

Section 2 Background Research

2.1 Traditional and Historical Background

John Papa ‘Ī‘Ī documented early nineteenth-century trails that extended from Honolulu to Wai‘alae. One trail passed along the *makai* border of Pālolo Valley, where ‘Ī‘Ī mentions Kamō‘ili‘ili near the western end of the current project area, the legendary *pōhaku* Kapokakikeke (or Kapokakikēkē) in Kaimukī, and the hill called Mau‘umae, at the border between in Pālolo and Wai‘alae. Based on a description by John Papa ‘Ī‘Ī on the trails of O‘ahu ca. 1810, a trail extended parallel to the Wai‘alae coast. At the mouth of Wai‘alae Stream, the trail branched into three trails heading toward Honolulu, as seen on a map based on ‘Ī‘Ī’s description (Figure 15), one along the coast below Diamond Head, one above Diamond Head, and one trail that later became the King Street/Wai‘alae Avenue road, close to the present project APE.

The trail that ran through Kaluahole went into Kaalawai, up, over, and down into Kahala, to meet the other trail at the place where the [Wai‘alae] stream reached the sand. There they met the mauka trail that came from Ululani’s place in Pawaa to Kapaakea, then up to Kamoiliili, and to Kapohakikeke, where it left the trail that went up to Palolo, and continued on to Mauumae, above Kaimuki where a pole later stood to serve as a mark for ships. From there it went down to, and along the upper side of, the taro patches and the pools of Waialae to join the other trails at the sand and go along Keahia and on to Maunalua, to the sea of Koko, to Makapuu, and so on. [‘Ī‘Ī 1959:92, 94]

2.1.1 Traditional Accounts of Pālolo

Pālolo Ahupua‘a is located *mauka* (inland) of Waikīkī on the south side of O‘ahu. In its current configuration, Pālolo Ahupua‘a is bounded by the Ko‘olau Mountain Range to the north and inland (*mauka*) side, Wai‘alae Nui Ahupua‘a (Mau‘umae Ridge) to the east, Wai‘alae Avenue to the south and *makai* (seaward) side, and Mānoa Ahupua‘a (Wa‘ahila Ridge) to the west. Thus, Pālolo Ahupua‘a is land-locked with no access to the sea. It is unlikely these were its pre-Contact boundaries, since traditional *ahupua‘a* extended from the mountains to the sea in order to ensure its inhabitants had access to a wide variety of resources. According to Pearson (1982:9), Pālolo was once called Kaluahini, and was an *ahupua‘a* in the old district of Lē‘ahi, which includes the area around Diamond Head.

Kaluahini once stretched from the Ko‘olau Mountains to the Waikīkī shore. The *ahupua‘a* was probably truncated—that is, cut off from the sea—in the early post-Contact period when the village of Waikīkī expanded to encompass the coastal lands west of Diamond Head. Pālolo once encompassed the neighborhoods of Kaimukī and Kapahulu, which are now considered part of Waikīkī.

Pālolo means “clay” (Pukui et al. 1974:178), or “clay valley” (Lyons (1901:182). The bluish-white clay (sometimes called a gray clay) from Pālolo Valley has a number of uses in *lā‘au lapa‘au* (traditional Hawaiian medicinal practices). It was also used as an adhesive “in surgery in putting the broken limb in a case and wrapping the whole in leaves” (Girvin 1910:70). To cure bladder trouble (urine retention), the bracts of the *makaloa* (native sedge; *Cyperus laevigatus*),

