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February 7, 2011

Robert Spear, Ph.D.
Scientific Consulting Services, Inc.
711 Kapiolani Blvd., Suite 975
Honolulu, Hawaii 96813

LOG NO: 2010.3969
DOC NO: 1101MD36
Archaeology

Dear Dr. Spear:

**SUBJECT: Chapter 6E-8 Historic Preservation Review –
Archaeological Monitoring Plan for Highway Stabilization in Olowalu
Olowalu Ahupua'a, Lāhainā District, Island of Maui
TMK: (2) 4-8-003:006 (por.)**

This letter summarizes our review of the aforementioned plan (Wilson and Dega December 2010; *Draft, An Archaeological Monitoring Plan for an Approximately 15,000 Square Foot Corridor Located in Olowalu Ahupua'a, Lahaina District, Maui Island, Hawai'i [TMK (2) 4-8-003:006 por.]/SCS Project Number 1187-AMP-1*), which we received on December 22, 2010. We apologize for the delay in our reply.

This plan will provide guidance for archaeological monitoring as recommended by an approved archaeological inventory survey (Cordle and Degaa 2009; *Log No. 2009.0250, Doc No. 0902PC48*). The project is located on land owned by the State of Hawaii, and will involve stabilization of approximately 15,000 linear feet along the shoreline located *makai* of the Honoapiilani Highway. Wave action in this area is undermining the highway and may be exposing an extension of a known subsurface historic property, SIHP 50-50-08-6480 (three related features, two charcoal clusters and a hearth).

This plan is accepted as final pursuant to HAR §13-279. Please notify the Maui and Oahu offices via fax at the start and completion of archaeological monitoring. Upon receipt of this letter please submit one paper copy of your report marked "Final" to our Kapolei office along with a CD containing a searchable pdf version of the final report and a copy of this approval letter, marked to the attention of the "Kapolei Library." If you have questions about this letter please contact Morgan Davis at (808) 243-5169 or via email to: morgan.e.davis@hawaii.gov.

Aloha,

A handwritten signature in black ink, appearing to read "Theresa K. Donham".

Theresa K. Donham
Acting Archaeology Branch Chief
State Historic Preservation Division

**AN ARCHAEOLOGICAL MONITORING PLAN
FOR AN APPROXIMATELY 15,000 SQUARE FOOT CORRIDOR
LOCATED IN
OLOWALU AHUPUA`A, LAHAINA DISTRICT,
MAUI ISLAND, HAWAII
[TMK: (2) 4-8-003:006 por.]**

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January 2011

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INTRODUCTION

Scientific Consultant Services (SCS), Inc. prepared this Archaeological Monitoring Plan (AMP) in anticipation of earth-moving and construction work on an approximately 15,000 square foot corridor along coastal lands within Olowalu Ahupua`a, Lahaina District, Maui Island, Hawai`i [TMK (2) 4-8-03: 006 por]. The State of Hawaii plans to construct a retaining wall along this linear project area. The proposed Archaeological Monitoring follows full Inventory Survey of the project area (Cordle and Dega 2009), the fieldwork and report being approved by the State Historic Preservation Division (SHPD) on February 25, 2008 [LOG NO:2009.0250; DOC NO:0902PC48].

During Inventory Survey, one site consisting of three distinct subsurface features (two charcoal concentrations, SSF-1 and SSF-2; and a fire hearth, SSF-3) was identified. These features were identified in a naturally occurring profile which was exposed as result of wave action eroding away a small section of a coastal bank. Based on the close spatial relationship of these features, they were consolidated into a single site and designated State Inventory of Historic Properties (SIHP) Site No. 50-50-08-6480. Site -6480 was interpreted as temporary, traditional-period (pre-Contact) habitation site associated with the procurement of marine resources.

This AMP will ensure that in the event additional cultural deposits are identified, the work will satisfy reporting requirements outlined in §13-279-5(5) through (6). This AMP has been written in accordance with the SHPD rules, Department of Land and Natural Resources §13-279-4 HAR (2002). This AMP will require the approval of SHPD prior to the commencement of all earth-moving activity. The following text provides more detailed information on the reasons for monitoring, potential site types to be encountered during excavation, monitoring conventions, and methodology for field and laboratory work, curation of any finds, and reporting of the data.

LOCATION AND CURRENT STATUS

The project area is a portion of the larger (13.802 acre) State of Hawaii owned parcel located along the western Maui coast between the western edge of Honoapiʻilani Highway and the eastern edge of the Pacific Ocean.

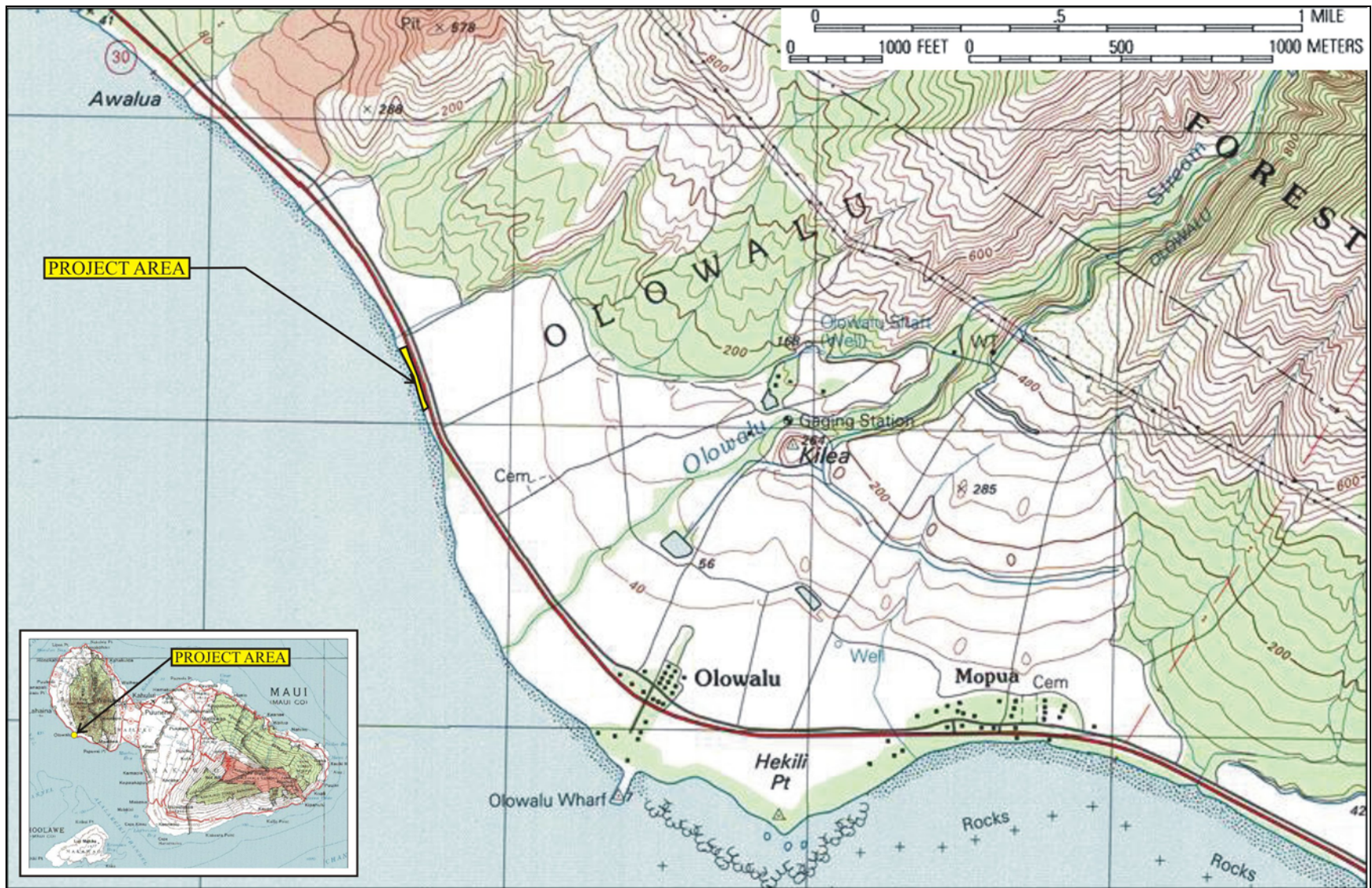


Figure 1: USGS Quadrangle Map Showing Project Area.

