
FINAL
Kāwala Conservation Easement
Kāwala Ahupua‘a, Ka‘ū District, Hawai‘i Island
TMK (3) 9-5-010: 001, 002, 003, 004, 005, 006, 007, 008, 009, 014, 015, 027, 028 & 029



Ka‘ū nui kua makani (Great Ka‘ū of the windblown back) (Pukui et al. 1974); looking from the center of the Project area, towards Nā‘ālehu town and into the uplands of Kāwala

Prepared for:
Ala Kahakai Trail Association



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HE LEO MAHALO / DEDICATION

This document was prepared by Nohopapa Hawai'i, LLC, a Hawaiian-owned cultural resource management company of dedicated kama'āina with extensive knowledge, experience and abilities in Archaeology, Cultural Anthropology, Hawaiian Studies, Pacific Island Studies, and Historic Preservation. The work of Nohopapa Hawai'i is grounded in an understanding of the importance of genealogical connections with the 'āina.

This report has been written to honor the wahi kūpuna (ancestral places) and families of Kāwala, past, present and future, including the Keanu 'Ohana, who are part of “Ka lua kupapa'u o na ali'i (the burial place of chiefs).”¹

We are grateful to Keoni Fox, dedicated protector of Kāwala and Ka'ū, whose tireless efforts over more than a decade have resulted in this Conservation Easement. Keoni also provided many kinds of support and data that are incorporated in this report. *Mahalo nui loa, Keoni!* Mahalo also to the Galimba family for their contribution to the creation of the Kāwala Conservation Easement.

¹ Mary Kawena Pukui, one of the most prolific and gifted chroniclers of the Hawaiian language and a native of Ka'ū, interprets this 'ōlelo no'eau (proverb or poetical saying) as referring to Ka'ū, “where the bones of many noted ones are hidden in secret caves” (Pukui 1983:157)

EXECUTIVE SUMMARY

Purpose of Conservation Easement

To conserve, preserve and protect in perpetuity the cultural resources, historic properties, and natural, scenic, and open space of this 824-acre portion of Kāwala Ahupua‘a, in the wider context of the surrounding and encompassing cultural landscape of the moku (district) of Ka‘ū, while still allowing for designated ranching and agricultural activities to take place.

Background Information

Easement Name:	Kāwala Conservation Easement
Easement Grantor (Owner):	Kuahiwi Contractors, Inc. dba Kuahiwi Ranch (Private Landowner)
Administrative Holder (Grantee)	Ala Kahakai Trail Association
Admin. Co-Holder (Grantee)	Ho‘omalū Ka‘ū
Total Conserved Lands	824.35 acres

Property Location

Island:	Hawai‘i
Moku (District):	Ka‘ū
Ahupua‘a:	Kāwala
Development Plan Area:	Nā‘ālehu, Ka‘ū
Street Address:	Nā‘ālehu Spur Road off Mamālahoa Highway
Tax Map Key Parcels:	(3) 9-5-010: 001-009, 014-015 & 027-029

Property Characteristics & Land Use

State Land Use District:	Agricultural
Zoning:	A-20a, Agricultural District
Special Management Area:	No
Current Land Use:	Commercial Cattle Ranching
Access to Property:	Gated Entry along Nā‘ālehu Spur Road

Summary of Documented Features, Resources and Values

Historic Properties/Cultural Sites:

Based on a formal Archaeological Inventory Survey (AIS), approved by the State Historic Preservation Division (SHPD) in 2013, the Conservation Easement includes at least 182 historic properties/cultural sites,² 19 of which are human burials (a few of these are classified as possible or probable burials) containing the remains of at least 90 individuals.

Natural and Cultural Resources and Landscape:

Lava tubes and other subterranean places and spaces
Subterranean water seeps and sources
Several indigenous and Polynesian-introduced plant species

Other Resources and Values:

Perpetuation of rural and subsistence lifestyle valued by the wider Ka‘ū community and families
Sense of place, including historic and modern cattle ranching that is part of Ka‘ū’s character

² According to state historic preservation laws and rules, the term “historic property” refers to physical remains or materials older than 50 years in age; “cultural site” is an informal term used by many people as an alternative to this legal term. In this report, these two terms are used interchangeably.

View planes, open spaces and vistas from mauka to makai

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1.0 INTRODUCTION

At the request of the Trust for Public Land (TPL) and Ala Kahakai Trail Association (ATA), Nohopapa Hawai‘i (NH) has completed this Baseline Documentation Report (BDR) for an approximately 824.35-acre portion of Kāwala Ahupua‘a, Ka‘ū District, Island of Hawai‘i (TMK [3] 9-5-010: 001, 002, 003, 004, 005, 006, 007, 008, 009, 014, 015, 027, 028 & 029) (**Figure 1** and **Figure 2**).

In accordance with the Land Trust Alliance Standards,³ this BDR is required upon acquiring a Conservation Easement (CE) to inventory and document the current conditions of the land on which the CE is to be placed. The CE will permanently restrict land use to ranching/agriculture; cultural preservation of its many wahi kūpuna (ancestral places) and other historic properties; and perpetuation of traditional and customary practices that involve caring for the sites as well as the overall cultural landscape of Kāwala Ahupua‘a. In general, the BDR serves to establish a shared understanding of the condition of the property when the landowner grants the CE to the holder.

As summarized in the Executive Summary (above), there are several entities involved in the creation, maintenance and monitoring of the Kāwala Conservation Easement, including: (1) the Grantor (Landowner), Kuahiwi Contractors, Inc. dba Kuahiwi Ranch, (2) the Administrative Holder (Grantee), Ala Kahakai Trail Association, and (3) the Administrative Co-Holder

³ See <http://s3.amazonaws.com/landtrustalliance.org/LandTrustStandardsandPractices.pdf>.

(Grantee), Ho‘omalū Ka‘ū. The primary kuleana (responsibility) of the Administrative Holder and Co-Holder will be to monitor and enforce the terms/restrictions of the CE.⁴

1.1 Organization of the Report and its Main Components

Following a summary of the Methods by which NH completed this BDR (Section 2.0), we describe and document the property (Section 3.0), including a detailed photographic record and GIS/GPS mapping of current conditions (Section 3.1.5, **Figure 3**, **Figure 4**, **Figure 5** and **Figure 6**). This is followed by a discussion of the CE’s Cultural and Historical Conservation Values (Section 3.2, **Table 1** and **Figure 7**), its Natural Resource Conservation Values (Section 3.3), and Other Resources and Values (Section 3.4). The Cultural and Historical Conservation Values section is heavily informed by, and makes use of information from, a 2013 formal Archaeological Inventory Survey (AIS) by Clark et al. (2013), which identified at least 182 historic properties/cultural sites in the CE, 19 of which are human burials (a few of these are classified as possible or probable burials) containing the remains of at least 90 individuals.

We conclude the main body of the report with a brief discussion on Uses and Activities Inconsistent with the Purpose of the Easement (Section 3.5).

Finally, following the References Cited section, there is an Appendix containing forty-eight (48) photographs documenting the current (as of January, 2019) condition of the easement. The GPS-recorded location of these photographs is presented in Figure 4.

Throughout the document, we use the terms Conservation Easement, Project area, and Property interchangeably.

⁴ Words in the Hawaiian language (‘Ōlelo Hawai‘i) are not italicized in this report since Hawaiian is not a foreign language but, rather, since th 1970s, an official state language.

