

**FINAL—Archaeological Inventory Survey in Kukui‘ulaiki  
Ahupua‘a, Kīpahulu District, Island of Maui, Hawai‘i**

**TMK: (2) 1-6-010:002 (por.) and (2) 1-6-010:010**



**Prepared For:**

Imperium-Kipahulu Kai, LP  
Rosewood Ct., 2101 Cedar Springs, Suite 1050  
Dallas, Texas 75201

May 2020

Keala Pono 

Keala Pono Archaeological Consulting, LLC • PO Box 1645, Kaneohe, HI 96744 • Phone 808.381.2361



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**Prepared By:**

Max Pinsonneault, MA  
Windy McElroy, PhD  
and  
Anthony Alvarez, MA

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## **MANAGEMENT SUMMARY**

An archaeological inventory survey was conducted on TMK: (2) 1-6-010:002 (por.) and (2) 1-6-010:010 in Kukui‘ulaiki Ahupua‘a, Kīpahulu District on the island of Maui. The archaeological work included a pedestrian survey that covered 100% of the project area, as well as test excavations consisting of three trenches and four test units. Three archaeological sites were found during pedestrian survey: SIHP 8863, 8864, and 8865. These consist of a wall, a wall and alignment, and a mound. The walls and alignment are likely agricultural features, while the mound may be a historic cattle ramp. Subsurface testing yielded no archaeological resources, with stratigraphy consisting entirely of natural deposits. Because of the lack of subsurface findings, archaeological monitoring is not recommended. SIHP 8863, 8864, and 8865 are recommended for preservation, and a preservation plan should be prepared for these sites.



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## INTRODUCTION

At the request of Imperium Kipahulu Kai LP, Keala Pono Archaeological Consulting conducted an archaeological inventory survey for approved agricultural uses in Kukui‘ulaiki Ahupua‘a, Kīpahulu District, on the island of Maui, Hawai‘i.

This report is drafted to meet the requirements and standards of state historic preservation law, as set out in Chapter 6e-42 of the Hawai‘i Revised Statutes and the State Historic Preservation Division’s (SHPD’s) draft *Rules Governing Standards for Archaeological Inventory Surveys and Reports*, §13–276.

The report begins with a description of the project area and a historical overview of land use and archaeology in the area. The next section delineates methods used in the fieldwork, followed by the results of the archaeological survey. Project results are summarized, and recommendations are made in the final section. Hawaiian words, flora and fauna, and technical terms are defined in a glossary at the end of the document.

### Project Location and Description

TMK: (2) 1-6-010:002 is a 79.69 ha (196.92 ac.) parcel owned by Imperium Kipahulu Kai LP, while TMK: (2) 1-6-010:010 is a .002 ha (253 sq. ft.) property also owned by Imperium Kipahulu Kai LP. The project area totals 28 ha (70 ac.), bounded on the west and north by Haleakala National Park, on the east by several residential properties, on the south by the Hana Highway, and on the southwest by other residential properties (Figures 1 and 2). This is located along the lesser frequented southern road to Hana, on the remote southeastern coast of Maui, within Kukui‘ulaiki Ahupua‘a, Kīpahulu District. The project area is situated along several ridgelines and two valleys that are interspersed throughout the property.

The archaeological inventory survey was requested by SHPD in a letter dating July 30, 2018 (Log No. 2018.01719, Doc No. 1807MBF19). The following scope of work was stated in the letter (see Appendix):

Approximately 44.3 acres are slated to be grubbed for the agricultural operation. There are twelve non-contiguous fields that make up the project area. The fields range in size from 0.5 acres to 12.7 acres. The proposed project will use heavy machinery to remove and mulch trees and woody vegetation. The mulch will be applied to the ground surface. Areas that are cleared will have a permanent vegetation established for long term erosion control. Tea and coconut plants will be planted in these areas.

While details of this proposed land use are currently undetermined, the proposed work will likely include alterations of the natural contours of the land along the ridgelines for agricultural uses, as well as probable excavations for related facilities or other approved uses. Figure 3 shows the proposed plans, with the “L” designations as trails and the proposed areas for agricultural uses noted.

### Physical Environment

The island of Maui was created by two distinct shield volcanoes, Haleakalā in the east and Pu‘u Kukui in the west. The two separate land masses became connected by an isthmus when “lavas of Haleakala banked against the already existing West Maui volcano” (Macdonald et al. 1983:380). Kīpahulu is located on the leeward coast of the island. The project area is mountainous and stands approximately between 50 and 390 m (160–1280 ft.) above mean sea level (AMSL). The lower portion of the project lies approximately 200 m (.12 mi.) from the coast at Ka‘āpahu Bay. The nearest watercourse is Kukui‘ula Stream, which runs through the northern portion of the property and skirts the parcel’s western border. ‘Opelu Stream runs along the property’s eastern boundary.

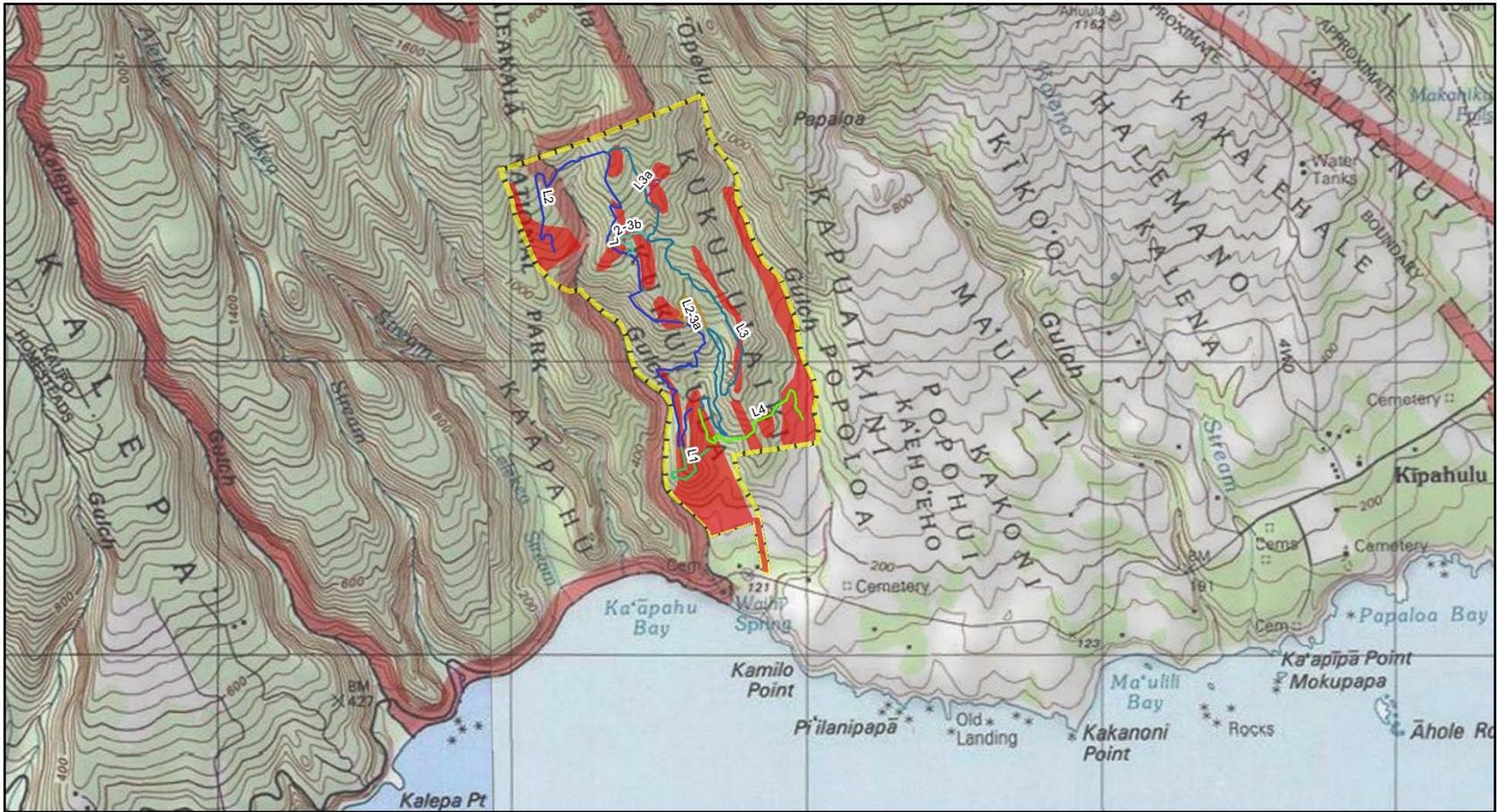
The soil in the region primarily consists of Makaalae silty clay, 7–25% slopes (MID) (Figure 4). Makaalae soils are typified by their strong physical structure and a relatively high proportion of rock fragments (Foote et al. 1972). The density of rock in the first meter of soil makes cultivation on the shallower slopes difficult, and the

steeper slopes largely impractical (University of Hawai‘i at Mānoa 2014). Makaalae soils are generally used for water supply, pasture, and wildlife habitat (Foote et al. 1972:87).

Within the subject property, Rough mountainous land (rRT) is the main soil type, with Hydrandepts-Tropaquods (rHT) in the northern portions. Rough mountainous land “consists of very steep land broken by numerous intermittent drainage channels. In most places it is not stony” (Foote et al. 1972:119). It is used for recreation, wildlife habitat, and water supply. Hydrandepts-Tropaquods are located in uplands and are used for wildlife habitat and water supply (Foote et al. 1972:46). Small areas of the parcel lie on Makaalae silty clay, 7–25% slopes; this soil type is described above.

Also within the vicinity are Makaalae clay, 7–40% slopes (MWE); Makaalae extremely stony silty clay, 7–25% slopes (MJD); and Rough broken land (rRR). The Makaalae soils are described above. Rough broken land is very steep and is broken by many intermittent drainages (Foote et al. 1972:119). It is used for wildlife habitat and watershed.

Kīpahulu experiences an average rainfall of 1876.4 mm (74 in.) per year (Giambelluca et al. 2013). The parcel supports a vibrant forest that includes strawberry guava (*Psidium cattleianum*), kukui (*Aleurites moluccana*), hau (*Hibiscus tiliaceus*), and mango (*Mangifera* sp.) groves.



**Legend**

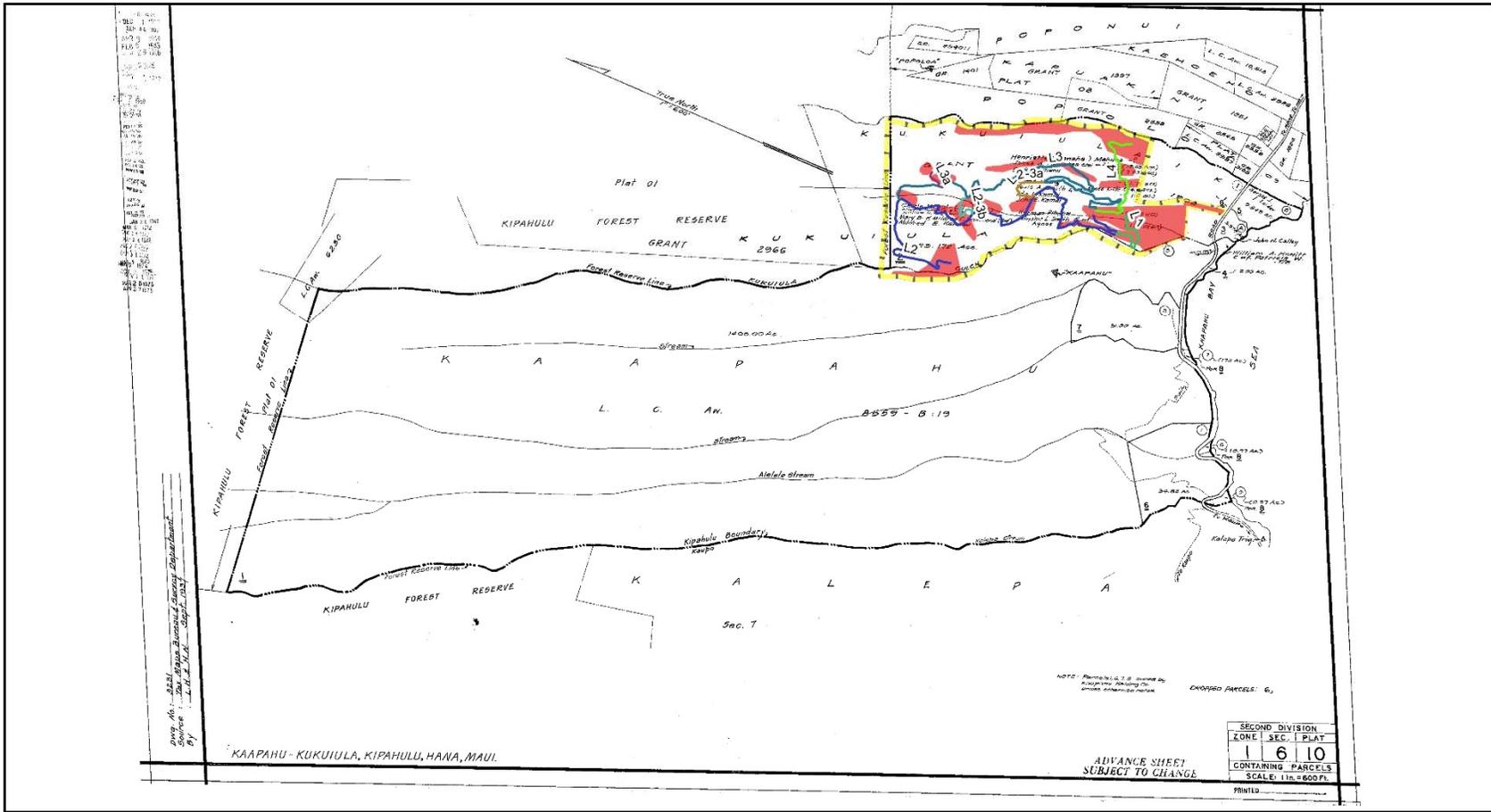
- Boundary
- Trails**
- Project Areas
- L2-3a
- L3a
- L1
- L2-3b
- L4
- L2
- L3

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Layer Credits: USGS Topographical Kapahulu Quadrangle Map 1997 Topographical Kaupo Quadrangle Map 1998

**Figure 1. Project area on a 1997 Kipahulu USGS quadrangle map and 1998 Kaupo USGS quadrangle map.**



**Legend**

- Project Areas
- Boundary
- Trails**
- L2-3a
- L3a
- L1
- L2-3b
- L4
- L2
- L3



Figure 2. Project area on TMK plat (1) 6-010. The project area is located on TMK: (2) 1-6-010:002 (por.) and (2) 1-6-010:010.