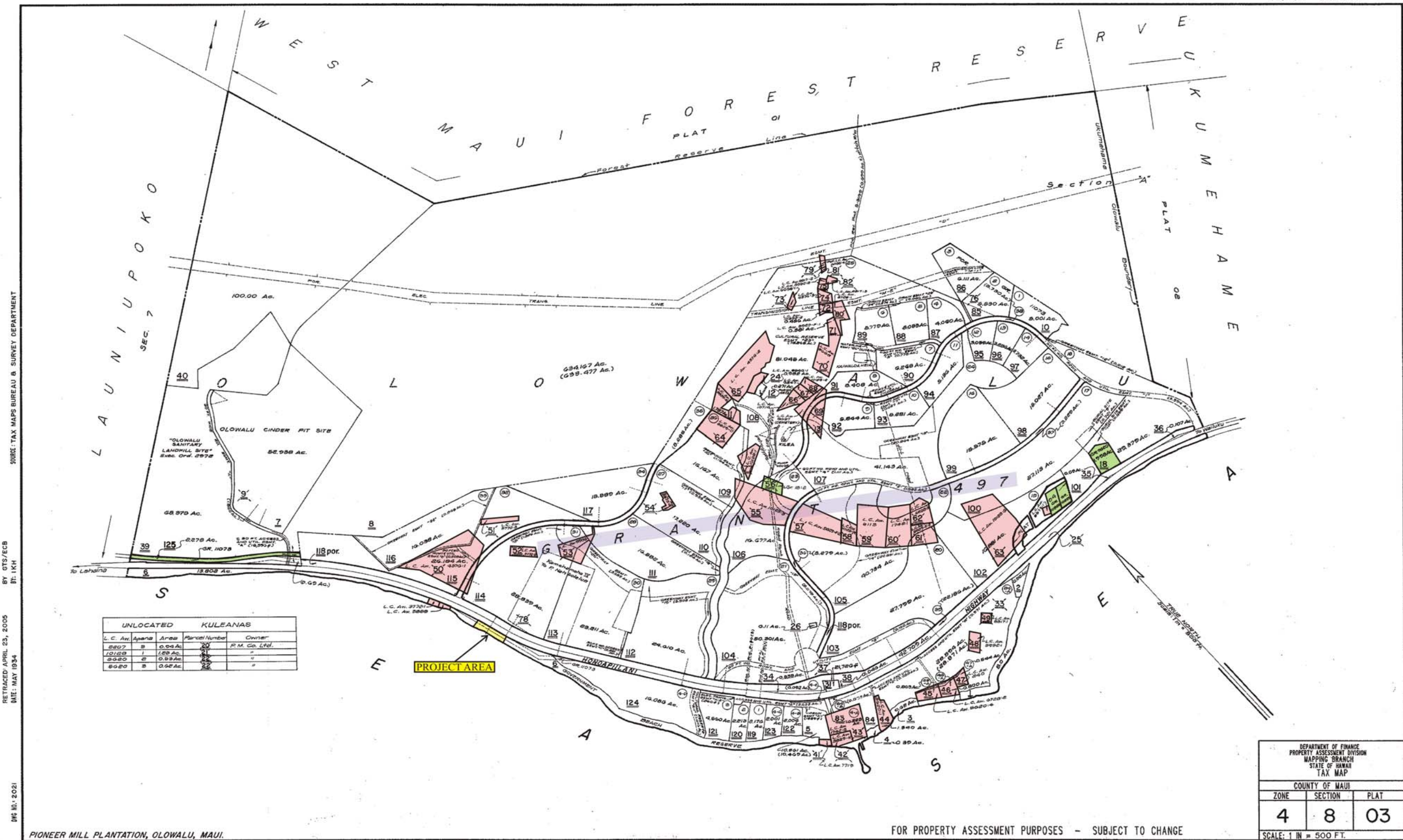


Figure 2: Tax Map Key [TMK] Showing Project Area.



Figure 3: Google Aerial of Project Corridor.

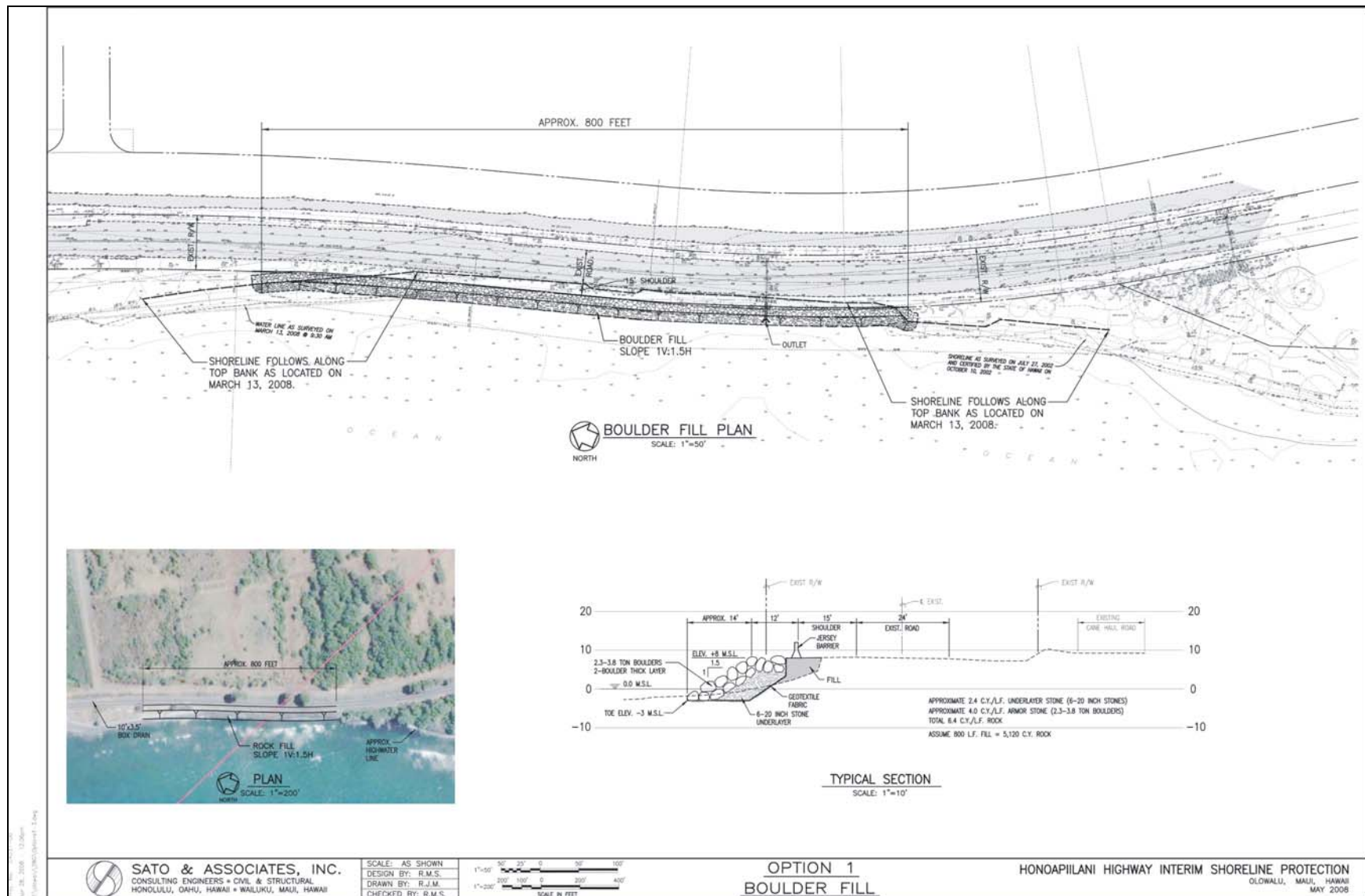


Figure 4: Project Area Construction Plans, Courtesy of Sato and Associates, Inc.

