained and moved and re-fenced if necessary (in the event of subsidence or cliff retreat/erosion). An archaeological inventory survey determined that although several historic-era sites related to sugar cane cultivation, ranching and camping are present, they have been sufficiently documented, and no historic sites will be affected. In the unlikely event that additional undocumented archaeological resources, including shell, bones, midden deposits, lava tubes, or similar finds, are encountered during construction, work in the immediate area of the discovery will be halted and the State Historic Preservation Division will be contacted to determine the appropriate actions.

SINGLE FAMILY RESIDENTIAL STANDARDS

Single Family Residences must comply with the standards outlined in HAR Chapter 13-5, Exhibit 4. Please provide preliminary architectural renderings (e.g., building footprint, exterior plan view, elevation drawings; floor plan, etc.) drawn to scale.

SIZE OF LOT

	Existing	Proposed	Total
Proposed building footprint	N/A	N/A	N/A
Paved areas/ impermeable surfaces	N/A	N/A	N/A
Landscaped areas	N/A	N/A	N/A
Unimproved areas	N/A	N/A	N/A

SETBACKS Front: N/A Side: N/A Back: N/A

SHORELINE PROPERTIES

Average Lot Depth (ALD): N/A Average annual coastal erosion rate: N/A

Minimum shoreline setback based on Exhibit 4: N/A

Actual shoreline setback or proposed structure: N/A

MAXIMUM DEVELOPABLE AREA

The Maximum Developable Area includes all floor areas under roof, including first, second, and third stories, decks, pools, saunas, garage or carport, and other above ground structures.

Maximum Developable Area based on Exhibit 4: N/A

Actual Developable Area of proposed residence: N/A

Actual height of the proposed building envelope as defined in Exhibit 4: N/A

COMPATIBILITY

Provide justification for any proposed deviation from the established residential standards.

N/A

How is the design of the residence compatible with the surrounding area?

N/A

If grading is proposed, include a grading plan which provides the amount of cut and fill. Has grading or contouring been kept to a minimum?

N/A

CHAPTER 205A – COASTAL ZONE MANAGEMENT

Land uses are required to comply with the provisions and guidelines contained in Chapter 205A, Hawai'i Revised Statutes (HRS), entitled "Coastal Zone Management," as described below:

- **Recreational resources:** ***Provide coastal recreational opportunities accessible to the public.***

Discussion: Use of and access to the fishing sites used by local residents is being maintained by the action. Access to the shoreline is via a well-established jeep road from the west. The action will not block that access, and fishermen will still be able to access their established fishing areas. Based on the proposed action being outside the shoreline area, as well as the removal of invasive species, and ongoing land management, the Planning Department determined there will be no anticipated impact to coastal recreational resources or any hindrance to the public's ability to access the shoreline.

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

Discussion: As noted earlier, the AIS identified four sites with a total of eight features (Attachment 13). 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 50-10-08-31350), and a livestock control wall (Site 50-10-08-31351). 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 the event of discovery of any unidentified sites or remains, such as artifacts, shell, bone or charcoal deposits, human burials, rock or coral alignments, pavings or walls, all work in the immediate area shall cease. The Director of DLNR shall be immediately notified. Work will only proceed with an archaeological clearance from the DLNR. The archaeological clearance requires a finding that sufficient mitigative measures are taken for the discovery; with written guidance from the State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources.

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

Discussion: The proposed activities were determined to have no potential to obstruct public views of or along the shoreline, ensuring that the quality of existing coastal scenic and open space resources will be minimally impacted. No above-ground utility lines or poles would alter views.

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

Discussion: The proposed action will not 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 have been implemented during construction activities of the homes mauka to prevent erosion and stormwater runoff into the subject area during construction. No construction activity other than walls/fencing/irrigation lines is proposed in the Conservation District.

- **Economic uses:** ***Provide public or private facilities and improvements important to the State's economy in suitable locations.***

Discussion: The proposed action is a private use, but its implementation cannot be considered "important to the State's economy."

- **Coastal hazards:** ***Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.***

Discussion: According to the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), National Flood Insurance Program (NFIP), the properties are located in "Zone X", meaning that the properties and surrounding area is outside of the 0.2% annual chance floodplain. There are no known hazards to life and property on the Project site from storm wave, tsunami runup, hurricane storm surge, wind, stream flooding, erosion, subsidence, or pollution.

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

Discussion: This application discusses potential impacts and mitigation measures of the proposed project which was reviewed and approved by the Planning Department and the Windward Planning Commission (Attachment 3). As part of the application process, two public notices to surrounding property owners and lessees of record were required and were satisfied.

- **Public participation:** ***Stimulate public awareness, education, and participation in coastal management.***

Discussion: This application discusses potential impacts and mitigation measures of the Applicants' proposed project which was reviewed and approved by the Planning Department and the Windward Planning Commission (Attachment 3). As part of the application process, two public notices to surrounding property owners and lessees of record were required and were satisfied.

- **Beach protection:** ***Protect beaches for public use and recreation.***

Discussion: Only fencing, temporary irrigation lines, and possibly temporary construction drainage/siltation improvements are proposed within the Conservation District. The Applicants have no plans to induce or cultivate landscaping that would interfere with or encroach upon the shoreline's lateral public transit corridor.

- **Marine resources:** ***Promote the protection, use, and development of marine and coastal resources to assure their sustainability.***

Discussion: The proposed action will not 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 have been implemented during construction activities of the homes mauka to prevent erosion and stormwater runoff into the subject area during construction. No construction activity other than walls/fencing/irrigation lines is proposed in the Conservation District.

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CERTIFICATION

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

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

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

AUTHORIZATION OF AGENT

I hereby authorize PBR HAWAII & Associates, Inc. to act as my representative and to bind me in all matters concerning this application.

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Attachment 1:

Application Fee

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Attachment 1 - Application Fee

A check for the $250 Application Fee (for Departmental Permits), payable to the State of Hawaiʻi, is attached to this application.

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Attachment 2:

SHPD Chapter 6E, HRS

Historic Preservation Review

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Attachment 2 - SHPD HRS 6E Historic Preservation Review

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

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

October 23, 2023

IN REPLY REFER TO:
Project No. 2023PR01235
Doc. No. 2310JG11
Archaeology

Steven Pause, Director
Department of Public Works
County of Hawaii
101 Pauahi Street, Suite 7
Hilo, HI 96720
Public_works@hawaiicounty.gov

Dear Mr. Pause:

SUBJECT: **Chapter 6E-42 Historic Preservation Review**
County of Hawaii Grading Permit Application
Applicant: Stephen Winter (Landowner)
Papaʻanui and Haina Ahupuaʻa, Hāmākua District, Island of Hawaiʻi
TMK: (3) 4-5-002:016 and 080

This letter provides the State Historic Preservation Division's (SHPD's) review of the subject County of Hawaii grading permit application received by our office on October 16, 2023. The submittal included a HRS 6E Submittal Form, a Permit Snapshot Report (PW.ENG2023-00199), construction plans, and photos of the project area. The applicant proposes grading activities to facilitate the construction of new driveways, parking, and building pads. The proposed grading will consist of approximately 16,000 cubic yards of cut and 13,270 cubic yards of fill and will include driveway grading that will measure 2,850-ft.-long by 12-ft.-wide by 1-ft.-deep, and 3 acres of general grading for a barn, cottage, and main residence. The project area comprises a 5.00-acre portion of the combined 30.165-acre parcels. Project photos indicate that the project area was likely impacted by previous land-clearing activities.

A review of SHPD records indicates that the current project area was included within the boundaries of a previous archaeological inventory survey (AIS; Haun et al. 2022; Doc. No. 2211JG01). The AIS documented four historic properties within the current project area: Sites 50-10-08-31348 [road], 50-10-08-31349 [complex], 50-10-08-31350 [terrace], and 50-10-08-31351 [wall]. All 4 historic properties were assessed as significant under criterion d, as having been adequately documented, and thus were recommended for no further work. Additionally, 3 clusters of modern features were identified during the AIS which consisted of 5 terraces, 4 mounds, 2 fire pits, 2 fishing pole holders, and a scatter of mortared bricks. These resources are located within the 40-ft-wide shoreline setback adjacent to the coastal cliffs and are not located within the current project area. Additionally, historic aerial imagery (1964) indicates that the current project area has been impacted by previously land-clearing and agricultural activities. Low potential exists for the project to encounter intact subsurface historic properties.

Based on current information, SHPD's determination is **no historic properties affected** for the proposed project. 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 HRS 6E historic preservation review process is ended. The permit issuance process may proceed.

Attach to permit: If historic properties such as lava tube openings, concentrations of artifacts, structural remains or human skeletal remains are found during construction activities please cease work in the immediate vicinity of the find, protect the find from additional disturbance, and contact the State Historic Preservation Division at (808) 933-7653.

Please contact Joshua Gastilo at joshua.gastilo@hawaii.gov for any questions regarding archaeological resources or this letter.

Aloha,

Alan Downer

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

cc: Robyn Matsumoto, robyn.matsumoto@hawaiicounty.gov
John Younger, info@younger-engineering.com
Stephen Winter, winter@winterplc.com

Attachment 3:

Special Management Area Determination

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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

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.

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.

Attachment 4:

Regional Location Map

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

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Attachment 5:

Tax Map Key

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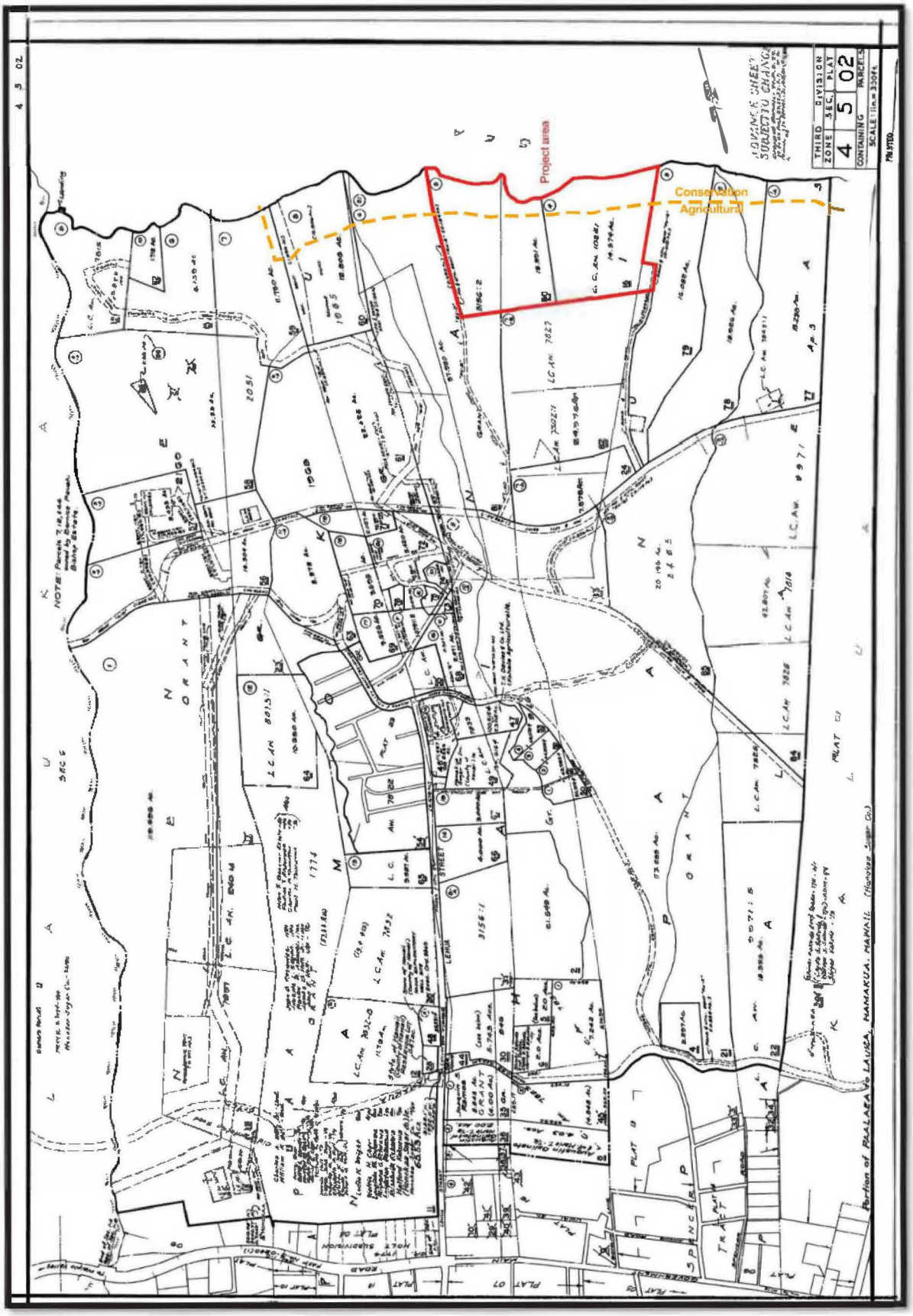

Tax Map Key (3) 4-5-002 showing project area parcels (obtained from hawaiicounty.gov).

*Note: This Tax Map does not reflect that easement RU-E has since been extinguished.

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Attachment 6:

State Land Use District Boundary Map

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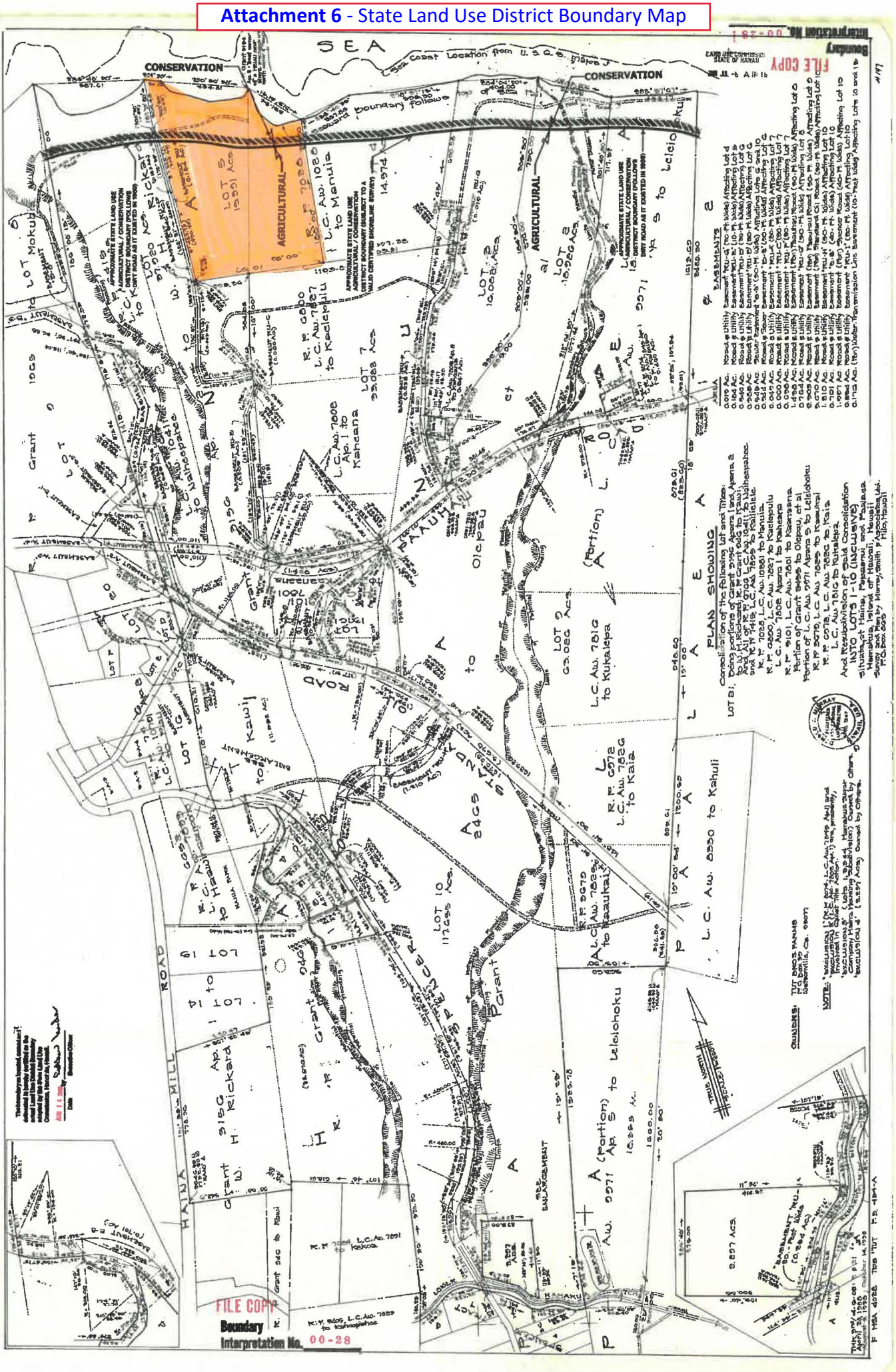
Attachment 6 - State Land Use District Boundary Map



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Attachment 7:

Site Plan

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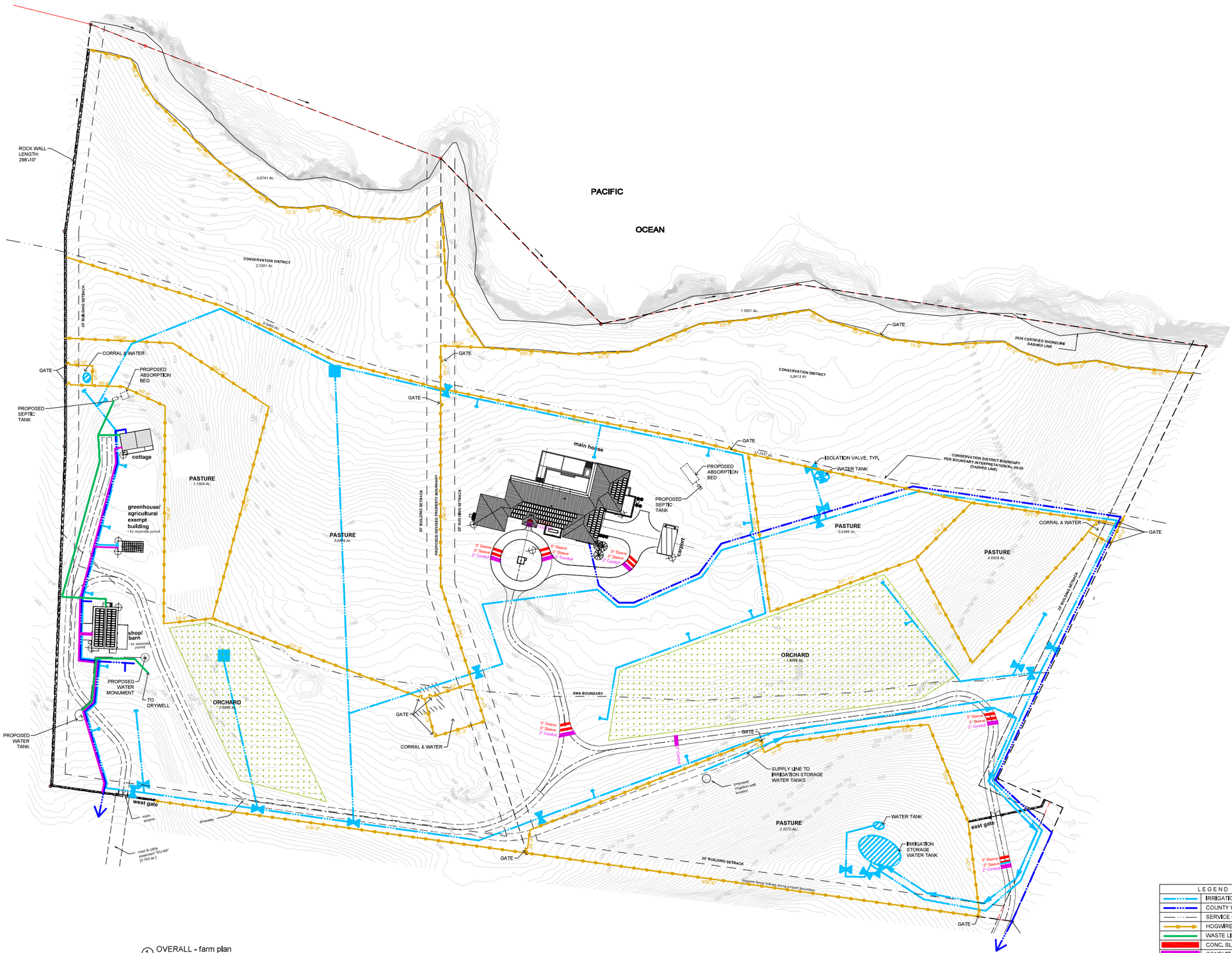

1 OVERALL - farm plan
1/64" = 1'-0"

LEGEND	
	IRRIGATION LINE
	COUNTY WATER LINE
	SERVICE LINE
	HOGWIRE FENCE
	WASTE LINE
	CONC. SLEEVES
	CONDUIT PASS
	ROCK WALL

Plan,
Scheme
&
Design

PO Box 189
Honokaa, HI 96727
313-701-7071
winter@winterplc.com

LOT 5
45-5008 Nanaina Kai Rd.
Honokaa, HI 96727
TMK 3-4-5-002-080

PERMIT SUBMITTAL

Overall Site Plan

Hamakua House

Revisions

No.	Description	Date

Date:
12/12/2025

Drawn by:
Author

EX01

Scale:
1" = 60'-0"

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Attachment 8:

Vegetation Management Map

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TOPO FROM LIDAR TOPOGRAPHY AND ON THE GROUND TOPO SURVEYS

Approx. 1,868'-5" Hog Wire Fence or Hawaiian Rock Wall (Along 40' Shoreline Setback)

Approx. 298'-10" Hawaiian Rock Wall

Approx. 224'-9" Existing Hog Wire Fence

SHORELINE FOLLOWS ALONG TOP OF HIGH PALI

2024 CERTIFIED SHORELINE SETBACK

2008 CD BOUNDARY INTERPRETATION NO. 00-28

CONSERVATION DISTRICT

CONSERVATION DISTRICT

CONSERVATION DISTRICT

LOT 5-A
TMK:(3)4-5-002:080

LOT 4-A
TMK:(3)4-5-002:016

LEGEND

- APPROXIMATE STATE LAND USE AGRICULTURAL / CONSERVATION DISTRICT BOUNDARY
- 40' SHORELINE SETBACK. SHORELINE FOLLOWS ALONG TOP OF HIGH PALI
- EXISTING HOG WIRE FENCE (APPROX. 224'-9")
- NEW HOG WIRE FENCE (APPROX. 2,002 LINEAL FEET)
- NEW HAWAIIAN ROCK WALL (APPROX. 298'-10")
- EXISTING DENSE IRONWOOD CANOPY WITH OPEN GRASS UNDERSTORY TO REMAIN. AREA TO BE INTER-PLANTED WITH NATIVE OR POLYNESIAN-INTRODUCED TREES. SEE LIST BELOW AND "NEW NATIVE AND POLYNESIAN TREE PLANTING" EXHIBIT.
- EXISTING OPEN GRASS AREA WITH SCATTERED IRONWOOD TREES. SELECTED IRONWOOD TREES, > 12" DIAMETER, TO BE REMOVED, AS INDICATED. REMOVED TREES WILL BE REPLACED ON-SITE WITH NATIVE OR POLYNESIAN-INTRODUCED TREES. SEE LIST BELOW AND "NEW NATIVE AND POLYNESIAN TREE PLANTING" EXHIBIT.
- EXISTING DENSE STAND OF TURKEYBERRY AND CHRISTMAS BERRY TO BE REMOVED. AREA TO BE INTER-PLANTED WITH NATIVE OR POLYNESIAN-INTRODUCED TREES. SEE LIST BELOW AND "NEW NATIVE AND POLYNESIAN TREE PLANTING" EXHIBIT.
- EXISTING IRONWOOD TREE TO REMAIN, TYPICAL
- EXISTING IRONWOOD TREE TO BE REMOVED, TYPICAL. (47 TOTAL)
- EXISTING COCONUT PALM TO REMAIN, TYPICAL
- EXISTING (DEAD) COCONUT PALM TO BE REMOVED, TYPICAL. (1 TOTAL)

POTENTIAL REPLACEMENT TREES INCLUDE:
- *Aleurites Moluccana* / Kukui
- *Artocarpus altilis* / 'Ulu
- *Calophyllum Inophyllum* / Kamani
- *Cordia subcordate* / Kou
- *Metrosideros Polymorpha* / Ohi'a
- *Pandanus tectorius* / Lauhala
- *Reynoldsia sandwicensis* / 'Ohe Makai
- Thespesia populnea / Milo

Stephen and Cheryl Winter Trusts

VEGETATION MANAGEMENT

NORTH

0 60 120 180 240 300
SCALE IN FEET

b+k design group, llc
Landscape Architecture & Site Planning

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Attachment 9:

New Native and Polynesian Tree Planting Map

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ROCK WALL FOLLOWS ALONG PROPERTY BOUNDARY

291°39'00" 96.62 290°50'58" 454.81 300.43 187°13'20" 40' DRAINAGE EASEMENT PALI

315°51'41" 331.54 PALI

SHORELINE FOLLOWS ALONG TOP OF HIGH PALI

226.40'37" 287.88 40' DRAINAGE EASEMENT PALI 278°37'15" 595.30 PALI

GATE

2024 CERTIFIED SHORELINE SETBACK

Approx. 235 L.F. Existing Hog Wire Fence

CONSERVATION DISTRICT

2008 CD BOUNDARY INTERPRETATION NO. 00-28

CAPPED TO CONNECT FUTURE TEMPORARY IRRIGATION LINES TO ESTABLISH NEW PLANTINGS

ISOLATION VALVE, TYP.

WATER TANK

CORRAL & WATER

GATE

CONSERVATION DISTRICT

GATE

GATE

CORRAL & WATER

WATER TANK

PROPOSED SEPTIC TANK

PROPOSED ABSORPTION BED

PROPOSED ABSORBTION BED

PROPOSED SEPTIC TANK

ROCK WALL FOLLOWS ALONG PROPERTY BOUNDARY

PASTURE

PASTURE

20' BUILDING SETBACK

PROPOSED RESIDENCE

CARPORT

PASTURE

PASTURE

CORRAL & WATER

GATE

PROPOSED COTTAGE

PROPOSED DRIVEWAY "W" (GRAVEL)

PROPOSED GREENHOUSE

LOT 5-A TMK:(3)4-5-002:080

LOT 4-A TMK:(3)4-5-002:016

20' BUILDING SETBACK

20' BUILDING SETBACK

ORCHARD

SMA BOUNDARY

SMA BOUNDARY

SMA BOUNDARY

PROPOSED DRIVEWAY "H" (PAVED)

PROPOSED BARN

PROPOSED WATER MONUMENT

GATE

CORRAL & WATER

GATE

GATE

SUPPLY LINE TO IRRIGATION STORAGE WATER TANKS

PROPOSED IRRIGATION WELL LOCATION

PASTURE

WATER TANK

IRRIGATION STORAGE WATER TANK

WEST GATE

294°04'00" 102.63 179.20 24°04'00"

PROPOSED WATER TANK

PROPOSED DRIVEWAY "W" (GRAVEL)

ROCK WALL FOLLOWS ALONG PROPERTY BOUNDARY

PROPOSED DRIVEWAY 4-5 (GRAVEL)

WEST GATE

ROAD & UTILITY EASEMENT "RU-6A"

98°00'00" 691.91

20' BUILDING SETBACK

GATE

98°00'00" 705.31

GATE

ACCESS EASEMENT TO DRIVEWAY "H" (HILO SIDE)

20' BUILDING SETBACK

650.98 25°43'00"

LEGEND

- New Aleurites Moluccana / Kukui (25 Ea.)
- New Artocarpus altilis / 'Ulu (7 Ea.)
- New Calophyllum Inophyllum / Kamani (3 Ea.)
- New Cordia subcordata / Kou (9 Ea.)
- New Metrosideros Polymorpha / Ohi'a (63 Ea.)
- New Pandanus tectorius / Lauhala (4 Ea.)
- New Reynoldsia sandwicensis / 'Ohe Makai (9 Ea.)
- New Thespesia populnea / Milo (19 Ea.)
- Existing Ironwood Tree To Remain, Typical
- Existing Coconut Palm To Remain, Typical
- Existing Ironwood Canopy With Open Grass Understory To Remain, Typical
- New Protective Tree Exclosure, Typical
- Mixed Planting Consisting Of Existing Iron Wood Trees, New Native And Polynesian-Introduced Trees And Open Grass Under Story. See "Vegetation Management" Exhibit For Additional Information.
- New Soil Stabilization, Typical
- New Terraced Orchard, Typical
- New Field Crop, Typical
- New Garden, Typical
- New Landscaped Area, Typical
- New Pasture, Typical
- New Paved Driveway, Typical
- New Gravel Driveway, Typical
- Existing Hog Wire Fence, Typical
- New Hog Wire Fence, Typical
- New Hawaiian Rock Wall, Typical
- New Irrigation Line (Well Water), Typical
- New Potable Water Line (County Water), Typical
- Waste Line, Typical
- Service Line, Typical

Stephen and Cheryl Winter Trusts

NEW NATIVE AND POLYNESIAN TREE PLANTING

NORTH

0 60 120 180 240 300

SCALE IN FEET

b+k design group, llc
Landscape Architecture & Site Planning

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Attachment 10:

Road Access to Winter Property

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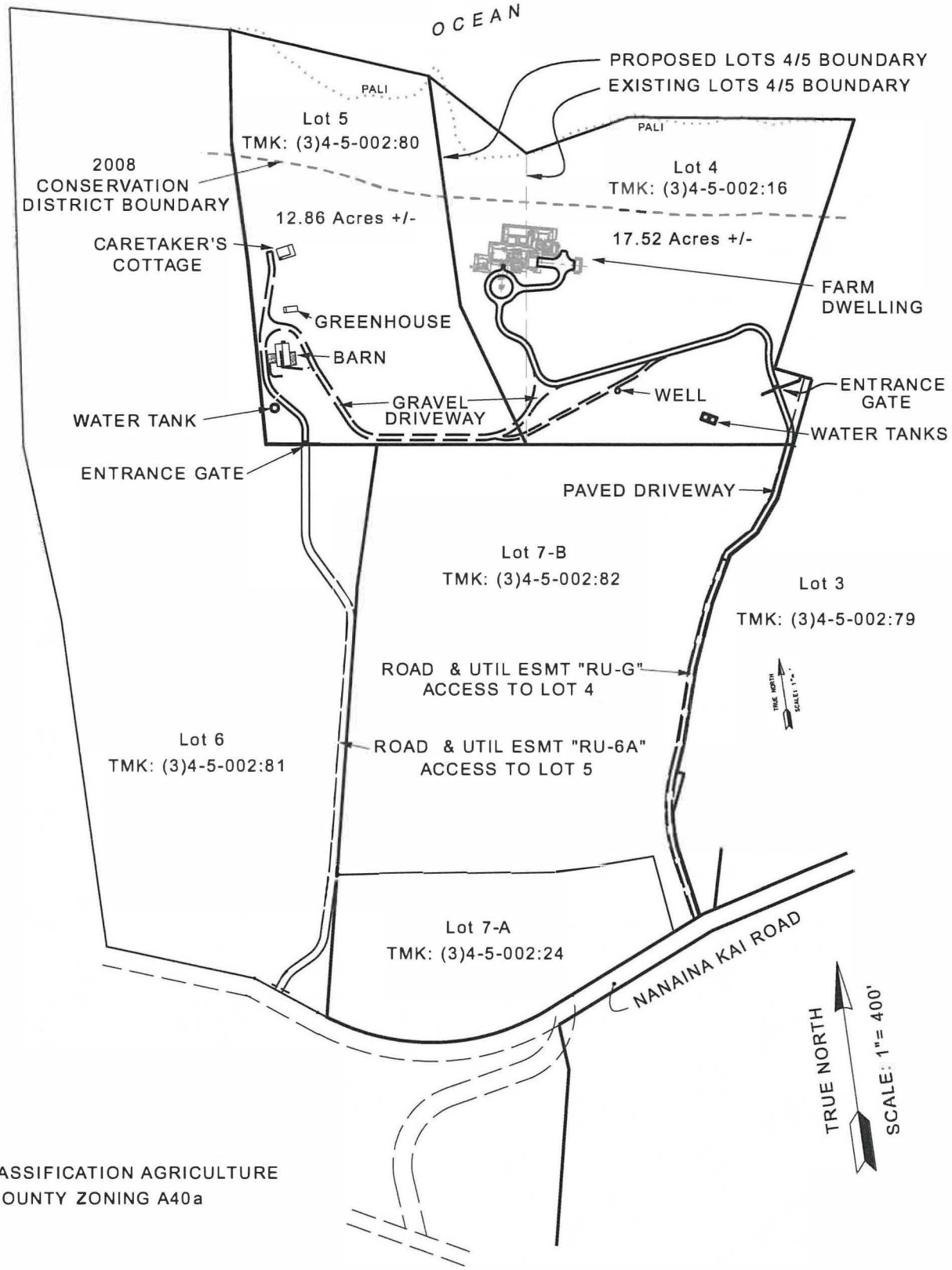

SITE PLAN
LOTS 4, 5 & 7-B
Haina and Panui, Hamakua, Island and County of Hawaii
TMK: (3)4-5-002:016, 080 & 082

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Attachment 11:

Flood Hazard Zone

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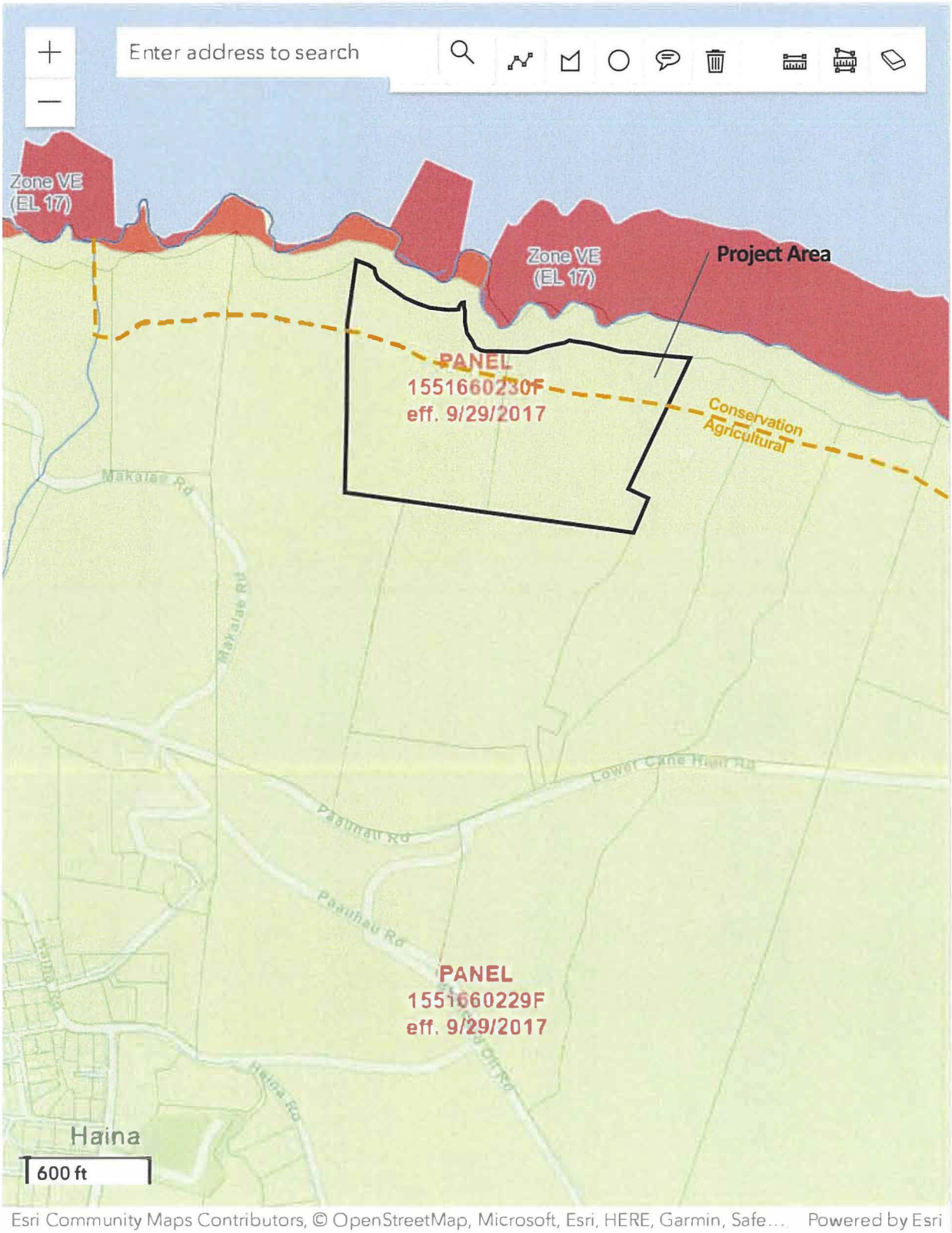
State of Hawaii, Department of Land and Natural Resources

Flood Hazard Assessment Tool



Profile Baseli

Water Lines

Flood Hazarc

- Zone A
- Zone AE
- Zone AE
- Zone AH
- Zone AO
- Zone D
- Zone VE
- Zone VE
- Zone X
- Zone XS
- Zone X F

Statewide Par

- Parcels

NGS Datasheets

Elevation Certificate

Flood Insurance Stu

State Regulated Dar

Tsunami Evacuation

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Attachment 12:

Archaeological Inventory Survey

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Report 1673/1704-110422

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

Report 1673/1704-110422

FINAL

ARCHAEOLOGICAL INVENTORY SURVEY

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

HAINA AND PAPAʻANUI AHUPUAʻA

HAMAKUA DISTRICT

ISLAND OF HAWAIʻI

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

ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL RESOURCE MANAGEMENT SERVICES
73-4161 KAAO ROAD, KAILUA-KONA HI 96740
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 50-10-08-31348[1]), 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

Contents

Figures

Figures (cont.)

Tables

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).

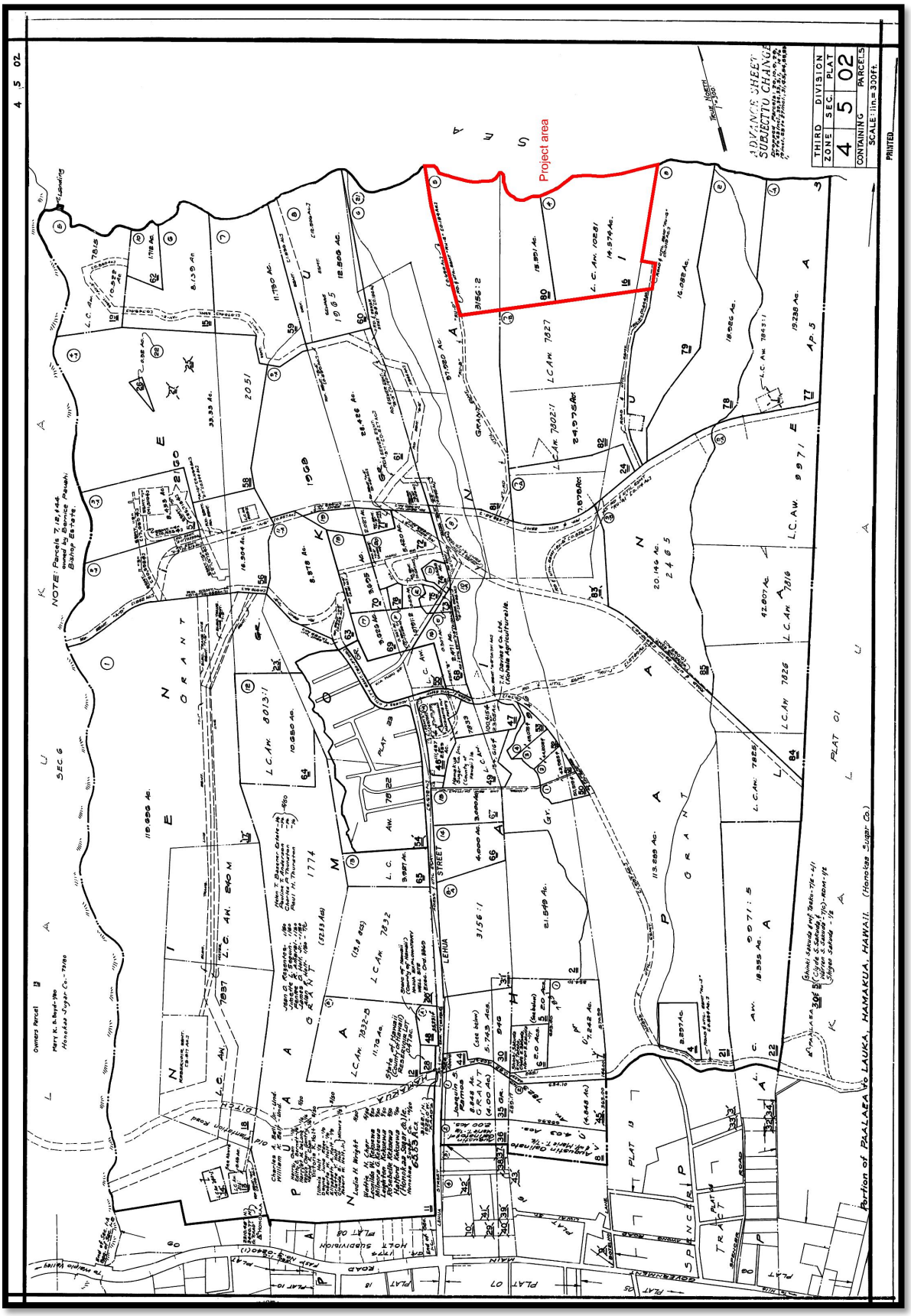


Figure 2. Tax Map Key (3) 4-5-002 showing project area parcels (obtained from hawaiicounty.gov).

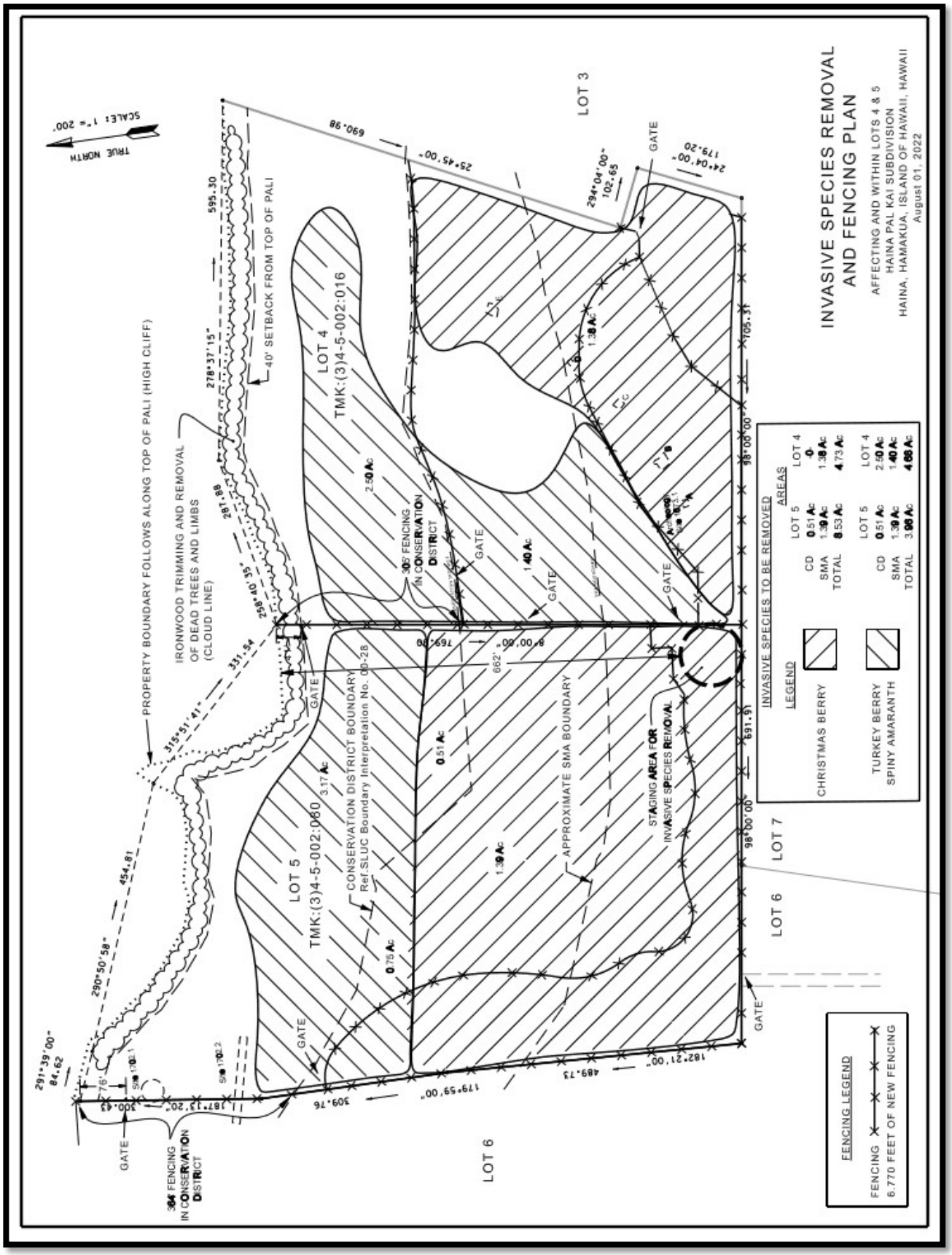


Figure 3. Proposed development within project area.

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 (C*asuarina 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 Manoā (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 of 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.

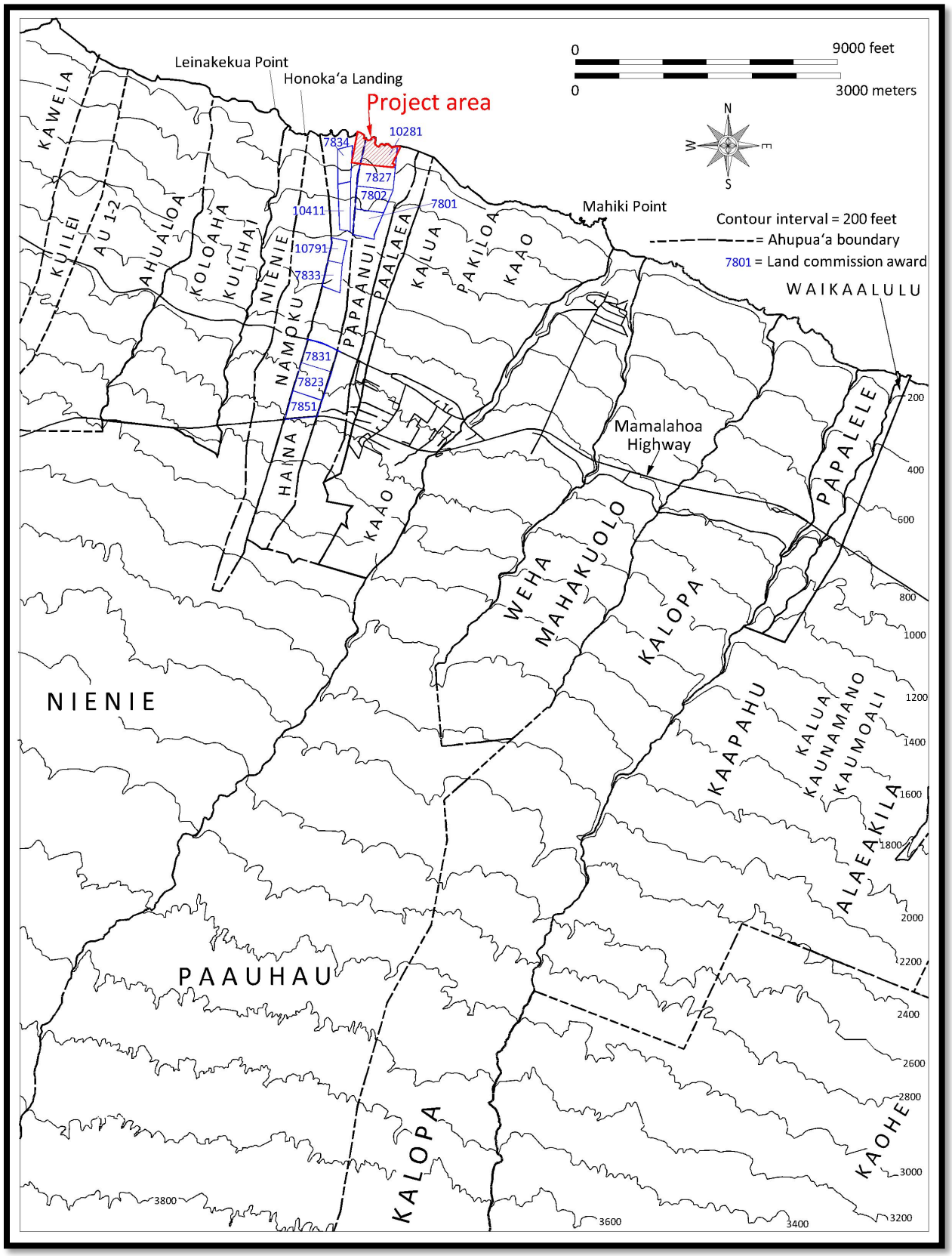


Figure 7. Ahupua'a boundaries (adapted from USGS 1995 7.5' USGS Honokaa Quadrangle).

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					Royal	
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	Kailieleele	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 *ʻāpana* 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 Hawaiʻi 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 *ahupuaʻa,* as well as several land grants. Two parcels in Haina Ahupuaʻa 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 *ahupuaʻa 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 Papaʻanui (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 Paʻauhau, Honokaa and Paʻauilo. The sugar mill at Paʻauhau is located approximately 1.5 miles east-southeast of the project area in the seaward portion of the *ahupuaʻa* 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 Paʻauhau Plantation is from the Hawaii Sugar Planters' Association Plantation Archives:

> The Paʻauhau 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.