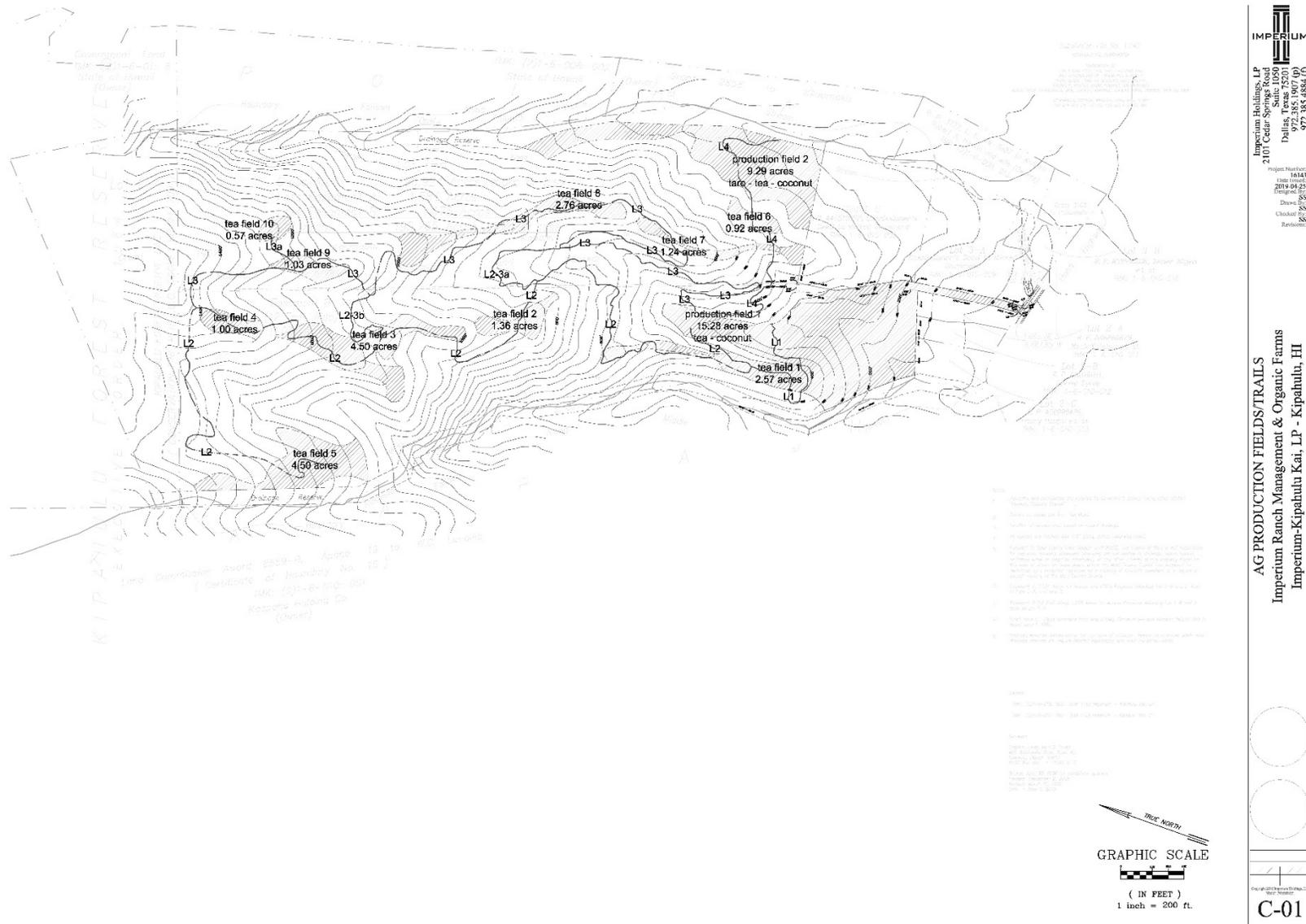
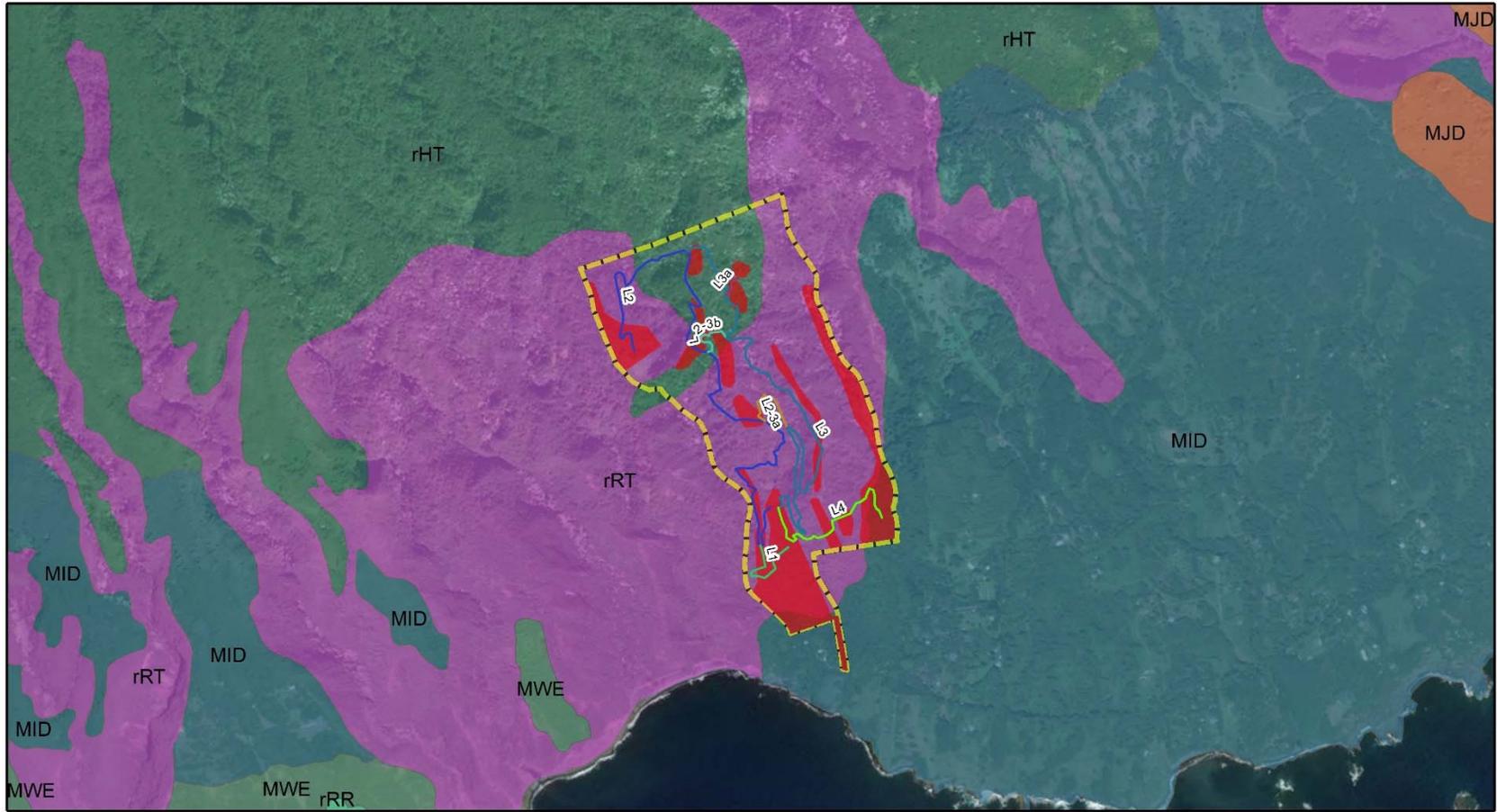


Figure 3. Proposed plans for TMK (2) 1-6-010:002 (por.) and (2) 1-6-010:010, showing 12 fields as well as trails (marked with “L”).



**Legend**

- |   |   |   |   |   |  |   |  |
|---|---|---|---|---|--|---|--|
|  Project Areas | <b>Soil</b>   |  MJD |  rHT |  rRT | <b>Trails</b>  |  L2-3a |  L3a |
|  Boundary      |  MID |  MWE |  rRR |   |  L1 |  L2-3b |  L4  |
|   |   |   |   |   |  L2 |  L3    |  |



**Figure 4. Soils in the vicinity of the project area (data from Foote et al. 1972).**

## BACKGROUND

This section of the report presents background information as a means to provide a context through which one can examine the cultural and historical significance of the project lands. In the attempt to record and preserve both the tangible (e.g., traditional and historic archaeological sites) and intangible (e.g., mo'olelo, 'ōlelo no'eau) culture, this research assists in the discussion of anticipated finds. Research was conducted at the Hawai'i State Library and the SHPD library, and using online resources at the University of Hawai'i at Mānoa libraries, as well as databases such as Ulukau, Kipuka, and Papakilo, as well as the State of Hawai'i Department of Accounting and General Services (DAGS) website. Historical maps, archaeological reports, Māhele data, and historical reference books were among the materials examined.

### Traditional Land Divisions and Place Names

Under the ancient Hawaiian system, one island or section of an island was the domain of an ali'i nui or mō'ī who had gained control through a combination of inherited rank and personal prowess (Handy et al. 1991:278). It was during the time of the ali'i Kaka'alaneo of Maui that land on the island was divided up and portioned out into districts, sub-districts, and smaller divisions. Each of these was ruled over by an appointee of the landlord of the next larger land division. All of these divisions and subdivisions were ultimately under the control of the chief who ruled a portion of, if not the entire, island. Traditional sources recount that this division on Maui came shortly after the time of Wā-kea, ancestor of all ali'i (Handy et al. 1991:491). The unification of Maui by the brothers Pi'ilani and/or Kihapi'ilani simply brought together two comparable systems operating in East and West Maui, pulling them together under a single ali'i nui or mō'ī. Joerger remarks on the traditional division of land:

The Hawaiians made the divisions of the lands...following a mountain ridge, the bottom of a ravine, or the center of a stream or river. But oftentimes only the line of growth of a certain type of tree or grass marked a boundary, and sometimes only a stone determined the corner of a division. (Joerger 1974:1)

The largest divisions were the islands themselves. These were then divided into moku and smaller districts called kalana, though neither of these had designated administrators. The next unit down in size was the ahupua'a, which was ruled over by a chief or a konohiki. Ahupua'a could, in turn, be subdivided into 'ili. These 'ili could either be a simple subdivision of the ahupua'a, where a konohiki acted as agent to the ahupua'a chief, or could operate with greater autonomy as 'ili kūpono, where a chief paid tribute directly to the mō'ī (Joerger 1974:3-4).

The ancient land tenure system in Hawai'i was feudal in nature. After the conquest of an area, a chief would generally take the choicest lands, allotting those that remained to chiefs who had assisted in the conquest. Those chiefs would, in turn, take the best of the lands allotted to them and distribute what remained to their followers. Any lands distributed were revocable, meaning that the chief or administrator at the level above could revoke the land of subordinates at will. While this system was feudal in its top-down organization, the tenants on the land were not serfs tied to the soil. They could and did move freely from the land of one chief to another. Within this system, one's social superior could only lay claim to labor and the produce of the soil, not military service (Joerger 1974:5).

Whereas district and ahupua'a boundaries were likely defined roughly 500 years ago, some district boundaries were established more recently (Sterling 1998:3), and this is the case with Hāna. Due to governmental changes in the mid-19<sup>th</sup> century, some district boundaries on Maui were renamed or redefined as people moved to different areas and land use changed. The current district of Hāna includes the ancient districts of Kahikinui, Kaupō, Kīpahulu, Hāna, and Ko'olau.

Kīpahulu, the smallest moku on Maui, was the home of the god Laka, who was worshipped by makers of canoes (Pukui et al. 1974:112). The name translates to "fetch [from] exhausted gardens (*kī* is short for *ki'i*)" (Pukui et al. 1974:112). Kukui'ulaiki translates to "small red light," and the promontory Kamilo literally means "the milo tree" (Soehren 1963:18).

## ‘Ōlelo No‘eau

‘Ōlelo no‘eau, or Hawaiian proverbs and poetical sayings, provide insight into traditional beliefs and practices related to a given area. Two ‘ōlelo no‘eau were found for Kīpahulu, while none were found for Kukui‘ulaiki.

He iki huna lepo mai kēia e pula ai ka maka.

*This is a small speck of dust that causes roughness in the eye.*

One may be small but he can still cause distress. This was the retort of Ka‘ehuiki, a shark-god of Puna, when he was taunted for his small size by Kai‘anuilalawalu, shark-god of Kīpahulu, Maui. (Pukui 1983:71)

Ka makani kā‘ili aloha o Kīpahulu.

*The love-snatching wind of Kīpahulu.*

A woman of Kīpahulu, Maui, listened to the entreaties of a man from O‘ahu and left her husband and children to go with him to his home island. Her husband missed her very much and grieved. He mentioned his grief to a *kahuna* skilled in *hana aloha* sorcery, who told the man to find a container with a lid. The man was told to talk into it, telling of his love for his wife. Then the *kahuna* uttered an incantation into the container, closed it, and hurled it into the sea. The wife was fishing one morning at Kālia, O‘ahu, when she saw a container floating in on a wave. She picked it up and opened it, whereupon a great longing possessed her to go home. She walked until she found a canoe to take her to Maui. (Pukui 1983:159)

## Mo‘olelo

Like ‘ōlelo no‘eau, mo‘olelo offer insight into what life may have been like in the project region in ancient Hawai‘i. They preserve topics of interest relevant to particular areas that were meant to be passed down the generations of those living in that place.

The island of Maui was named for the demigod Māui, who lived in Hāna at Ka‘uiki (Pukui et al. 1974:92, 148). Kīpahulu is specifically mentioned in mo‘olelo concerning Māui:

They [*Maui and his brothers*] went to the fishing ground frequented by kahala fish. It was named Po‘o, and is located directly outside of Kipahulu. The land mark is Ka-iwi-o-Pele, a place in Hana. (Sterling 1998:156)

Another mo‘olelo of Kīpahulu involves Laka, son of the chief Wahieloa (Sterling 1998:156). One day Wahieloa sailed to Hawai‘i Island to find a toy for his son. Unfortunately, he was killed in a cave shortly after landing at Punalu‘u in Ka‘ū. After not hearing from his father for a long time, Laka was determined to find out what happened to him. He went into the mountains to find a koa tree to make a canoe, yet each day he would cut a tree, the next morning he would return to find it upright again. He dug a trench and hid overnight to find that Menehune were to blame. Laka sprang from the trench and captured two of the Menehune, threatening to kill them for their prank. The Menehune bargained with Laka, promising to finish his canoe and carry it to the coast if Laka would build a canoe hālau and provide food for them. The Menehune each had one ‘ōpae, one o‘opu, and a bite of kalo and then completed their task. It is noted that, “There are some who know the site of Kuahalau, the hālau that Laka built. And it is said that on the mountain slopes above Kipahulu, the hole he dug for the koa tree can still be seen” (Sterling 1998:157).

The wind of Kīpahulu is known as “Makani kailo aloha o Kipahulu,” or “the love-snatching-wind of Kipahulu,” and there is a mo‘olelo that explains this name (Sterling 1998:157–158) (also see the ‘ōlelo no‘eau concerning this story, above). A husband and wife lived in Kīpahulu, but the wife left with another Kīpahulu man to live on O‘ahu. The husband sent messages to his wife to return, but she ignored them and soon forgot about her former life in Kīpahulu. The husband sought the advice of a *kahuna*, who told him to fetch the couple’s favorite calabash. The *kahuna* whistled melodies of every kind into the calabash, and he prayed to the aumākua of the sky, the

earth, and the sea. He then sealed the calabash and set it adrift on the ocean. The kahuna prayed to the wind aumākua and the shark aumākua to take the calabash to Honolulu. The wife, now living in Makiki, had an intense urge to eat līpoa, so she set out for Waikīkī to collect some. As she gathered the līpoa, she spotted the calabash floating in on a wave and noted how it resembled her favorite calabash when she was married. When she opened the lid, the fragrance of love for her husband overcame her and she immediately left to be reunited with him in Kīpahulu.