REASON FOR MONITORING

This AMP has been mandated by Hawaii's State Historic Preservation Division (SHPD) in a July 27, 2009 letter to Chris Hart and Partners (LOG NO: 2009.2727; DOC NO: 14197) and also was recommended by SCS during preparation of the Inventory Survey report (Crodle and Dega 2009). The SHPD letter stated: "it possible that ground disturbing activities associated with the proposed cafeteria development may encounter subsurface features."

The Archaeological Inventory Survey (AIS) stressed the point that given the close proximity of Site -6480 to the active Honoapi`ilani Highway, the extent of the site could not be definitively established. It is possible a portion of the site may extend beneath the highway. Furthermore, given the coastal location of the project area there is a high probability that additional significant historic sites, such as habitation and human burials may be inadvertently encountered in the subsurface deposits of the project area.

ENVIRONMENTAL SETTING

LOCATION AND LANDFORM

West Maui is composed of a single volcano, with rift and fracture zones that radiate north to southeast from the caldera. One ridge separates Lahaina District from Wailuku District. Erosion of the volcanic basaltic lava flows that came from the ancient volcano, has formed alluvial soils, which are the predominant soils within the Olowalu region (Macdonald, Abbott and Peterson, 1983 as cited in Fredericksen and Fredericksen, 2000b:3).

Located on in Lahaina district, Olowalu, according to Handy (as cited in Sterling, 1998:24) is, "the largest and deepest valley on the southwest side of Maui and used to support extensive terraced cultivation." Many of these terraces were completely obliterated by canefields. The project area is positioned along the *makai* (ocean-side) portion of the Honoapi`ilani Highway stretching for approximately 1,000 ft, and stretches from the highways's *makai*, or southwest, border to the ocean, for an area of approximately 15,000 ft². The project area lies within the USGS Olowalu Quadrangle, and is located approximately one half mile northwest from the Olowalu Stream if traveling on the Honoapi`ilani Highway.

The topography of the project area is most influenced by the ocean to the southwest and the road to the northeast which border the subject parcel. Environs surrounding this small stretch of land are composed primarily of a gentle slope of 0-3 percent grade (Foote et al., 1972:115-116). Elevation within the project area ranges between sea level to less than 10 feet above sea level (from sea level to the southwest border of the Honoapi`ilani Highway).

VEGETATION, SOILS, AND CLIMATE

Vegetation in the project area and the immediate surrounds consists of mostly introduced, post-Contact species. Described by Prince (1983: 70), the project area lies within the “Kiawe and lowland shrubs” zone typical below 1000 feet in altitude. Characteristically, the vegetation in this zone contains *kiawe* (*Prosopis pallida*), *koa haole* (*Leucaena leucocephala*), finger grass (*Eustachys* sp.), and pili grass (*Heteropogon contours*) (*ibid.*). Vegetation in the project area is limited given its coastal setting and limited size. Here, introduced low lying shrubs and grasses including Swollen Finger Grass (*Chloris inflata*) as well as several isolated coconut palms (*Cocos nucifera* L.) are present. Within the project area’s vicinity, various grasses and low shrubs cover this gentle sloping terrain, and monkey pod trees (*Pithecellobium dulce*) dot the surrounding region’s landscape (Plants Database, 2008, Merlin, 1980:42,59) (Figure 5).

As determined by Foote *et al.* (1972), soils in the project area are classified within the Pulehu Series (PtA and PsA) which generally consists of “well-drained soils on alluvial fans and stream terraces and in basins,” (Foote *et al.* 1972:115). Typically these soils are nearly level to moderately sloping (Figure 6). Pulehu clay loam (PsA) is characteristic of alluvial fans and stream terraces and in basins. In this soil type, permeability is moderate with runoff slow and erosion hazard no more than slight. Available water capacity is about 1.4 inches per foot in the surface layer and subsoil. Pulehu cobbly clay loam (PtA) is similar to Pulehu clay loam except that it is cobbly (*ibid.*).

Hydrology of the project area is through rainfall. Given its close proximity to the ocean, the project is exposed to waves and ocean water as well. Foote *et al.* (1972) project these types of soil as receiving approximately 10-35 inches of rain annually, this is further supported by Prince (1983:62) with his given projection of annual rainfall ranging between 10-15 inches. Rainfall studies of Maui conducted by Giambelluca *et al.* (1986: 19,112-124) reveal that during the winter months, this region of Maui receives most of its rain, with the months of December, through February receiving over 30 mm monthly, and January receiving over 60 mm of rain. The months from April to November receive less than 15mm of rainfall per month (*ibid.*: 19).

CULTURAL AND HISTORICAL CONTEXT

The island of Maui ranks second in size of the eight main islands in the Hawaiian Archipelago. Pu’u Kukui, forming the west end of the island (1,215 m amsl), is composed of large, heavily eroded amphitheater valleys that contain well-developed, permanent stream systems that water fertile agricultural lands extending to the coast. The deep valleys of West

Maui and their associated coastal regions have been witness to many battles in ancient times and were coveted productive landscapes.

PAST POLITICAL BOUNDARIES

Traditionally, the division of Maui's lands into districts (*moku*) and sub-districts was performed by a *kahuna* (priest, expert) named Kalaiha`ōhia, during the time of the *Ali`i Kaka`alaneo* (Beckwith 1940:383; Fornander places Kaka`alaneo at the end of the 15th century or the beginning of the 16th century [Fornander 1919-20, Vol. 6:248]). Land was considered the property of the king or *ali`i `ai moku* (the *ali`i* who eats the island/district), which he held in trust for the gods. The title of *ali`i `ai moku* ensured rights and responsibilities to the land, but did not confer absolute ownership. The king kept the parcels he wanted, his higher chiefs received large parcels from him and, in turn, distributed smaller parcels to lesser chiefs. The *maka`āinana* (commoners) worked the individual plots of land.

In general, several terms, such as *moku*, *ahupua`a*, *`ili* or *`ili`āina* were used to delineate various land sections. A district (*moku*) contained smaller land divisions (*ahupua`a*) which customarily continued inland from the ocean and upland into the mountains. Extended household groups living within the *ahupua`a* were therefore, able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua`a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The *`ili`āina*, or *`ili*, were smaller land divisions and were next to importance to the *ahupua`a*. They were administered by the chief who controlled the *ahupua`a* in which it was located (*ibid*: 33; Lucas 1995:40). The *mo`o`āina* were narrow strips of land within an *`ili*. The land holding of a tenant or *hoa`āina* residing in an *ahupua`a* was called a *kuleana* (Lucas 1995:61). The project area is located in the *ahupua`a* of Olowalu, meaning literally “many hills” (Pukui *et al.* 1974:170).

TRADITIONAL SETTLEMENT PATTERNS

The Hawaiian economy was based on agricultural production and marine exploitation, as well as raising livestock and collecting wild plants and birds. Extended household groups settled in various *ahupua`a*. During pre-Contact times, there were primarily two types of agriculture, wetland and dry land, both of which were dependent upon geography and physiography. River valleys, such as Olowalu, provided ideal conditions for wetland *kalo* (*Colocasia esculenta*) agriculture that incorporated pond fields and irrigation canals. Other cultigens, such as *kō* (sugar cane, *Saccharum officinarum*) and *mai`a* (banana, *Musa* sp.), were also grown and, where appropriate, such crops as *`uala* (sweet potato, *Ipomoea batatas*) were cultivated. This was the typical agricultural pattern seen during traditional times on all the Hawaiian Islands (Kirch and Sahlins 1992, Vol. 1:5, 119; Kirch 1985). Agricultural development on the leeward side of Maui

was likely to have begun early in what is known as the Expansion Period (A.D. 1200-1400) (Kirch 1985:303-306).