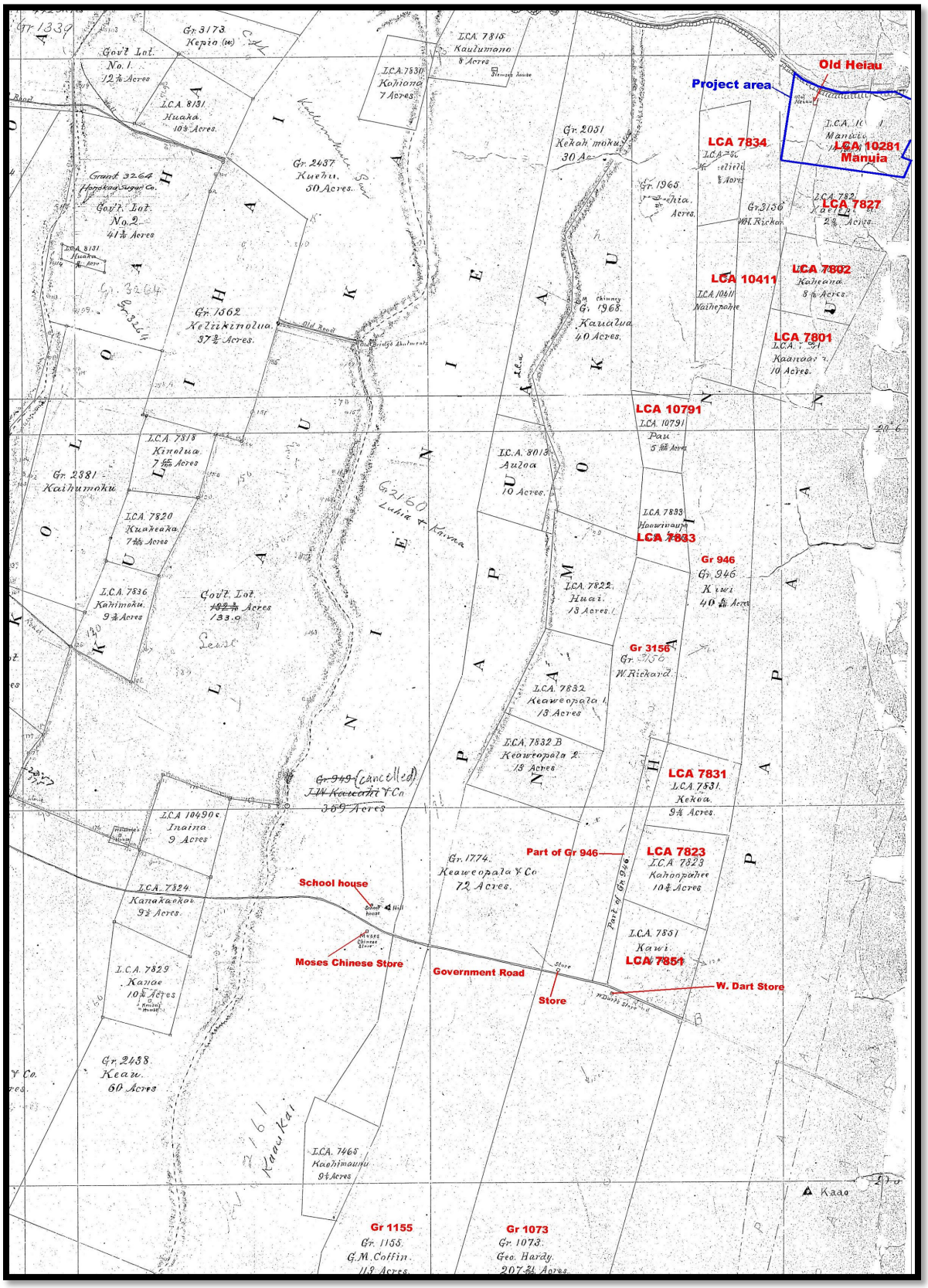
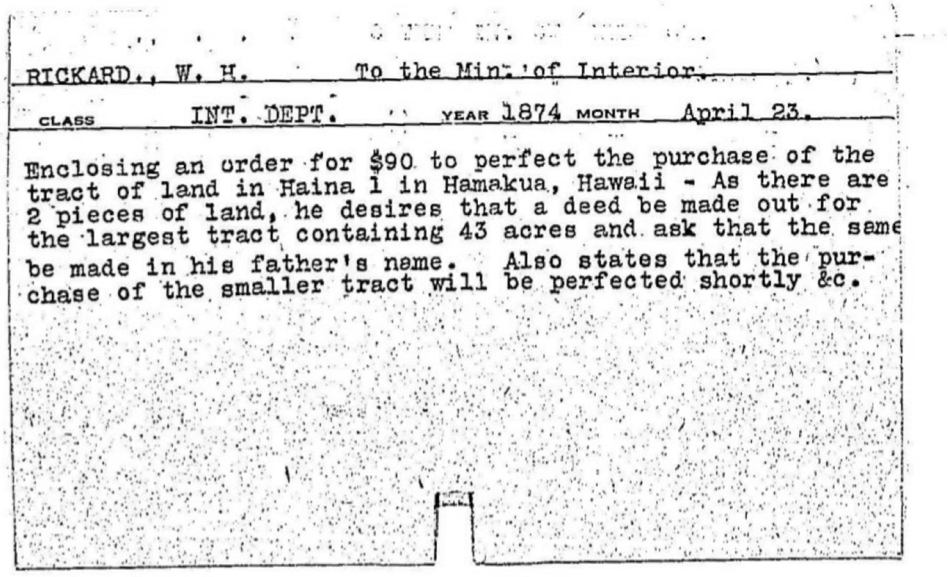


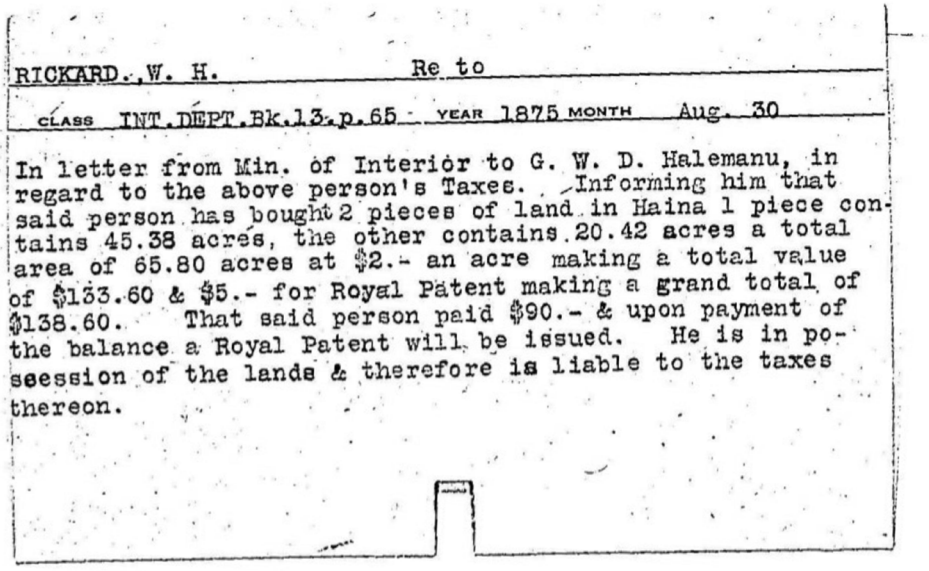
Figure 8. Portion of Lyons and Emerson's 1879 map of the Hamakua Area (obtained from DAGS).



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).

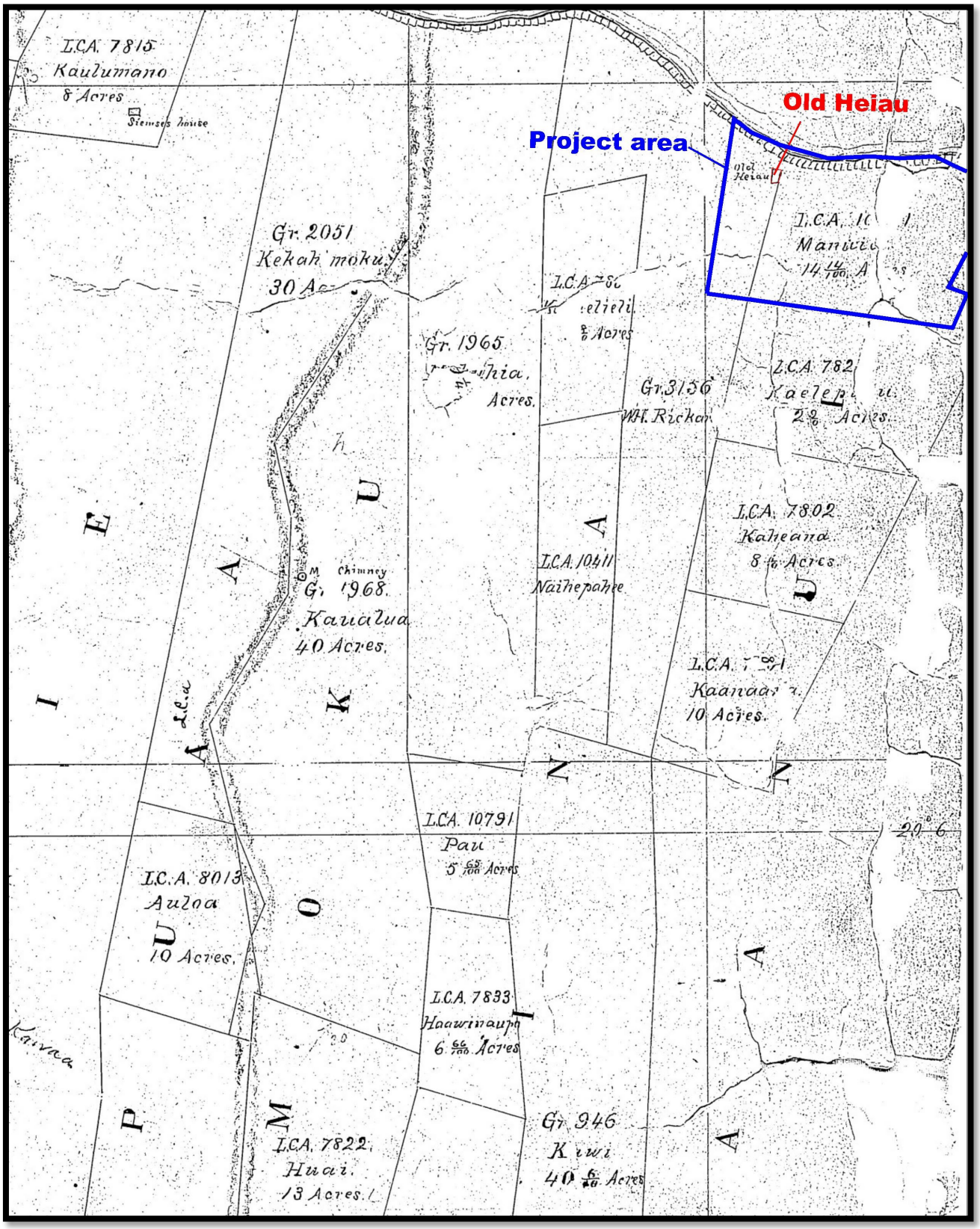


Figure 10. Close up of Lyons and Emerson's 1879 map showing "Old Heiau" in Parcel 80 (obtained from DAGS).

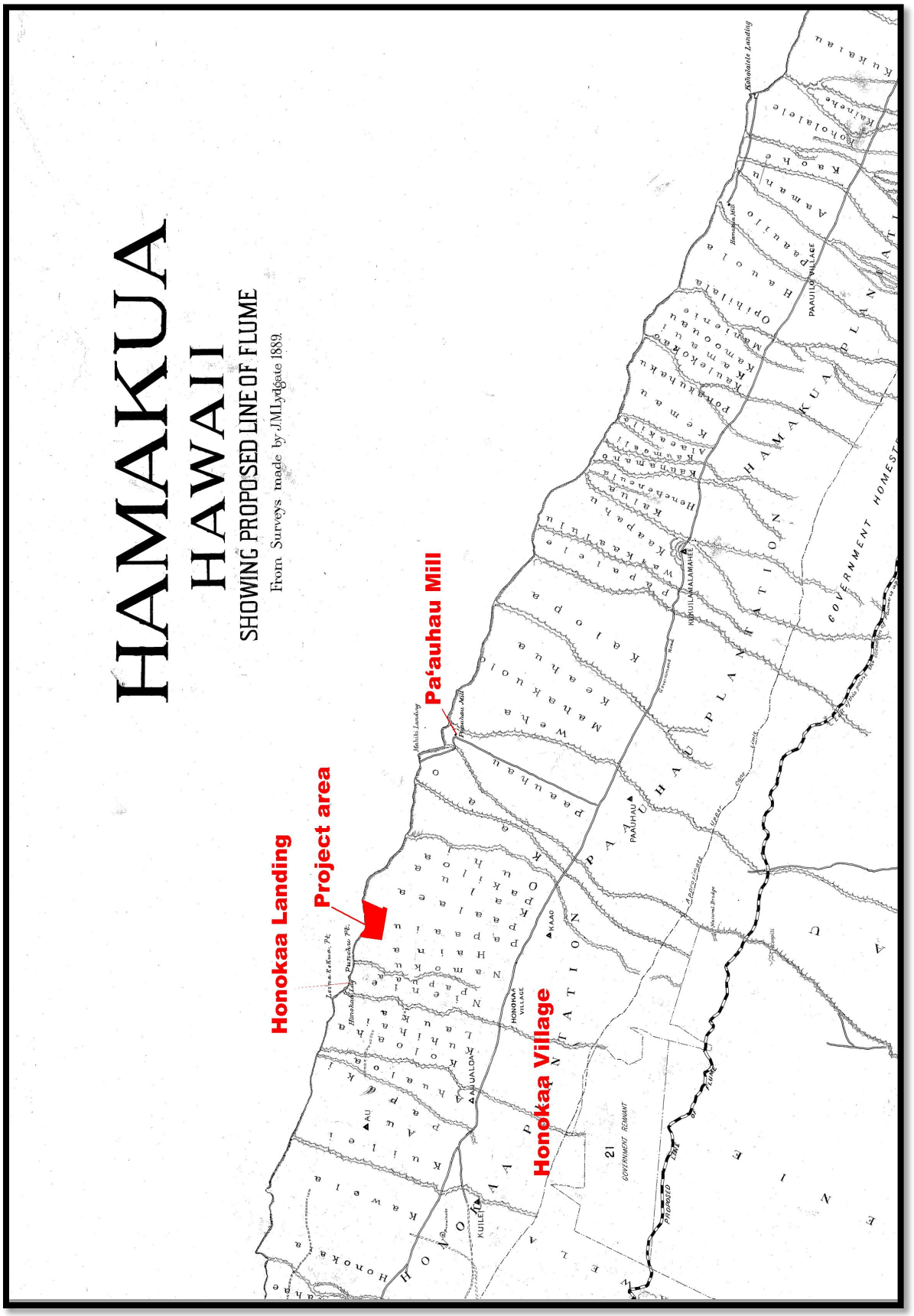


Figure 11. Portion of Lydgate's 1889 map of Hamakua, Hawaii (obtained from DAGS).

> 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

PAAUHAU SUGAR PLANTATION COMPANY

Where Big Problems In Handling Cane Have To Be Overcome.

THE property of the Paauhau Sugar Plantation Company is situated fifty miles from Hilo and comprises a total area of 5200 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 rattoon.

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 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.

The lowest altitude that cane is planted on the Paauhau 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 Paauhau 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 traveling 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 area.

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 acreage of cane for the 1908 crop was approximately 2350 acres, the sugar output being 19450 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 rainy season. The plantation obtains 20,000,000 gallons of water daily from the Hamakua Ditch Co., and by means of irrigation 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.

JAMES GIBB
Manager Paauhau Sugar Plantation Co., Hawaii.

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 1902 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 Hepworth patent, one six-ton, 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 250-horse-power Heine boilers supplied by the Risdon Iron Works of San Francisco. One 250 horse-power multi-tubular tandem boiler is also in use.

A new steel overhead traveling 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 12a-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 93 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 step-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 sacking 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 160 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 Paauilo 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 Paauhau Sugar Plantation Company since March 1, 1901, and has been actively identified with the sugar industry for twenty years.

Following are the employes:

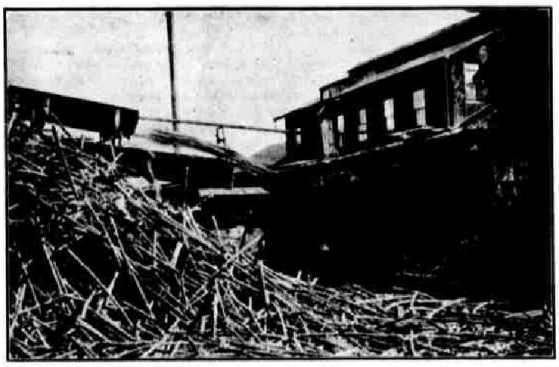
Head Overseer, Wm. Grotheer; Chief Mill Engineer, Thos. Murray; Bookkeeper, Rollin W. Barker; Assistant Bookkeeper, Louis Wilson; Timekeeper, Wm. Hall; Sugar Boiler, R. Lougher; Chemist, E. Westly; Store Manager, Wm. Lennox; Steam Plow Engineer, J. Gomes; Carpenter, Jas. Crozier; Physician, Dr. Buffett.

The officers of the company are:
W. G. Irwin, President.
Albert Meyer, Vice President.
Dan'l. Meyer, Treasurer.
H. W. Thomas, Secretary.
D. 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 Waiohinu through Naalehu and Honuapo to Hilea.

The first cane was planted upon these lands many years ago by Mr. Hutchinson at Waiohinu, 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.



Fluming Sugar Cane into Honuapo 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.

1908 has been an exceptionally dry year

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

Eight miles of trackage connects Naalehu Honuapo 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, Korean 71, Japanese 450, Spaniards 4, Americans 15.

The homestead plan has been tried in 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.