A final mo'olelo involves the establishment of fishing ko'a by Ai'ai (Sterling 1978:161). Ai'ai left Hāna and took his fishhook Manaikalani and fish pearl Kahoi from a cave at Ka-iwi-o-pele. He established ko'a by setting ku'ula stones at Pu'uiki, Mūolea, Hanakaiole, and other places as far as Kīpahulu. It is said that one of the stones still stands "at the streams of Kikoo and Maulili...at a bend in the waters, unmoved by the many freshets that have swept the valleys since that time" (Sterling 1978:161). Offshore at Ma'ulili is a fishing station called Koanui. When Ai'ai was first fishing there, he met a lawai'a named Kanemakua. Ai'ai gave him a fish that he had caught and provided instructions to take charge of the ko'a. Kanemakua returned to shore and sacrificed the fish's eyes and then prepared it to eat. Sterling (1978:161) closes the story as follows:

During all this time Kanemakua was thinking of the words spoken by the young man [Ai'ai], which he duly observed. The first kuula established in Maulili, Maui, was named after him and from that time its fish have been given out freely without restriction or division.

### **Traditional Land Use and Subsistence**

The general area of Kīpahulu, on the southern coast of East Maui, includes a number of small bays with good fishing where the gulches that carve through the southern slopes of Haleakalā drain into the ocean. Handy et al. (1991:507) describe Kīpahulu District as having "rich and diverse but scattered agricultural resources." Taro was grown in the large valley, lower forests, and lower kula lands. Kukui'ulaiki Ahupua'a is not specifically mentioned, although Kukui'ula Stream was said to have supported a series of small lo'i complexes (Handy et al. 1991:507). Other areas of Kīpahulu known for lo'i agriculture were Lolokea, Hanawi, Kalepa, and Nuanualoa, where small plots were scattered along the streams. Whereas sugar and cattle enterprises disturbed much of Kīpahulu in the historic period, Handy et al. (1991:507) note that kalo was still grown in small pockets of land as late as 1934.

The Ala Loa, the "long road" extended into East Maui by chief Kihapi'ilani, passed through Kukui'ulaiki by way of the coast, where streams that otherwise cut deep gulches in the landscape were most easily passible as they emptied into the ocean (Handy et al. 1991:489). Descriptions of the Kīpahulu portion of the trail are as follows:

Remains of sections of the trail may be seen in Kaupo, and from there winding in and out of small gulches to Kīpahulu. Six miles of trail here is almost undisturbed. Between Kīpahulu and Hana it is overgrown with brush. (Handy et al. 1991:490)

At Kīpahulu the paving of 'ala stone was begun, from Alae-iki to Kukui'ula. Between some of the lands in this locality some of the paving is gone, having been dug out by the plow of T.K. Clarke. The 'ala stones were scattered about and sugar cane planted at this time. It was thus at the stream of Manawainui. (Sterling 1998:157)

The island of Maui exhibits eleven great heiau (200 ft. in length or longer), and six of them are located within Hāna District (Sterling 1998), demonstrating the importance of the project region in traditional times. A number of smaller heiau were also scattered throughout the district. Specifically in Kīpahulu, were Napua Heiau on the north side of 'Ohe'o Gulch; Wailoa Heiau at 'Alaenui; Kanekauila Heiau at Kākalahale; an unnamed heiau, Waihe'e Heiau, and Mahinaula Heiau at Halemano; Ma'ulili Heiau in Ma'ulili; Manekineki Heiau at Kukui'ula; and Paokahi Heiau in Ka'apahu (Sterling 1998:157-163).

## **Māhele Land Tenure**

When King Kamehameha I united the islands under his single rule at the beginning of the 19<sup>th</sup> century, he continued to use the existing system for dividing and allotting land. Allotments were still on a revocable basis, and tenure was still non-military in nature. Taxes to Kamehameha I were owed by all, from ali'i nui down to tenant-commoners, in the form of land taxes and services that could be called on at the king's discretion. After his death, Kamehameha I's son Liholiho was recognized as Kamehameha II. He inherited his father's absolute sovereign power over the islands. He made few changes in the distribution of lands, however, mostly maintaining the status quo until his death and the ascension of Kamehameha III (Joerger 1974:5–6).

Kamehameha III was faced with serious pressures from the growing presence of foreigners in the islands who were accustomed to possessing the title to lands outright, without the threat of dispossession by local rulers. To address these issues, and under pressure from the navies of those countries from which resident foreigners had come, Kamehameha III and his chiefs reviewed their national policy. This led to the enactment of the Bill of Rights of 1839. In defining and protecting the rights of Hawaiians, this bill led to many important changes, not the least of which was explicitly prohibiting landlords from dispossessing a tenant without sufficient cause. The Bill of Rights was followed by the first constitution of the Hawaiian Kingdom, granted by King Kamehameha III on October 8, 1840. This constitution changed the government from an absolute monarchy to a constitutional monarchy. Many changes followed suit, most importantly for land tenure was the declaration that, although all the land belonged to the king, it was not considered his private property. This ushered in the possibility of some form of land ownership for commoners (Joerger 1974:5–7).

The creation of the Board of Commissioners to Quiet Land Titles, or Land Commission, was the first major step in the process of land tenure reform. The Land Commission was responsible for validating or rejecting the claims of both native and foreign individuals to previously acquired lands, not to create new interests in land. The rulings of this commission were binding, barring appeal to the Hawaiian Supreme Court. Upon having a claim confirmed by the commission, and paying a commutation to the government, an awardee was issued a Royal Patent on the Award by the minister of the interior. The Land Commission was hindered in rendering awards to claimants in the greater portion of cases because they were not empowered to define or separate out the intertwined interests of king, chiefs, konohiki, and tenant-commoners in relation to land divisions, as inherited from the ancient feudal system that had held up until then (Joerger 1974:8–9).

The Māhele of 1848 addressed many of these problems. As early as 1846 the Land Commission had suggested that Hawaiian lands should be divided into three roughly equal parts. One third would be retained by the king, one third would go to the chiefs and konohiki, and the final third would go to common tenants. This required, first, the identification and separation of the relative rights and interest of the king, chiefs, and konohiki in the lands of the kingdom. The matter was discussed for a year before the Privy Council, in December 1847, created a committee to assist in determining the relative rights and interests that these ruling classes had in the land of Hawai'i (Joerger 1974:14–16).

The divisions that followed were recorded in the Māhele Book. Due to a lack of surveyors in the islands during the period, the Māhele was made without survey. All the lands were divided according to their ancient names and boundaries. The Māhele itself also did not convey any title to land. Chiefs and konohiki who participated were still required to present their claims before the Land Commission to receive awards of Konohiki land (the portion of all lands to be divided up among this ruling class) quitclaimed to them by Kamehameha III. Until awards were issued, titles to such lands remained with the government (Joerger 1974:20–21). Upon completion of the Great Māhele, the King further subdivided his third into a smaller portion that was deemed his private property, the Crown Lands, and a larger portion that would be reserved as government lands (Joerger 1974:25).

Subsequent acts allowed the Land Commission to authorize the sale of lands in fee simple to resident aliens, and authorized the award of kuleana plots to native tenants. Until its dissolution in 1853, the Land Commission handled over 12,000 individual land claims. The Land Commission was, in effect, a judicial court that issued a Land Commission award (LCA) when it found in favor of a land claim. A Royal Patent was also issued, but it

did not confer or confirm title to land. Rather, it served to quitclaim the government's (king's) interest in the land (Joerger 1974:8–12).

From time to time, Crown, Government, and Konohiki lands might be sold to create revenue for the government. It was not necessary for recipients of these grants to obtain an award (LCA) from the Land Commission. After laws passed in 1849 that clarified the rights of native tenants, the Land Commission was empowered to award fee simple titles to all native tenants who occupied and improved any portion of Crown, Government, or Konohiki Lands. Although 1,500,000 acres of land were set aside for the government and the people during the Māhele, fewer than 30,000 acres of land were awarded to native tenants as kuleana lands, even after an act clarified this process in 1850 (Joerger 1974:27–30).

There is one land grant within the project area (see Figure 8). This is Land Grant 1902, given to Kaumia, Moo, Kapele, Mukahio, Hauhio, Kaimi, Pimana, and Kuluai. The grant spans 273 acres within the ahupua'a of Popoloa, Kukui'ula, and Kukui'ulaiki. No information on land use on this parcel could be found. LCA 8559B, awarded to William C. Lunalilo, includes discontinuous plots of land over much of Maui. One plot, of 1,480 acres ('Āpana 19), was located in Ka'apahu Ahupua'a and a small portion overlaps with the project area (see Figure 8). No information on land use on this parcel could be found. One other LCA is nearby (Figure 5). LCA 8987, claimed by Kunaka, is in the 'ili of Mana'apua of Popoloa Ahupua'a. It stretched for 10.75 acres from the ocean to the ama'umau fern belt, and was used for growing kalo.

### **Historic Land Use**

An early account of the Kīpahulu coastline was penned by La Pérouse, a French explorer that stopped in the islands in 1786 as part of a voyage that circled the globe. La Pérouse (1968) described the village there:

Water cascades from the mountain tops, irrigating the native villages before it enters the sea. The dwellings are so numerous that a single village extends for three or four leagues. All the houses are at the edge of the sea, and the mountains are so near that the habitable land does not appear to be more than a quarter league wide.

By the mid-1800s missionaries began to settle in East Maui, establishing mission stations and churches, some constructed near traditional heiau. In 1837 a mission station at Hana was built, and within a few years, people from Kīpahulu came to worship there.

Also in the mid-1800s, the sugar industry reached East Maui, with the establishment of the first sugar plantation in Hāna, near Ka'uiki. By 1884, there were four sugar enterprises in the area: the Kipahulu Mill run by Davies & Co., Hana Plantation operated by Grinbaum & Co., Kipahulu Plantation run by Hackfield & Co., and Reciprocity Sugar Co. operated by McFarlane & Co. (Wilcox 1996:3–5). The Kipahulu Mill had 125 acres planted in sugar, and went bankrupt in 1886. Historic maps of this era depict the coastal road, along with place names, and LCAs in the region (Figures 6 and 7). The extent of sugar lands, unfortunately, is not shown.

After the bankruptcy, the Kipahulu Sugar Co. took over the mill and its lands. In 1915 a railroad was built to transport sugar to wharves along the coast, three of which were located in Kīpahulu. Plantation communities emerged along the railroad, housing multi-ethnic immigrant workers and their families. A historic map from this period illustrates many LCAs, as well as the coastal road, and several place names (Figure 8). Nothing of interest is depicted within the project area, aside from Land Grant 1902 and LCA 8559B.

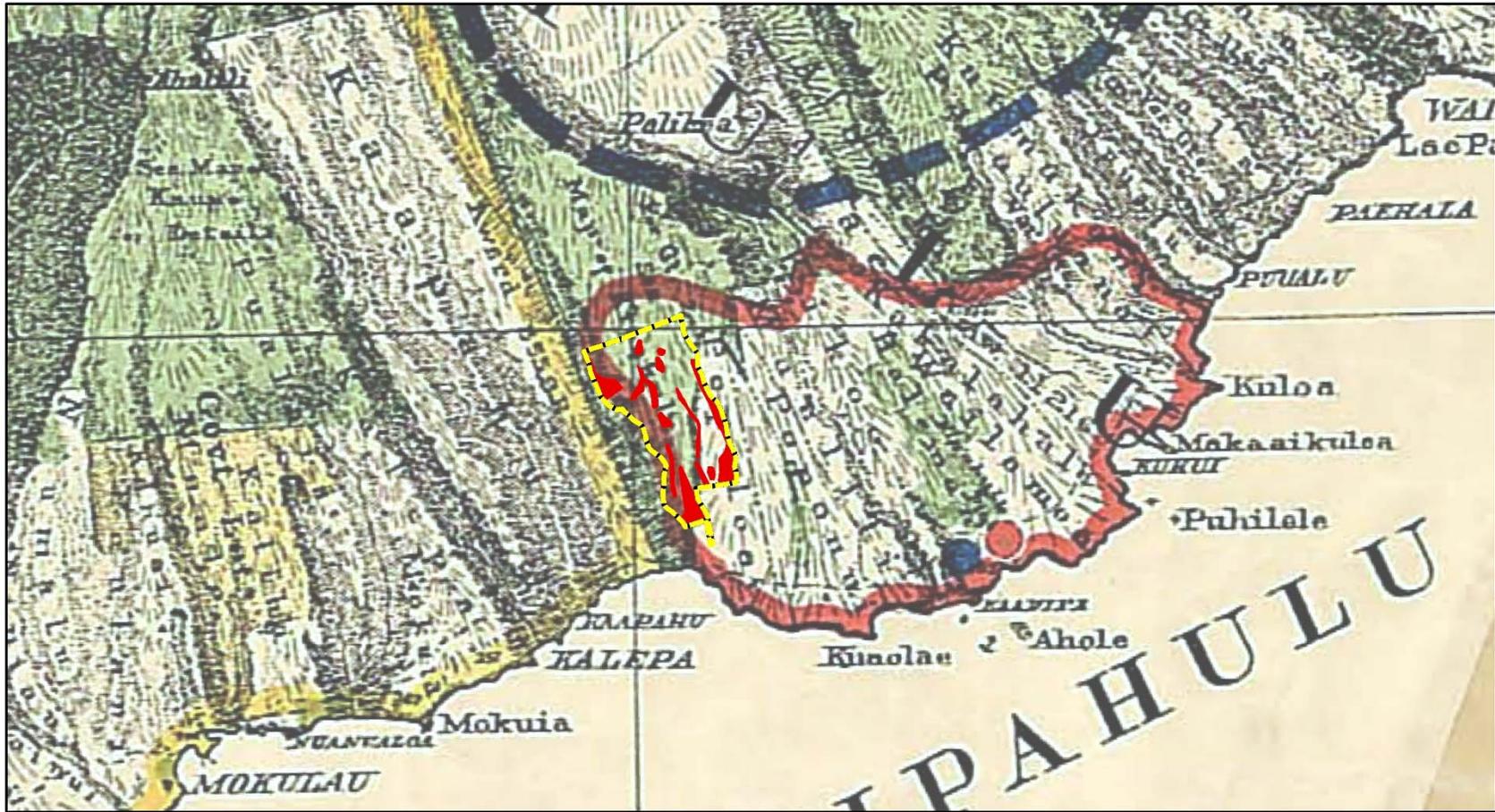
The Kipahulu Sugar Co. remained in operation until 1922 when it was obtained by the Haiku Fruit and Packing Company and its cane fields were replanted in pineapple. Pineapple, however, proved unsuccessful in Kīpahulu, and by 1927 the fields were abandoned. At this time, the derelict fields were taken over by Ulupalakua Ranch for cattle grazing. By 1946, the last sugar plantation in Hāna closed, in part due to tsunami damage to the harbor.



**Legend**  
 Project Areas  
 TMK Boundary



Figure 5. Portion of an 1881 map of Kīpahulu (Alexander 1881).