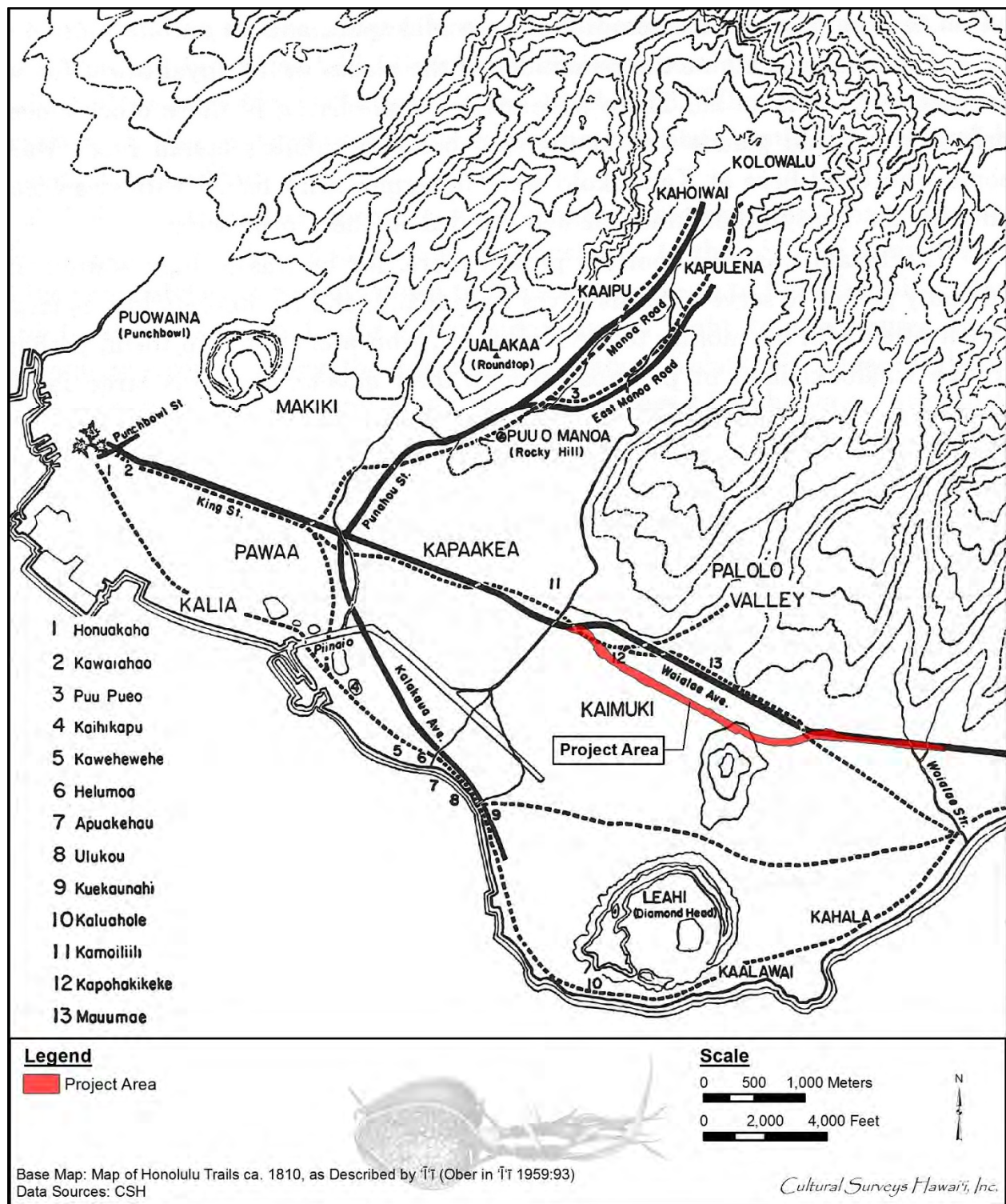


Figure 15. Trails on O'ahu ca. 1810, based on description in Īt (1959:92, 94); drawn by Gerald Ober

one slice from three types of 'awa (*Piper methysticum*), the white part of the *ti* (*Cordyline fruticosa*) leaf buds, the root of the 'ōlena (*Curcuma domestica*), and the juice of the *niu* (coconut, *Cocos nucifera*) were mixed and mashed with lumps of 'alaea (red clay), and gray *pālolo*. Then the mixture was squeezed through *niu* (coconut) sheaths and warmed stones were placed in the strained liquid to make a hot tea that was drunk twice a day (Krauss 2001:93). Hawaiian women used the white *pālolo* to paint the hair on the forehead white, in a style called *ki'iki'i* (Kent 1986:185; Westervelt 1963:257).