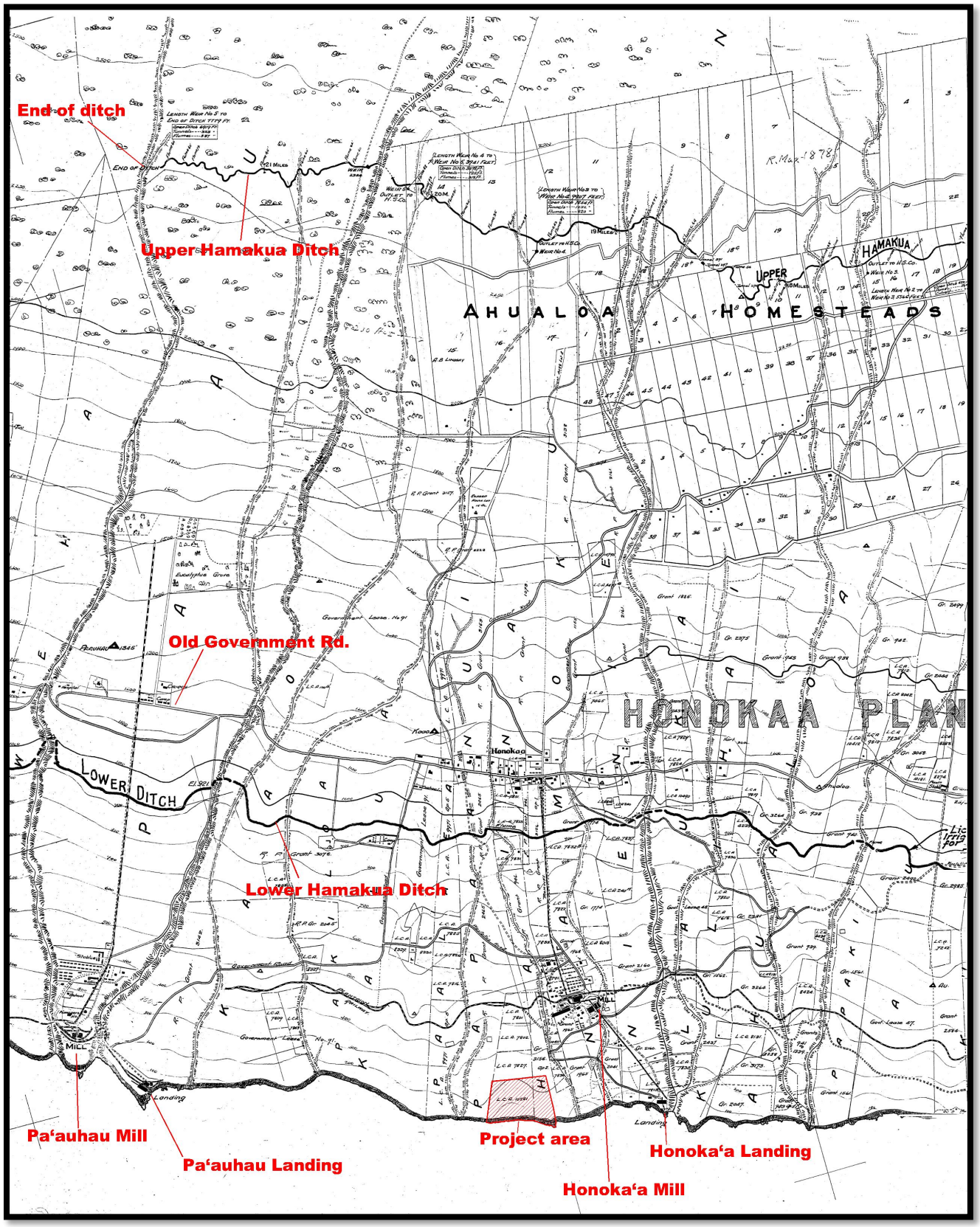


Figure 13. Williamson's 1908 map of Northwestern Part of Hamakua, Hawaii (obtained from DAGS).

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 Manoā 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 Manoā 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.

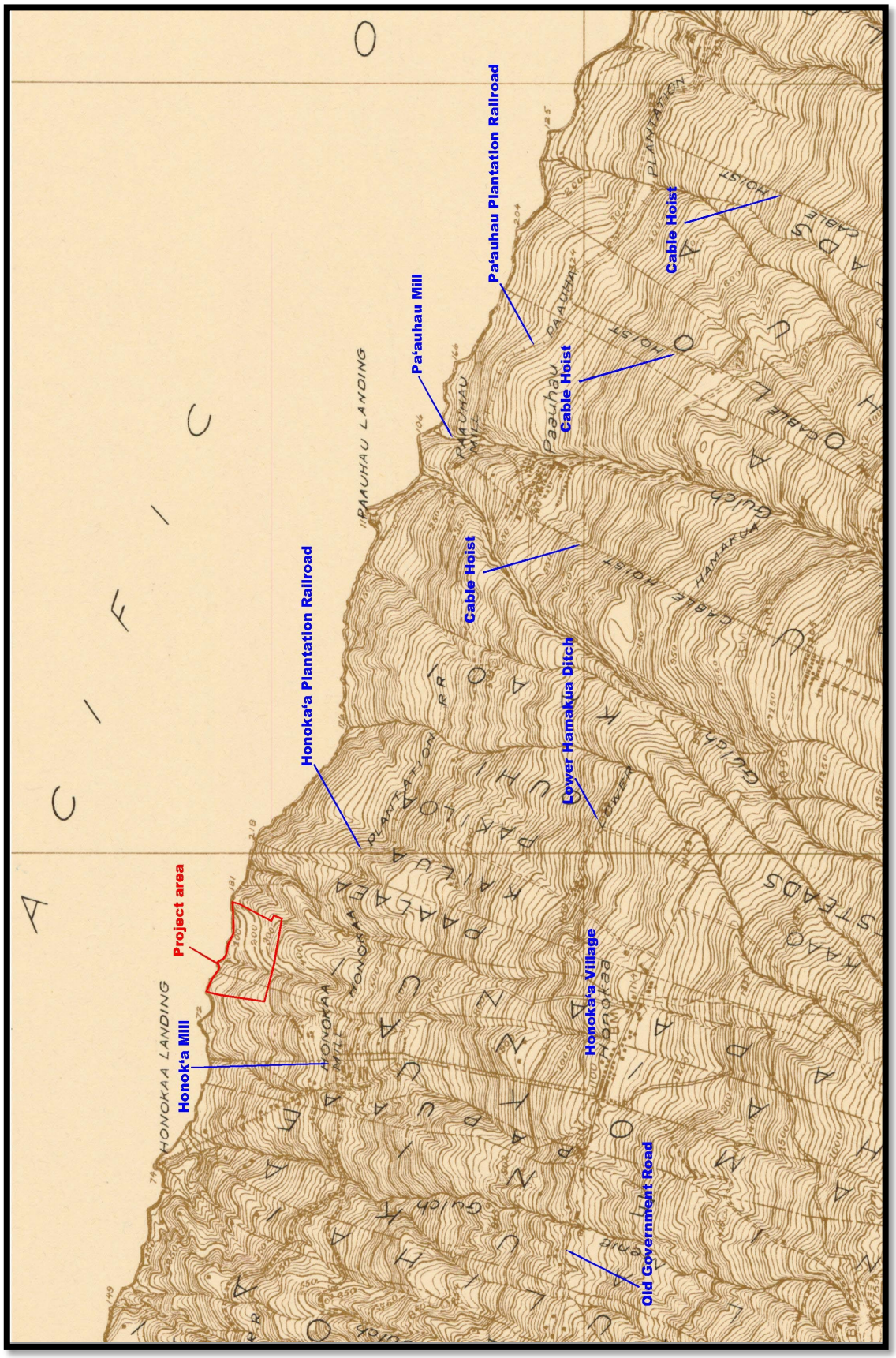


Figure 14. Portion of 1911 U.S. Geologic Survey Honokaa quadrangle showing project area vicinity (obtained from http://magis.manoa.hawaii.edu).

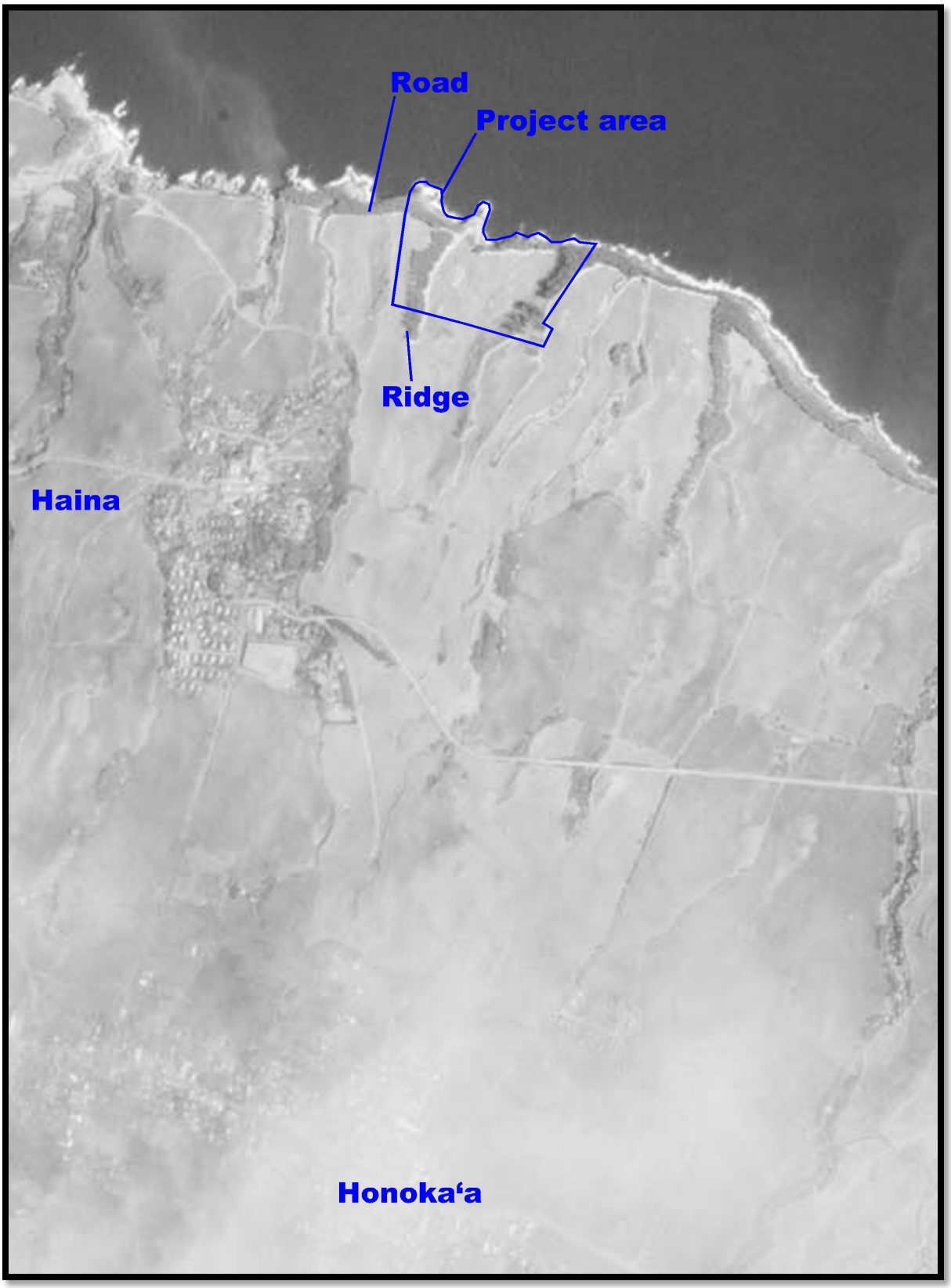


Figure 15. Portion of September 28, 1954 aerial photograph of project area vicinity (obtained from http://magis.manoa.hawaii.edu).

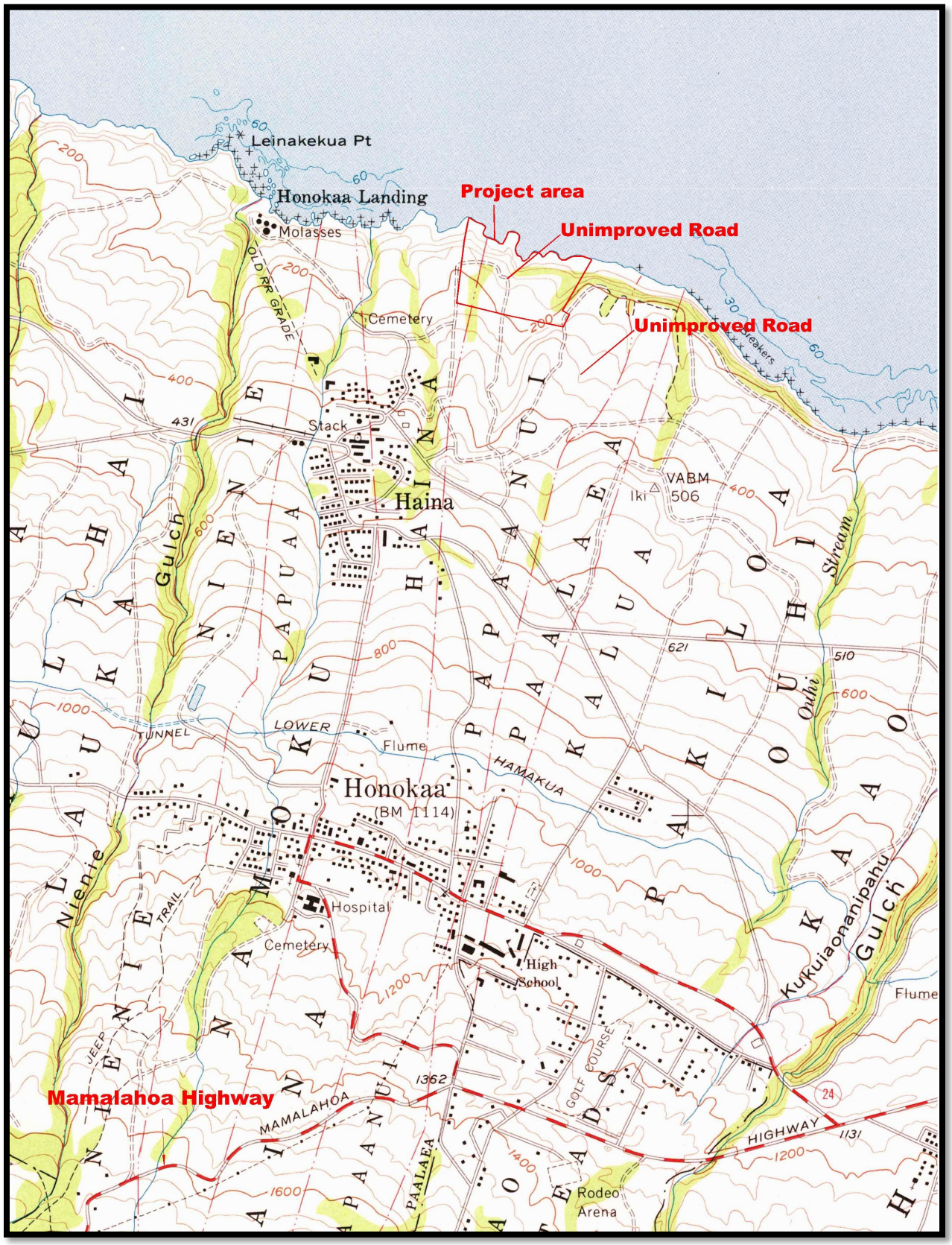


Figure 16. Portion of 1957 USGS Honokaa quadrangle showing project area vicinity (obtained from http://magis.manoa.hawaii.edu).

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.