WAHI PANA (LEGENDARY PLACES)

Scattered amongst the agricultural and habitation sites were other places of cultural significance to the *kama`āina* (those familiar with the area) of the district. Information concerning only a few has been retained. Three *heiau* were recorded in Olowalu Ahupua`a in the 1920s (Thrum 1908, 1916, 1917; Walker 1930, Sterling 1998). Petroglyphs were inscribed and are still visible on the bare stone sides of a hill about a mile in from the highway past the present Olowalu Store. The figures are of several types, including those of dogs, women, children, letters from the English alphabet, having been drawn during different periods. It was suggested by one *kama`āina* (John Ka`aea Fujishiro, pers. Comm; McGerty and Spear 2005) that this area had functioned as a rest stop before attempting the crossing of the Olowalu mountains to `Īao Valley. As Olowalu is the largest and deepest valley on the southwest side of Maui, Handy recorded in the 1930s:

...[Olowalu] used to support extensive terraced cultivation. The lower ranges of terraces have been completely obliterated by canefields; by just where the sugar cane ends and the valley begins there is a little spot where five Hawaiian families, all of them intermarried, raise several varieties of taro in flourishing wet patches. Some of it is sold, but most is pounded by hand for the family poi. There are said to be abandoned terraces far up in Olowalu [1940: 103].

Indeed, in the valley, Walker recorded old taro patches and house sites, a lookout site, and a traditional *`auwai* still in use by the sugar plantation to bring water from the valley to the cane fields as the plantation did with the old *`auwai* in Ukumehame Ahupua`a, next door (Walker 1930; McGerty and Spear 2005).

Trails extended from the coast to the mountains, linking the two for both economic and social reasons. A trail known as the *alanui* or “King’s trail” built by Kihapi`ilani, extended along the coast passing through all the major communities between Lāhainā and Mākena. A path along Kealaloa ridge leads to the summit of Pu`u Kukui, the headwaters of many streams, and continues beyond. The Lahaina Pali Trail, constructed in 1841, provided access to other parts of the island, including Wailuku (Tomonari Tuggle 1991, 1995). The most famous of the trails is that used to cross from `Īao Valley to Olowalu and was used by the surviving warriors and *ali`i* (Kalola, Keopolani, Kalanikupule, etc.) of Maui to escape the forces of Kamehameha in the battle of *Kepaniwai* in the 1790s (Kamakau 1961).

Historically, Olowalu is known for the Olowalu Massacre perpetrated by Capt. Simon Metcalf of the ship *Eleanora* in 1790 (*ibid.*). Instead of seeking out and punishing those natives guilty of a crime, Metcalf chose to retaliate on the innocent inhabitants of Olowalu Village. Placing all his ship's guns on the starboard side of the ship, Metcalf encouraged the natives to come in their canoes to trade at which time he fired on them, slaughtering men, women and children (Kuykendall 1938, Vol. I).

Most of the *ahupua`a* on the southern coast have been overshadowed by the famous roadstead and village of Lāhainā which served as the capitol of the Hawaiian Kingdom after the conquest of Kamehameha until 1855. The ethnographic and historic literature, often our only link to the past, reveals that the lands around Lāhainā were rich agricultural areas irrigated by aqueducts originating in well-watered valleys with permanent occupation predominately on the coast. Handy and Handy have stated the space cultivated by the natives of Lāhainā (district) at about "...three leagues [9 miles] in length, and one in its greatest breadth. Beyond this all is dry and barren; everything recalls the image of desolation" (1972:593). Crops cultivated included coconut, breadfruit, paper mulberry, banana, taro, sweet potato, sugar cane, and gourds.

Olowalu Valley, with its permanent stream, was one of the sources along with Ukumehame, Launiupoko, and Kaua`ula, providing agricultural opportunities for the growing leeward population. Handy and Handy reported:

Southeastward along the coast from the *ali`i* settlement [Lāhainā] were a number of areas where dispersed populations grew taro, sweet potato, breadfruit and coconut on the slopes below and in the sides of valleys which had streams with constant flow. All this area, like that around and above Lahaina, is now sugar-cane land...[1972].

THE MĀHELE

In the 1840s, traditional land tenure shifted drastically with the introduction of private land ownership based on western law. While it is a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kamehameha III was forced to establish laws changing the traditional Hawaiian economy to that of a market economy (Kame`eleihiwa 1992:169-70, 176; Kelly 1983:4 5, 1998:4; Daws 1968:111; Kuykendall 1938 Vol. I: 145). The Māhele of 1848 divided Hawaiian lands between the king, the chiefs, the government, and began the process of private ownership of lands. The subsequently awarded parcels were called Land Commission Awards (LCAs). Once lands were made available and private ownership was instituted, the *maka`āinana*, if they had been made aware of the

procedures, were able to claim the plots on which they had been cultivating and living. These claims did not include any previously cultivated but presently fallow land, *`okipū* (on O`ahu), stream fisheries, or many other resources necessary for traditional survival (Kelly 1983; Kame`eleihiwa 1992:295; Kirch and Sahlins 1992). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent after which they could take possession of the property (Chinen 1961:16).

There were 88 claims for land in Olowalu during the Māhele, 2 of which are in close proximity of the project area (Waihona `Aina Database 2008). LCA 3772:1 (see Appendix A4-A6) and LCA 3888 (see Appendix A6-A8) are of the nearest in proximity to the current project area, only several hundred feet to the northwest and situated within the project area's parcel. Table I lists the contents of these claims. As described in the documents, the boundaries of these two LCAs located within parcel 6 of this TMK, were only a section of the claimant's LCA claim. The two properties were both house lots bounded *mauka* by Government road (Waihona `Aina Database, 2008).

Table 1: LCA and Land Grant Data.

LCA	Awardee	Land Use	Comments
3772	Alapai	Apana: 5; Loi: 8; House lot: 1; Hala: 4; Sweet Potatoes: 3	"The Claimant had these lands from his ancestors in the days of Kamehameha I and his title has never been disputed."
3888	Panioi	Apana: 3; Loi: 13; House Lot: 1; Sweet Potatoes: 2	"The claimant received these lands from Naea in the year 1834 and his title has never been disputed"

¹Source: Waihona Aina website (www.waihona.com), information obtained in May 2008.

Given the large acreage sold, it is worth noting, a Land Grant, number 4973 (see Appendix A1-A3), was awarded to Walter M. Giffard encompassing 970 acres of the ahupua`a of Olowalu and Ukumehame, as seen in Figure 2 (highlighted in purple). The land was sold at a public auction on July 9, 1906 and the transaction sealed on July 23, 1906 (see Appendix A1-A3 for further detail).

To further understand land use in Olowalu, Fredericksen and Fredericksen (2000b:17) discuss a larger picture of the LCAs awarded within the region (Figure 7). Therein, Fredericksen and Fredericksen found that of the 45 land grant awards in their study parcel, 36 are located in the *mauka* portion of the property, 33 grants located along the Olowalu Stream and were taro lands and houselots; only 3 were for other purposes (*ibid.*, 200:14). Nine additional awards were

located along the *makai* portion of the Fredericksen and Fredericksen study, and “it should be noted that several *taro/kula kuleana* awards in the *mauka* area correspond to houselot awards on the *makai* portion,” (ibid. 2000:14).

Sugar was to be the economic future of Hawai‘i and as early as 1828, two Chinese brothers, Ahung and Atai, of Honolulu’s Hungtai Company arrived in Wailuku to explore the possibility of setting up one of its earliest sugar mills. Atai soon created a plant that processed sugar cane cultivated by Hawaiians, named the Hungtai Sugar Works (Dorrance and Morgan 2000:15–16). Ahung later joined Kamehameha III’s sugar producing enterprise, although by 1844 both operations had ceased. The Wailuku Sugar Company was the next to follow, in 1862, and would expand sugar production over the next 126 years of its existence—4,450 acres by 1939. The Olowalu Company was organized in 1881 on lands given up by the West Maui Plantation. A small company, it produced a maximum of 2, 969 tons of sugar in 1931 (Dorrance and Morgan 2000:64). At this time, it was purchased by the Pioneer Mill and became a part of their acreage. All the LCAs eventually became a part of the sugar lands belonging to the Pioneer Mill Company Ltd.