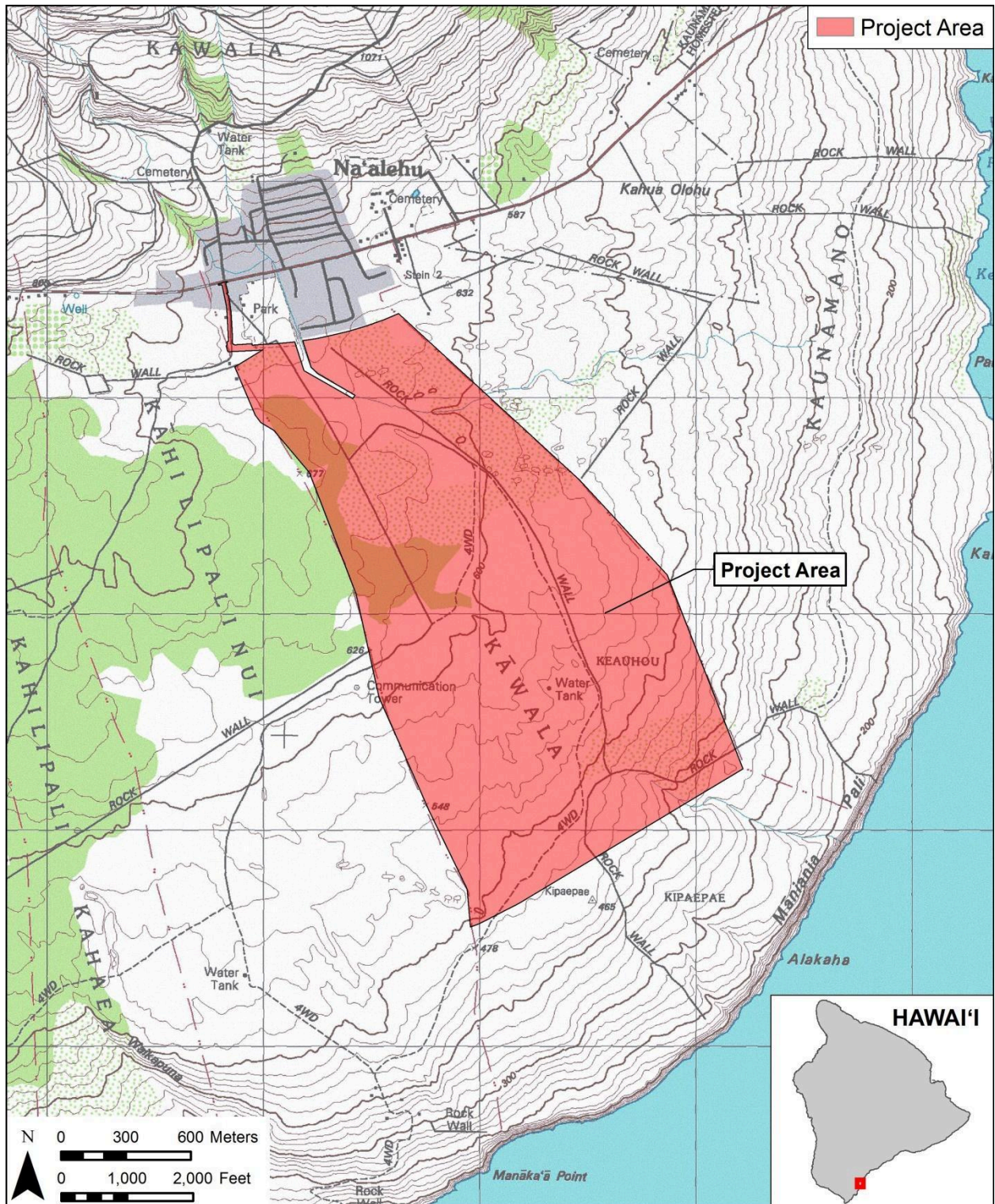


Figure 1. Project area location on a portion of USGS topographic map (1:24,000 scale).



Figure 2. Project area location on an aerial image.

2.0 METHODS

This subsection describes the methods by which we completed this report, including archival research, consultation/coordination efforts, pre-fieldwork preparation, fieldwork, and post-fieldwork data processing.

2.1 Archival Research

Because of the existence of the 2013 AIS report by Clark et al. (2013), a comprehensive, nearly 1,500-page historical and cultural resource survey document, we did not need to search databases and repositories we typically make use of (e.g., State Historic Preservation Division [SHPD] library in Kapolei; and more than a dozen on-line websites now available that contain historical maps, Hawaiian language resources, land tenancy, archaeological resources, etc.). The summary information abstracted below in our report is based largely on archival information from Clark et al. (2013), with supplementary information taken from standard sources in our NH library (e.g., Kamakau 1961; Handy et al. 1972; Pukui et al. 1974; Pukui 1983; Pukui and Elbert 1986).

2.2 Consultation/Coordination

Our primary point of contact for this project was Keoni Fox, who has been actively involved for more than a decade with efforts to save and protect the CE, Kāwala Ahupua‘a, in general, and surrounding lands to the east (Kaunāmano), west (Waikapuna, or Kāhilipalinui and Kāhilipali‘iki), and northeast (Kahua ‘Olohū Makahiki grounds). Keoni coordinated site access for us with the landowner, and he shared with us his extensive knowledge of, and familiarity with, the Project area’s modern and historic features.

2.3 Pre-fieldwork Preparation

Prior to the start of fieldwork, we georeferenced several aerial images and maps with historical and modern data and features, including a 2018 certified land surveyor map of the easement provided to us by Keoni Fox. We also georeferenced the location of the previously-identified historic properties/cultural sites documented by Clark et al. (2013). We then integrated this information into a GIS database, and loaded these data on both a Trimble GPS device (which can obtain geospatial accuracy of several inches) and also a Garmin GPS device (which is generally more “user friendly” as useful as a navigation tool). In general, these data proved invaluable in helping us locate and confirm the existence of a wide variety of modern and historical features.

2.4 Fieldwork

On January 19, 2019, NP staff with Keoni Fox completed fieldwork in the CE. The primary objective was to document the current conditions in the CE, including the location and character of modern structures, infrastructures and features. Data sets recorded during this effort included photographs, GPS locations of the photographs, and GPS locations of the modern features. Notes were also made on vegetation in the Project area, as well as some cultural observations shared by Keoni Fox that are integrated into the results section of this report.

2.5 Post-fieldwork Data Processing

The GPS data were post-processed and projected on map/aerial images using ESRI software.

3.0 PROPERTY DESCRIPTION & DOCUMENTATION

3.1 Property Overview

3.1.1 General Description

The Project area is in Kāwala Ahupua‘a, Ka‘ū District, just south and makai (seaward) of Nā‘ālehu town (see Figure 1), which is several miles northeast of Ka Lae (South Point), the southernmost tip of the entire Hawaiian archipelago. Kāwala (literally, “strike backwards”),⁵ is a relatively small ahupua‘a between Kāhilipalini (to the west) and Kaunāmano (to the east); the upper boundary of Kāwala, which extends only about a mile above (mauka of) Nā‘ālehu town to approximately 1,700 ft. elevation, is somewhat indefinite (perhaps owing to inadequate survey efforts in the nineteenth century). The lower (land) boundary of Kāwala is along the scenic pali (sea cliffs) of Māniania (“a shuddering sensation”), which extends up to 200 ft. above sea level in some places. A famous traditional fishing village, pūnāwai (fresh-water spring) and bay named Waikapuna (“water [of] the spring”) is just west of Kāwala in Kāhilipalini Ahupua‘a; the dividing line along the coast between these two ahupua‘a is near a point known as Manāka‘ā (or Manāka‘a, according to Pukui et al. [1974], named after a grieving man turned to stone by Pele).

Elevation in the CE varies from about 350–500 ft. above mean sea level (amsl) in its lower (makai) reaches to about 640–675 ft. amsl at the top (just below the town). In general, the Property slopes gently down to the southeast. The CE does not extend all the way down to the sea cliffs, but stops about one-half mile from Māniania.

There are no natural streams in the CE, but there are ephemeral drainages near the top of the Property (which has been artificially channelized) and near the bottom (makai) portion. Topographic maps from about 100 years ago show the same fundamental hydrology as today. Annual rainfall in the Project area is modest, but not unusually low, and varies from about 1,000 mm (39 in.) in the upper portion near Nā‘ālehu town to about 850 mm (33 in.) in the lower (Giambelluca 2013).

Soils in the project area (Sato et al. 1973) consist predominately of exposed pāhoehoe, weathered pāhoehoe flows (with only several inches of sediment above bedrock) in the upper portion of the Property (these are part of the Kanohina complex of lava flows), and smaller areas of deeper soils (silty clay loam) in the lower part (these are part of the Naalehu series of soils). In the lower portion of the Property, these soils can be several feet in depth in places.

Vegetation observed on our recent (January, 2019) fieldwork include many invasives, including abundant haole koa (*Leucaena leucocephalla*), kiawe (*Prosopis pallida*), Christmasberry (*Schinus terebinthifolius*), silver oak (*Grevillea robusta*), and Guinea grass (*Panicum maximum*). Less common invasives include lantana (*Lantana camara*) and spiny amaranth (*Amaranthus spinosus*). Clark et al. (2013) also reported the following additional invasives in the Project area: Java plum (*Syzigium cumini*), Indian banyan (*Ficus benghalensis*), and fireweed (*Senecio madagascariensis*).

One indigenous plant, ‘uhaloa (*Waltheria indica*) was observed by NH in the upper Project area. ‘Uhaloa, traditionally used by Hawaiians for medicinal purposes, is still used today by many people in Hawai‘i (Abbott 1992:101). Clark et al. (2013) reported other natives, including laua‘e (*Phymatosorus grossus*), “koaliawahia (*Ipomoea congesta*” (possibly *I. indica*, a type of native morning glory), “Kakalaioa (*Caesalpinia bonduc*) vine,” “popolo (*Solanum americanum*)” (nightshade), and the Polynesian-introduced kukui (*Aleurites moluccana*).

⁵ Unless stated otherwise, all place name translations/interpretations are from Pukui et al. (1974).

3.1.2 Adjacent Land Area & Uses

Currently, the ‘āina (lands) to the west (Kāhilipalinui Ahupua‘a) and east (Kaunāmano Ahupua‘a) of the CE are more or less completely undeveloped (see Figure 2), and used primarily for cattle-ranching purposes. There is a cell-tower facility in Kāhilipalinui Ahupua‘a, just west of the west boundary of the CE. Nā‘ālehu town and the Mamālahoa Highway—a main thoroughfare between Puna and South Kona districts, is located just north of the CE. To the south of the CE, in the makai lands abutting Māniania Pali, there is no development, and the views from the Property are currently unimpeded.