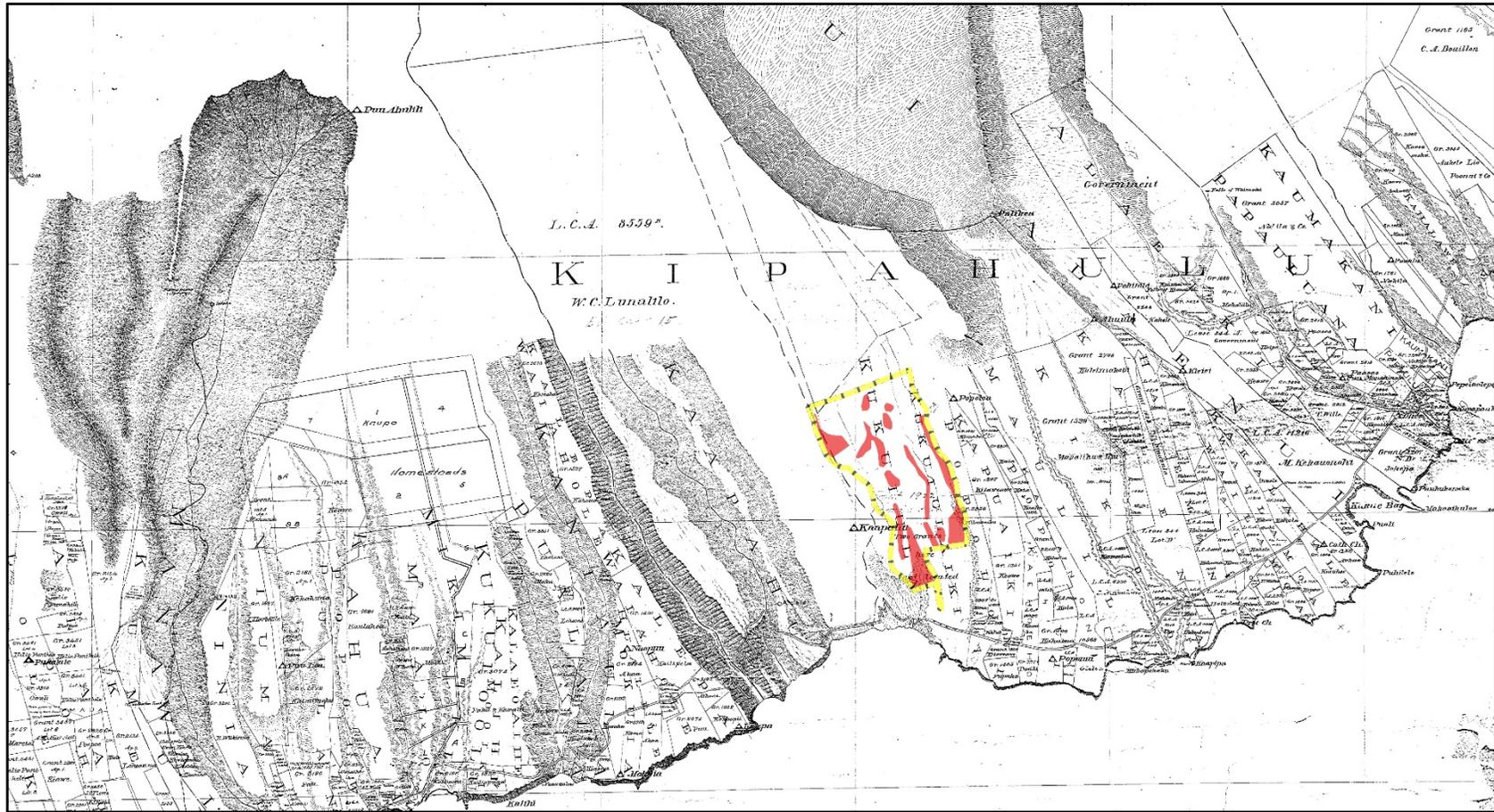


**Legend**

- Project Areas
- TMK Boundary



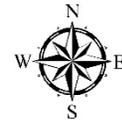
Figure 6. Portion of a map of Maui Island (Dodge 1885).



**Legend**

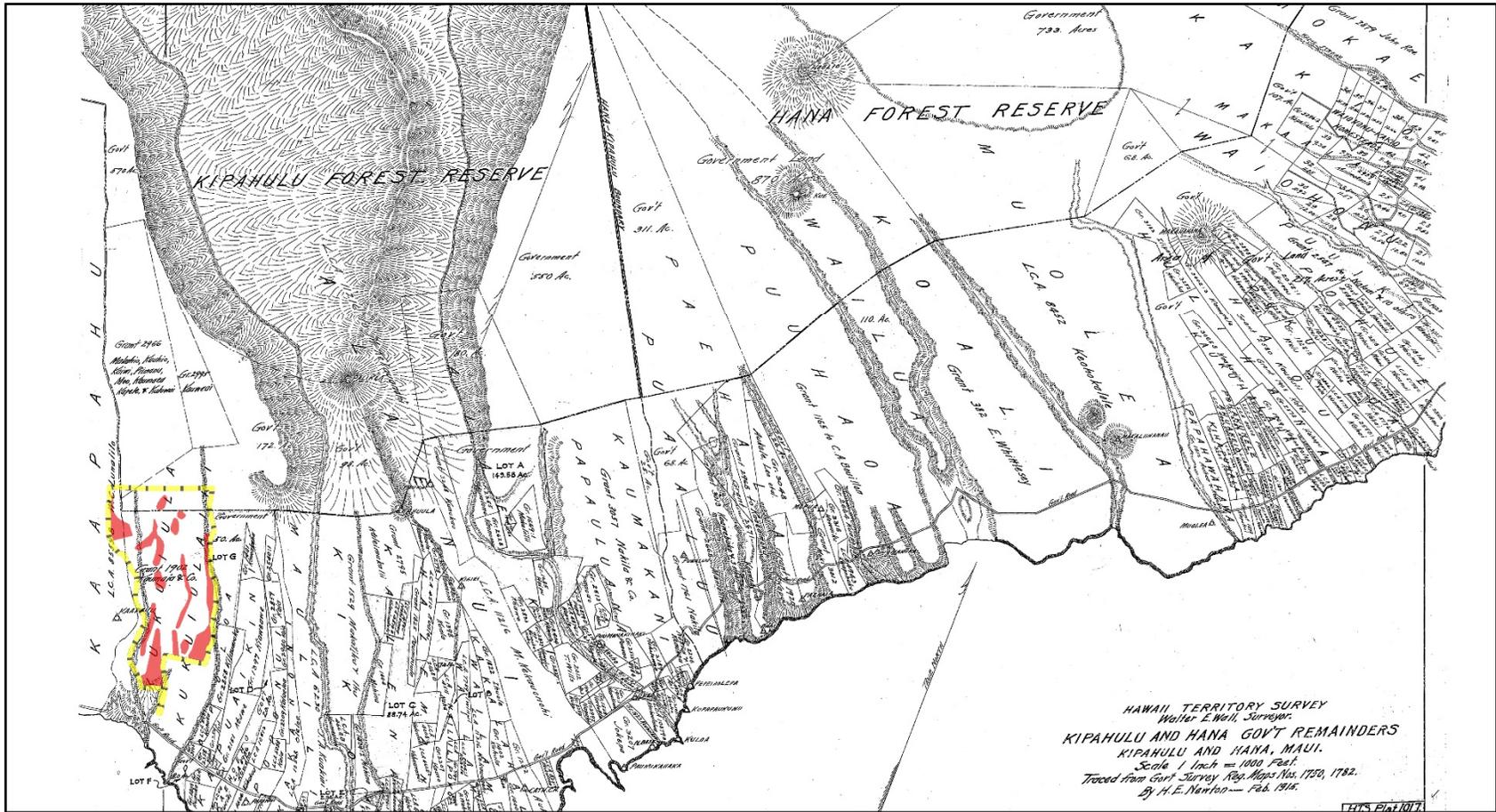
- Project Areas
- TMK Boundary

0 1 2 4 Kilometers



Keala Pono

Figure 7. Portion of a map of Kīpahulu and Kaupō (Willis 1894).



**Legend**

- Project Areas
- TMK Boundary

Keala Pono 



**Figure 8. Portion of a map of Kīpahulu and Hāna (Newton 1915).**

## Previous Archaeology

There are a few projects that have been carried out in the vicinity of the project area (Table 1). The following paragraphs summarize reports that were found in the SHPD Kapolei library for projects within approximately 2.5 km of the project area. Projects are presented in chronological order, and their locations are illustrated in Figure 9. State Inventory of Historic Places (SIHP) numbers are prefaced by 50-50-16; site locations are shown in Figure 10.

Early archaeological work in Kīpahulu took the form of a survey of portions of East Maui (Soehren 1963). Although no archaeological sites were documented for Kukui‘ulaiki Ahupua‘a, several were identified nearby. These consist of five sites in Kiko‘o: a shelter, walls, and three habitations; six sites in Ka‘apahu: a heiau, a cemetery, two lo‘i, walls, and a shrine; and eight sites in Ma‘ulili: two heiau, three habitations, a shelter, an animal pen, and petroglyphs. SIHP numbers were not assigned at the time of the study.

A reconnaissance survey in ‘Alelele recorded the ‘Alelele Stream Terraces (SIHP 1129) that were identified by Soehren (1963), as well as five terraces, a mound, and a retaining wall that were not given SIHP numbers (Kornbacher 1992). An archaeological inventory survey of the Ka‘apahu Bay area further documented SIHP 1129, as well as two other sites identified by Soehren (1963): a ko‘a (1130) and the Leleka Complex (1492). In addition, eight newly identified sites were found: several rockshelters (SIHP 3140, 3142, 3144, and 3146), a wall (3145), a subsurface cultural deposit (3141), the King’s Highway Trail (3143), and a complex of surface architecture (3147).

An archaeological inventory survey in Kakanoni Ahupua‘a identified three sites (Burgett et al. 1995). These consist of an enclosure (SIHP 4149), a wall and terraces (4150), and a modified outcrop (4151). Excavations at SIHP 4149 and 4151 yielded traditional artifacts and volcanic glass. SIHP 4149 returned a radiocarbon date of 310±60 BP (calAD 1446–1668).

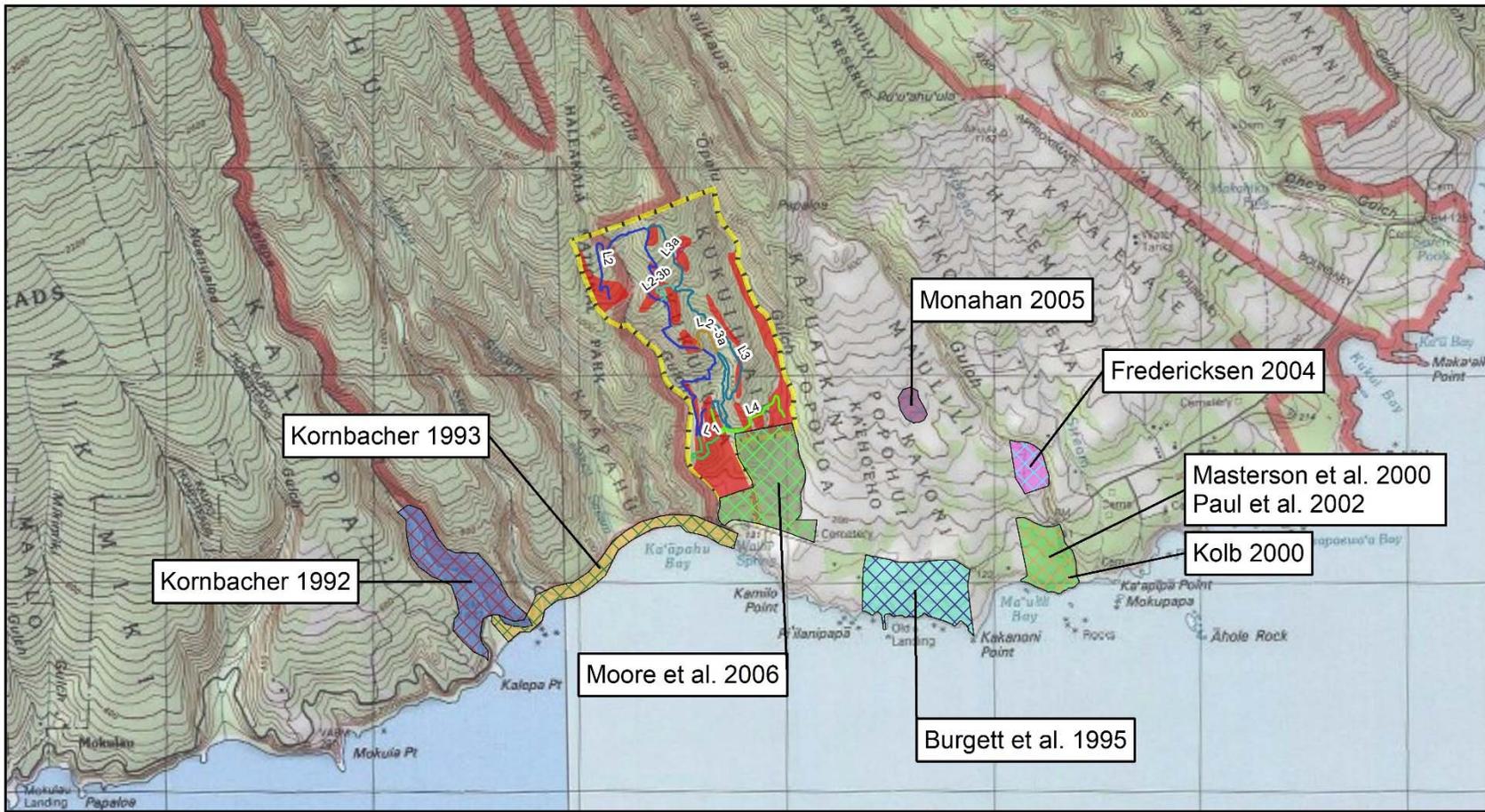
A 1998 study compiled site information from other sources for the entire island of Maui (Sterling 1998), much of it obtained from Walker’s (1933) unpublished manuscript *Archaeological Survey of the Island of Maui*. There were no sites listed for Kukui‘ulaiki Ahupua‘a, although three heiau were noted in the area: one in Ka‘apahu, another in Kukui‘ula, and one in Ma‘ulili.

In coastal Ma‘ulili, an archaeological inventory survey recorded four previously identified sites and three new sites (Masterson et al. 2000). The previously recorded sites are a rockshelter (SIHP 1112), a habitation/religious complex (1113), a rockshelter and pictographs (1121), and a culturally significant stone (4481). The newly identified sites consist of a rockshelter (4511), a cave (4541), and culturally important islets (4542). The excavation of SIHP 1113 Feature H was later reported on separately (Kolb 2000). This feature is a large U-shaped wall with a partially paved interior, thought to be a small heiau. The only items collected were charcoal and a fragment of branch coral. The charcoal was not dated due to disturbance. A preservation plan was also prepared for all seven sites (Paul et al. 2002).

A site inspection in Ma‘ulili Ahupua‘a identified five sites (Fredericksen 2004). These consist of three rockshelters (SIHP 5536, 5537, and 5538), a railroad crossing and rock wall (5539), and a remnant enclosure (5540).

An archaeological inventory survey in Kīpahulu, Ma‘ulili, and Kakanoni Ahupua‘a documented two archaeological sites (Monahan 2005). These are SIHP 5716, four modified outcrops; and 5717, a complex of temporary habitation features and an ‘auwai.