PREVIOUS ARCHAEOLOGY

Several archaeological studies have been conducted in the Olowalu region, most significant in terms of the present project to discuss were investigations by Fredericksen and Fredericksen (2000a and 2000b) (Figures 5 and 6). Prior to Fredericksen and Fredericksen study, only four other recent studies had been carried out, and only the survey of *heiau* on the island of Maui conducted by Winslow Walker in 1929 to 1930, and the Statewide Inventory carried out in 1973-74 were conducted. However, since 2000, several additional archaeological studies have been conducted. These projects are important as they reflect the activities and settlement patterns in the general Olowalu.

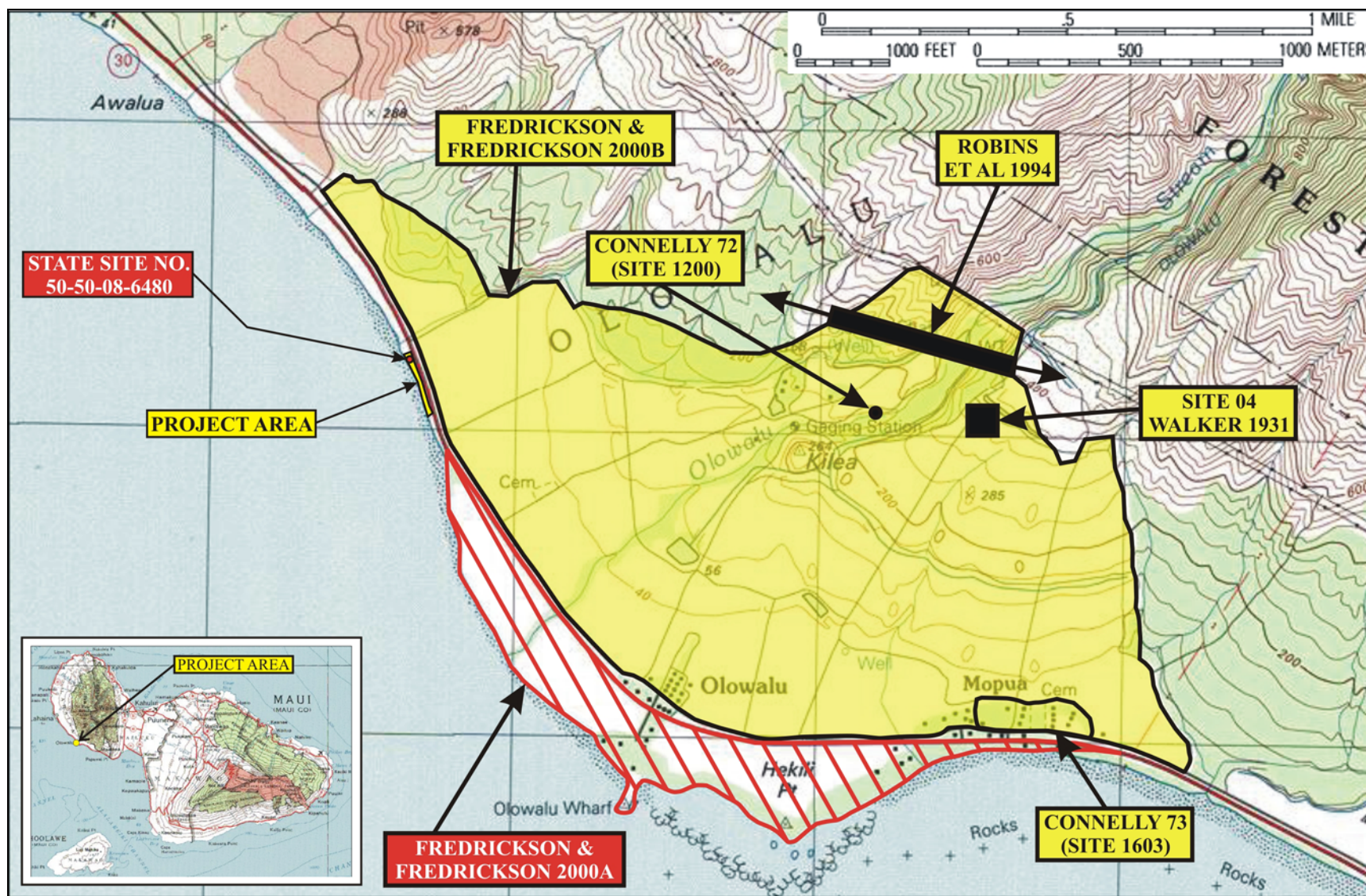


Figure 5: Previous Archaeological Investigations in Olowalu Ahupua`a.

region and help to build on the extending pool of knowledge of the pre-Contact and historic era in this region of Maui.

WALKER INVENTORY OF OLOWALU

During his Inventory of Maui Island, Winslow Walker (1929-1930) identified several sites, and also took note of several others, within Olowalu. Walker Sites 4, the Kawaialoa Heiau site was located within Olowalu region on, “the rising ground south of Kilea Hill above the ditch,” (Walker, 1930:108). Walker’s description of this site follows, please note the second heiau discussed in this description was designated as Walker Site 5:

A large walled heiau in good condition. It measures 156 x 110 feet. The walls range in thickness from 8 ½ feet on the west to 12 feet on the south and east where it is composed of two terraces. The highest part is 10 feet high. The north wall is lower and ranges from 5 to 8 feet thick. Several low terraces and enclosures are found inside. The low platforms in the western part are probably graves of recent date. The entrance evidently was at the north. At a point on the west wall and at two points on the south wall are piles of stones cone-shaped whose use or purpose could not be determined. Rough red vesicular basalt is the material used in the heiau construction and no coral is found. No artifacts were found there.

Another small heiau [is located in the cane lands below the ditch. It measures 40 x 60 feet but all interior structures have been destroyed. No name was learned for this heiau (Walker, 1930: 108).

Although several house sites were identified during Walker’s inventory, the following were not assigned site numbers, however they are important to note here. “Mrs. Nahooikaika’s house,” where there was evidence of old taro patches. The site is described to be composed of the, “ancient ditch bringing down water from Olowalu Gulch [which] is now used for the modern ditch supplying the cane fields. At the edge of a house platform measuring 15 x 28 feet, is a large flat stone of red basalt used as a papamu for the game of konane.” Walker goes on to describe several other houses:

On the hill north of Olowalu just above the corner of the Forest Reserve line is a site which might easily have been a lookout. It is little more than a pile of rocks and an enclosure 15 x18 feet with a smaller on adjoining it. Indications of stone walls on other parts of the hill suggest its possible use as a fortified hill or a Hill of Refuge (Walker, 1930: 77).

STATEWIDE INVENTORY OF HISTORIC PROPERTIES, ISLAND OF MAUI

In 1973 a Statewide inventory of known historic properties was conducted in order to relocate, document, record, and to assess the condition of previously identified sites (Connolly 1973). Connolly (1973) report that the Kawaialoa Heiau (Walker Site 4) was relocated, however the smaller *heiau* (Walker Site 5) was not relocated during this survey. Additionally, the survey documented the Olowalu Complex (Site 50-50-08-1200) which is located roughly 0.5 miles mauka of Highway 30 (Honoapiʻilani Highway) on the north side of Puʻu Kilea. Site -1200 is made up of two features, the Olowalu Petroglyphs and a natural rock overhang at the bas of a cliff (HRHP, Connolly, 1973 as cited in Fredericksen and Fredericksen, 2000b). It was noted that the petroglyphs had been vandalized, which was not noted in the 1962 Bishop Museum undertaking of excavations at the adjacent rock overhang (Site -1201). At that time, the petroglyph site was placed on the National Register quality site, but was to undergo a cleaning program to remove these recent disturbances to the site (Connolly, 1973 as cited in Fredericksen and Fredericksen, 2000b:31).

The Olowalu petroglyphs were recorded as having over 70 petroglyphs in two areas. At the time of the state wide survey, the first area had been turned into a small park next to the access road where a viewing platform was located. The petroglyphs extended about 8 m across and about 1-4.7 m up the rock face. Area 1 contains at least 41 figures, including, “human bone forms with stick and triangular bodies; animals (probably dogs and horses); circles; a sail, and other indistinct forms,” ranging in size from 2 x 2 cm to 35 x 55 cm (Connolly, 1973 as cited in Fredericksen and Fredericksen, 2000b:30).