3.1.3 Access

The main vehicular access to the Property is a gated, private road along the main highway mauka (upcountry) of the CE (Figure 3). Other gates, some secured, need to be entered to access the entire CE. Other, unsecured gates are located along the west and east boundary of the CE, where fences and rock walls generally create a barrier to vehicular entry.

3.1.4 Historic Land Use

Until well into the nineteenth century, and perhaps lasting for a millennium or more prior to this time, the Property was used by native Hawaiians as a place to live a subsistence lifestyle (e.g., gardening and collecting various food and medicinal plants), practice their religion (including building temples, shrines and altars), bury their ancestors, gather fresh water from underground seeps and lava tubes, and build house sites and other activity areas (e.g., places to cook food). Major trails passed along the sea cliffs makai of the CE, and through portions of the CE, connecting Waikapuna with Honu‘apo to the northeast and down to Ka Lae to the southwest (Handy et al. 1972).

By the middle 1800s, western concepts of land ownership were introduced via the Māhele (“to divide” or cut into portions), or Māhele ‘Āina, through the work of the Board of Commissioners to Quiet Land Title (or simply, the Land Commission), which ultimately divided all of the lands in the Hawaiian Islands into “Crown” lands (those held by the King [at that time, Kamehameha III]), “Government” lands (public lands held by the government that could be used for government purposes or sold [as “Land Grants”] to raise money) and “Konohiki” lands (those held by the nearly 250 paramount chiefs). Commoners (maka‘āinana), or native tenants, living on and working the land for subsistence purposes could also apply to the Land Commission for fee simple ownership of small (“kuleana”) parcels (successful efforts resulting in so-called “Land Commission Awards”). This critical part of Hawaiian history has been written about extensively by Jon Chinen, Lilikalā Kame‘eleihiwa, Lloyd Soehren and others and is not discussed in depth in our report. What is directly relevant, as far as the Kāwala Conservation Easement is concerned, is that the entire ahupua‘a of Kāwala—which in 1848 was actually subdivided into three ahupua‘a (Kāwala, Aemalo and Poupouwela)—was classified as Government Land (chiefs named Keelikolani, Ke, and Kekauonohi commuted these lands to the government) (Clark et al. 2013:38). Eight (8) Land Commission Awards—small parcels belonging to native residents—are located in the CE. According to Clark et al.’s (2013:41–49) detailed analysis, there is a clear pattern to the kuleana awards in Kāwala: awards in the CE, below the current Nā‘ālehu town, were all house sites, while awards above the town (which are substantially larger than those in the CE) were used for gardening/subsistence agriculture. In addition to these eight kuleana parcels, the remainder of the land in the CE was purchased by several native Hawaiians as Land Grants (larger parcels bought from the government) between 1852 and 1869. Unlike the kuleana claims, where the claimants describe their specific use of the land, Land Grants do not include such information. Other, anecdotal evidence cited by Clark et al. (2013:52), suggest the CE was used by those who obtained Land Grants as pasture for livestock, including not only cattle but also goats.

The introduction of commercial sugar cane operations (Naalehu Sugar Company) in 1868 to 1884 did not change land use in the CE, which was not suited for mechanized agriculture due to its relatively shallow soils and extensive rock lands. Later iterations of this industrial agricultural use of the landscape (The Hutchinson Sugar Company, 1884–1972) also did not include farming operations in the CE, but focused on more mauka (upland) areas above Nā‘ālehu town.

An 1887 government survey map (Registered Map 1455 by Monsarrat) shows a few house sites and animal pens (rock enclosures) in the CE, suggesting it was still being used for native Hawaiian house sites and ranching/livestock raising (the commercial operation of ranching in the CE from ca 1868–1972 was known as Ka‘alu‘alu Ranch).

C. Brewer & Co. took over controlling interest of Hutchinson Sugar in 1910.

In the early twentieth century, extensive fencing was reportedly installed in parts of the CE for livestock rearing purposes (Clark et al. 2013:71), and in the 1940s, chain-dragging across the landscape including the CE, using a tractor, became a primary method of clearing unwanted vegetation (ibid.:76), but also likely damaged some cultural sites.

In or around 2005, C. Brewer & Co. sold their Kāwala lands, including the CE, to private developers, who attempted to subdivide and build out the Property for luxury homes. Roughly a decade of efforts to obtain regulatory clearance by the private developers—including completion of several historic preservation steps (i.e., Archaeological Inventory Survey, Burial Treatment Plan, and Archaeological Preservation Plan)—recently led to the sale of the CE to the current landowner, the Galimba family (ranchers who own Kuahiwi Ranch).

3.1.5 Existing & Future Land Use

Current land use in the CE consists of a commercial cattle raising operation run by the Galimba family (Kuahiwi Ranch). According to the terms of the CE, a small portion of the Property may also be used for building agricultural structures and for conducting agriculturally-related purposes such as eco-tourism (e.g., ranch to table tours).

Figure 3 shows modern ranching features in the CE documented by Nohopapa Hawai‘i in January, 2019; and several rock walls that qualify as historic properties, but are included in this graphic since they are excellent landmarks on the current landscape. The Property has many gates, unimproved (dirt) roads, fences and rock walls, in addition to other features such as corrals, water tanks and various small structures and infrastructures related to livestock care and maintenance.

Figure 4 shows the locations of photographs of current conditions in the CE, including the modern features and infrastructure. See **Appendix A** for the photographs that correspond with these location numbers.

Figure 5 is a detail (close-up) view of the main corral area near the upper center of the CE.

Figure 6 is a detail (close-up) view of old structures partially within and adjacent to the northwest corner of the CE. Note that most of these abandoned structures are not within the CE.

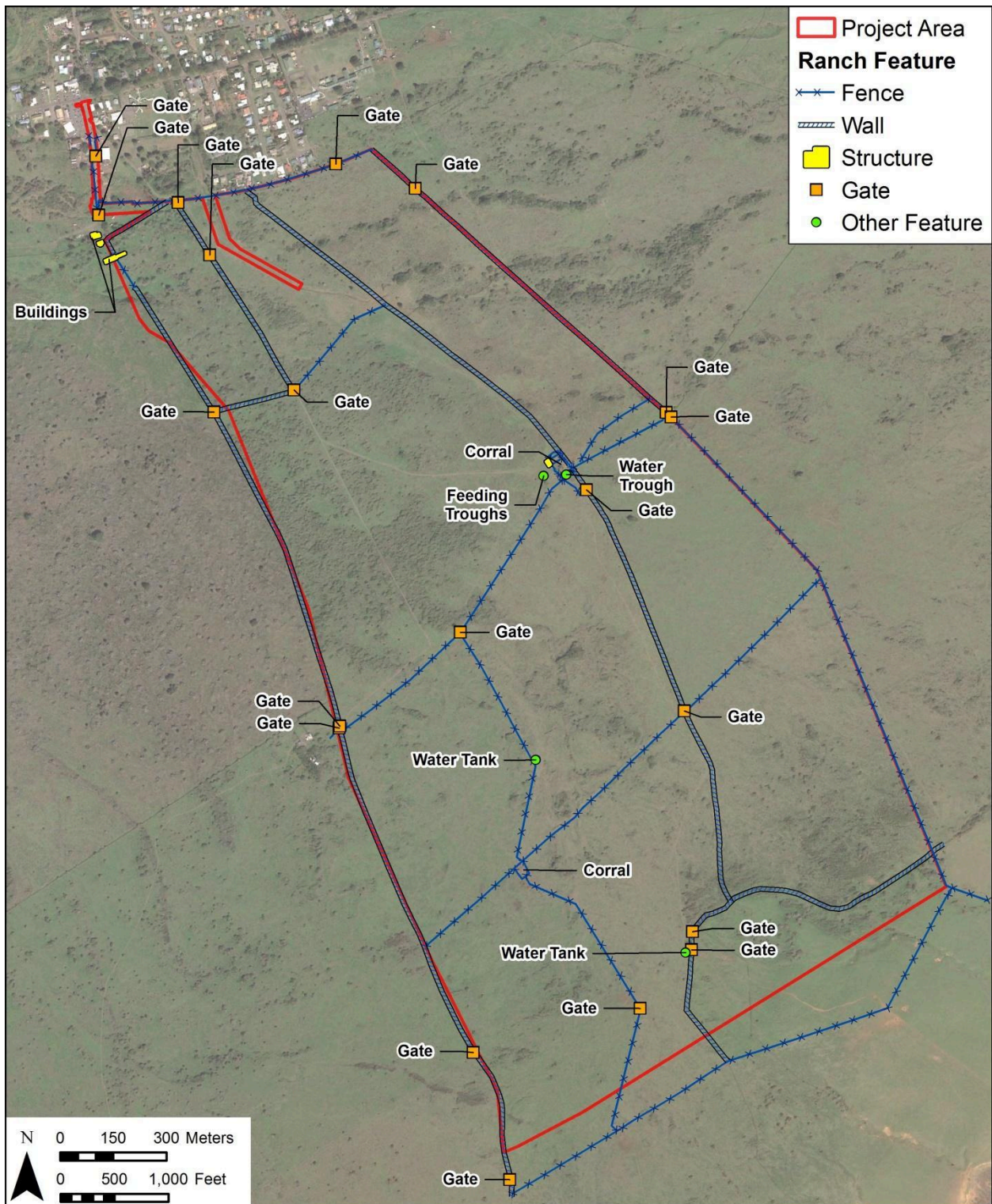


Figure 3. Modern ranching features documented by Nohopapa Hawai'i, and several rock walls that qualify as historic properties (these are included here since they are excellent landmarks on the current landscape)