It was white *pālolo*, gathered from the four ends of the earth that the Hawaiian god Lono used to form the head of the first man:

The body of the first man was made of red earth—lepo ula or ala-ea—and the spittle of the gods—wai-nao—and his head was made of a whitish clay—palolo—which was brought from the four ends of the world by 'Lono.' When the earth-image of 'Kanē' was ready, the three gods [Kanē, Ku, and Lono] breathed into its nose and called on it to rise, and it became a living being. (Fornander 1878:62) One of the legends of the demigod Kamapua'a suggests the fertility of the Pālolo lands and its association with *mo'o* (lizard or dragon spirits). Before Kamapua'a's fateful encounter with two such *mo'o*, '[t]hey had been up Palolo Valley to visit friends who had fine taro patches and gardens . . . [and] were hurrying home with their calabashes heavy with gifts of taro and sweet potatoes.' [Armitage and Judd 1944:133–135]

Pālolo can be translated as clay valley" (Lyons 1900:182). The clay in Pālolo Valley traps water, which makes ideal growing conditions for taro. The two tributary streams, Pūkele and Wai'ōma'o, in the valley may also refer to this greenish-colored clay. The literal meaning of *wai'ōma'o* is "green water" (Pukui et al. 1974:227), and *pūkele* means "muddy" (Pukui et al. 1974:193).

According to Handy and Handy (1972:483), Pālolo Stream was "large and capable of irrigating terraces along its course on both sides and below the end of the valley." The legend of the goddess Hi'iaka describes the banana and taro plantations in Pālolo:

The leaves of the banana tree sway up and down,
Set a-sway by the wind.
The leaves of the taro toss to and fro,
Stirred by the wind,
The wind that blows from below . . .
[*Ka Na'i Aupuni*, 26 June 1906 in Handy and Handy 1972:483]

Pālolo's agricultural terraces were in use as late as 1940:

Palolo Valley had extensive areas of low terraces throughout its lower portion on the land now covered by houses and golf links, running along both sides of Palolo Stream. Above the junction of Waiomao and Pukele Streams, which form Palolo Stream, there are many high terraces on the hillside to inland, and there were a few terraces on the outer sides of the streams. Some of the upper terraces between the streams are now under cultivation by a Hawaiian planter. Farther up the valleys of

Waiomao and Pukele Streams there are a few terraces, and wild taro is said to grow abundantly in the upper reaches. [Handy 1940:74]

2.1.2 Chants and Sayings of the Wai'alae Coast and the Diamond Head Area

Each small geographic area in the Islands had a Hawaiian name for its own wind, rain, and seas. The name of the winds of O'ahu are listed in a chant concerning a powerful object called the wind gourd of La'amaomao. When the gourd was opened, a specific wind could be called to fill the sails of a canoe and take the person in the desired direction. From west to east along the southeast coast of O'ahu through the *ahupua'a* of Kuli'ou'ou, Niu, Wailupe (Kekaha), and Wai'alae to Diamond Head (Lē'ahi), the winds are as follows:

Puuokona is of Kuli'ou'ou,	<i>He Pu'uokona ko na Kuli'ou'ou,</i>
Ma-ua is the wind of Niu,	<i>He Maua ka makani o Niu,</i>
Holouhā is of Kekaha,	<i>He Holouha ko Kekaha,</i>
Māunuunu is of Wai'alae,	<i>He Maunuunu ko Wai'alae</i>
The wind of Lē'ahi turns here and there, . . .	<i>Huli ma 'ō ma 'ane'i ka makani o Leahi,</i>
'Olauniu is of Kahaloa,	
Wai'oma'o is of Palolo,	

[Hawaiian text from *Ke Au Okoa*, 14 November 1867; English translation in Nakuina 1990:43]

In a chant for the high chief Kūali'i, paramount chief of the Hawaiian Islands from 1720 to 1740 (Cordy 2002:19), the lands under his authority are listed as though someone is traveling around the island of O'ahu. The chant is also a play on words, as a portion of the definition of the place name also appears in the stated action (e.g., the egg of the mudhen [*'alae*] in Wai'alae).