Area 2 lies about 15 m south of Area 1, is adjacent to the road, and the petroglyphs extend along the cliff and are placed on large rocks in front of the cliff for approximately 60 m, extending 0.5 to 3.3 m up the face. Here there are at least 31 petroglyphs including, “human forms with stick and triangular bodies, historic writing, animals including dogs and horses, a figure resembling a coffee pot, a large fish or whale, a figure with five lines radiating from the head, an outrigger canoe with sail, and many indistinct forms,” ranging in size from 4 x 6 cm to 40 x 40 cm (ibid. :30-31).

In 1962 the rock shelter, Bishop Museum site number 50-Ma-M-4. Located in Olowalu, “at the base and on the northwest side of Kilea Puu” near the petroglyphs was described by Sterling (Sterling, 1998: 26-27)

The main part of the sheltered bluff runs about 60 feet mauka-makai and from about 12-15 feet from the wall to the irregular sloping edge. It is about 20 feet up on the side of the hill from the road. ...

Makai of the main area the bluff slopes down to a little open terraced area about 3' x 5' against the wall of the bluff. Makai and below this is another level somewhat protected area (*ibid.*: 26-27).

The material cultural findings of Sterling's excavations included, "some shell, kukui, ti or sugar cane leaf, obsidian, Hawaiian diamonds, etc," along with ashy fire pits. These resulted in the conclusion that the, "area was not lived in but merely used as a camp site or resting place," (*ibid.*: 27).

Two historic sites were also identified during the Statewide Survey, the Olowalu Sugar Company Mill (Site 50-50-08-1602) and the Olowalu Stone Church ruins at Mopua (Site 50-50-08-1603). The Olowalu Sugar Company Mill (Site -1602) is said to have been an enterprise of King Kamehameha V, who reigned from 1863 to 1872. The mill was probably constructed in the 1870s. Included in this mill was a 2 foot gauge railroad, a manager's house, and 3 other plantation houses. The Olowalu Stone Church at Mopua (Site -1603) was built in 1837 located half way between Maalea and Lahaina and composed of a small adobe and thatch roof church. It is important to note that during the Fredericksen and Fredericksen (2000b) Inventory Survey a historic historic coffin burial was recovered in a back hoe trench (BT 164) within the proximity of the church ruins; this is discussed further below.

RECENT ARCHAEOLOGY

As previously mentioned this parcel underwent Archaeological Inventory in 2009. During the Archaeological Inventory Survey, one site was newly identified. Site 50-50-08-6480 (TS-1), a prehistoric, temporary habitation loci, is composed of three subsurface features which were exposed in a naturally occurring bank-cut. Subsurface Feature 1 (SSF-1) and Subsurface Feature 2 (SSF-2) are charcoal concentrations and Subsurface Feature 3 (SSF-3) consists of a fire hearth. Site -6480 has been interpreted as a temporary habitation site, possibly associated with the procurement of marine resources, consisting of three subsurface features. No charcoal samples were collected for radiocarbon dating due to the high potential of contamination resulting from high wave action over many years. While a non-diagnostic historic glass bottle fragment (not collected) was observed in SSF-3, the overall site interpretation remains as a temporary, pre-Contact site associated with marine procurement.

In addition, several archaeological projects have been conducted within Olowalu following the years since the Statewide Survey. A brief discussion of the projects conducted as well as their findings follows.

In 1994, Cultural Surveys Hawaii (CSH) conducted an inventory survey along a 14.7 mile long corridor extending through the *ahupua`a* of Waikapu, Ukumehame, Olowalu, Launiupoko, Polanui, Polaiki, Wainee, and Kuia for the Maui Electric Company's Lahaina to Maalea Transmission Line (Robins, Folk and Hammatt, 1994 as cited in Fredericksen and Fredericksen, 2000b: 33). During this survey a total of 34 archaeological sites were identified, all evaluated as significant archaeological resources. Additional survey of access roads and monitoring of the pole replacement process was conducted in 1996 and 1997 by CSH (Deveraux, Colin and Hammatt, 1997, as cited in Fredericksen and Fredericksen, 2000b). In Olowalu, the transmission line crossed through the mauka portion at approximately 350-400 feet AMSL (poles 40-56) and two sites (-3180 and -3172) are located in the Olowalu stream area, beneath the power lines between poles 52 and 54.

Site -3180 is a wall stacked and vertically faced with basalt boulders measuring an average width and height of 1.0 m, attributed to ranching. It is located just beyond the west side of the Olowalu Stream extending along the mauka perimeter of the cane fields, "probably constructed to keep cattle outside of the cane fields and kuleana," (Robins, Folk and Hammatt, 1994:82, as cited in Fredericksen and Fredericksen, 2000b:33).

Site -3172 is a plantation era historic ditch canal associated with cane irrigation in excellent condition. Located on the southeast side of Olowalu Stream measuring 0.8 m x 0.5 m deep and at the time of the survey, it was used for cane irrigation (*ibid.*).

XAMANЕК RESEARCHES INVENTORY SURVEYS

During a 2 phase Inventory Survey, Xamanek Researches conducted an archaeological inventory survey on the *makai* (phase I) and *mauka* (phase II) portions of the Olowalu Development Parcel.

Phase I, conducted on the Makai portion of a 73 acre portion identified 6 previously unrecorded sites (Sites -4693 through -4698), additionally, the ruins of the Olowalu Sugar Mill (Site -1602) were mapped. The following is the description given in the abstract of Fredericksen and Fredericksen, 2000a:

Site 4693, a precontact burial ground, is considered to be the most significant cultural resource on the subject parcel. Other sites include a probable precontact wall remnant partially enclosing a habitation area (Site 4694); a probable post-contact sea wall (Site 4695); a remnant of the Old Government Road, which followed the route of the traditional Pi'ilani coastal trail (Site 4696); a probable early post-contact subsurface habitation deposit (Site 4697); and a late precontact subsurface habitation deposit (Site 4698). All of the above sites qualify for significance under Criterion D of the Federal and State historic preservation guidelines.

The Olowalu Sugar Mill (Site 1602) also is deemed significant under Criterion A. Finally, the Site 4693 burial ground qualifies for significance under Criterion E- for its traditional cultural value (Fredericksen and Fredericksen, 2000a:Abstract).

Phase II of the Inventory Survey was conducted over a 660-acre portion of the mauka property (Fredericksen and Fredericksen, 2000b). While sugarcane had been actively cultivated on much of the subject parcel, 30 archaeological sites were present on the property, of which 6 were previously known and 24 were previously not recorded. The following describes their findings:

The known cultural resources include Kawaialoa *heiau* (Site 50-50-08-04), the Olowalu Petroglyph Complex (Site 1200), the Olowalu Petroglyph Rock Shelter (Site 1201), the Hawaiian Protestant Church (Site 1603), an *ahupua`a* boundary wall (Site 3180), and a plantation era irrigation ditch (Site 3172).

The 28 previously unidentified sites include precontact and post-contact cultural resources, and were assigned SIHP number 50-50-08-4699 through 4721, 4758, and 4820-4823. Precontact sites include rock overhang shelters, platforms, terraces, a petroglyph panel, possible burial mounds, a burial cave, Pu'u Kilea burial ground, 2 *heiau*, a possible *ko`a*, permanent habitation features, remnant *taro lo`i*, other agricultural features, boundary walls, surface scatters of human remains, a fishpond and subsurface marsh soils. Post-contact sites include a coffin burial associated with the Site 1603 -1511 stone church cemetery, a Japanese cemetery, retaining walls, property markers, an old hydrogenation facility, a house platform. All of the cultural resources on the project area are deemed significant under Criterion "D" of the Federal and State historic preservation guidelines. In addition, several sites qualify for significance under multiple criteria. Recommended mitigation measures range from no further work for a few post-contact sites, to data recovery and preservation (Fredericksen and Fredericksen, 2000b: Abstract).