An archaeological inventory survey in Kukui‘ula, Kukui‘ulaiki, and Popoloa Ahupua‘a partially overlapped the current project area (Moore et al. 2006). A total of seven sites were identified: a disturbed terrace/pavement



**Legend**

- |  |  |   |   |
|--|--|---|---|
|  Boundary             | <b>Trails</b>  |  L2-3a |  L3a |
|  Project Areas        |  L1 |  L2-3b |  L4  |
|  Previous Archaeology |  L2 |  L3    |   |

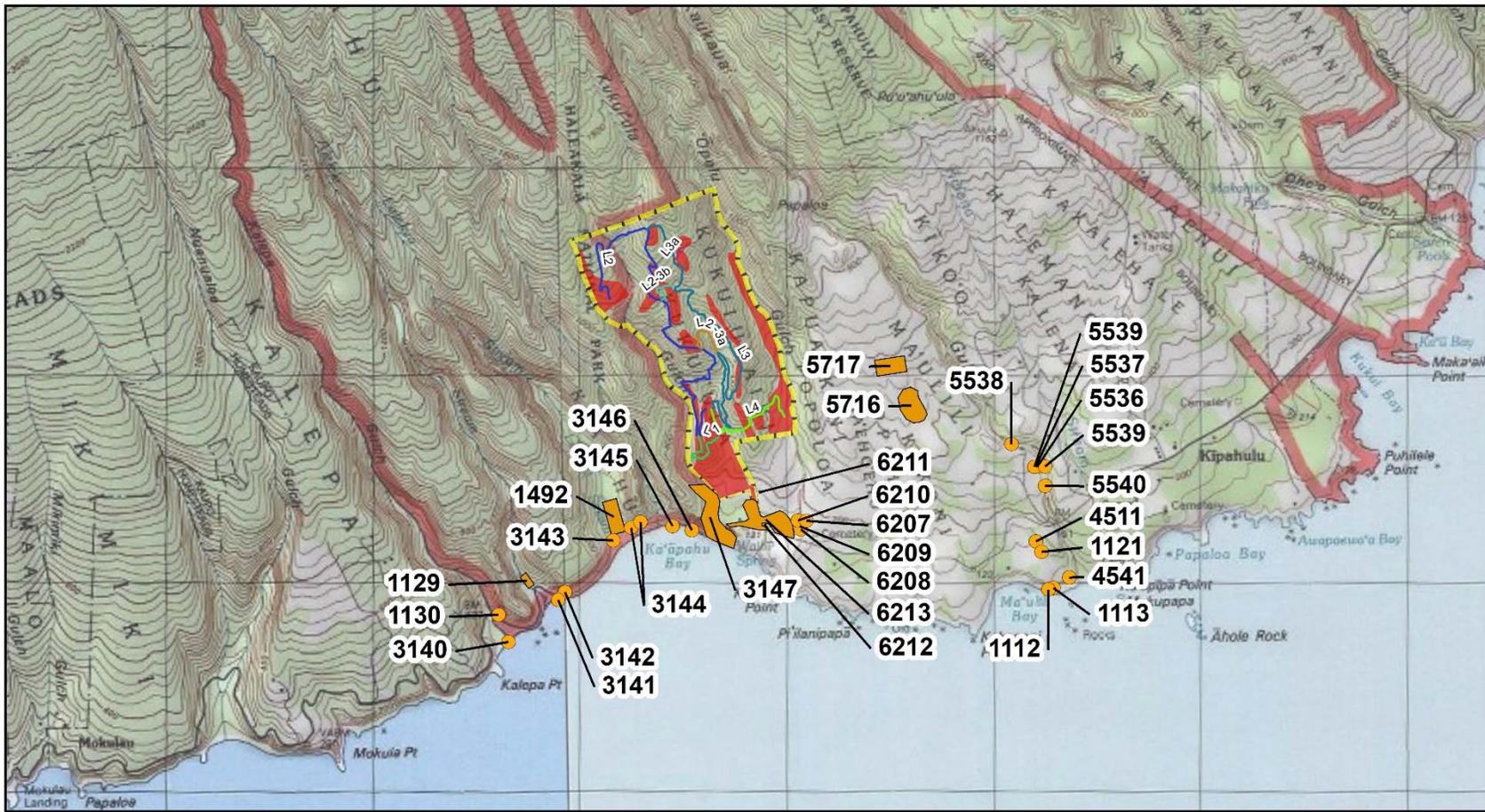


Keala Pono 



Layer Credits: USGS Topographical Kapahulu Quadrangle Map 1997 Topographical Kaupo Quadrangle Map 1998

**Figure 9. Previous archaeological studies in the vicinity of the project area.**



**Legend**

- Project Areas
- L1
- L2-3a
- L3
- L2
- L2-3b
- L3a
- L4
- Boundary

Keala Pono



Layer Credits: USGS Topographical Kapahulu Quadrangle Map 1997 Topographica Kaupo Quadrangle Map 1998

**Figure 10. Known archaeological sites in the project vicinity. Note that the locations of SIHP 4149, 4150, and 4151 could not be determined, as the Burgett et al. (1995) report was missing from the SHPD library. See Figure 9 for the location of the Burgett et al. (1995) project area.**

**Table 1. Previous Archaeological Studies in the Vicinity of the Project Area**

Author & Year	Location	Study	Findings
Soehren 1963	East Maui	Survey	Recorded five sites in Kiko'o: a shelter, walls, and three habitations; six sites in Ka'apahu: a heiau, a cemetery, two lo'i, walls, and a shrine; and eight sites in Ma'ulili: two heiau, three habitations, a shelter, an animal pen, and petroglyphs. SIHP numbers were not assigned.
Kornbacher 1992	'Alelele Stream	Reconnaissance Survey	Recorded the previously identified 'Alelele Stream Terraces (SIHP 1129) as well as five terraces, a mound, and a retaining wall that were not given SIHP numbers.
Kornbacher 1993	Ka'apahu Bay	Archaeological Inventory Survey	Documented three previously recorded sites: the 'Alelele Stream Terraces (SIHP 1129), a ko'a (1130), and the Leleka Complex (1492), as well as eight newly identified sites: several rockshelters (3140, 3142, 3144, 3146), a wall (3145), a subsurface cultural deposit (3141), the King's Highway Trail (3143), and a complex of surface architecture (3147).
Burgett et al. 1995	Kakanoni Ahupua'a	Archaeological Inventory Survey	Identified an enclosure (SIHP 4149), a wall and terraces (4150), and a modified outcrop (4151). Excavations at SIHP 4149 and 4151 yielded traditional artifacts and volcanic glass. SIHP 4149 returned a radiocarbon date of 310±60 BP (calAD 1446–1668).
Sterling 1998	Island-Wide	Synthesis	Compiled information from other sources; notes three heiau in the area: one in Ka'apahu, another in Kukui'ula, and one in Ma'ulili.
Masterson et al. 2000	Coastal Ma'ulili	Archaeological Inventory Survey	Recorded four previously identified sites: a rockshelter (SIHP 1112), a habitation/religious complex (1113), a rockshelter and pictographs (1121), and a culturally significant stone (4481); as well as three newly identified sites: a rockshelter (4511), a cave (4541), and culturally important islets (4542).
Kolb 2000	Coastal Ma'ulili	Excavation Report	Documented the excavation of SIHP 1113, a previously recorded habitation and religious complex.
Paul et al. 2002	Coastal Ma'ulili	Preservation Plan	Outlined preservation measures for the seven sites documented by Masterson et al. (2000).
Fredericksen 2004	Ma'ulili Ahupua'a	Site Inspection	Identified five sites: three rockshelters (SIHP 5536, 5537, and 5538), a railroad crossing and rock wall (5539), and a remnant enclosure (5540).
Monahan 2005	Kipahulu, Ma'ulili, and Kakanoni Ahupua'a	Archaeological Inventory Survey	Documented SIHP 5716 (four modified outcrops) and 5717 (a complex of temporary habitation features and an 'auwai).
Moore et al. 2006	Kukui'ula, Kukui'ulaiki, and Popoloa Ahupua'a	Archaeological Inventory Survey	Identified seven sites: a disturbed terrace/pavement (SIHP 6207), a revetment/alignment (6208), terraces that may mark burials (6209 & 6211), a wall segment (6210), a low platform (6212), and several wall segments (6213).

(SIHP 6207), a revetment/alignment (6208), terraces that may mark burials (6209 and 6211), a wall segment (6210), a low platform (6212), and several wall segments (6213). None of these sites are located on the property (see Figure 10).

### **Summary of Background Research**

The island of Maui was named for the demigod Māui, who lived in Hāna and Kīpahulu, was the home of the god Laka, who was worshipped by makers of canoes. Both Māui and Laka are celebrated in mo‘olelo of the area. In pre-Contact times, Kīpahulu supported scattered lo‘i, and fishing was another principal means of subsistence. Several heiau were known for the district as well. During the Māhele, one land grant and one LCA were recorded on the project area, although no information on land use was found for these two parcels. Another LCA was located nearby and it was used for growing kalo. In the historic period, sugar and cattle enterprises transformed the region.

One previous archaeological project was conducted near the current area of study, partially overlapping it and adjacent to the south (Moore et al. 2006). Sites found include the following: a disturbed terrace/pavement, a revetment/alignment, terraces that may mark burials, a wall segment, a low platform, and several wall segments. None of these sites are located within the current project area.

### **Anticipated Finds and Research Questions**

Previous archaeological studies conducted near the project site can help inform on the kinds of subsurface archaeological resources that may be found. As noted above, a variety of archaeological remains have been encountered during a previous study nearby, and it is possible that these kinds of remains might be found in the current project area. In addition, the landowner noted two rock walls and two rock mounds in the project area, although the mounds may be modern constructions.

Research questions will broadly address the identification of the above archaeological resources and may become more narrowly focused based on the kinds of resources that are found. Initial research questions are as follows:

1. Is there any evidence of pre-Contact use of the project area and what is the nature of that use?
2. Are there vestiges of historic use of the project area, such as sugarcane agriculture or cattle ranching remnants?
3. If cultural resources are found, how do they relate to the settlement pattern of the wider region?

Once these basic questions are answered, additional research questions may be developed in consultation with SHPD, tailored to the specific kinds of archaeological resources that were identified.

## METHODS

Pedestrian survey and subsurface testing was conducted from April 12 through 14 and May 21 through 23, 2019. The first survey was crewed by Windy McElroy, PhD, Jeffrey Lapinad, Steven Eminger, and Max Pinsonneault, MA. The second survey was crewed by Pinsonneault, Tony Alvarez, MA, Liz Hauani'o, BA, and Danielle Shemesh, BA. A total of six work days were completed between the two surveys, with four archaeologists on site each day. McElroy served as Principal Investigator, overseeing all aspects of the project and Pinsonneault served as field director.

For the pedestrian survey, the ground surface was visually inspected for surface archaeological remains, with transects walked for the entirety of each proposed field. Archaeologists were spaced approximately 5 m apart. Of the 70 acre (28 ha) survey area, 100% was covered on foot. Visibility varied between good to fair depending on vegetation (e.g., Figure 11). Archaeological features were mapped with tape and compass using a long measuring tape as a baseline. Nails or staking pins were used as a datum if more than one baseline was needed. These were removed after mapping.

Excavations were conducted in seven locations across the project area. The excavation strategy was approved by SHPD before and during the survey fieldwork. This was done in person and by email between Jane Allen and Windy McElroy between January 14, 2019 and May 8, 2019. An excavator was used for the digging of three trenches (Figure 12), while four test units were excavated by hand (Figure 13). Vertical provenience was measured from the surface. The machine-dug trenches were excavated to as deep as safely possible, while hand-dug units were excavated to either bedrock or compact sterile soil saturated with saprolitic rock. Soils were screened at the discretion of the archaeologist, through ¼-inch mesh. Profiles were drawn and photographed, and soils were described to USDA standards using Munsell soil color charts (Munsell 2010), the USDA *Soil Survey Manual* (Soil Science Division Staff 2017) and a soil texture flowchart (Thien 1979). Where measurements were not taken from the ground surface, a level line was used as datum to accurately depict sloped surfaces in profiles. Test unit locations were recorded by a 3 m-accurate Garmin GPSMap 62ST GPS unit.

The scale in all field photographs is marked in 10 cm increments. The north arrow on all maps points to magnetic north. Throughout this report rock sizes follow the conventions outlined in *Field Book for Describing and Sampling Soils*: Gravel <7 cm; Cobble 7–25 cm; Stone 25–60 cm; Boulder >60 cm (Schoeneberger et al. 2002:2–35). No cultural material was collected during this project.



**Figure 11. Vegetation conditions in the Field 3 survey area. Orientation is to the southeast.**



**Figure 12. Excavation of TR 1 with excavator. Orientation is to the northeast.**



**Figure 13. Excavation of TU 7 by hand. Orientation is to the southeast.**

## RESULTS

Pedestrian survey and subsurface testing were conducted throughout the 28 ha (70 ac.) project area. Subsurface testing consisted of the excavations—three mechanical trenches and four hand-excavated test units. This revealed only natural soils throughout the project area. Three surface archaeological sites were documented during the pedestrian survey.

### **Pedestrian Survey**

The surface survey included walking the proposed fields throughout the project area, as well as the trails connecting them (see Figures 1–3). There is no evidence to suggest that the trails are historic. The property owner states that they are modern trails that were made to access different areas of the property. Three surface sites were encountered: a wall (Site 8863), a wall and alignment (Site 8864), and a mound thought to be a historic cattle ramp (Site 8865).