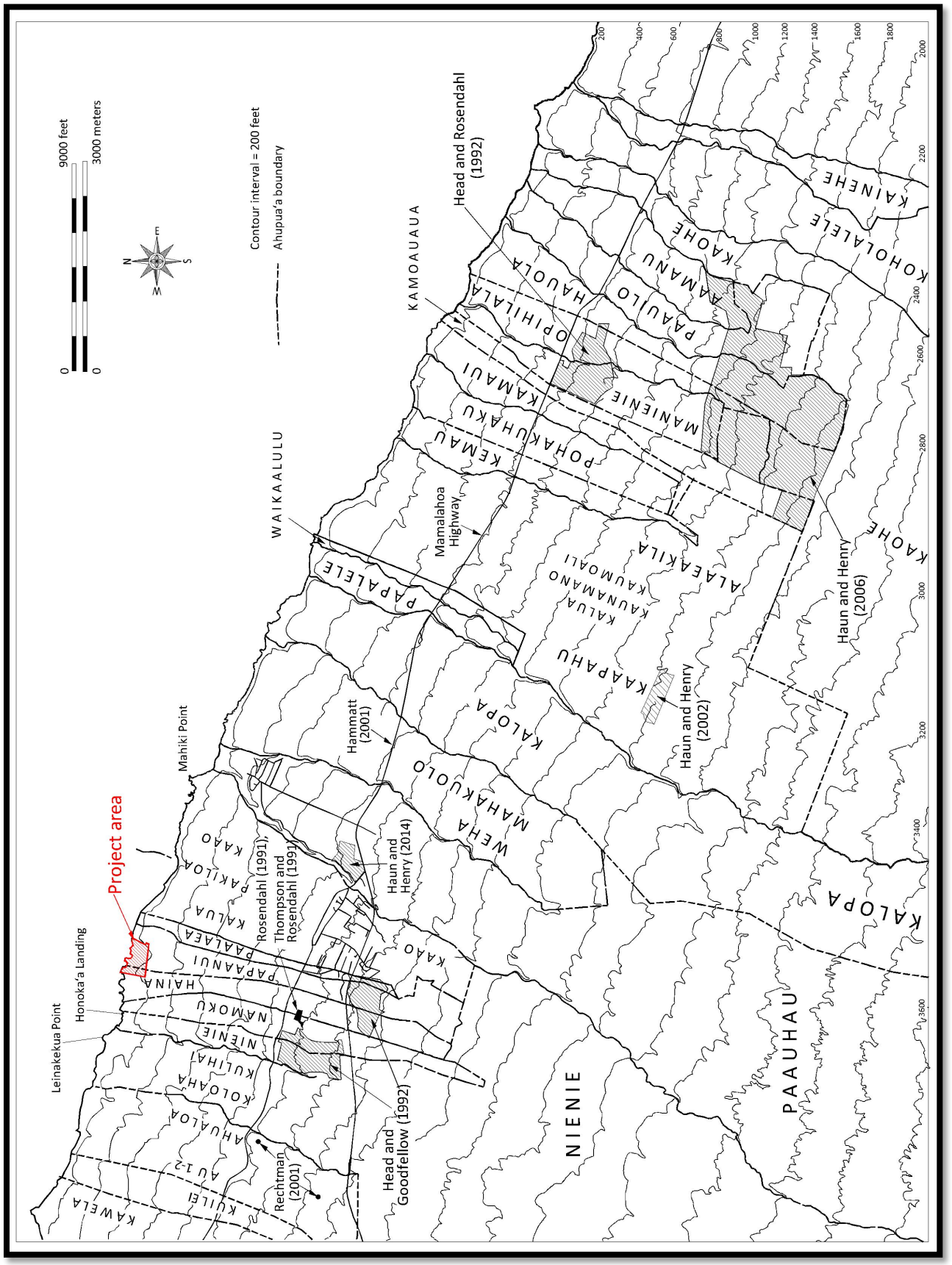


Figure 17. Previous archaeological work in vicinity of project area (adapted from USGS 1995 7.5' USGS Honokaa Quadrangle).

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.

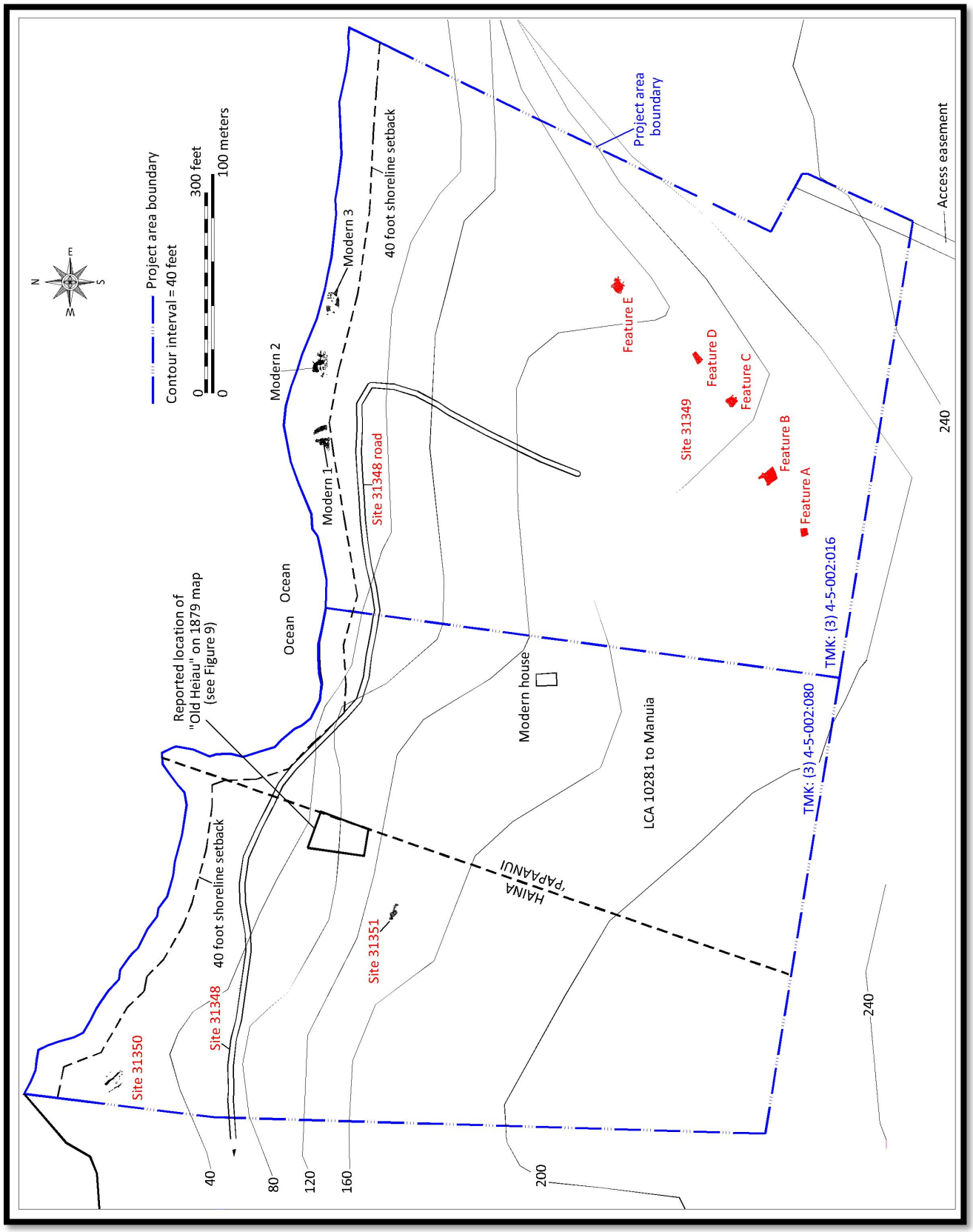


Figure 18. Site location map.

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.

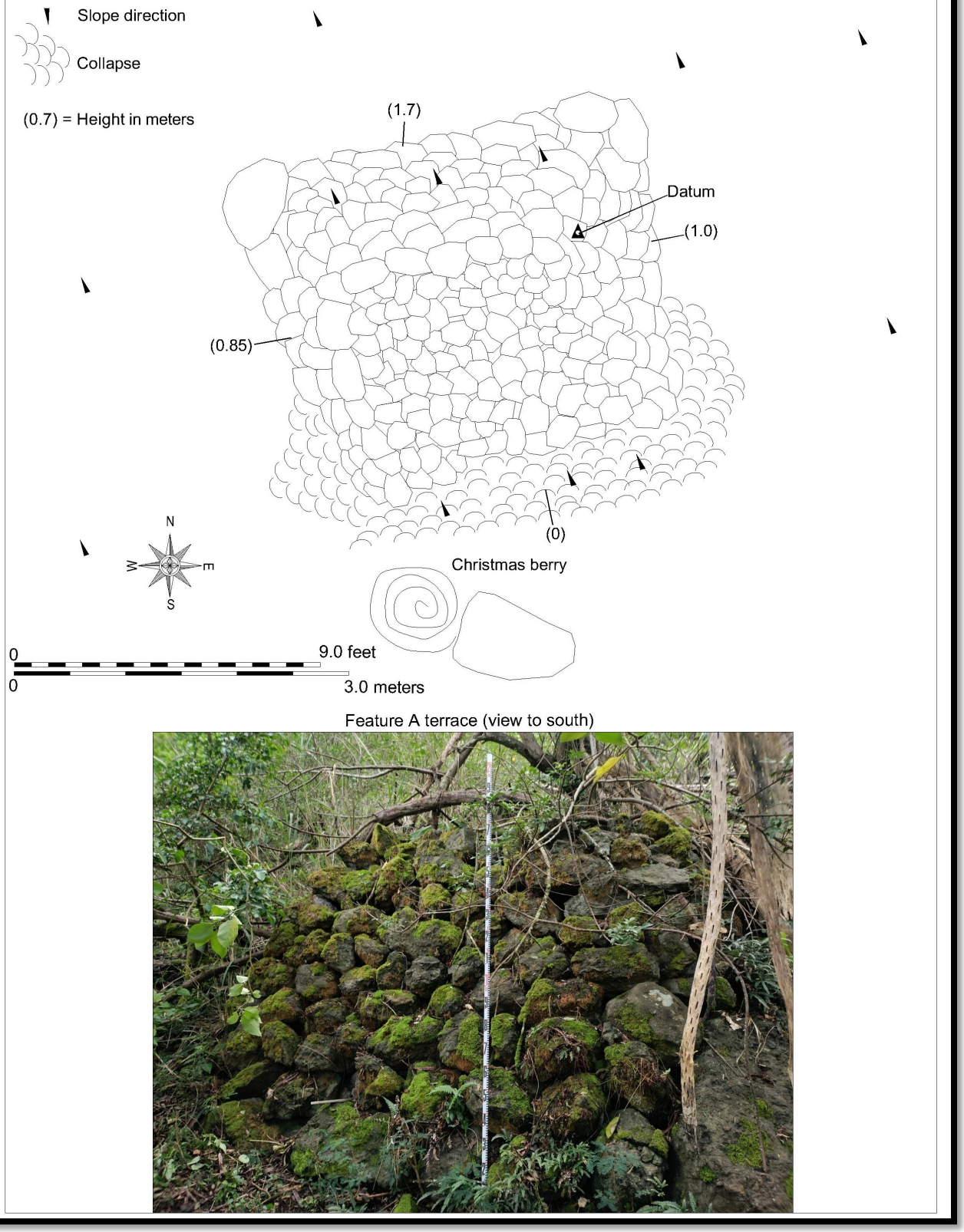


Figure 21. Site 31349, Feature A plan map and photograph.

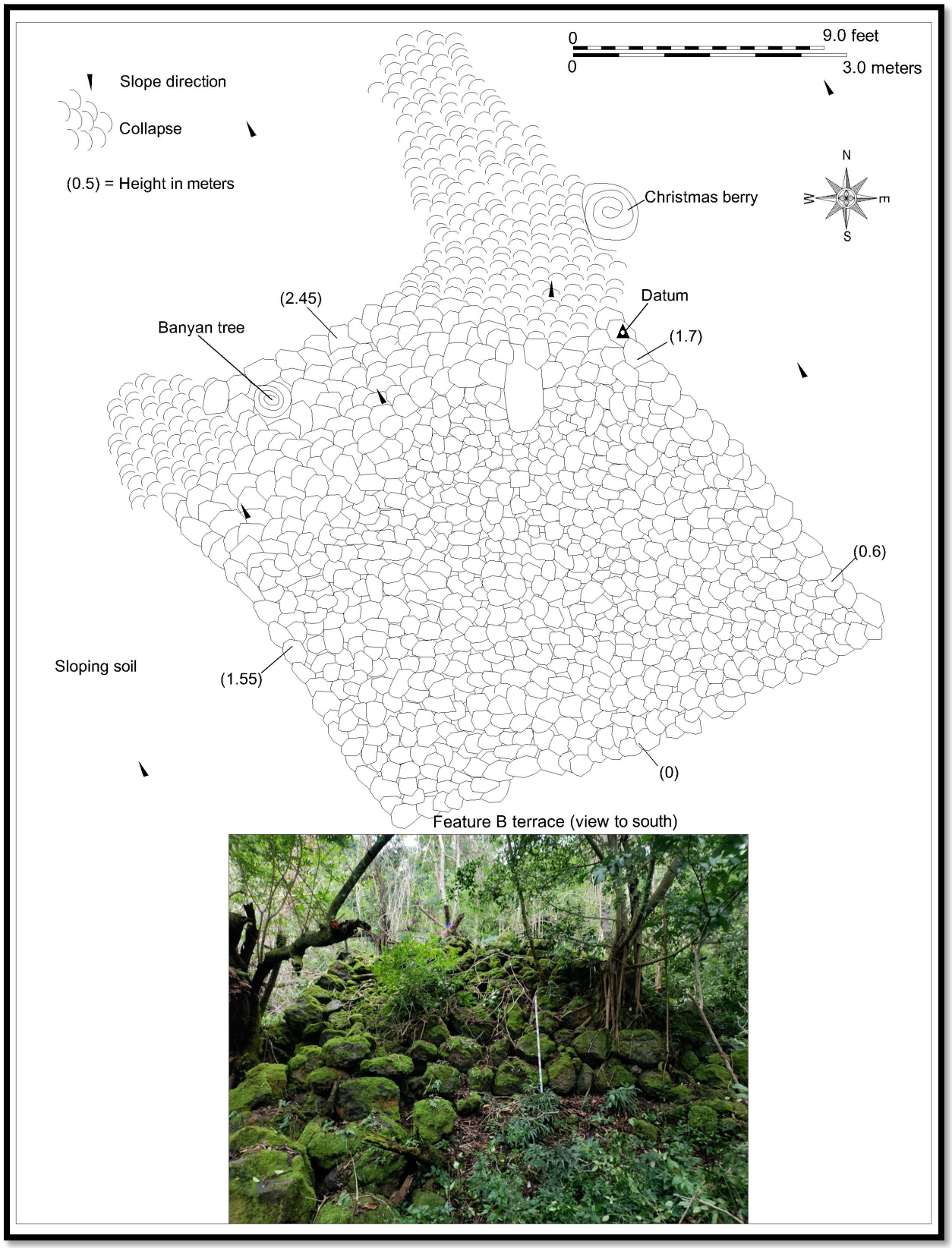


Figure 22. Site 31349, Feature B plan map and photograph.

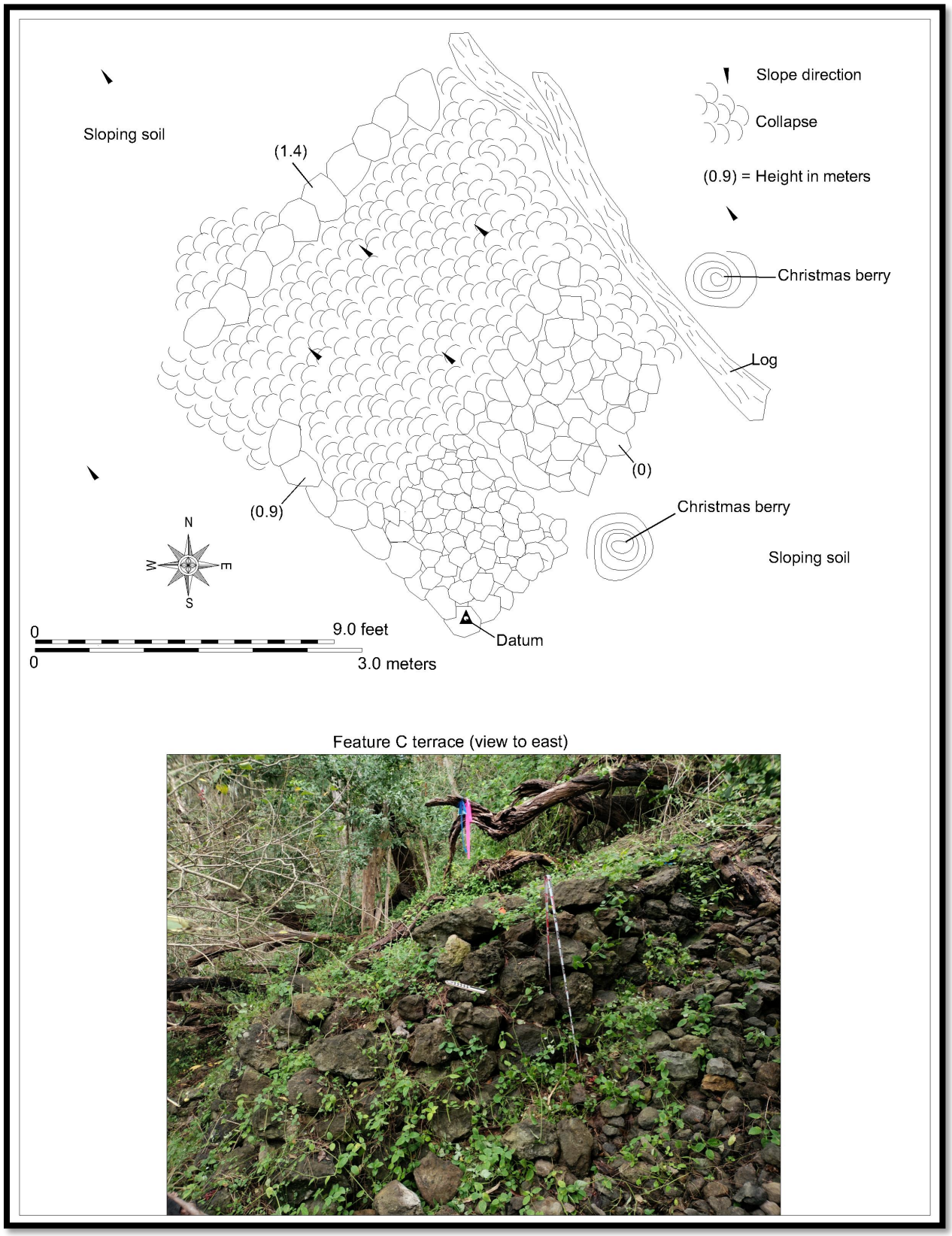


Figure 23. Site 31349, Feature C plan map and photograph.