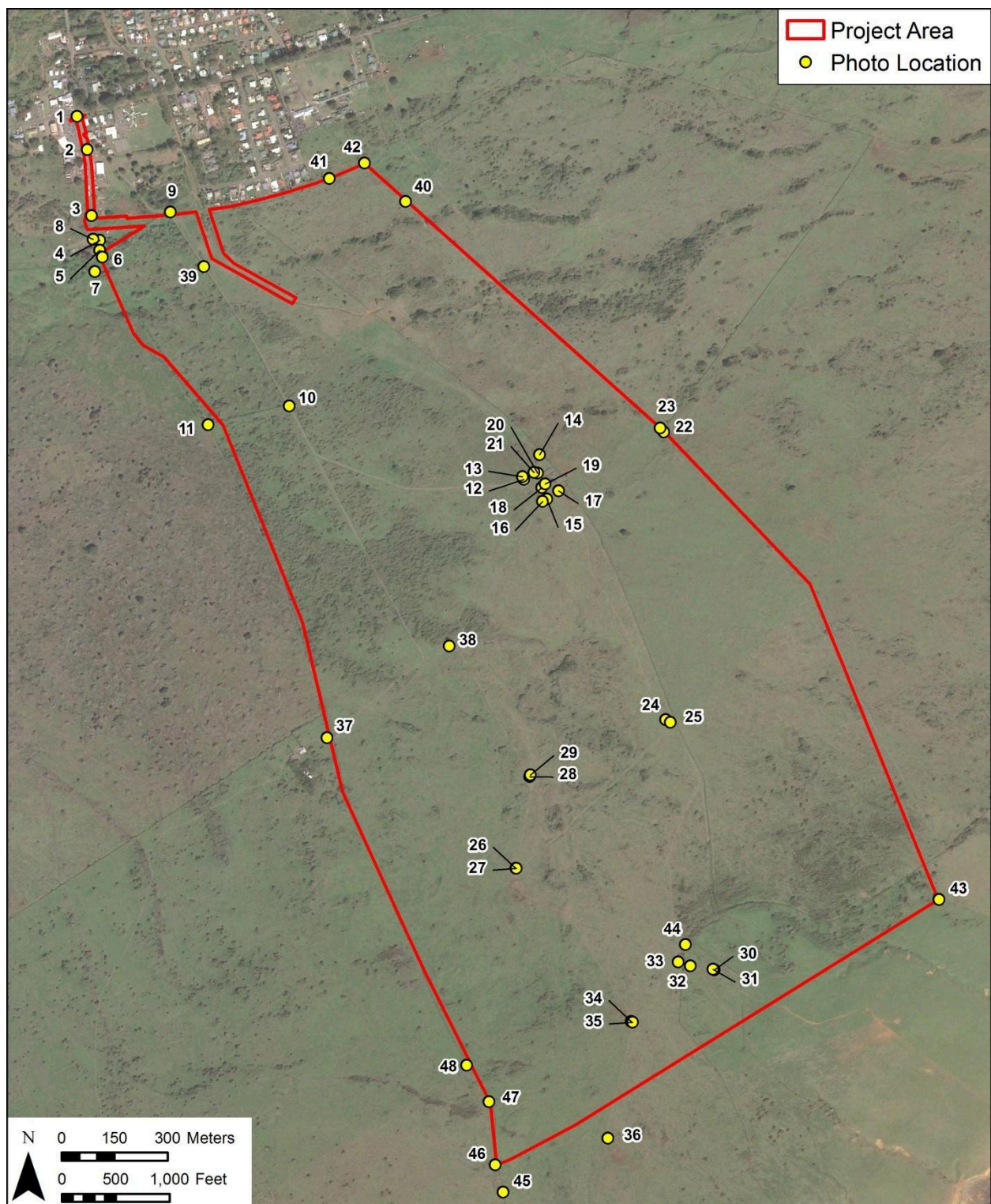


Figure 4. Locations of photographs of current conditions in the Conservation Easement, including modern features and infrastructure; see Appendix A for photographs that correspond with these location numbers

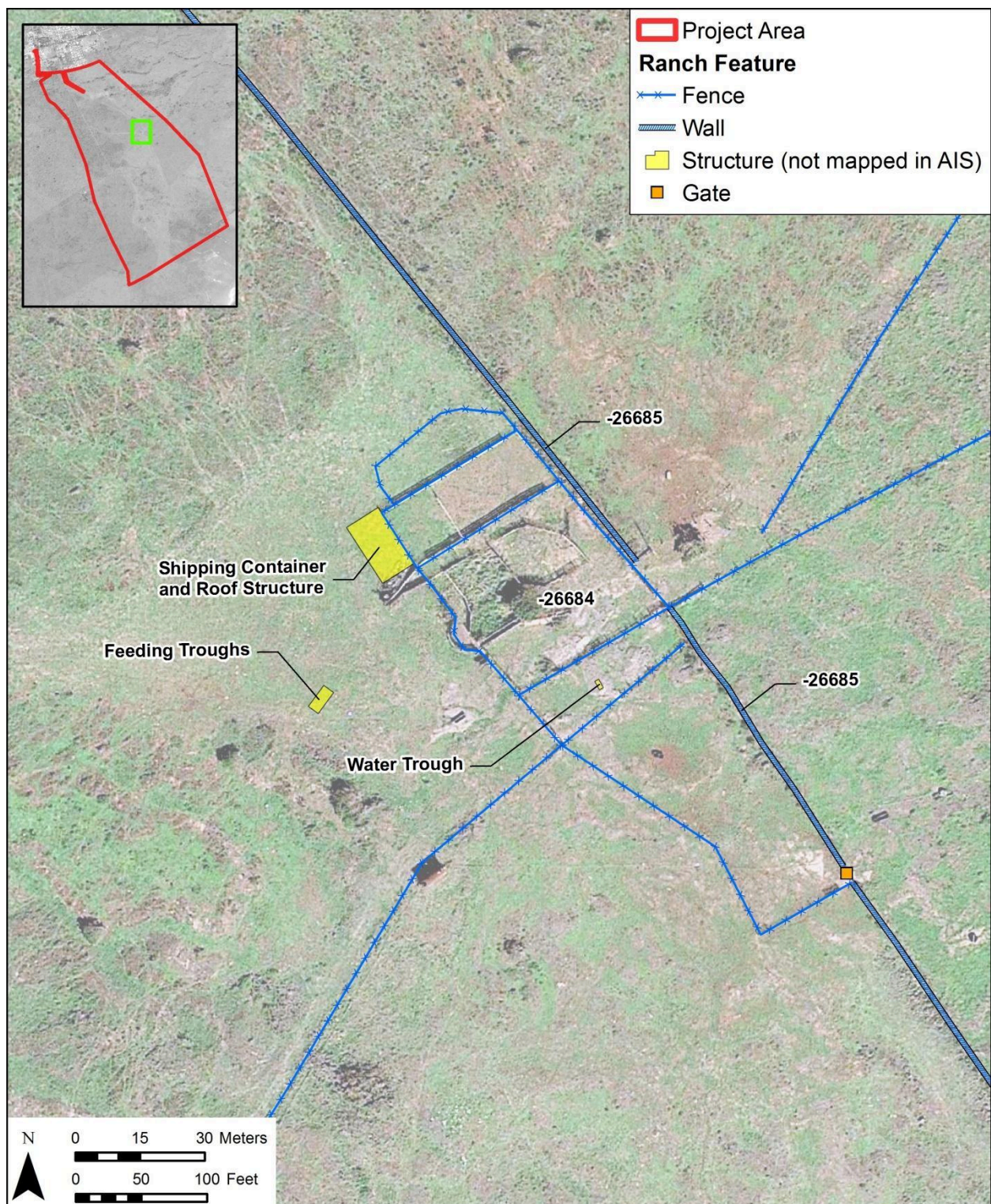


Figure 5. Detail (close-up) view of the main corral area near the upper center of the Conservation Easement; note, five-digit numbers are State site #s (see text)