Chant of Kūali'i:

There my hair is anointed—at Waikiki;	<i>Kiki kuu oho ilaila—o</i>
<i>Waikiki;</i>	
The egg of the mud-hen is broken—at Waialae;	<i>Kike ka hua o ka alae—o</i>
<i>Waialae;</i>	
This is a woman with flowing hair—Wailupe;	<i>He wahine oho lupe keia—o</i>
<i>Wailupe;</i>	

[Fornander 1917:4(2):401]

The meanings of some of these lines are explained in traditional Hawaiian *nane* (riddles).

<i>Kike ka hua a ka 'alae.</i>	Break the egg of the 'alae bird.
Answer: <i>Wai'alae.</i>	A play on the last letters of Wai'alae and 'alae' bird.

[Judd 1930:90]

Wai'alae is named for a freshwater spring:

<i>Huihui ka mapuna o Waialae.</i>	Refreshing is the water spring of Waialae.
------------------------------------	--

[Office of Hawaiian Affairs 2007]

2.1.3 Wai'alae Place Names

The *ahupua'a* takes its name from a spring called "Wai'alae" ("water of the mudhen"), once located near Kalaniana'ole Highway. The mudhen, or Common Moorhen (*Gallinula chloropus*) is

a bird that lives near freshwater ponds, marshes, and taro fields. J.K. Mokumaia, a resident of the area in 1920, recalled of Wai‘alae:

Many people lived along the shores and they worked at farming and fishing. Plants grew. There were taro patches, tobacco, sweet potatoes, bananas and sugar cane. Paki was Waialae-nui's konohiki [manager] of fishing; Kamamalu was Waialae-iki's konohiki of fishing. There were ever so many people on the shore when these chiefs came to spend a while with the common people.

Here your scout looked at everything that he was told of. There was the pool that Kamamalu used to bathe in. I went to see its beauty for myself.

There are two springs, one is on the summit of Waialae-nui and the other is on Waialae-iki. These appear to be good sites, there is much water, but its beauty at the time of the konohikis is gone. Now the kapu [tabu] is freed and the kapu places are trodden underfoot. [Mokumaia, *Ka Nūpepa Ku'oko'a*, 18 June 1920; English translation in HEN n.d.]

Another story is told of one of the springs, probably the spring at Wai‘alae Iki near the coast:

Waialae Springs. From which Waialae derived its name. It supplied water for the chiefs from olden times. The location had been lost for many years. During a tour of the island by Kamehameha III, the King became thirsty and inquired of an old couple who were living at Waialae where he could get some water to drink. It happened that the ancestors of these old people were the keepers of this water hole, and the duty descended to them. They said that the only reason they stayed there was so that when the King stopped there they might carry out their duty and reveal the location to him. This hole was covered with pohuehue [morning glory] and under the pohuehue was a large slab of stone covering the water. [HEN n.d.:1:1108]

The *ahupua'a* of Wai‘alae extends along the sea for approximately 2.5 miles. The eastern boundary at the coast is adjacent to Wailupe Fishpond and the western boundary is at Black Point, although older maps sometimes show the border extending all the way to the western slope of Diamond Head. From east to west along the coast is the Kāhala Hotel Beach (dredged in the 1960s during the construction of the Kāhala Hilton), the Wai‘alae Beach Park, Kāhala Beach, Lae o Kūpikipiki‘ō (Black Point), Ke‘ahamoe, and Ka‘alāwai Beach. There were once several ponds near the coast. Some pond names found in Māhele testimony are “Loko [pond] Kaluamo,” “Malokohana,” and “Lelopu” (or Lolopu).