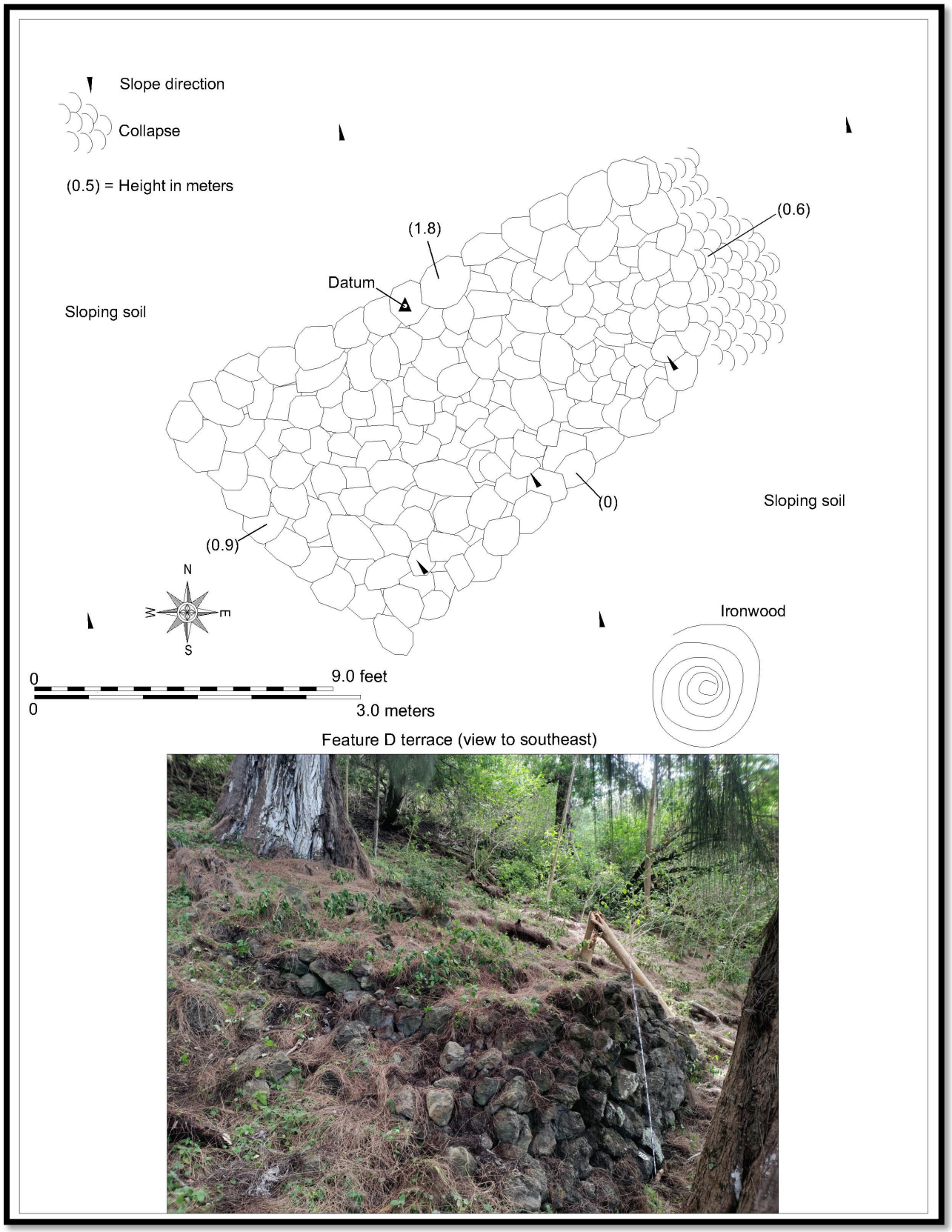


Figure 24. Site 31349, Feature D plan map and photograph.

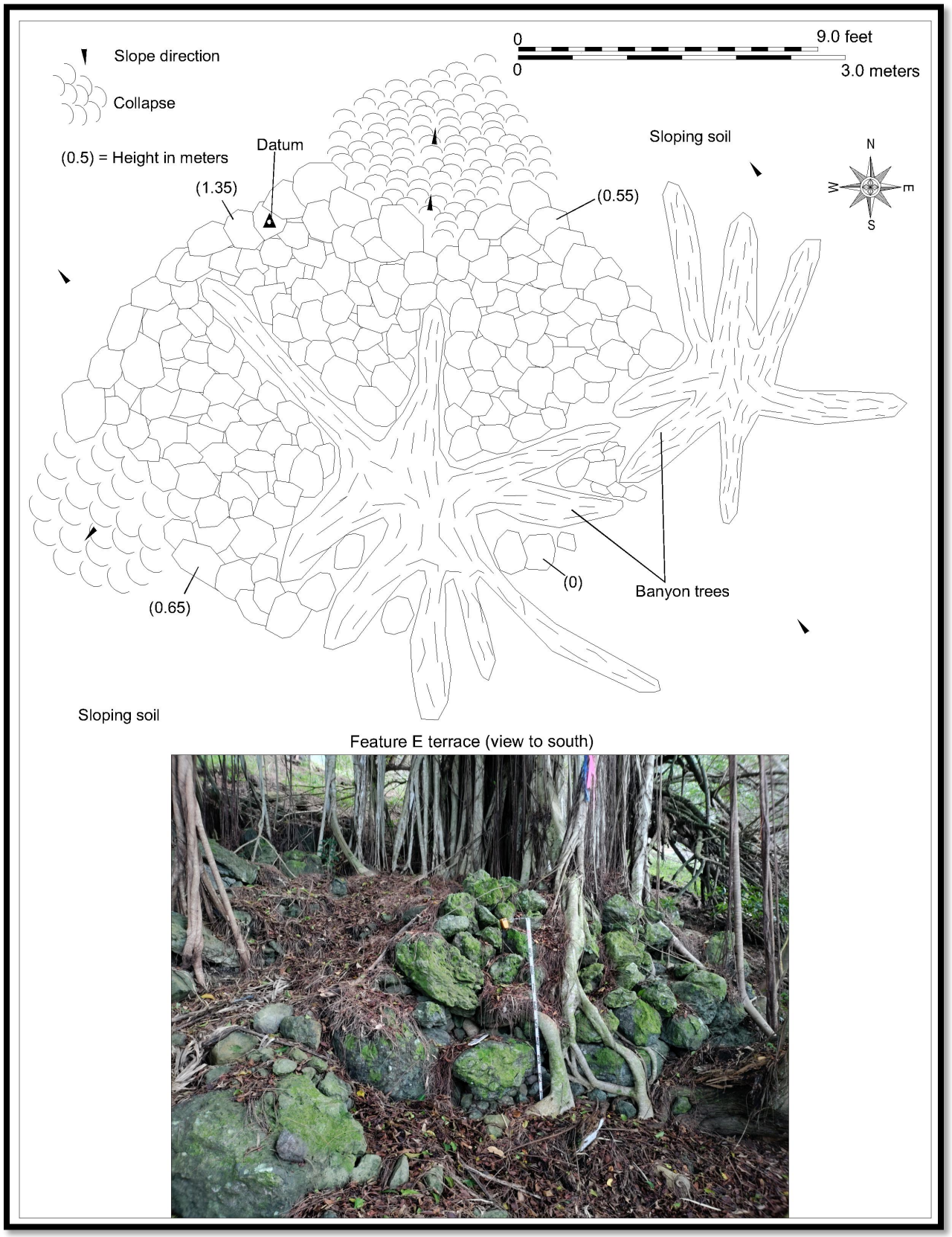


Figure 25. Site 31349, Feature E plan map and photograph.

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.

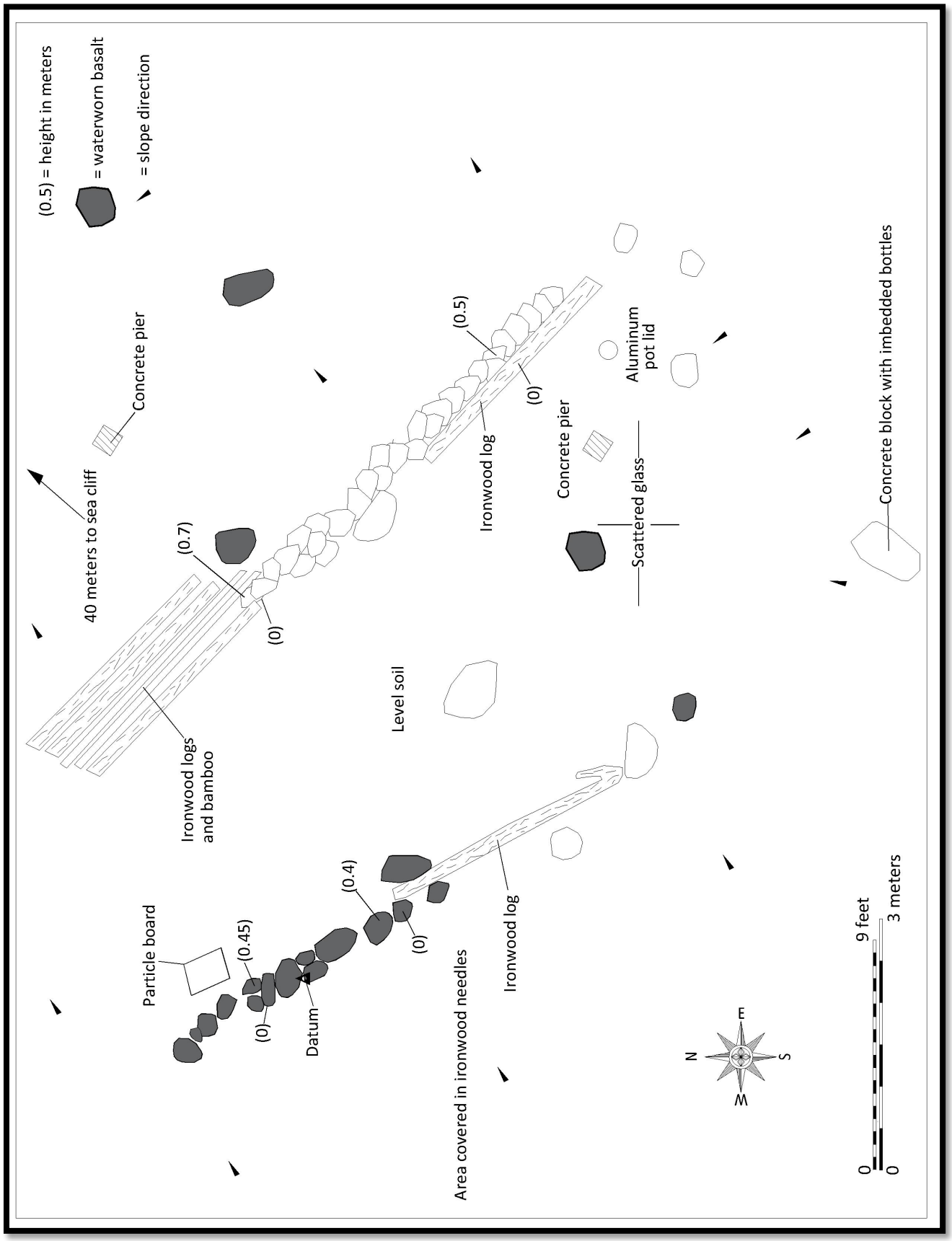


Figure 26. Site 31350 plan map.

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).

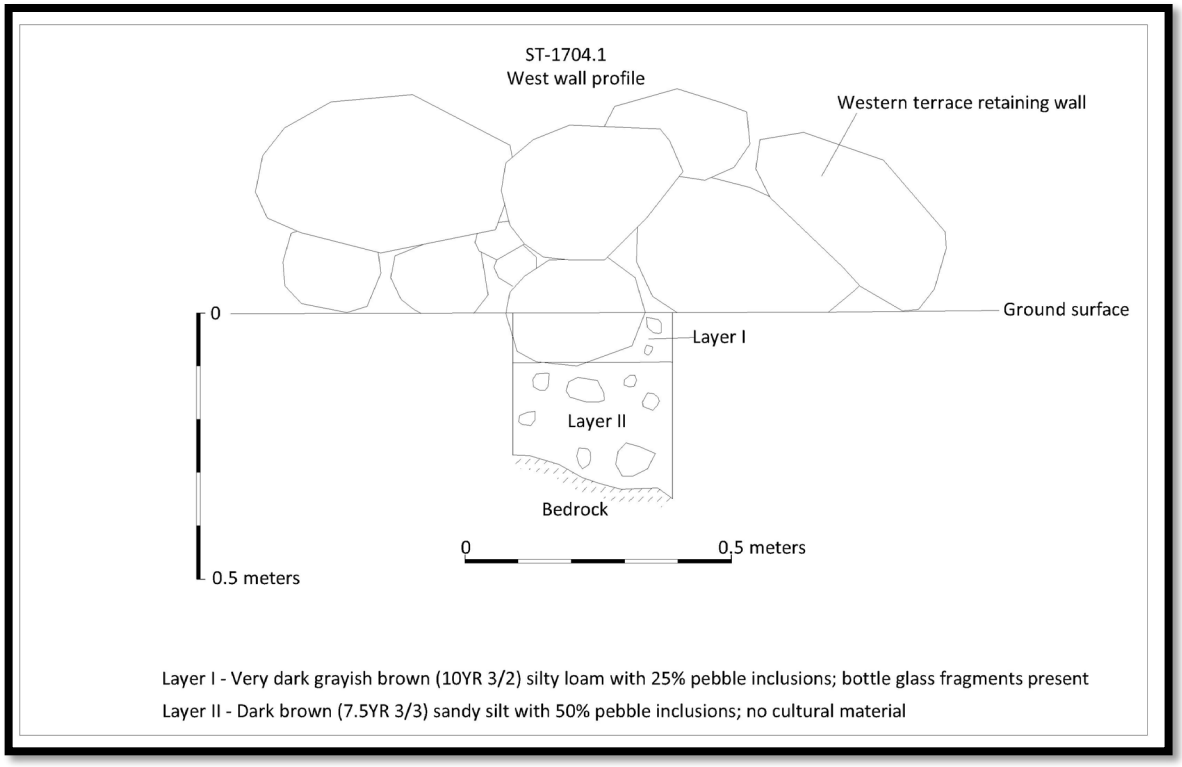


Figure 32. ST-1704.1 west wall profile.

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.

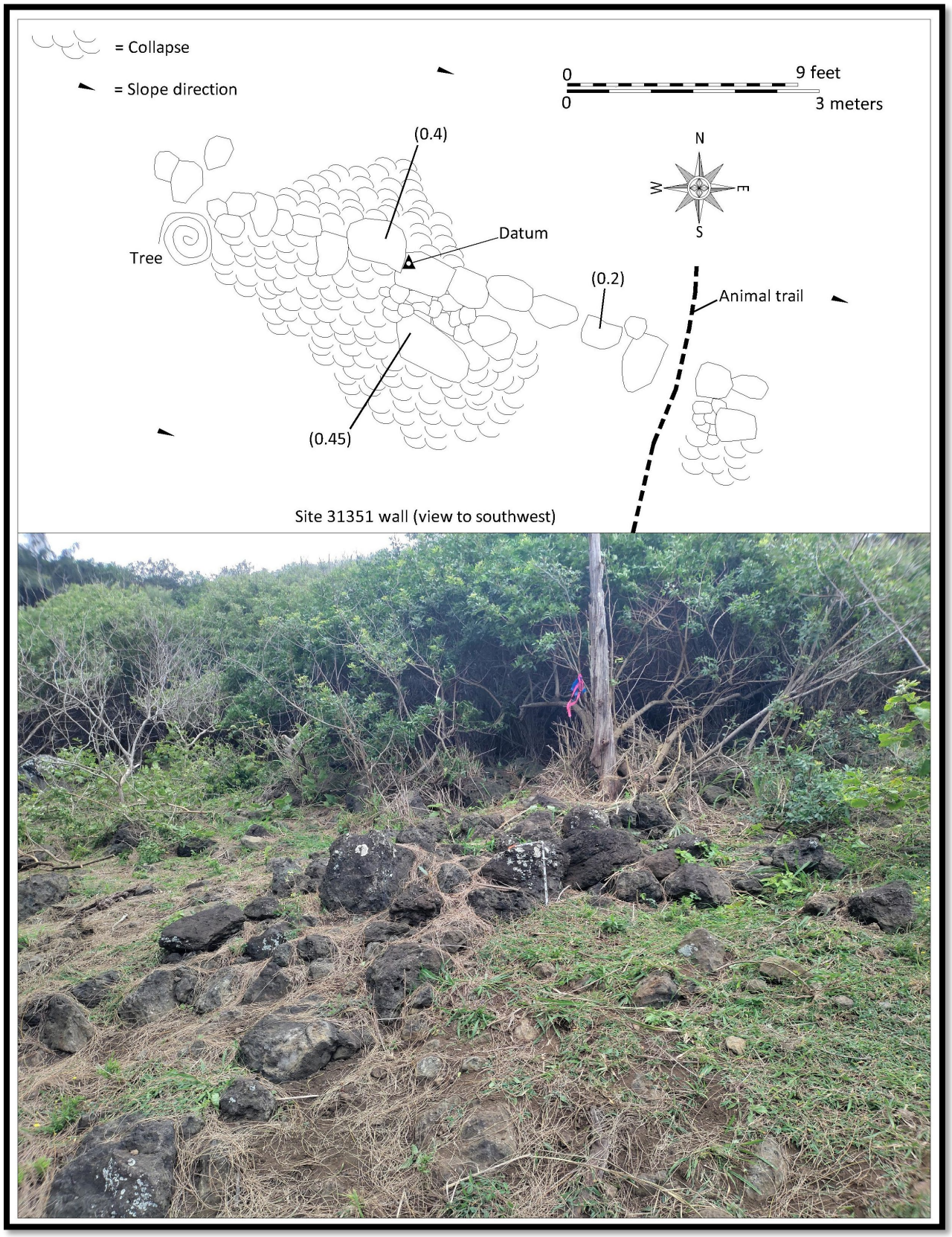


Figure 34. Site 31351 plan map and photograph.