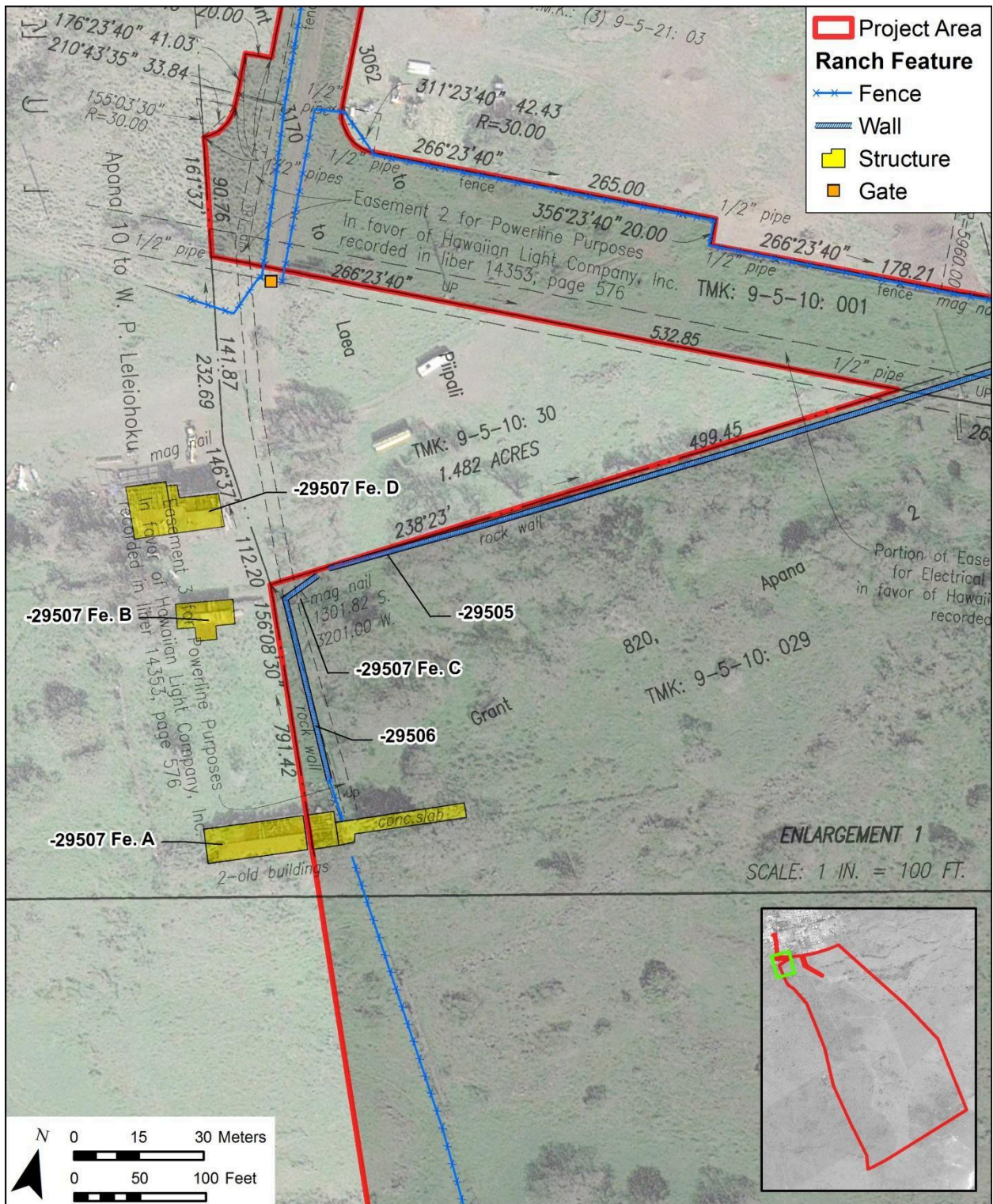


Figure 6. Detail (close-up) view of old structures partially within and adjacent to the northwest corner of the Conservation Easement; note, five-digit numbers are State site #s (see text)

3.2 Cultural & Historical Conservation Values

3.2.1 Overview

The Conservation Values to be conserved, preserved, protected and perpetuated by the CE to be placed on the Kāwala lands include the cultural, spiritual, historical, natural, scenic, and open space values of the Property. This section focuses on some of the cultural and historical values of the Kāwala Conservation Easement (CE), although the sites and features described below are not necessarily exhaustive; rather, they represent the highlights of what is an unusually rich cultural landscape. For an exhaustive/unabridged summary of the entire Kāwala CE cultural landscape and its component features, readers should refer to the more than 1,400-page AIS report by Clark et al. (2013), salient findings of which are abstracted below. Clark et al (2013) documented 182 historic properties/cultural sites in the CE, 19 of which are human burials (a few of these are classified as possible or probable burials, since invasive/destructive archaeological investigation of them stopped before encountering actual human skeletal remains) containing the remains of at least 90 individuals.⁶

Table 1 is a summary of the 182 historic properties/cultural sites in the CE, adapted from Clark et al.'s (2013) report. **Figure 7** shows Clark et al.'s (2013) original basemap with the geospatial location of 204 historic properties formally documented in their AIS. The blue polygon overlay depicts the subject CE, within which 182 historic properties/cultural resources are located, including 19 human burial sites.

3.2.2 Burial Sites

Two main types of burials are found in the CE: those in subterranean (lava tube) settings, and those within above-ground, dry-stacked rock platforms. Nearly all of the burials date from pre-Contact times, with a few lava tubes also containing burials from the Historic period. It is important to understand that burials are scattered throughout the landscape, and do not appear to exhibit any specific patterning (e.g., by elevation).

3.2.3 Ceremonial, Spiritual & Other Religious Sites

Five ceremonial, spiritual and other religious sites are located in the CE. These include two Petroglyph sites (29549 and 29665), an Enclosure (Site 29534) interpreted as a small heiau (possibly Kahiwapapa Heiau), a Complex (Site 29661) that includes some petroglyphs, and a Terrace (Site 29539) with upright slabs in its construction and possible evidence of burned plant offerings. Additional petroglyphs are also located at several other sites in the CE (i.e., 29570, 29574, 29626, and 29641).

3.2.4 Habitations, House Sites & Temporary Shelters

There are several dozen habitations, house sites and temporary shelters (including small windbreaks) of a wide variety of formal types located throughout the entire CE (but with some patterning, as discussed below). These include subterranean settings, such as lava tubes and blisters as well as semi-subterranean settings, such as rock overhangs and rockshelters. Above-ground structural remnants of dry-stacked rock structures representing habitations, house sites and temporary shelters are also present in the CE. Most of these sites are interpreted as dating from the pre-Contact period, and some of them contain abundant evidence of traditional artifacts and other materials. Several sites contain both pre-Contact and

⁶ As noted in our report, it is important to understand that more than 182 sites were identified by Clark et al. (2013) in their project area, which extended to the sea cliffs, and is larger than the Kāwala CE; the map figure below shows all sites identified by Clark et al. (2013); the table below only includes sites in the current CE. Key sites *not* included in the CE include a small village along the sea cliffs (Site 29696), an extensive lava tube system with multiple burials (Site 29687), another burial (Site 29691), and others.

Historic-period material, and two have only Historic-period material. A dense concentration of habitations, house sites and temporary shelters are located along the eastern/makai portion (in Land Grant 2114 to Keanu), and another dense area is in the western/mauka portion, associated with several kuleana (Land Commission Award) parcels.

3.2.5 Planting, Cultivation & Agricultural Sites

Although the Kāwala CE was not a primary area for native Hawaiian cultivation or agriculture (which would have been located more mauka, above Nā‘ālehu town), there are five sites of this type in the CE. These five sites are mostly (four of five) located in depressions or sinks in lava flows, with one Historic-period enclosure. This lower elevation and generally thin-soil area (where the CE is located) was known traditionally as the “kula kai,” a place primarily of fisherfolk, who also grew sweet potatoes and gourds (Handy et al. 1972).

3.2.6 Water Collections & Storage

A few lava tubes in the CE (and others just makai of it) contain evidence of water collection in the pre-Contact (and likely continuing into the Historic) period. Two of these (Sites 29543 and 29546) are habitations, and one is a burial (Site 29566). In an area that generally lacks surface water and perennial streams such as the CE, seeps of subterranean water were an extremely valuable and life-giving resource to the people of Kāwala. In traditional times, ipu (gourds) were placed at seeps to collect water; in later times, other, non-perishable containers were also used. There are also sites in the CE used for storage of materials (e.g., Site 29560).

3.2.7 Lithic Quarry

Several sites (e.g., 29560, 29581 and 29587) contain evidence of having been used as a source of rock material to be used for stone tool making and/or to build above-ground structures.

3.2.8 Papamū & Other Pecked/Modified Rock Surfaces

A remarkable number of sites—at least nine in the CE—include a variety of Papamū (game boards pecked into rock outcrops and on portable rock slabs) to play Kōnane (a checkers-like traditional game) (i.e., Sites 29570, 29574, 29597, 29600, 29621, 29626, 29638, 29639 and 29641). Other evidence of modified rock surfaces (e.g., circular cups or depressions) also occur at numerous sites. All of these modified rock outcrops and portable rocks indicate an intensely settled and thoroughly inhabited cultural landscape.

3.2.9 Boundary Walls & Markers

There are numerous boundary walls—mostly built in the Historic period, but also some in the pre-Contact—in the CE. Some of these mark ahupua‘a boundaries with Kaunāmano (to the east) and Kāhilipalinui (to the west); some mark the perimeter of house sites; and others subdivide Kāwala into smaller units: as described above (see Section 3.1.4), middle nineteenth-century Māhele documents indicate the current Kāwala Ahupua‘a consisted of three, more narrow ahupua‘a, including Kāwala to the west, Aemalo in the middle, and Poupouwela to the east. Some of the boundary walls, or remnants that have survived ranching and modern alteration, appear to mark some of the old, internal subdivisions of Kāwala.