Pukui et al. (1974:62) assert that “Kāhala” is named for the amberjack fish (*kāhalai'a*; *Seriola dumerilii*), a deep-water fish (Titcomb 1972:85). Clark (1977:38) believes an alternative origin of the name is from *kāhala*, a type of net made of strong cords used to catch sharks, as sharks are common along Black Point, the western end of the Kāhala coast.

Wai‘alae is divided into two *ahupua'a*, Wai‘alae Nui and Wai‘alae Iki; the boundary between the two runs along Kapakahi Gulch and Stream. Pukui et al. (1974) do not give a meaning for this place name but *kapakahi*, the Hawaiian word for “crooked,” is understood as a descriptive term for the configuration of the gulch (Pukui and Elbert 1986:131). Thrum (1922:644) translated this name as “one-sided.”

The eastern boundary of Wai‘alae Iki is separated from Wailupe Ahupua‘a by Wiliwili Ridge (or Wiliwilinui), named after the *wiliwili* tree (*Erythrina sandwicensis*). The light wood from this tree was used by Hawaiians to make surfboards, canoe outriggers, and net floats (Pukui and Elbert 1986:385). Frank (1958:22) says there was a large flat ridge named Kamilomilo with pine trees on it between Kapakahi Valley and the border with Wailupe. Whether this is a third ridge or an alternate name for Wiliwili Ridge is unknown, as the Kamilomilo label could not be found on any historic maps. This ridge is also named for a tree, the *milo* (*Thespesia populnea*) tree. The wood was used by Hawaiians to make calabashes and parts of the trees were used for dye, medicine, and other uses (Pukui and Elbert 1986:24). An area called Keahia (“the obscure”; Thrum 1922:649) was seaward of Kamilomilo (Frank 1958:22). On a knoll along the ridge separating Wai‘alae and Wailupe was a *heiau* (ceremonial site) called Kaunuakahekili (“meaning the altar of Kahekili”; Pukui et al. 1974:95), near the *mauka* end of Halakau Street at approximately 880 ft elevation. The *heiau* had been completely destroyed by the 1930s (McAllister 1933:71).

2.1.4 Early Historic Period

2.1.4.1 Pālolo

Early historic accounts of Pālolo Ahupua‘a suggest relative settlement and habitation patterns were highly concentrated in Pālolo Valley and along Pālolo Stream, where living conditions were optimal and resources abundant. Handy and Handy (1972:483) noted there were extensive taro terraces along the banks of the Wai‘ōma‘o, Pūkele, and Pālolo streams. Handy and Handy describe Pālolo Valley as having “extensive wet-taro lands.” Pālolo stream was

large and capable of irrigating terraces along its course on both sides . . . (and) there were terraces . . . all along Wai‘ōma‘o and Pūkele Streams, which join to form Pālolo Stream. Far back in these little valleys wild taro was found in abundance in 1935. [Handy and Handy 1972:483]

However, only a few terraces existed on the outer sides of the streams. Pālolo Valley is the “clay valley” (Pukui et al. 1974:178). The clay sediment traps water, ideal for growing taro.

2.1.4.2 Wai‘alae

Accounts of early western visitors to the southeast coast of O‘ahu suggest the area from Waikīkī to Maunalua Bay, including Wai‘alae, was well-populated and that food resources were more than sufficient. Anchoring his ship the *King George* in Maunalua Bay in 1786, Captain Nathaniel Portlock reported, “Soon after our arrival, several canoes came off and brought a few cocoa-nuts and plantains, some sugar-cane and sweet root; in return for which we gave them small pieces of iron and a few trinkets” (Portlock 1789:69).