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.

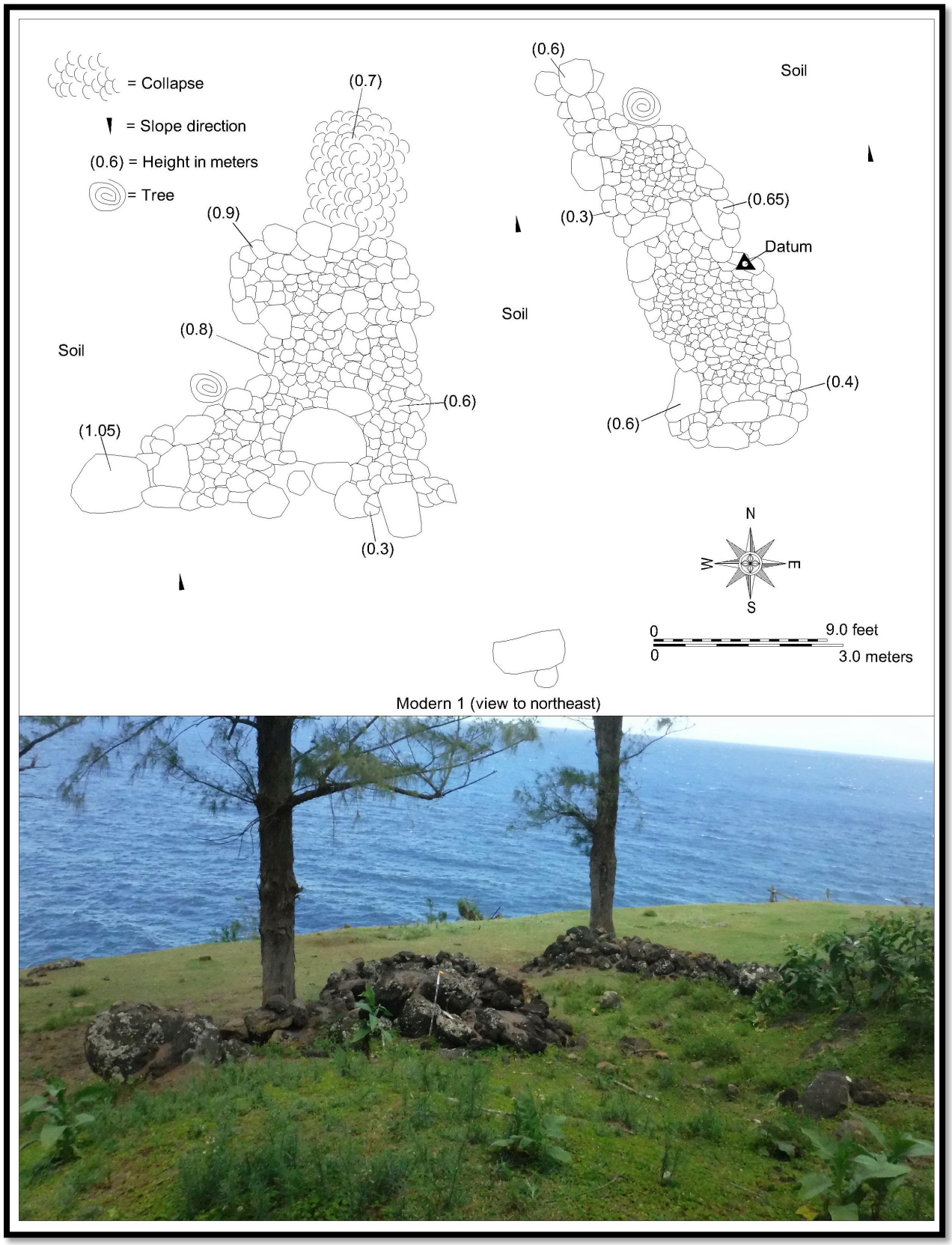


Figure 35. Modern 1 plan map and photograph.

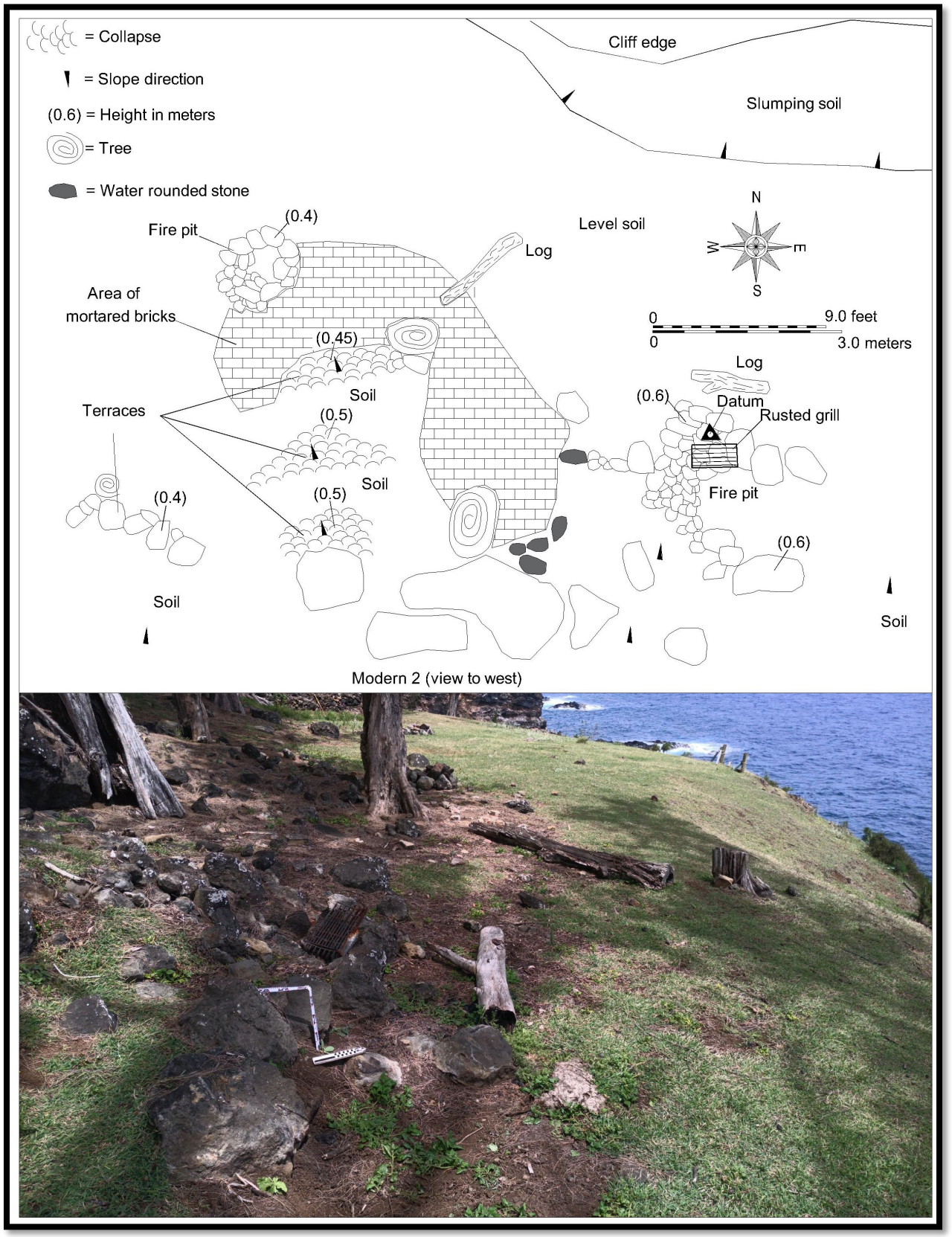


Figure 36, Modern 2 plan map and photograph.

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).

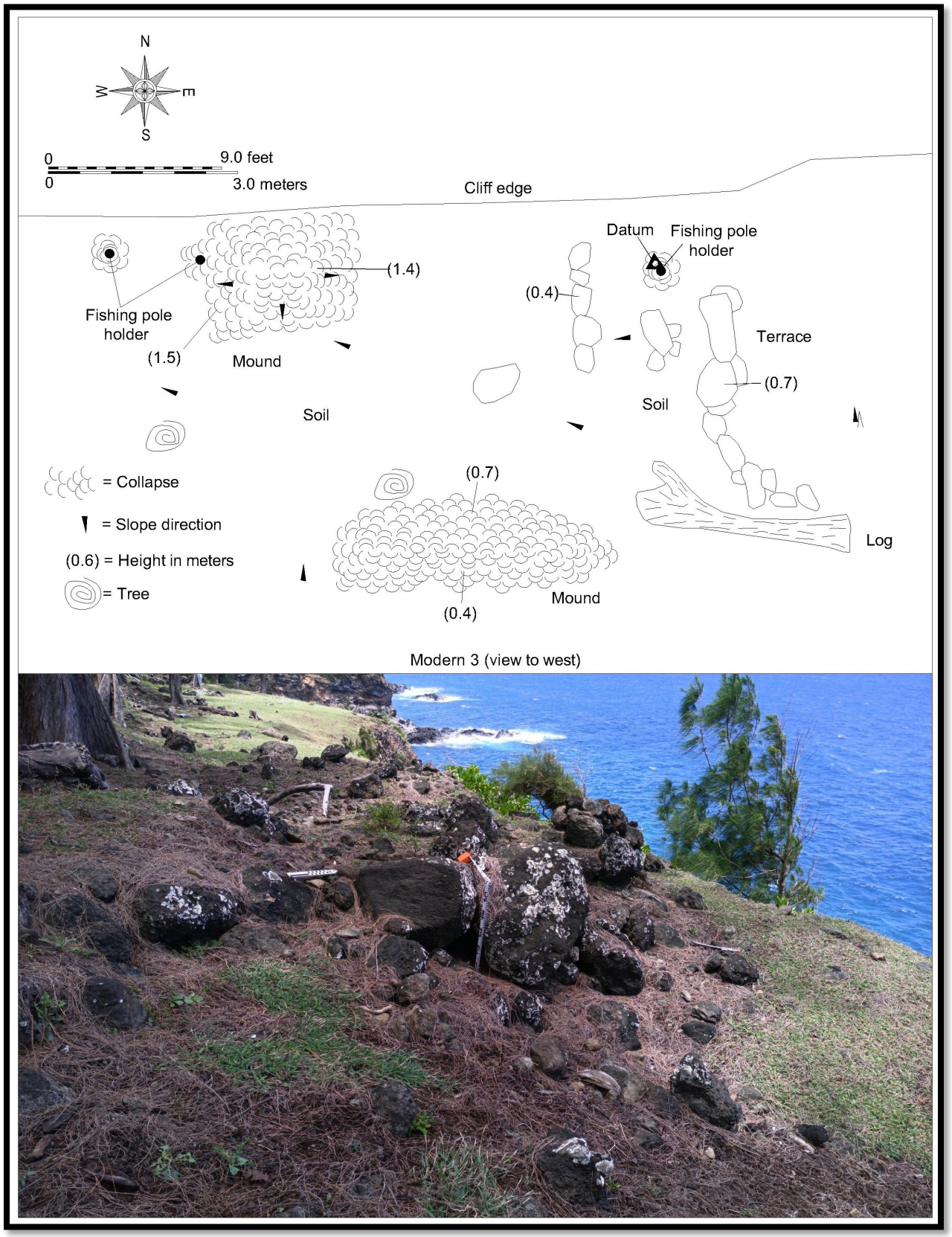


Figure 41. Modern 3 plan map and photograph.

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 *ʻāpana* 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 WORDS[1]

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

konohiki - 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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Attachment 12:

Archaeological Inventory Survey

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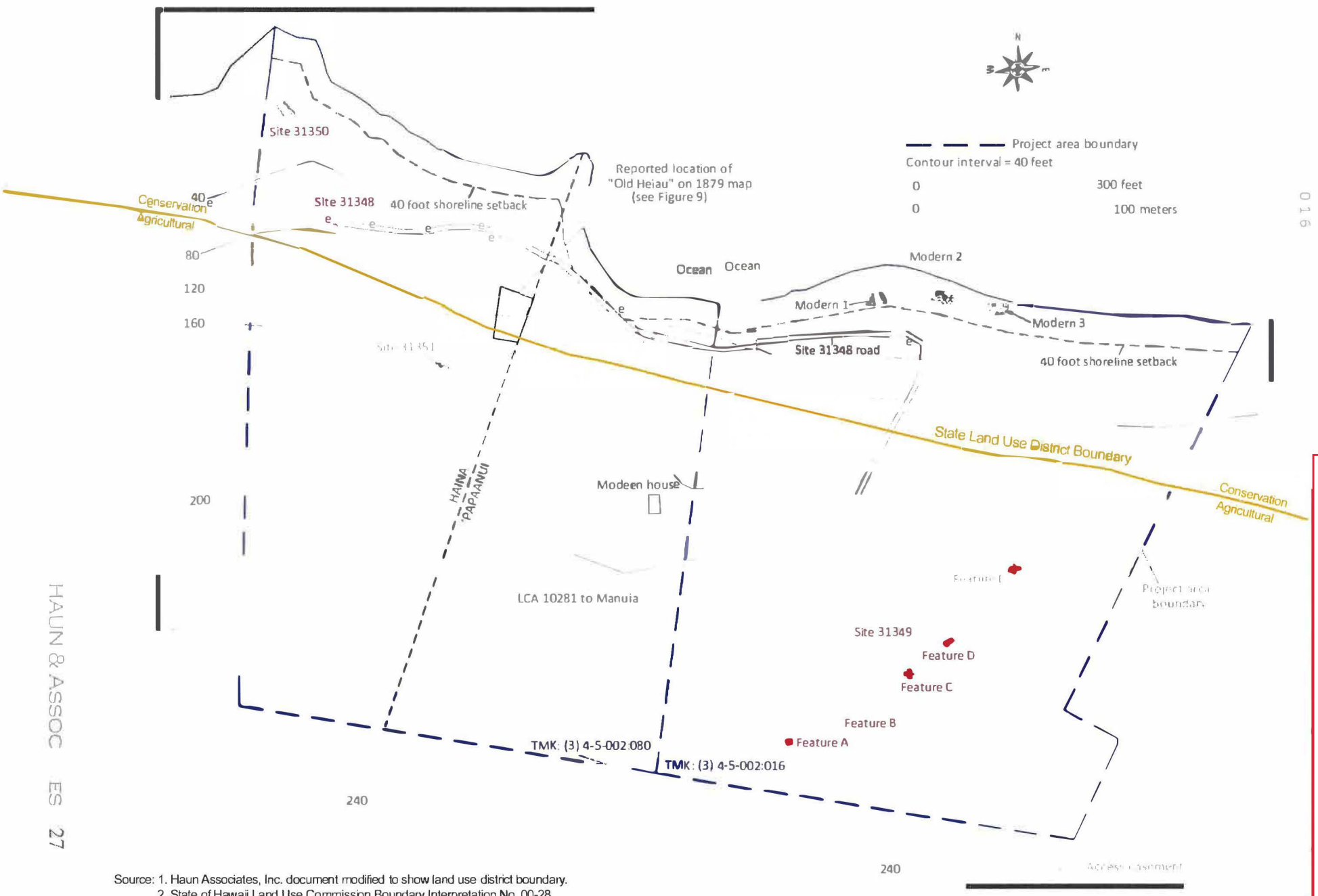

Source: 1. Haun Associates, Inc. document modified to show land use district boundary.
2. State of Hawaii Land Use Commission Boundary Interpretation No. 00-28.

Attachment 13 - Archaeological Sites Map

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Attachment 14:

Shoreline Access Opportunities

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"CLIFFS"
OVER 20 FEET (1)

DATE: 8/20/2024

LEGEND

- Winter Farm Property Boundaries
- TMK Parcels
- Paved Road
- To Multiple Trails Along The Pali
- 40' Shoreline Setback
- State Land Use District Boundary
- SMA Boundary
- Modern Sites (Haun & Associates, Inc.)

Source: (1) Public Access to the Shoreline", 1979.
(2) State of Hawaii Land Use Commission Boundary Interpretation No. 00-28

Shoreline Access Opportunities

Winter Farm

Island of Hawai'i

North

Linear Scale (Feet)

0 350 700

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