3.2.10 Roads, Trails & Pathways

At least three Historic-period roads (Sites 25238, 29601 and 29630) are in the CE, and some of these were probably originally trails before they were formalized. Many other ranching roads of a wide variety that may be late Historic or early modern are also in the CE.

3.2.11 Ranching Features

Including animal pens and some rock walls, there are about two dozen ranching sites of a wide variety of formal types in the CE.

3.2.12 Names Associated with Kuleana Parcels & Land Grants in the CE

To national, mainland or non-Hawaiian audiences, it may not be readily apparent how important and significant it is to remember and memorialize the names of the nineteenth-century land grantees in the CE. However, in Hawaiian traditions, these names represent the earliest written evidence of those who lived on and worked the ‘āina, and whose physical remains (iwi kūpuna) are literally in its pōhaku (rock) and lepo (soil). As such, these names should be considered an integral part of the CE in perpetuity.

The kuleana holders (dating from circa 1850) in the CE are: Kaelemakule, Keliikaulolo (Kekaina), Kahakauila, Keliwaaole, Kaliki, Naeole, Piko and Palea. Land Grant holders (dating from 1852–1869) in the CE are: Lawelilii, Keanu, Kalimapaahana, Ilama, Kahakauila, Kaliki and Piipali.

Keoni Fox has also shared with Nohopapa Hawai‘i some contemporary names of land sections (subdivisions of land) within the CE, used by the Keanu ‘Ohana, that refer to some of these historic grantees and other, descriptive characteristics of the landscape: the upper portion of the CE is referred to as Kalimapa‘ahana; the middle section is known as Ilama; part of the makai-most portion is Kipāhoehoe; and, finally, based on the writings of Mary Kawena Pukui, between Ilama and Kipāhoehoe is a section known as Keauhou.

Table 1. Summary of Historic Properties Identified in the AIS by Clark et al. (2013)¹

Site #	Formal Type	Age	Significance Assessment	Treatment Recommendation
25072	Ranch/ Boundary wall	Historic	D	Preservation
25214	Habitation/ Burial tube	Precontact	D, E	Preservation
25233	Habitation/ Burial tube	Precontact/Historic	D, E	Preservation
25237	Māniana Paddock wall	Historic	D	Preservation
26881	Ranch wall	Historic	D	No further work
26882	Habitation enclosure	Precontact	D	No further work
26883	Two-tiered platform/ Boundary marker	Historic	D	Preservation
26884	Ranching complex	Historic/modern	D	No further work
26885	Ranch wall	Historic	D	No further work
26886	Modified outcrop	Indeterminate	D	No further work
26887	Enclosure	Historic	D	Preservation
29505	Ranch wall	Historic	D	No further work
29506	Boundary/ Ranch wall	Historic	C, D	Preservation
29507	Ranch buildings	Historic	D	No further work
29508	Concrete water trough	Historic	D	No further work
29509	Modified outcrop/ Habitation	Precontact	D	Preservation
29510	Lava tube Habitation	Precontact	D	Preservation
29511	Terrace remnant	Indeterminate	D	No further work
29512	Wall remnant	Indeterminate	D	No further work
29513	Habitation pavement	Precontact	D	No further work
29514	Habitation/ Agricultural complex	Precontact	D	Preservation
29515	Habitation platform	Precontact	D	Preservation
29516	Habitation complex	Precontact	D	Preservation
29517	Wall remnant	Historic	D	No further work
29518	Wall remnant	Indeterminate	D	No further work
29519	Habitation shelter	Precontact	D	Preservation
29520	Cobble alignment	Precontact	D	No further work
29521	Double enclosure	Indeterminate	D	Preservation
29522	Burial platform	Precontact	D, E	Preservation
29523	Wall remnant	Precontact	D	Preservation
29524	Lava blister habitation	Precontact	D	Preservation
29525	Habitation pavement	Precontact	D	Preservation
29526	Habitation complex	Precontact/Historic	D	Preservation
29527	Boundary wall remnant	Historic	D	Preservation
29528	Ranch wall	Historic	D	No further work
29529	Ranch wall	Historic	D	No further work
29530	Modified sink/Platform (Probable Burial)	Precontact	D, E	Preservation
29531	Habitation enclosure	Precontact	D	Preservation
29532	Modified sink agriculture	Precontact/Historic	D	Preservation
29533	Lava tube habitation	Precontact	D	Preservation
29534	Ceremonial enclosure	Precontact	D, E	Preservation
29535	Ranch wall	Historic	D	No further work
29536	Habitation complex	Precontact/Historic	D	Preservation

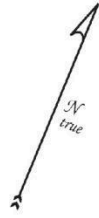
Site #	Formal Type	Age	Significance Assessment	Treatment Recommendation
29537	Lava tube habitation	Historic	D	Preservation
29538	Enclosure	Indeterminate	D	No further work
29539	Ceremonial terrace	Precontact	D, E	Preservation
29540	Lava tube Burial	Precontact	D, E	Preservation
29541	Lava tube Burial	Precontact	D, E	Preservation
29542	Wall	Indeterminate	D	No further work
29543	Habitation tube	Precontact	D	Preservation
29544	Lava tube Burial	Precontact/Historic	D, E	Preservation
29545	Wall	Precontact	D	Preservation
29546	Habitation tube	Precontact	D	Preservation
29547	Refuse dump/Shelter tube	Historic	D	Preservation
29548	Windbreak shelter	Precontact	D	No further work
29549	Petroglyph	Precontact	D, E	Preservation
29550	Habitation enclosure	Precontact	D	Preservation
29551	Habitation overhang	Precontact/Historic	D	Preservation
29552	Windbreak shelter	Precontact	D	No further work
29553	Habitation enclosure	Precontact	D	No further work
29554	Enclosure complex	Historic	D	Preservation
29555	Habitation enclosure	Historic	D	Preservation
29556	Modified overhangs	Precontact	D	Preservation
29557	Animal pen	Historic	D	Preservation
29558	Platform	Precontact	D	No further work
29559	Windbreak shelter	Precontact	D	No further work
29560	Quarry/Storage blister	Historic	D	No further work
29561	Windbreak shelter	Precontact/Historic	D	No further work
29562	Habitation enclosure	Precontact	D	Preservation
29563	Lava tube Habitation	Precontact/Historic	D	Preservation
29564	Lava tube Habitation	Precontact	D	Preservation
29565	Burial platform	Precontact	D, E	Preservation
29566	Burial tube	Precontact	D, E	Preservation
29567	Habitation complex	Precontact	D	Preservation
29568	Modified sink Habitation	Precontact	D	Preservation
29569	Habitation enclosure	Precontact	D	Preservation
29570	Habitation complex/ animal pens	Precontact/Historic	D, E	Preservation
29571	Windbreak shelter	Precontact	D	Preservation
29572	Animal pen	Historic	D	Preservation
29573	Habitation complex	Precontact/Historic	D	Preservation
29574	Habitation complex	Precontact/Historic	D, E	Preservation
29575	Enclosures	Indeterminate	D	Preservation
29576	Rock pile/Rock scatter	Indeterminate	D	Preservation
29577	Habitation enclosure	Precontact	D	Preservation
29578	Windbreak shelter	Precontact	D	Preservation
29579	Burial platform	Precontact	D, E	Preservation
29580	Windbreak shelter	Precontact	D	Preservation
29581	Modified outcrop	Indeterminate	D	Preservation
29582	Enclosure	Indeterminate	D	Preservation

Site #	Formal Type	Age	Significance Assessment	Treatment Recommendation
29583	Animal pen	Historic	D	Preservation
29584	Modified outcrop	Indeterminate	D	Preservation
29585	Agriculture enclosure	Historic	D	Preservation
29586	Complex	Indeterminate	D	Preservation
29587	Quarry	Indeterminate	D	Preservation
29588	Windbreak shelter	Precontact	D	No further work
29589	Modified outcrop	Indeterminate	D	No further work
29590	Wall remnant	Indeterminate	D	Preservation
29591	Windbreak shelter	Indeterminate	D	Preservation
29592	Windbreak shelter	Precontact	D	Preservation
29593	Rock scatter	Indeterminate	D	No further work
29594	Enclosure	Indeterminate	D	Preservation
29595	Wall remnant	Indeterminate	D	Preservation
29596	Wall remnant	Indeterminate	D	Preservation
29597	Habitation complex	Historic	D	Preservation
29598	Rock pile	Indeterminate	D	Preservation
29599	Rock pile	Indeterminate	D	Preservation
29600	Habitation remnant	Precontact	D	Preservation
29601	Road bed	Historic	D	Preservation
29602	Ranch wall	Historic	D	Preservation
29603	Ranch wall	Historic	D	No further work
29604	Windbreak shelter	Precontact	D	Preservation
29605	Modified depression/ Agriculture	Indeterminate	D	No further work
29606	Burial platform	Precontact	D, E	Preservation
29607	Wall remnant	Indeterminate	D	No further work
29608	Windbreak shelter	Precontact	D	No further work
29609	Habitation platform	Precontact	D	Preservation
29610	Habitation complex	Precontact	D	Preservation
29611	Modified outcrop/ Burial	Precontact	D, E	Preservation
29612	Modified outcrop/ Habitation	Precontact	D	Preservation
29613	Wall remnant	Precontact	D	Preservation
29614	Wall remnant	Precontact	D	Preservation
29615	Habitation enclosure/ Burial platform	Precontact	D, E	Preservation
29616	Habitation complex	Precontact	D	Preservation
29617	Habitation complex	Precontact	D	Preservation
29618	Habitation enclosure	Precontact	D	Preservation
29619	Windbreak shelter	Precontact	D	No further work
29620	Burial platform	Precontact	D, E	Preservation
29621	Habitation/ Agriculture complex	Precontact	D	Preservation
29622	Windbreak shelter	Precontact	D	No further work
29623	Bedrock basins	Precontact	D	Preservation
29624	Habitation complex	Precontact	D	Preservation
29625	Habitation complex	Precontact	D	Preservation
29626	Habitation/ Burial tube	Precontact/Historic	D, E	Preservation