#### **SIHP 50-50-16-8863–Wall**

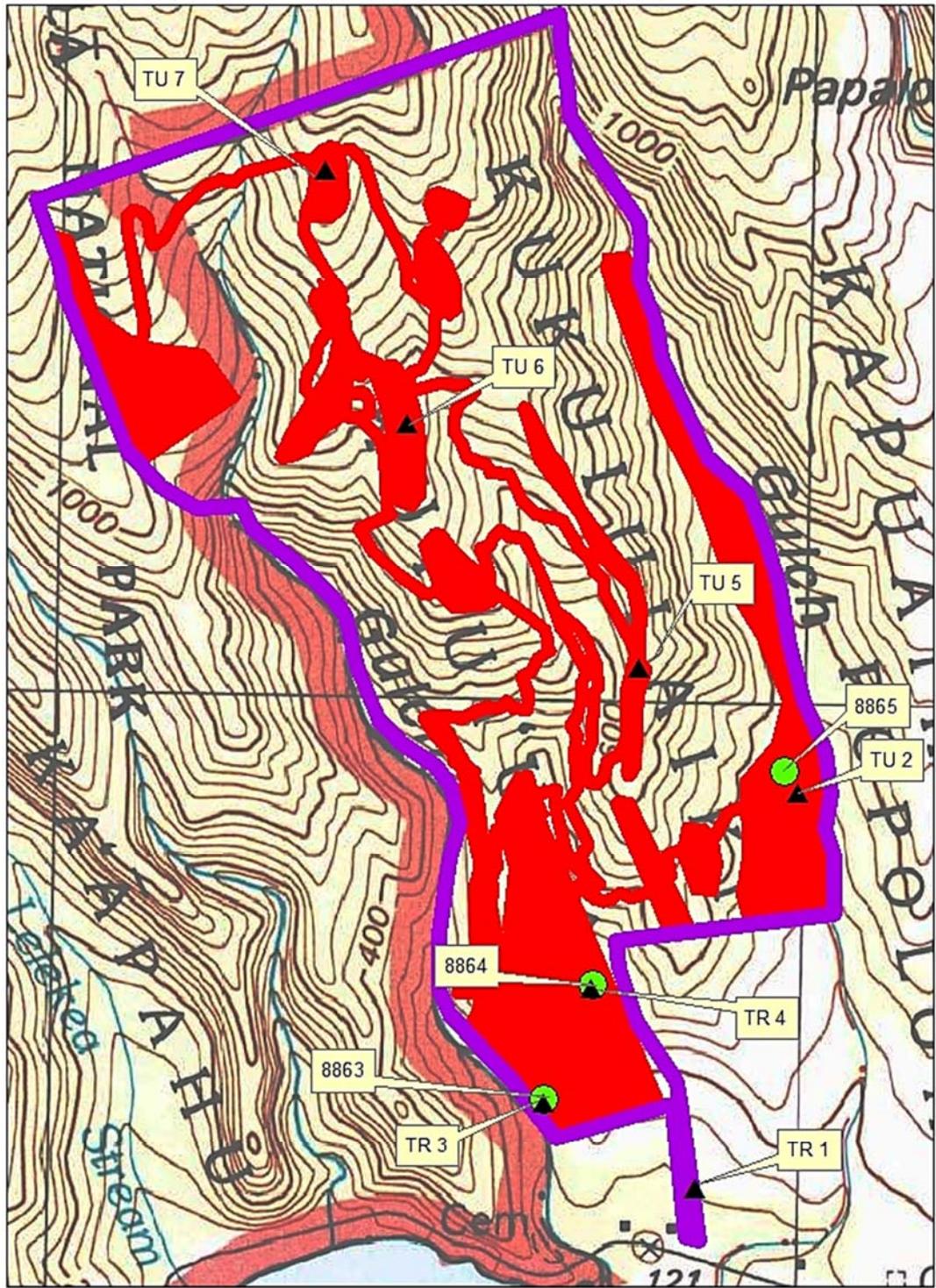
Site 8863 is a low wall located parallel to a deep stream cut (roughly 8 m) into the valley floor (Figure 14). The wall appears to terminate in an “L” or hook, at its northwest inland end and measures 30 m long in total (Figure 15). It is composed of stones stacked one to three courses, in addition to piled construction (Figure 16). The wall may have once been part of a terrace system and is likely associated with agriculture in the area. The site retains integrity of location, design, setting, materials, workmanship, and feeling. It is currently in its original location and setting; its design remains the same; the original materials remain unchanged; workmanship of the site remains largely unchanged, and the site does convey its original time and place. The site does not retain integrity of association as it is not likely associated with a historic event or person. It is in fair condition, although now impacted by our excavations, as directed by SHPD. Excavations did not yield any information as to the age or function of the site (see Subsurface Testing section).

Notably, across the stream to the west (outside the project area and on the National Park Service property) an extensive area of walls and terraces can be seen from Site 8863. These walls are not noted in any documentation for the area. Amidst this complex across the stream, a possible upright stone or cement column (square) can be prominently observed. The upright/cement column appears to be about 2 m high, roughly 40 cm in diameter and stands perfectly upright.

#### **SIHP 50-50-16-8864 –Wall and Alignment**

Site 8864 is a wall located in the lower area of a small valley which faces the sea to the south (see Figure 14 ). The wall measures 30 m in length, 1 m in width, and up to 50 cm in height (Figure 17). The orientation of the wall begins along a 150° heading and turns to 166° midway through. The wall was in excellent condition previous to our excavation that was directed by SHPD, and the unexcavated sections remain well preserved and stable (Figure 18). Site 8864 runs along a dry (at the time of observation) drainage and may possibly be subject to flood events. It appears that the wall diverges from the drainage as it runs downhill, however. Being that this wall is at the bottom of the slope, the ground surface on the upslope side of the wall is higher than the downhill side – presumably from sheet wash filling the upslope side. The location and form vaguely suggest an ‘auwai or irrigation ditch, except that it deviates in form from the classic ‘auwai at its lower end where it dips sharply downhill (most ‘auwai maintain a more consistent and moderate downhill slope/run). Excavations did not yield any information as to the age or function of the site (see Subsurface Testing section).

An alignment is located roughly 6 m away from the wall on the upslope side of the wall. The alignment appears to be in good condition, with a single course of rocks that lie roughly parallel to the wall (Figure 19). It measures 3.3 m long, 60 cm wide, and approximately 20 cm tall. The stones in the alignment are



N  
 TMK: (2) 1-6-010:002    Project Areas    Excavation  
 Archaeological Site  
 0 62.5 125 250 375 500 Meters

Figure 14. Location of excavations and Sites 8863, 8864, and 8865 on a 1997 USGS Kipahulu quadrangle map.

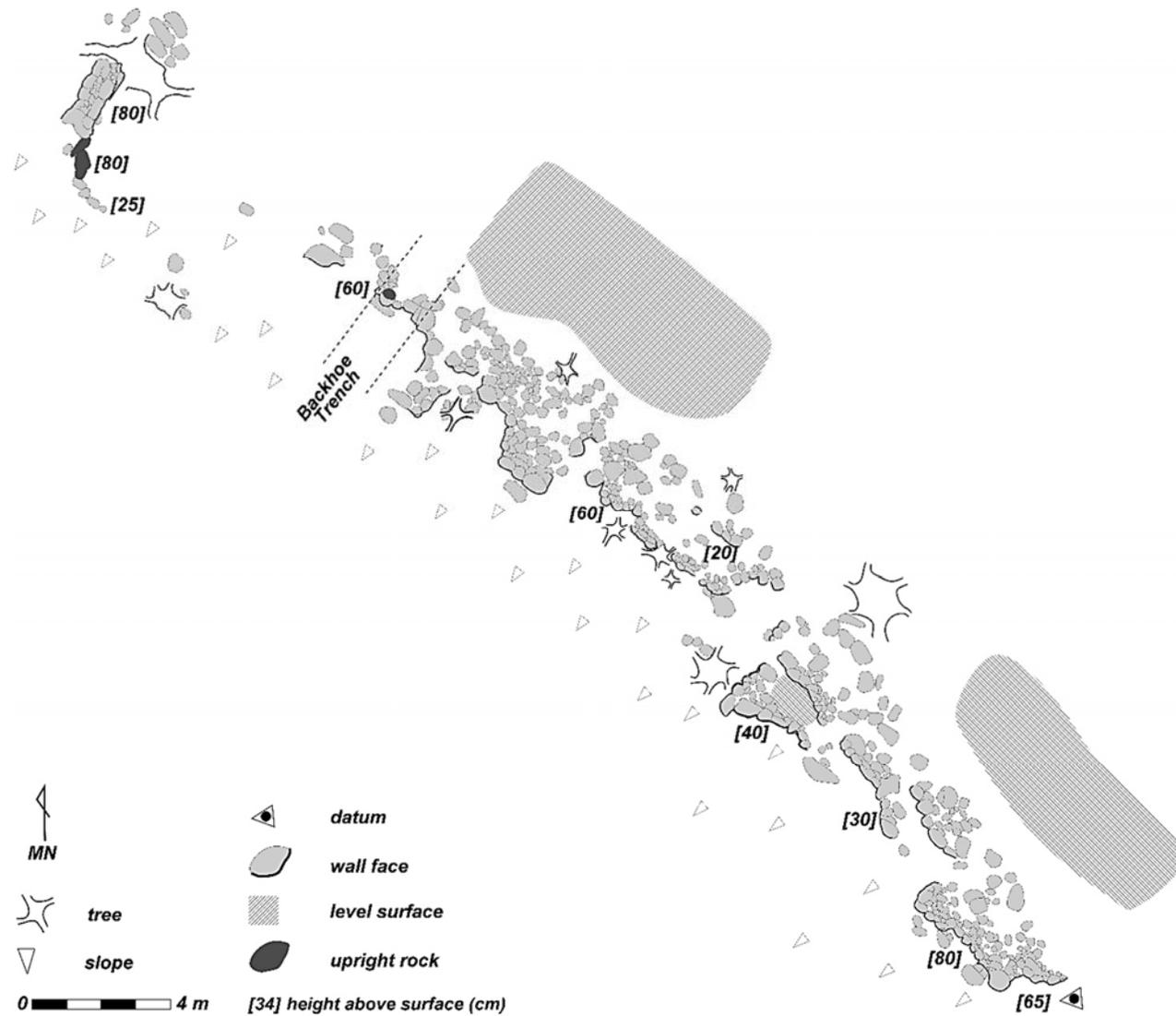


Figure 15. Plan view drawing of Site 8863.



**Figure 16. Photo of Site 8863 facing southeast.**

of a very uniform size and are low to the ground. The alignment terminates on its southeastern extent in a single stone set perpendicular to the rest of the alignment. The function of the alignment is unclear; it could be the remains of a small terrace.

Site 8864 retains integrity of location, design, setting, materials, workmanship, and feeling. It is currently in its original location and setting; its design remains the same; the original materials remain unchanged; workmanship of the site remains largely unchanged, and the site does convey its original time and place. The site does not retain integrity of association as it is not likely associated with a historic event or person.

#### **SIHP 50-50-16-8865 – Mound**

Site 8865 is a sloping stone structure that appears to have been a ramp, possibly for loading cattle, in the south central portion of the project area (see Figure 14). The structure encompasses an area of 7.65 by 5.25 m and is built using stacked construction (Figure 20). Larger facing stones are on the west, southwest, southeast, and east perimeter, while smaller stones are in the center where a large tree is now growing (Figure 21). Two large boulders leaning on the western perimeter of the ramp appear to be from the modern period, as indicated by the fractured stones caused by the impact that occurred when they were placed. These stones are likely the result of later machine clearing, such as previous bulldozing in the area that occurred during previous ownership of the property several decades ago. The site is in poor condition, although several segments of wall facing remain. The north side is collapsed, and the western section is collapsed in the center due to water action. Site 8865 may represent a historic cattle ramp associated with ranching in the area. The site retains integrity of location, design, setting, materials, workmanship, and feeling. It is currently in its original location and setting; its design remains the same; the original materials remain unchanged; workmanship of the site remains largely unchanged, and the site does convey its original time and place. The site does not retain integrity of association as it is not likely associated with a historic event or person.

One artifact was encountered throughout the survey and left in place. The artifact is a sign that was found in “Production Field 2” near Site 8865 printed with “KAPU / KEEP OUT / NO HUNTING / PLEASE! / KIPAHULU CATTLE CO.” (Figure 22). The sign was in fair to poor condition, having been bent and shot through at some point. The wording on this sign would indicate that the Kipahulu Cattle

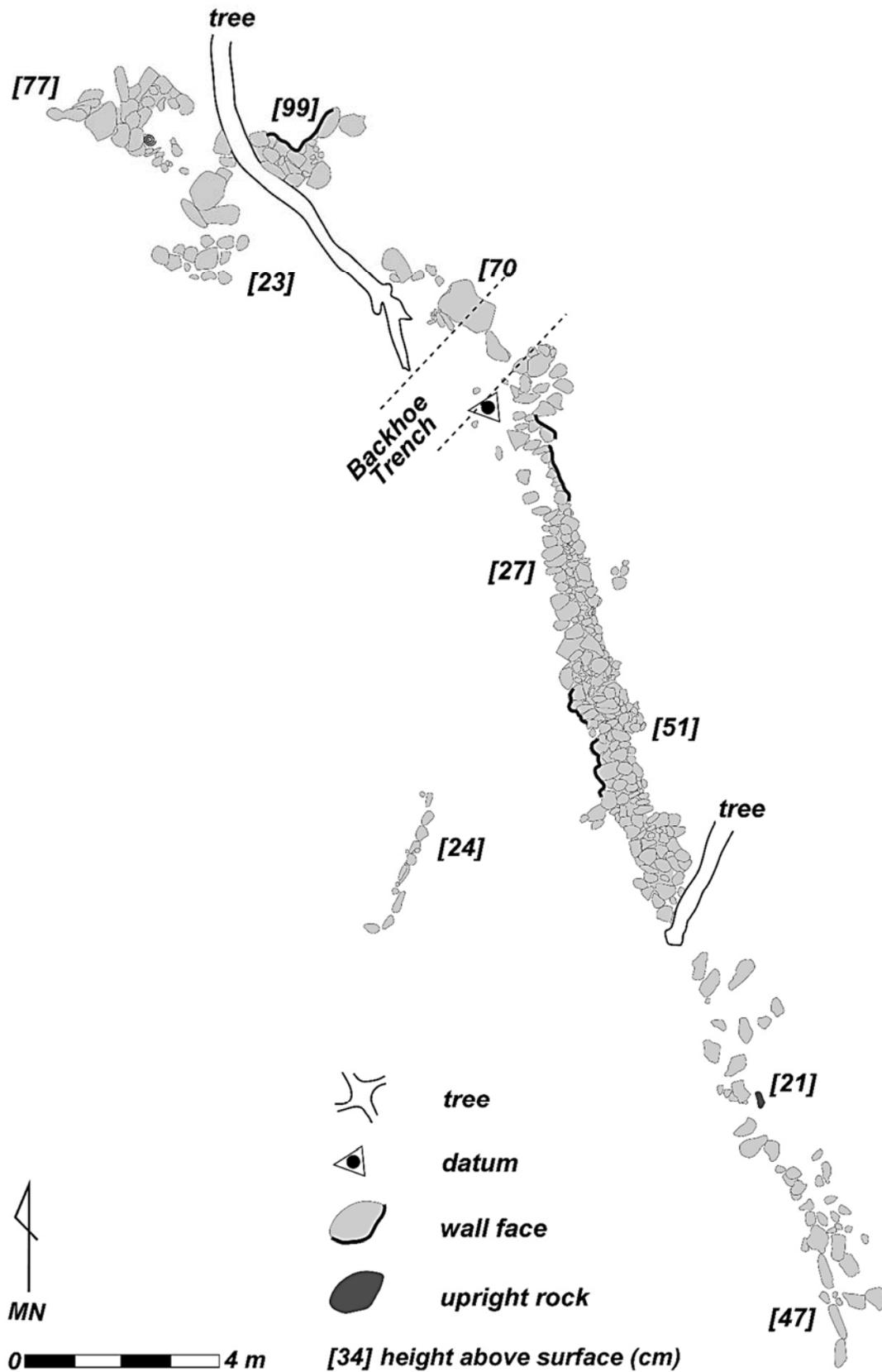


Figure 17. Plan view drawing of Site 8864.