Since these investigations, Preservation Plans have been prepared by Olowalu Elua Associates, LLC (2002), as well as Fredericksen and Fredericksen (2001) which discuss the

proposed mitigation regarding the numerous significant sites and burials located within the property.

Following a brush fire within this property, Scientific Consultant Services, Inc. (SCS), had the rare opportunity to conduct an Archaeological Field Inspection of a burned area within the undeveloped parcel (approximately 500-acres of a total 660 acres) in Olowalu Ahupua`a, Lahaina District, Island of Maui [TMK: 4-8-3:10 por.] (Shefcheck and Dega, 2007). During the Field Inspection SCS Archaeologists relocated those sites which were known within the burned area, and recorded a GPS point for each of these relocated sites.

Only two sites were adversely impacted by the fire. At Site -4758, a Historic cemetery, several of the headstones became fire-cracked and spalled in the heat. Site -1200, a petroglyph complex located on the *mauka* (northeast) side of Pu`u Kilea, was partially damaged by smoke and some petroglyphs were spalled in the heat. Push-piles were noted off the northwest corner of Site -04, Kawaialoa Heiau. These push-piles were not specifically mentioned in Fredericksen and Fredericksen (2000a and 2000b) and may be modern, pertaining to fire fighting. Testing was not completed to determine their origin.

One new feature was identified during the Field Inspection. The feature consists of a series of agricultural terraces located to the northeast of Site -4708, a site that was originally documented as containing two features. Fredericksen and Fredericksen (2000b) report Feature A as a faced retaining wall and Feature B as a series of agricultural terraces. The morphological similarity and geographic proximity of this newly identified feature has led it to be recorded as Site -4708 as Feature C. In other terms, the new agricultural terraces have been subsumed under Site -4708. All other sites/features noted during the Field Inspection were previously recorded.

All the sites previously documented on the parcel were assessed per varying levels of significance (Fredericksen and Fredericksen 2000b:67). These significance evaluations remain unchanged after the current Field Inspection. Previously stated recommendations still apply to these sites as well.

Per the additional agricultural terraces identified during the current work, now designated as Feature C of Site -4708, the addition of another *lo`i* terrace complex does not change the original interpretation or significance of this site (see Fredericksen and Fredericksen 2000b). The site was originally interpreted as a *heiau* with associated *lo`i*. The new features simply add

to the breadth of the site. Site -4708 remains significant under Criterion E, due to its interpreted status as a religious site.

While the Field Inspection provided a tremendous opportunity to view the landscape in an unusual form (without vegetation), only one new agricultural complex was identified. The previous archaeology conducted within the project area proved to be quite thorough and accurate. Please see the following (Table 2) for site description and subsequent field inspection comments for Fredericksen and Fredericksen (2000a and 2000b) and Shefcheck and Dega (2007) discussion.

Table 2: Previously Identified Sites, Description, Comments, and GPS Points from the Field Inspection.

SIHP 50-50- 08-	# Features	Description	Field Inspection Comments	GPS Point
4	1	<i>Heiau</i>	Some dozer push-piles noted near the northwest corner of the site. These were not documented in previous work.	e04748400, n2303972
1603	1+ (?)	Lanakila Hawaiian Protestant Church	not relocated during this work	-
3180	1	Rock wall	not relocated during this work	-
4699	9	8 rockshelters, 1 modified outcrop	not relocated during this work	-
4700	10	8 rockshelters, 1 rock wall, 1 C-shape	not relocated during this work	e0746592, n2304654
4701	1	Platform remnant	Site relocated, no comments	e0746649, n2304558
4702	1	L-shape	Site relocated, no comments	-
4703	3	U-shape, rock alignment, and modified outcrop	not relocated during this work	-
4704	7	Petroglyph Complex	not relocated during this work	-
4705	2	Rockshelters	not relocated during this work	-
4706	1	Rockshelter	Site relocated, no comments	e0748449, n2304374
4707	2	Rock wall and rock mound	Site relocated, no comments	e0748507, n2304388
*4708	3	Platform and two series of agricultural terraces	Newly documented feature: Feature C, a series of agricultural mounds located on the <i>makai</i> (west) side of Feature A	e0748476, n2304278
4709	4	Two concrete foundations, rock wall/terrace, and series of irrigation ditches	not relocated during this work	-
4710	7	Habitation Complex	Site relocated, no comments	e0748491, n2304141
4711	2	Linear rock pile and terrace	not relocated during this work	-

SIHP 50-50- 08-	# Features	Description	Field Inspection Comments	GPS Point
4712	2	Modified outcrop, rock pile	Site relocated, no comments	-
4713	1	Rockshelter	Site relocated, no comments	-
4714	1	Rockshelter	Site relocated, no comments	-
4715	1+ (?)	Burial ground	Site relocated, no comments	-
4716	2	Terrace and rock wall\	Site relocated, no comments	-
4717	4	Walls	not relocated during this work	-
4718	3	Heiau, consisting of enclosure and two burials	Site relocated, no comments	e0748050, n2303568
4719	1	Boundary marker	not relocated during this work	-
4720	1	Historic retaining wall	not relocated during this work	-
4721	1	Platform	not relocated during this work	-
4758	1+ (?)	Historic Cemetery	Some headstones have cracked and spalled in recent fire	e0747089, n2303787
4820	1+ (?)	Surface scattering of Human Remains	not relocated during this work	-
4821	1+ (?)	Surface scattering of Human Remains	not relocated during this work	-
4822	1	Pond	not relocated during this work	-
4823	1	Subsurface gleyed deposits	not relocated during this work	-
1200	1+ (?)	Petroglyph Complex	Some of the petroglyphs have been damaged by smoke and spall in fire	e0748369, n2304322
* newly documented feature				
(?) Precise number of features is not reported in Fredericshen and Fredericksen 2000				

NEARBY AHUPUA`A ARCHAEOLOGY UKUMEHAME AHUPUA`A

In 1993, Cultrual Surveys Hawaii, Inc. conducted an archaeological inventory survey for 14.7 mile long Ma`alea to Lahaina transmission line. During this project, a total of 18 site complexes were identified within the 440-acre project area. These sites were grouped into class-types including agricultural, habitation, *heiau* (of which one included the Hiki`i *Heiau* discussed below), petroglyphs, human graves, irrigation ditches, and a basalt quarry. (Deveraux, *et al.*, 1997 as cited in Fredericksen and Fredericksen, 2000b: 36).

Following this Inventory Survey, a total of 10 archaeological sites were preserved according to the Preservation Plan (Hammatt, 2000). The sites to be preserved included -3165 (temporary habitation), -3184 (permanent habitation/ possible burial), -4367 (permanent habitation), -4381 (permanent habitation), -4438 (agricultural), -4451 (permanent habitation), -4452 (agriculture), -4454 (temporary habitation), -4455 (historic agriculture), and -4456 (permanent habitation).

In 1998, reconstruction of walls at Hiki`i *Heiau* in Ukumehame Ahupua`a was completed (Masterson and Hammatt, 1999). The *heiau* was originally recorded by John F.G. Stokes in

1916, and subsequently described by Thomas G. Thrum in the Hawaiian Annual. In 1930, W. Walker mapped and described the *heiau* (Walker Site -2) (as cited in Masterson and Hammatt, 1999). The *heiau* is located on the east side of the Ukumehame Gulch at an elevation of about 200 feet. Described by Walker as, “a good sized heiau built of rough blocks of red basalt,” it ranged in height to 6 feet and 9-12 feet in thickness. An open terrace fronts the sea on the other sides and is 130 feet long and 81 feet wide (Walker, 1930: 60-61). In 1973, the DLNR, State Parks Division mapped and recorded Hiki`i *Heiau* in part of their island wide survey and a documented nine platforms and two enclosures were recorded within the *heiau*, and 3 platforms and a mound inside the *heiau* were believed to have been the modern graves recorded by Thrum and Walker.

In 1997, Aki Sinoto Consulting performed Archaeological Assessment during a conservation project referred to as the Native Plant Conservatory, undertaken by the Hawaii Army National Guard in Ukumehame, Lahaina District, [TMK: 4-8-2:47]. In this project a surface survey was completed but no archaeological remains were encountered (Sinoto, 1997).