Site #	Formal Type	Age	Significance Assessment	Treatment Recommendation
29627	Rock pile (marker)	Indeterminate	D	Preservation
29628	Habitation complex	Precontact	D	Preservation
29629	Concrete water trough	Historic	D	No further work
29630	Road bed	Historic	D	No further work
29631	Windbreak shelter	Precontact	D	No further work
29632	Ranch Wall	Historic	D	No further work
29633	Windbreak shelter	Precontact	D	No further work
29634	Excavated blister	Indeterminate	D	No further work
29635	Alignment	Indeterminate	D	No further work
29636	Habitation blister	Precontact	D	No further work
29637	Modified outcrop/ Ranching	Historic/Modern	D	No further work
29638	Rock pile	Indeterminate	D	Preservation
29639	Habitation complex	Precontact	D	Preservation
29640	Modified sink agriculture	Precontact	D	Preservation
29641	Habitation complex	Precontact	D E	Preservation
29642	Stone ramp/ Concrete foundations	Historic	D	Preservation
29643	Enclosure/ Modified outcrop	Indeterminate	D	No further work
29644	Windbreak shelter	Precontact	D	No further work
29645	Habitation complex	Precontact/Historic	D	Preservation
29646	Wall remnant	Indeterminate	D	No further work
29647	Concealed blisters/ Possible Burial	Precontact	D, E	Preservation
29648	Modified outcrop/ Habitation	Precontact	D	Preservation
29649	Habitation complex	Precontact	D	Preservation
29650	Habitation complex	Precontact	D	Preservation
29651	Habitation complex	Precontact	D	Preservation
29652	Habitation platform	Precontact	D	Preservation
29653	Boundary wall	Precontact	D	Preservation
29654	Habitation complex	Precontact	D	Preservation
29655	Habitation enclosure/ Blister	Precontact	D	Preservation
29656	Modified outcrop/ Habitation	Precontact	D	Preservation
29657	Habitation complex	Precontact	D	Preservation
29658	Habitation complex	Precontact	D	Preservation
29659	Modified outcrop	Precontact	D	Preservation
29660	Burial platform/ Wall remnant	Precontact	D	Preservation
29661	Habitation/ Ceremonial complex	Precontact	D, E	Preservation
29662	Modified outcrop/ Habitation	Precontact	D	Preservation
29663	Habitation complex	Precontact	D	Preservation
29664	Habitation complex	Precontact	D	Preservation
29665	Petroglyphs	Precontact	D, E	Preservation
29666	Habitation complex	Precontact	D	Preservation
29667	Burial platform	Precontact	D, E	Preservation
29668	Modified outcrop	Precontact	D	Preservation
29669	Modified outcrop/ Possible Burial	Precontact	D, E	Preservation
29670	Habitation enclosure	Precontact	D	Preservation

Site #	Formal Type	Age	Significance Assessment	Treatment Recommendation
29671	Windbreak shelter	Precontact	D	Preservation
29672	Habitation complex	Precontact	D	Preservation
29673	Concrete water trough	Historic	D	No further work
29674	Ranch wall	Historic	D	Preservation
29675	Ranch wall	Historic	D	Preservation

¹All information in this table is taken directly (verbatim) from Clark et al. (2013); significance assessments (A, B, C, D and/or E) refer to standard historic preservation categories; Preservation treatment recommendation includes all forms of preservation, including (where applicable) preservation in the form of in-situ Burial Treatment



LEGEND

-  Project area boundary
-  Existing road
-  Existing fence line
-  Existing building
-  Archaeological site area
-  Archaeological feature/
lava tube opening
-  Subsurface extent of lava tube
-  Bedrock sink/depression
-  Historic roadway

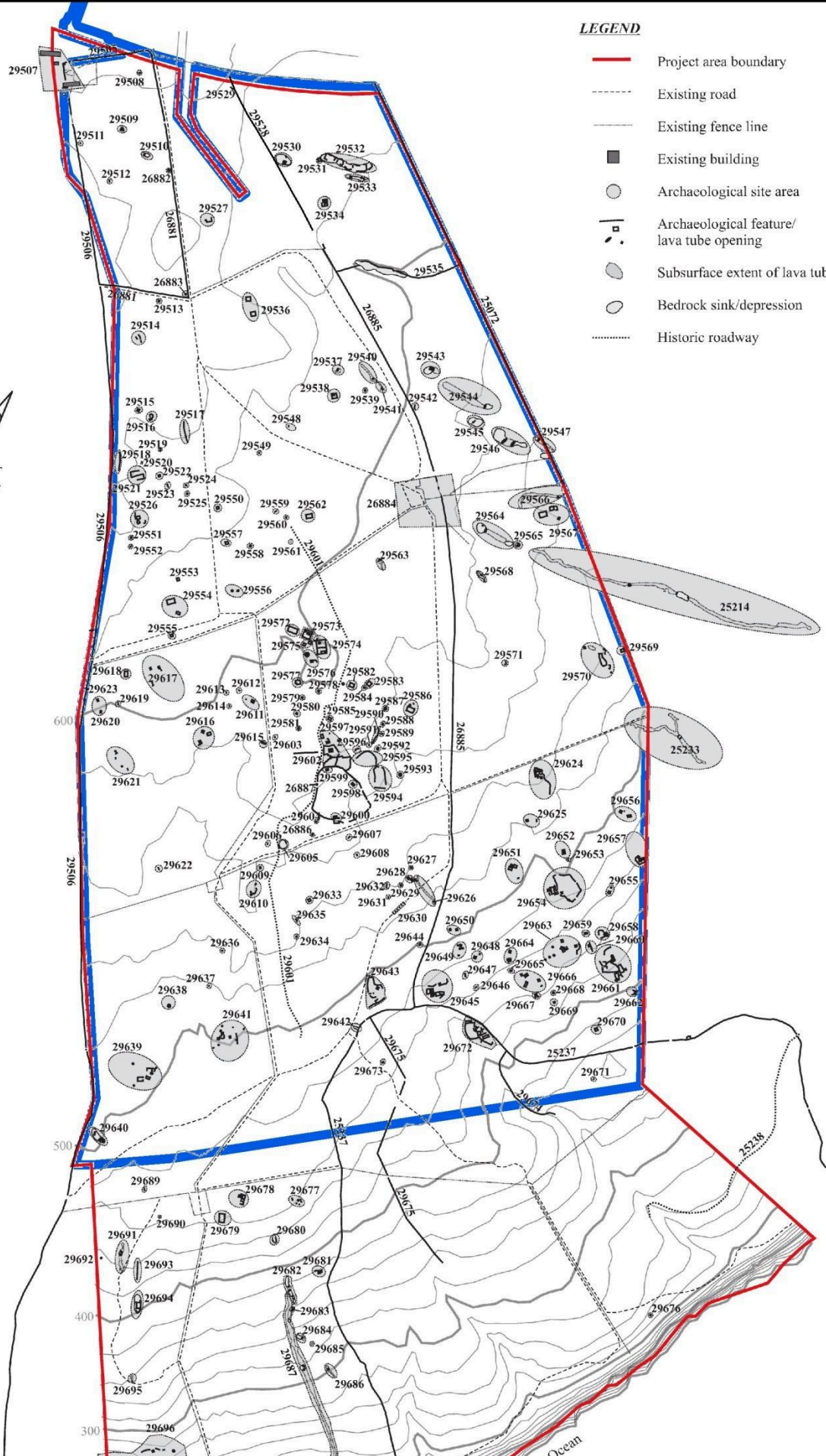


Figure 7. Original basemap showing the location of 204 historic properties/cultural sites formally documented in the Archaeological Inventory Survey (AIS) by Clark et al. (2013); the blue polygon overlay depicts the subject Conservation Easement, within which 182 historic properties/cultural resources are located, including 19 human burial sites

3.3 Natural Resource Conservation Values

3.3.1 Overview

This section of the report focuses on the natural, scenic, open space and hydrology (watershed) values of the Kāwala CE. The information below is intended to provide a general understanding of, and appreciation for, the various natural resource conservation values on the Property. This section is based on existing sources (e.g., Clark et al. 2013), our direct observations in the Property in January, 2019, and thoughts and observations shared by Keoni Fox.