**Figure 18. Photo of Site 8864 facing south.**



**Figure 19. Photo of the alignment within Site 8864 facing south.**

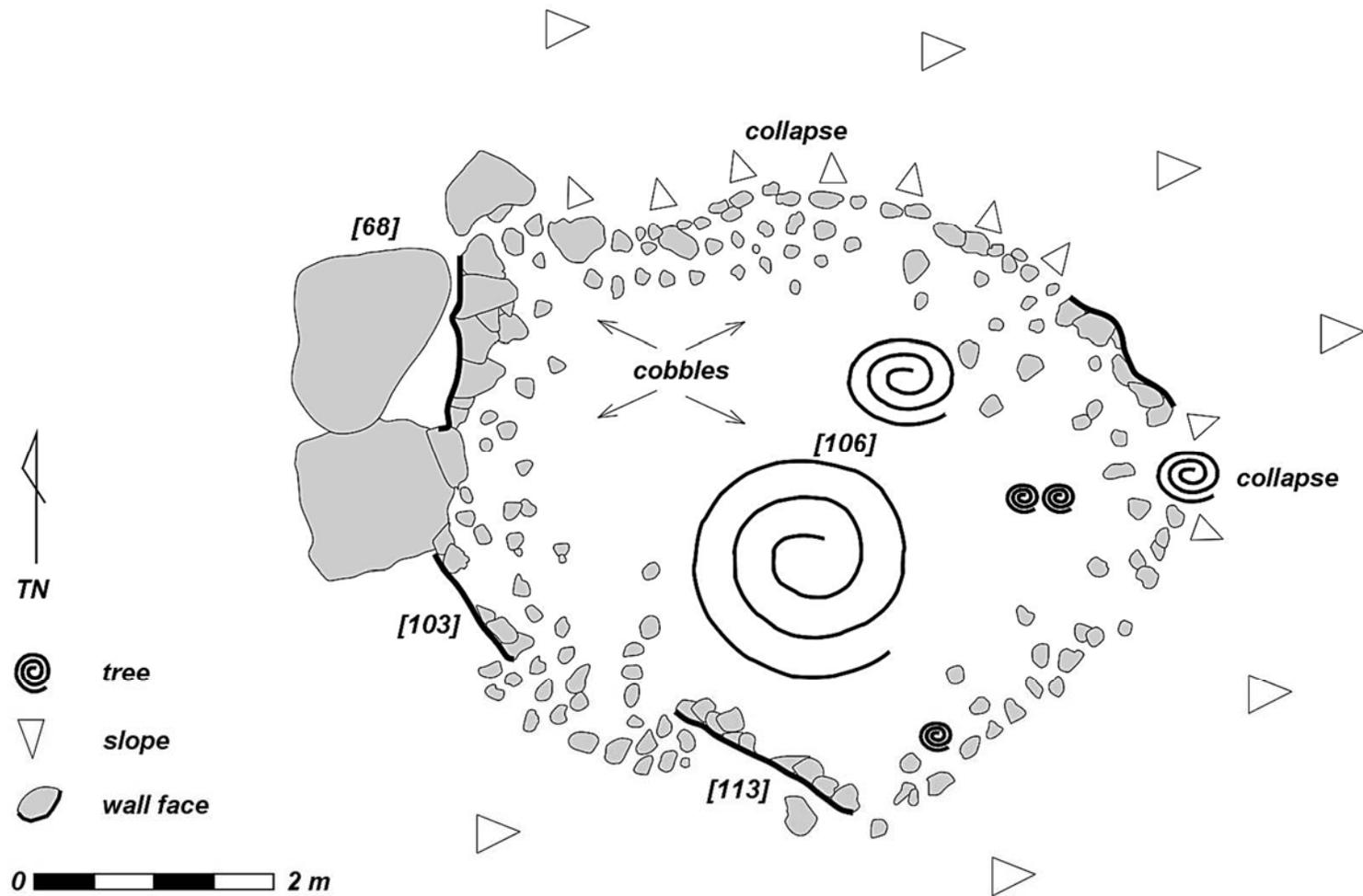


Figure 20. Plan view drawing of Site 8865.



**Figure 21. Photo of Site 8865 facing northeast.**



**Figure 22. Kapu sign found near Site 8865.**

Company was operating within the project area either under the Ulupalakua Ranch or possibly as a competitor. Unfortunately, aside from a brief mention during the 1972 Kīpahulu expedition up into the valley, the Kīpahulu Cattle Company has little documentation (U.S. National Park Service 2018). In either case, the proximity of the sign to a nearby cattle ramp (Site 8865) would further confirm ranching activity throughout this portion of the project area in the early 20<sup>th</sup> century.

### **Subsurface Testing**

The SHPD approved a subsurface testing plan before arrival at the site which included eight proposed excavations in total, four trenches (TR) intended for excavation via excavator, and four remote test units (TU) that would have to be hand-dug, due to limited access. Once the crew arrived on site, however, it became abundantly clear that one of the trenches proposed for excavation would only be accessible with hand tools (TU 2), and the location for one of the proposed test units did not make sense (TU 8). After SHPD approval, TU 2 was authorized as a hand-dug test pit instead, and TU 8 was removed altogether due to the extremely low likelihood of encountering subsurface cultural deposits on the exposed ridge. TU 2, 5, 6, and 7 were all located in remote mauka portions of the property and exhibited similar stratigraphy. For this reason, TU 6 will act as a representative profile and photo for these test units. All three trenches were located in the easy-to-access field labeled “Tea Field 1.” TR 1 was placed near the extreme makai end of the property near the front

gate. TR 3 was located along the western fringe of “Tea Field 1” and cut through Site 8863, a historic wall running along the upper edge of a nearby stream cut. TR 4 was located on the northern periphery of “Tea Field 1” and cut through the center of Site 8864, a low historic drainage wall. Stratigraphic descriptions for each excavation and four representative profiles are presented below.

TR 1 was dug with an excavator on the southeastern extremity of the property, approximately 60 m inland of the front gate on Hana Highway (see Figure 14). The trench measured 8.6 m long, 1 m wide, and was excavated to 170 cmbs (Figures 23 and 24). Stratigraphy consisted of two natural layers (Table 2). No cultural material was encountered.

TU 2 was hand-dug just east of Site 8865 in “Production Field 2” (see Figure 14). The test unit measured 1 m long by 1 m wide and extended to a depth of 40 cmbs (Figures 25 and 26). Stratigraphy consisted of two natural layers, the lowest containing dense rock that impeded any further excavation in the test unit (see Table 2). No cultural material was encountered.

TR 3 was dug with an excavator through Site 8863 along the western portion of “Tea Field 1” (see Figure 14). The trench measured 7.2 m long, 1.5 m wide, and was excavated to 260 cmbs (Figures 27 and 28). Stratigraphy consisted of two natural layers interspersed with large cobbles (see Table 2). The Site 8863 wall did not extend beyond Layer I, and no cultural material was encountered.

TR 4 was dug with an excavator through Site 8864 in the northern portion of “Tea Field 1” (see Figure 14). The trench measured 5 m long, 1.5 m wide, and extended to 180 cmbs (Figures 29 and 30). Stratigraphy consisted of three natural layers (see Table 2). The basal stones of the Site 8864 wall extended into Layer II. No cultural material was encountered.

TU 5 was hand-dug at the north-to-south midpoint of “Tea Field 8” (see Figure 14). The test unit measured 1 m long by 1 m wide and extended to a depth of 43 cmbs (Figures 31 and 32). Stratigraphy consisted of two natural layers (see Table 2). No cultural materials were encountered.

TU 6 was hand-dug on the eastern finger of “Tea Field 3” (see Figure 14). The test unit measured 1 m long, by 1 m wide and extended to a depth of 72 cmbs (Figures 33 and 34). Stratigraphy consisted of two natural layers (see Table 2). No cultural materials were encountered.

TU 7 was hand-dug on the southern fringes of “Tea Field 4” (see Figure 14). The test unit measured 1 m long, by 1 m wide and extended to a depth of 58 cmbs (Figures 35 and 36). Stratigraphy consisted of two natural layers (see Table 2). No cultural materials were encountered.

### **Summary of Findings**

Pedestrian survey of 28 ha (70 ac.) in Kukui‘ulaiki Ahupua‘a identified three archaeological sites: SIHP 8863, 8864, and 8865. These consist of a wall, a wall and alignment, and a mound. The former are likely agricultural features, while the latter may be a historic cattle ramp. Subsurface testing, consisting of three trenches and four test units, did not identify any subsurface cultural material, deposits, or features. Stratigraphy consisted entirely of natural deposits.

**Table 2. Soil Descriptions**

<b>TU/TR</b>	<b>Layer</b>	<b>Depth (cmbs)</b>	<b>Color</b>	<b>Description</b>	<b>Interpretation</b>
1	I	0–60	10YR 2/1	Silty clay loam, moderately sticky, moderately plastic, many coarse roots, smooth, abrupt boundary.	Natural soil
	II	60–170+	5YR 3/2	Silty clay loam, moderately sticky, moderately plastic, very few fine roots, base of excavation.	Natural soil
2	I	0–35	10YR3/4	Gravelly clay loam, moderately sticky, many coarse roots, wavy, abrupt boundary.	Natural soil
	II	20–40	10YR3/4	Gravelly clay loam, moderately sticky, coarse roots, base of excavation.	Natural soil
3	I	0–30	7.5YR 2.5/1	Gravelly sandy loam, moderately sticky, slightly plastic, many coarse roots, smooth, abrupt boundary.	Natural soil
	II	30–260+	7.5YR 2.5/3	Gravelly sandy loam, non-sticky, slightly plastic, common fine roots, base of excavation.	Natural soil
4	I	0–70	10YR 2/1	Silt loam, non-sticky, slightly plastic, common coarse roots, smooth abrupt boundary.	Natural soil
	II	70–88	7.5YR 2.5/1	Clay loam, moderately sticky, very plastic, common medium roots, smooth, abrupt boundary.	Natural soil
	III	88–180+	7.5YR 2.5/3	Sandy clay loam, slightly sticky, very plastic, few fine roots, base of excavation.	Natural soil
5	I	0–22	10YR 3/2	Silty clay loam, moderately sticky, moderately plastic, common fine roots, smooth abrupt boundary.	Natural soil
	II	22–43+	10YR 4/2	Silty clay, slightly sticky, very plastic, no roots, base of excavation.	Natural soil
6	I	0–36	5YR 2.5/2	Silty clay loam, slightly sticky, slightly plastic, common fine roots, smooth, abrupt boundary.	Natural soil
	II	36–72+	5YR 3/4	Silty clay loam, slightly sticky, moderately plastic, few fine roots, base of excavation.	Natural soil
7	I	0–34	10YR 3/3	Clay loam, slightly sticky, very plastic, very few medium roots, smooth, abrupt boundary.	Natural soil
	II	34–58+	5YR 3/4	Silty clay loam, moderately sticky, moderately plastic, few fine roots, base of excavation.	Natural soil

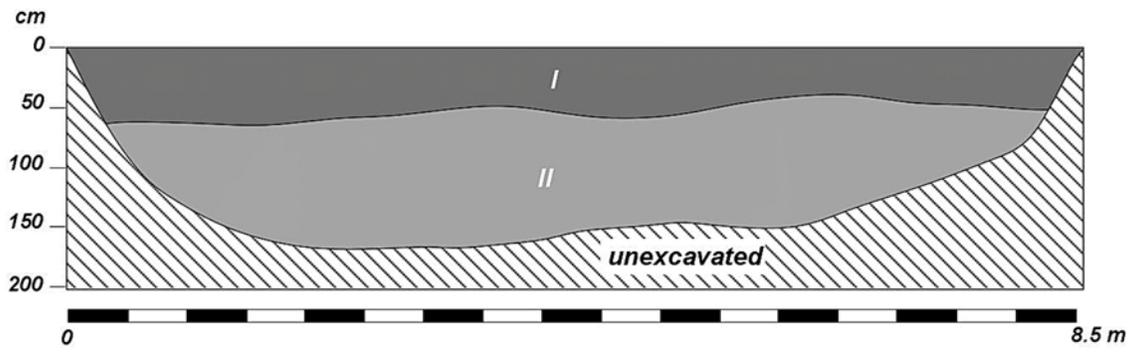


Figure 23. TR 1 west face profile drawing.



Figure 24. TR 1 west face photo, south portion of the trench.

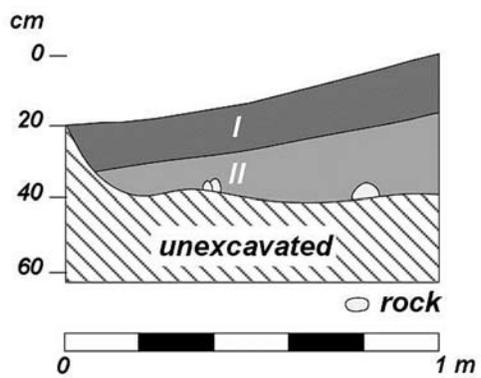


Figure 25. TU 2 south face of the test unit.



Figure 26. TU 2 south face photo.

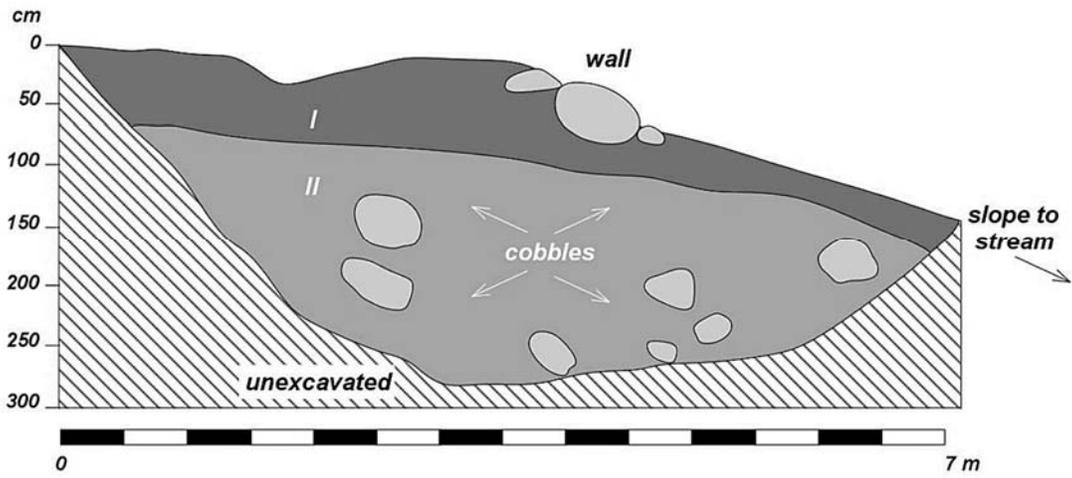


Figure 27. TR 3 southeast face of the trench.



Figure 28. TR 3 southeast face photo, center portion of the trench.

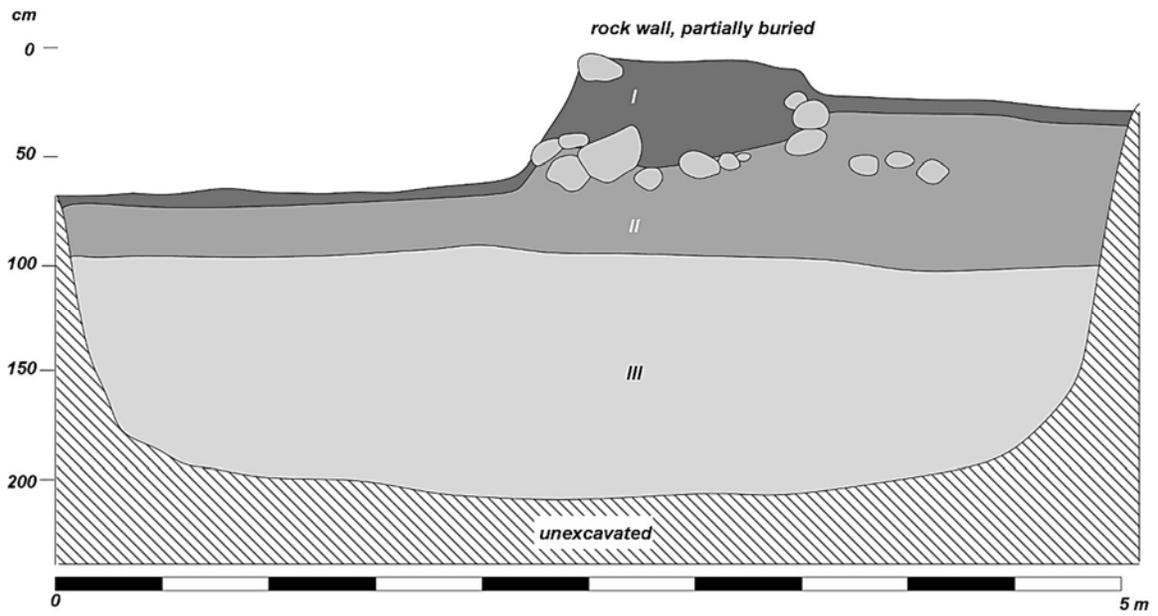


Figure 29. TR 4 south face of the trench.