In 2005, a Preservation Plan for Site -5232 was presented by Tomonari-Tuggle and Rasmussen (2005). The plan entailed the mitigation to be followed for the preservation of the traditional Hawaiian upland temple (*heiau*) adjacent to a planned wind energy development project on a high ridge west of Maalea Small Boat Harbor at TMK: 4-8-01:1 (Tomonari-Tuggle and Rasmussen, 2005).

LAUNIUPOKO AHUPUA`A

In 1990, Paul H. Rosendahl, Inc. (PHRI) conducted an Archaeological Inventory Survey of a 440-acre parcel for a proposed golf course in Launiupoko Ahupua`a (Graves and Goodfellow, 1991, as cited in Fredericksen and Fredericksen, 2000b) to the north of Olowalu. In total, 47 sites containing 70 features were identified. The site types included terrace, clearing pile, agricultural plot, rock pile, canal, retaining wall, flume, flaked boulder, alignment, rock shelter, C-shape, wall upright, L-shape, petroglyph panel, corral, fence, cairn, and road. Habitation sites comprised 19% of the sites identified within this survey, while 60% of the sites identified were agricultural in nature. Radiocarbon dates ranged from 1200-1650 A.D. (Graves and Goodfellow, 1991, as cited in Fredericksen and Fredericksen, 2000b).

In 1998, the site was revisited by PHRI and the authors concluded that the pre-contact population of Launiupoko ahupua`a was probably limited, a conclusion supported by the lack of

kuleana land claims made during the Mahele (Graves, Goodfellow, Haun, April 1998 p ii, as cited in Fredericksen and Fredericksen, 2000b).

MONITORING CONVENTIONS AND METHODOLOGY

This AMP has been prepared in accordance with DLNR-SHPD rules governing standards for Archaeological Monitoring, §13-279 (2002). Archaeological Monitors will adhere to the following guidelines during Monitoring:

1. A qualified archaeologist familiar with the project area and the results of previous archaeological work conducted in the area will monitor subsurface construction activities. One archaeologist will be assigned to each piece of earth moving machinery that is in operation. If significant deposits or features are identified and additional field personnel are required, the archaeologist will notify the contractor or representatives before additional personnel are brought to the site.
2. If features or cultural deposits are identified during Archaeological Monitoring, the on-site archaeologist will have the authority to temporarily suspend construction activities at the significant location so that the cultural feature(s) or deposit(s) may be fully evaluated and appropriate treatment of the cultural deposit(s) conducted. These actions are needed to fulfill the reporting requirements specified in §13-279-5(5) through (6). SHPD archaeologists will be consulted to establish feature significance and mitigation procedures. Treatment activities primarily include documenting the feature/deposit through plotting its location on an overall site map, illustrating a plan view map of the feature/deposit, profiling the deposit in three dimensions, photographing the finds (with the exception of human burials), artifact and soil sample collection, and GPS recording of the finds. Construction work will only continue in the immediate location when all documentation has been completed.
3. Stratigraphy in association with subsurface cultural deposits will be noted and photographed, particularly from deposits containing significant cultural materials. If deemed significant by SHPD and SCS, these deposits will be sampled.
4. In the unlikely event that human remains are encountered, all work in the immediate area of the find will cease; the area will be secured from further activity until compliance with §6E-43.6, HRS, and §13-300-40, HAR, has occurred. The SHPD Maui island archaeologist and SHPD Maui island culture historian will both be immediately notified about the inadvertent discovery of human remains on the property. Notification of the inadvertent discovery will also be made to the Maui/Lana'i Islands Burial Council by either SHPD or the contracting archaeologist. Procedures to determine the minimum number of individuals, age of the site, and ethnicity of the individual(s) will conform to the relevant procedures established in §13-300, HAR, as directed by the SHPD. Profiles, plan view maps, and illustrative documentation of skeletal remains will be recorded to document the inadvertent finds. The burial location will be identified and marked. If a burial is disturbed, materials excavated from the vicinity of the burial(s) will be manually

screened through 1/8-inch wire mesh screens in order to recover any displaced skeletal material. Only SHPD has the authority to approve the removal of human remains, which is typically conducted in consultation with the appropriate burial council members.

5. To ensure that contractors and the construction crew are aware of this AMP and possible site types to be encountered in the project area, a brief coordination meeting will be held between the construction personnel and Monitoring Archaeologist prior to initiation of the project. As part of standard procedure, the construction crew will also be informed as to the possibility, although unlikely within this project area, that human burials could be encountered and how they should proceed if they observe such remains.
6. The archaeologist will provide all coordination with the contractor, SHPD, and any other group involved in the project. The contracted archaeological firm will coordinate all Monitoring and sampling activities with the safety officers for the contractors to ensure that proper safety regulations and protective measures meet compliance. Close coordination will also be maintained with construction representatives in order to adequately inform personnel of the possibility that open archaeological units or trenches may occur in the project area.
7. As necessary, verbal reports will be made to SHPD, and any other agencies as requested.
8. The project area has undergone historic and modern ground altering disturbance covering an area and depth that is suspected to be extensive. It is important to note, that while initial Monitoring will be full-time, a provision must be included to shift to intermittent Monitoring should initial results be confined to matrices previously disturbed in modern times (*ie.*, digging more recent than 1950). In other words, if the archaeologist finds that earth moving activity is only within ground already altered in modern times, and is not extending deeper or laterally beyond that area, then spot-check Monitoring, in combination with consistent communication with construction crewmembers, will be more efficient. The shift from full-time to intermittent Monitoring will only be put into effect after SCS consults SHPD, the on-site construction crew, and Chris Hart and Partners, Inc.

LABORATORY ANALYSIS

All samples collected during the project, except human remains, will undergo analysis at the SCS laboratory on Maui, in accordance with SHPD rules (§13-279, HAR). In the unlikely event that human remains are identified and the SHPD and Maui/Lana`i Islands Burial Council authorizes their removal, they will be stored at an acceptable location within the project area or at the SCS laboratory on Maui. All photographs, illustrations, and field notes accumulated during the project will be eventually curated at the Honolulu laboratory (SCS). All retrieved artifacts and midden samples will be cleaned, sorted, and analyzed at SCS. Significant artifacts will be photographed, sketched, and classified (qualitative analysis). All metric measurements and weights will be recorded (quantitative analysis). These data will be presented in tabular

form within the final monitoring report. Midden samples will be identified to taxonomic class (e.g., bivalve, gastropod mollusk, echinoderm, fish, bird, and mammal). All data will be clearly recorded on standard laboratory forms which also include number and weight (as appropriate) of each constituent category. These counts will also be included in the final report.

Should any samples amenable to dating be collected from a significant cultural deposit, they will be prepared in the SCS laboratory and submitted for taxa identification. If short-lived native and/or Polynesian-introduced taxa are identified, they shall be selected for radiocarbon dating, if applicable. While primary emphasis for dating is placed on charcoal samples, SCS does not preclude the use of other materials such as marine shell or nonhuman bone materials. SCS will consult with SHPD and with the client if radiocarbon dates are deemed necessary.

All stratigraphic profiles will be drafted for presentation in the final report. Representative plan view sketches showing the location and morphology of identified sites/features/deposits will be compiled and illustrated.

CURATION

SCS will curate all recovered materials on Maui until the work is completed, reviewed, and accepted by the state. All materials gathered during this project (including documentation) are ultimately the property of the client, who may request their transfer subsequent to the acceptance of the final Archaeological Monitoring Report (see below). SCS will curate all project materials in the long term within the Honolulu office.

REPORTING

An Archaeological Monitoring Report documenting all aspects of the work will be submitted within 180 days after the completion of fieldwork, in accordance with SHPD administrative rules (§13-279-5). This time line is requested to account for any radiocarbon age determinations (typically 45 days), if necessary.

If cultural features or deposits are identified during fieldwork, the sites will be evaluated for historic significance according to criteria established in §13-275-6(b), HAR. The Archaeological Monitoring Report will be drafted until accepted by SHPD and final revised reports will be submitted to SHPD and to the client.

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