3.3.2 Flora and Fauna

Given the long history of ranching in the CE, and the methods used in Historic times to clear the landscape (mechanical chain dragging behind a tractor), vegetation is dominated by invasive plant varieties: haole koa (*Leucaena leucocephalla*), kiawe (*Prosopis pallida*), Christmasberry (*Schinus terebinthifolius*), silver oak (*Grevillea robusta*), Guinea grass (*Panicum maximum*), lantana (*Lantana camara*), spiny amaranth (*Amaranthus spinosus*), Java plum (*Syzigium cumini*), Indian banyan (*Ficus benghalensis*), and fireweed (*Senecio madagascariensis*).

Indigenous plants in the CE include: ‘uhaloa (*Waltheria indica*), which was traditionally used by Hawaiians for medicinal purposes, and is still used today by many people in Hawai‘i (Abbott 1992:101), laua‘e (*Phymatosorus grossus*), “koaliawahia (*Ipomoea congesta*” (possibly *I. indica*, a type of native morning glory), “Kakalaioa (*Caesalpinia bonduc*) vine,” “popolo (*Solanum americanum*)” (nightshade), and the Polynesian-introduced kukui (*Aleurites moluccana*).

There are no specific vegetation management plans for the CE (e.g., reducing or eliminating invasives, enhancing native/endemic/Polynesian-introduced plants), which will continue to be used primarily for ranching/livestock/grazing purposes.

3.3.3 Scenic & Open Space Values

One of the most significant natural resource conservation values of the Kāwala CE is its scenic and open spaces, which contribute to its authentic sense of place as an integral part of Ka‘ū District. This helps conserve, preserve, protect and perpetuate the CE’s rural and subsistence lifestyle—including historic and contemporary ranching—valued by the wider Ka‘ū community and families. As illustrated in many photographs in Appendix A (whose locations are depicted in Figure 4 above), the CE has extensive view planes and vistas extending from mauka to makai.

3.3.4 Hydrology (Watershed) Values

The CE includes important subterranean sources of fresh water, obtainable and observable primarily in its lava tube systems. Some of these sources are known—as they are component features of identified historic properties/cultural sites in the CE (discussed above, see Section 3.2.6). However, there are likely more sources in as-yet undiscovered natural cavities, depressions, lava tubes and other subterranean voids and cracks in the pāhoehoe. In an area that generally lacks surface water and perennial streams such as the CE, these source of wai (fresh water) represent an invaluable natural resource component of the cultural landscape.

3.4 Other Resources and Values

It is critical to understand that a vital part of the conservation value of the Property lies in its relationship and association with nearby and adjacent lands that collectively comprise an even wider cultural landscape than just the current boundaries of the Kāwala CE. Such associations between adjacent lands are fundamentally important and valued in Hawaiian culture, not least of which because they represent places where related and allied people live (both in the past and present). These genealogical and other (intra- and inter-ahupua‘a) social relationships were originally a kind of traditional insurance for mitigating and surviving difficult times (e.g., drought or famine). These other lands and wahi kūpuna (ancestral places) are also linked by mo‘olelo (oral-historical accounts) that enhance and reflect important cultural values of the CE.

Nearby and adjacent lands include: (1) the makai portion of Kāwala Ahupua‘a, extending to the Māniana Pali, including the ala kahakai, or traditional coastal trail; (2) the neighboring ahupua‘a of Kaunāmano (to the east), where an Archaeological Inventory Survey in 2006 identified 444 historic properties/cultural sites, including 46 burials; (3) the neighboring ahupua‘a of Kāhilipalinui (to the west), which includes the old fishing village of Waikapuna; and (4) the Kahua ‘Olohū, or Makahiki grounds, of Ka‘ū, in Kaunāmano, just east of Nā‘ālehu town, where traditional games such as boxing, javelin throwing, and ‘ulumaika were played, and hula was practiced.

All of these adjacent and nearby cultural resources are part of the Kāwala CE, whether formally connected or not, since they contribute to its overall conservation value, sense of place, and Hawaiian cultural landscape.

3.5 Uses and Activities Inconsistent with the Purpose of the Easement

In general, there should not be alteration, modification or damage to any of the formally-designated historic properties/cultural sites, particularly those recommended by Clark et al. (2013) for preservation (see Table 1, above).

Grubbing, grading or other such ground surface alteration should not be permitted within the CE.

No new roads, trails or pathways should be created.

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APPENDIX A – PHOTOGRAPHS DOCUMENTING CURRENT CONDITIONS WITHIN THE CONSERVATION EASEMENT

The photographs in this appendix were taken in January, 2019, by Nohopapa Hawai'i and Keoni Fox. The location numbers for each photograph correspond to the annotated aerial image above (see Figure 4).



Location 1. Private road along Mamālahoa Highway, main vehicular access/entrance to the Conservation Easement; view south



Location 2. Another view of the private road entrance to the Conservation Easement; view south



Location 3. View from private road into the Conservation Easement, looking mauka (towards the mountains); view northeast



Location 4. Abandoned buildings near Kāwala gate; building on the right known as the slaughterhouse; building to the left is known as the stable/bunkhouse; note, these buildings are just outside of the Conservation Easement (see Figures 4 and 6); view south



Location 5. Closer look of stable/bunkhouse building, view southwest; note, this building is just outside of the Conservation Easement (see Figures 4 and 6)



Location 6. Another view of the stable/bunkhouse building; view west



Location 7. Abandoned building/possible piggery, view east; note, this note, this building is partially within/partially outside of the Conservation Easement (see Figures 4 and 6)



Location 8. Private road with gate near abandoned buildings pictured above; view north



Location 9. Gate that leads into the Conservation Easement (starts on the other side of the gate); view southeast



Location 10. Gate along ranch road within the Conservation Easement; view northwest



Location 11. Looking into the Conservation Easement from just east of another gate and fenceline (that are just outside of the Conservation Easement); view east-northeast



Location 12. Landscape overview facing west from next to (immediately west of) the main corral area near the north-central portion of the Conservation Easement



Location 13. View east of main corral area



Location 14. Another view (south) of main corral area



Location 15. Another view of main corral area, view north



Location 16. Landscape overview from south side of main corral, facing southwest; note, cell towers in the distance are outside of the Conservation Easement



Location 17. Metal watering trough at main corral area, view north (see Figure 6 for location)



Location 18. Two feeding troughs just west of main corral area (see Figure 6 for location)



Location 19. Branding area with shipping containers just west of main corral area; view north



Location 20. Recent addition to corral, view east; according to Keoni Fox, these are portable fencing sections that the ranchers move around



Location 21. Another view of branding area with shipping containers just west of main corral area; view east



Location 22. Metal gate along ahupua'a boundary (rock wall) with Kaunāmano; view north



Location 23. Another, nearby gate (to the one above) along ahupua'a boundary with Kaunāmano; view north



Location 24. Landscape overview taken from lower third of the Conservation Easement, facing southwest



Location 25. Overview of gates and rock walls in lower third of the Conservation Easement, facing east



Location 26. Set of gates and corral fencing in lower portion of the Conservation Easement; view south



Location 27. Landscape overview from the lower (western) third of the Conservation Easement;
view west



Location 28. Water tank in lower third of the Conservation Easement; view north



Location 29. Landscape overview from the water tank shown in the previous photograph; view northeast



Location 30. Water trough (cement) near lower (makai) boundary of the Conservation Easement; view east



Location 31. Landscape overview from the cement water trough shown in the previous photograph; view north



Location 32. A set of two gates at a long break in the rock wall near the lower (makai) boundary of the Conservation Easement; view northwest



Location 33. Water tank near the location of the previous photograph (near lower/makai boundary of the Conservation Easement)



Location 34. Landscape overview at the location of the gate shown in the following photograph;
view north



Location 35. Gate at the location of the previous landscape overview, facing north



Location 36. Landscape overview of the lower portion of the Conservation Easement taken from just outside (south and makai) of the boundary; view west



Location 37. Set of gates through rock wall along west/ahupua‘a boundary with Kāhilipalinui; this gate leads to cell tower facility in the adjacent ahupua‘a; view east



Location 38. Gates and barbed-wire fencing near west-center of the Conservation Easement; view northeast



Location 39. Gate into Land Grant #820, near the upper (mauka) portion of the Conservation Easement



Location 40. Property gate, view east; according to Keoni Fox, crushed rocks in front of and behind this gate indicate bulldozing/grubbing of some kind that should not be allowed on the property



Location 41. Gate along north boundary of the Conservation Easement with signs of recent grubbing along the fence line; view northeast



Location 42. Metal pipe marking northeast corner of the Conservation Easement boundary; view northeast



Location 43. Metal pipe marking southeast corner of the Conservation Easement boundary; view southwest



Location 44. Old wooden gate through a rock wall in lower (makai) portion of the Conservation Easement; view southeast



Location 45. Gate to Waikapuna just south of the southwest corner of the Conservation Easement; view northeast



Location 46. Metal pipe marking southwest corner of the Conservation Easement boundary;
view east



Location 47. Metal pipe along southwest boundary and rock wall of the Conservation Easement;
view southeast



Location 48. Pair of gates along southwest boundary and rock wall of the Conservation Easement; view northeast