Figure 30. TR 4 south face photo, center portion of the trench.

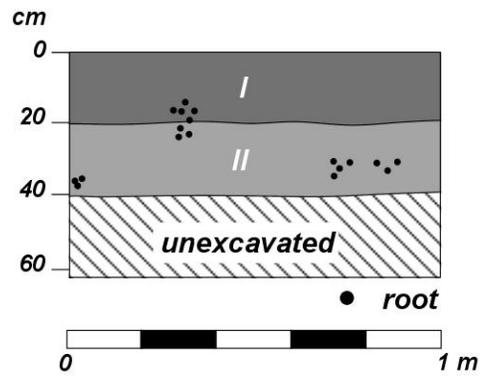


Figure 31. TU 5 northeast face of the test unit.



Figure 32. TU 5 northeast face photo.

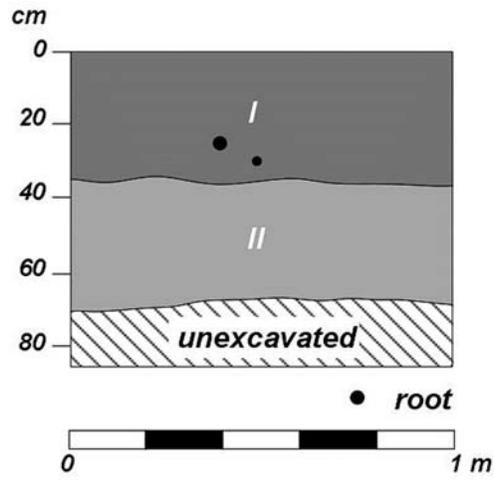


Figure 33. TU 6 north face of the test unit.



Figure 34. TU 6 north face photo.

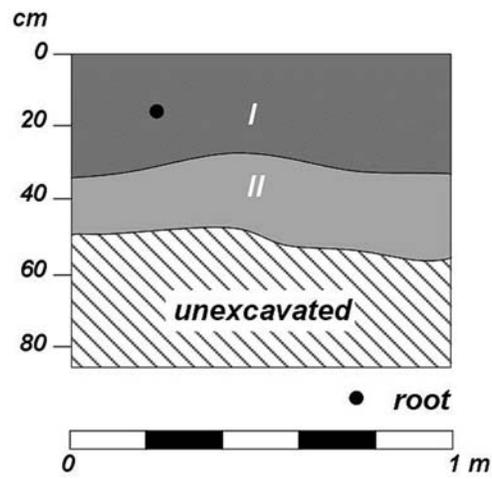


Figure 35. TU 7 north face of the test unit.



Figure 36. TU 7 north face photo.

## CONCLUSION AND RECOMMENDATIONS

An archaeological inventory survey was conducted on portions of TMK: (2) 1-6-010:002 (por.) and (2) 1-6-010:010 in Kukui‘ulaiki Ahupua‘a, Kīpahulu District, on the island of Maui, where approved agricultural uses are proposed. The archaeological work included pedestrian survey over the proposed fields and trails throughout the 28 ha (70 ac.) project area, as well as test excavations consisting of three mechanical trenches and four hand-dug test units.

Three surface sites were found during the survey. These are a wall, a wall and alignment, and a mound. The walls and alignment were likely agricultural features while the mound may have been used as a historic cattle ramp. Much of the area has been disturbed by ranching activity throughout the years. Subsurface testing revealed natural soils, and no cultural material or deposits were found. Excavations at SIHP 8863 and 8864 did not yield any information about the sites.

The research questions presented earlier in this report can be addressed as follows:

1. Is there any evidence of pre-Contact use of the project area and what is the nature of that use?

It is unclear if SIHP 8863 and 8864 are pre-Contact or historic in age. Subsurface testing did not yield any information that might determine the age of these sites

2. Are there vestiges of historic use of the project area, such as sugarcane agriculture or cattle ranching remnants?

SIHP 8865 is likely a historic cattle ramp based on the morphology of the site. A ranching sign found near the site indicates land use by the Kīpahulu Cattle Company, although the exact dates that this company was in the area are not known. This site was not excavated and no other information could be gleaned from the area. It is possible that SIHP 8863 and 8864 are also historic in age; subsurface testing did not yield any information to determine the age of these two sites. No evidence of sugarcane agriculture was found during the survey.

3. If cultural resources are found, how do they relate to the settlement pattern of the wider region?

SIHP 8863 and 8864 are likely agricultural in function. This is in line with the general settlement pattern of the region, where agricultural features are found in the lower portions of streams and smaller drainages. Fresh water from these sources would have been used to irrigate agricultural fields. SIHP 8865 is likely a historic cattle ramp. By 1927 derelict pineapple fields in Kīpahulu were taken over by Ulupalakua Ranch for cattle grazing. A sign found near SIHP 8865 mentioned the Kīpahulu Cattle Company, and SIHP 8865 may be associated with this ranch. It is possible that the Kīpahulu Cattle Company was operating within the project area either under the Ulupalakua Ranch or possibly as a competitor. Aside from a brief mention during a 1972 Kīpahulu expedition into the valley (U.S. National Park Service 2018), no information could be found for the Kīpahulu Cattle Company.

### Significance Determinations

To determine if a historic property is significant under Hawaii Administrative Rules (HAR) for historic preservation, it must be assessed for significance according to HAR §13-284-6(b):

(b) To be significant, a historic property shall possess integrity of location, design, setting, materials, workmanship, feeling, and association and shall meet one or more of the following criterion:

- (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; or
- (5) Criterion “e”. Have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts--these associations being important to the group’s history and cultural identity.

Sites 8863, 8864, and 8865 all retain integrity of location, design, setting, materials, workmanship, and feeling. They are currently in their original location and setting; their design remains the same; the original materials remain unchanged; workmanship of the sites remain largely unchanged, and the sites do convey their original time and place. The sites do not retain integrity of association as they are not likely associated with a historic event or person. The three sites are significant under Criterion d of HAR §13-284-6(b) (Table 3). All three sites may yield further information on land use of the area. SIHP 8863 and 8864 on agriculture and SIHP 8865 on historic ranching in Kīpahulu. Preservation is recommended for all three sites.

The project will not impact any of the sites, as they will be avoided and preserved in place. A preservation plan should be prepared in accordance with HAR §13-277-3 to ensure proper treatment of these sites. Archaeological monitoring is not recommended because of the lack of subsurface cultural deposits. However, should human burial remains be discovered during construction activity, work in the vicinity of the remains must cease immediately, and the SHPD should be contacted.

In sum, the AIS results support a project effect determination of “effect, with agreed upon mitigation commitments.” The project has potential to adversely affect Sites 8863, 8864, and 8865. The recommended mitigation is preservation.

**Table 3. Significance Determinations**

<b>Site</b>	<b>Description</b>	<b>Function</b>	<b>Criterion</b>	<b>Justification</b>	<b>Recommendation</b>
8863	Wall	Agriculture	D	May provide additional information on agricultural practices.	Preservation
8864	Wall and Alignment	Agriculture	D	May provide additional information on agricultural practices.	Preservation
8865	Mound	Cattle Ramp	D	May provide additional information on historic ranching in Kīpahulu.	Preservation

## GLOSSARY

<b>ali'i</b>	Chief, chiefess, monarch.
<b>ali'i nui</b>	High chief.
<b>'ama'u</b>	The endemic ferns of the genus <i>Sadleria</i> . In traditional Hawai'i, the trunk was eaten during times of famine, leaves were used as mulch, for dryland taro, stems were woven and used as sizing for tapa. One species was utilized for pillow stuffing. The 'ama'u fern was also one of the forms that the pig god Kamapua'a could take.
<b>'ama'uma'u</b>	The young 'ama'u fern, or many 'ama'u ferns.
<b>'āpana</b>	Piece, slice, section, part, land segment, lot, district.
<b>'aumakua</b>	Family or personal gods. The plural form of the word is 'aumākua.
<b>'auwai</b>	Ditch, often for irrigated agriculture.
<b>hālau</b>	Meeting house for hula instruction or long house for canoes.
<b>hau</b>	The indigenous tree <i>Hibiscus tiliaceous</i> , which had many uses in traditional Hawai'i. Sandals were fashioned from the bark and cordage was made from fibers. Wood was shaped into net floats, canoe booms, and various sports equipment and flowers were used medicinally.
<b>heiau</b>	Place of worship and ritual in traditional Hawai'i.
<b>'ili</b>	Traditional land division, usually a subdivision of an ahupua'a.
<b>'ili kūpono</b>	An 'ili within an ahupua'a that was nearly independent. Tribute was paid to the ruling chief rather than the chief of the ahupua'a, and when an ahupua'a changed hands, the 'ili kūpono were not transferred to the new ruler.
<b>kalana</b>	A division of land smaller in size than a moku, or district.
<b>kalo</b>	The Polynesian-introduced <i>Colocasia esculenta</i> , or taro, the staple of the traditional Hawaiian diet.
<b>kapu</b>	Taboo, prohibited, forbidden.
<b>ki'i</b>	Image, drawing, idol, petroglyph.
<b>ko'a</b>	Fishing shrine.
<b>koa</b>	<i>Acacia koa</i> , the largest of the native forest trees, prized for its wood, traditionally fashioned into canoes, surfboards, and calabashes.
<b>konohiki</b>	The overseer of an ahupua'a ranked below a chief; land or fishing rights under control of the konohiki; such rights are sometimes called konohiki rights.
<b>kukui</b>	The candlenut tree, or <i>Aleurites moluccana</i> , the nuts of which were eaten as a relish and used for lamp fuel in traditional times.
<b>kuleana</b>	Right, title, property, portion, responsibility, jurisdiction, authority, interest, claim, ownership.
<b>kū'ula</b>	A stone god used to attract fish, an altar near the sea, or a hut where fishing gear was kept with kū'ula images to invoke their power.
<b>lawai'a</b>	Fisherman; to catch fish.
<b>līpoa</b>	The brown seaweeds ( <i>Dictyopteris plagiogramma</i> and <i>D. australis</i> ), highly prized as a delicacy.
<b>lo'i, lo'i kalo</b>	An irrigated terrace or set of terraces for the cultivation of taro.

<b>Māhele</b>	The 1848 division of land.
<b>mango</b>	Trees of the genus <i>Mangifera</i> , introduced to Hawai‘i in the 19 <sup>th</sup> Century and well known for their edible fruit.
<b>mō‘ī</b>	King.
<b>moku</b>	District, island.
<b>mo‘olelo</b>	A story, myth, history, tradition, legend, or record.
<b>‘ōlelo no‘eau</b>	Proverb, wise saying, traditional saying.
<b>o‘opu</b>	Fish of the families <i>Eleotridae</i> , <i>Gobiidae</i> , and <i>Bleniidae</i> .
<b>‘ōpae</b>	Shrimp.
<b>post-Contact</b>	After A.D. 1778 and the first written records of the Hawaiian Islands made by Captain James Cook and his crew.
<b>pre-Contact</b>	Prior to A.D. 1778 and the first written records of the Hawaiian Islands made by Captain James Cook and his crew.
<b>strawberry guava</b>	The invasive tree <i>Psidium cattleianum</i> , originating in Brazil and brought to Hawai‘i in 1825. Fruit are edible and are used in juice, and the tree is used as an ornamental and for firewood.

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**APPENDIX: SHPD LETTER REQUESTING ARCHAEOLOGICAL INVENTORY SURVEY FOR TMK: (2) 1-6-010:002**

DAVID Y. IGE  
GOVERNOR OF  
HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

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

ROBERT K. MASUDA  
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

July 30, 2018

Jason Hew  
Maui SWCD Conservation Specialist  
USDA-NRCS-Kahului Service Center  
77 Hookele St. Suite 202  
Kahului, HI 96732  
[Jason.Hew@hi.nacdn.net](mailto:Jason.Hew@hi.nacdn.net)

IN REPLY REFER TO:  
Log No. 2018.01719  
Doc No. 1807MBF19  
Archaeology

Dear Mr. Hew,

SUBJECT: **Chapter 6E-42 Historic Preservation Review –  
Imperium Kipahulu Kai  
Kukui‘ulaiki Ahupua‘a, Kipahulu District, Island of Maui  
TMK: (2) 1-6-010:002**

Thank you for contacting the State Historic Preservation Division (SHPD) for review of the subject project. The SHPD received the submittal on July 19, 2018.

A conservation plan for a tea and coconut farm in Kipahulu has been developed according to Natural Resources Conservation Service (NRCS) standards and specifications. Approximately 44.3 acres are slated to be grubbed for the agricultural operation. There are twelve non-contiguous fields that make up the project area. The fields range in size from 0.5 acres to 12.7 acres. The proposed project will use heavy machinery to remove and mulch trees and woody vegetation. The mulch will be applied to the ground surface. Areas that are cleared will have a permanent vegetation established for long term erosion control. Tea and coconut plants will be planted in these areas.

A search of SHPD records indicate there has not been an archaeological inventory survey (AIS) completed on this parcel. A reconnaissance survey performed by Pacific Consulting Services, Inc., identified seven walls, one modified outcrop, and one agricultural terrace in the project area. Based on the results of the reconnaissance survey, an evaluation of significance for these historic properties has been made. The sites have not been given State Inventory of Historic Places (SIHP) numbers. The Maui Soil & Water Conservation Districts (SWCD) has made a determination of “effect, with agreed upon mitigation commitments,” pursuant to §6E-42 HRS.

The SHPD does not have enough information to agree with the effect determination made by Maui SWCD. Pursuant to HAR §13-284, **SHPD requests that an archaeological inventory survey (AIS) with a subsurface testing component be conducted and that an AIS report meeting the requirements of HAR §13-276-5 be submitted to SHPD for review and acceptance prior to initiation of project related work.**

The AIS shall be conducted by a qualified archaeologist to sufficiently identify and document any archaeological historic properties that may be present, to assess their significance, to determine the potential impacts of this project on any identified archaeological historic properties, and to identify and ensure appropriate mitigation is implemented, if needed.

**SHPD requests** the project proponent and archaeological firm consult with our office regarding an appropriate testing strategy prior to initiation of the AIS.

Mr. Hew  
July 30, 2018  
Page 2

Maui SWCD is the agency of record for this project. Please retain a copy of this letter for your administrative record.

**SHPD will notify SWCD** when the required reports and/or plans have been reviewed and accepted and project work may proceed.

You may contact Dr. Matthew Barker Fariss at [matthew.b.fariss@hawaii.gov](mailto:matthew.b.fariss@hawaii.gov), or at (808) 243-4626, for any questions regarding this letter.

Aloha,

*Alan Downer*

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

cc: Steve Schattner  
[sschattner@imperium-holdings.com](mailto:sschattner@imperium-holdings.com)

Revi Boehrs  
[RBoehrs@imperium-holdings.com](mailto:RBoehrs@imperium-holdings.com)