The captain attempted to find a freshwater source, but was unsuccessful; instead he paid the natives to bring water to the ships in calabashes. This suggests water was a limiting factor on agriculture and population.

During the first half of the nineteenth century, glimpses of the southeast coast of O‘ahu are provided in accounts of missionary visitors. Gilbert F. Mathison, walking through the area in 1822, noted a fishing village containing about 100 huts near Maunalua fishpond in Maunalua Ahupua‘a, east of Kuli‘ou‘ou Ahupua‘a. He also reported “occasional huts, scattered here and there together with several fine groves of cocoa-nut trees” as he continued traveling westward along the coast.

At one spot, his party stopped to eat a watermelon from an agricultural field (Mathison 1825:387). This suggests introduced dry land crops such as melons, pumpkins, squash, cabbages, sweet potatoes, and Irish potatoes were being grown in this area by 1822 (Kuykendall 1965:313, 319).

A settlement at Wai‘alae and scattered houses around Wailupe and Kūpapa ponds can be seen on a map of the southeast coast of O‘ahu made by Lt. LaPasse (Figure 16) aboard the French naval vessel *Eurydice*, which visited the island in 1855. The map shows the dense settlement around the Waikīkī coast west of the project area, with taro fields extending inland along streams and habitation areas near the coast in coconut groves. To the east of the project area is a settlement within a coconut grove in the general area of Wai‘alae. Rectangles, probably representing taro fields, are also shown back from the coast, near Wai‘alae Spring. The project area is in a generally barren area, as shown on a 1893 map of the Honolulu District (Figure 17). This map also shows that by this time, the former taro fields had been converted to the planting of rice.

Little mention is made of the population of the Wai‘alae coast in early visitors’ logs, but it was probably well populated with Native Hawaiians. In 1826, the missionary educator Levi Chamberlain took a tour of the island of O‘ahu, traveling through the southern coast of O‘ahu westward from Makapu‘u. He recorded a settlement of 18 houses at Maunalua, with three additional settlements between Maunalua and Wai‘alae (Chamberlain 1826). These settlements were probably at Kuli‘ou‘ou, Niu and Wailupe. At Wai‘alae he stopped at a settlement with a schoolhouse.

In 1828, Chamberlain (1957) made a second tour of southeastern O‘ahu, this time traveling eastward from Waikīkī. He arrived at Wai‘alae, reporting a school with at least 30 scholars.

At a quarter before 9 o’clock we arrived at the pleasant settlement of Waialae, distant on a straight line from Waikiki in a N.E. direction, about 4 miles, but much farther following the circuitous path along the sea shore. This place is rendered agreeable by a grove of cocoanut trees and a number of branching kou trees, among which stand the grass huts of the natives, having a cool appearance, overshadowed by the waving tops of the cocoanuts, among which the trade winds sweep unobstructed. [Chamberlain 1957:28–29]

2.1.5 Mid-Nineteenth Century and the Māhele

The Organic Acts of 1845 and 1846 initiated the process of the Māhele—the division of Hawaiian lands—which introduced private property into Hawaiian society. In 1848, the crown and the *ali‘i* (chiefs) received their land titles. Kuleana awards for individual parcels within the *ahupua‘a* were subsequently granted in 1850. These awards were presented to tenants—Native Hawaiians, naturalized foreigners, non-Hawaiians born in the Islands, or long-term resident foreigners—who could prove occupancy on the parcels before 1845.

2.1.5.1 Pālolo

Many of the lands, individual, *‘ili* (land unit smaller than an *ahupua‘a*) of Pālolo Ahupua‘a were claimed by royalty. The *‘ili* of Wai‘ōma‘o, Pūkele, Ka‘auwealoa, and half of Wailupe were claimed as crown lands, or the personal lands of Alexander Liholiho (Kamehameha IV). The *‘ili* of Kalaepōhaku went to Victoria Kamāmalu, the sister of Alexander Liholiho. The western section

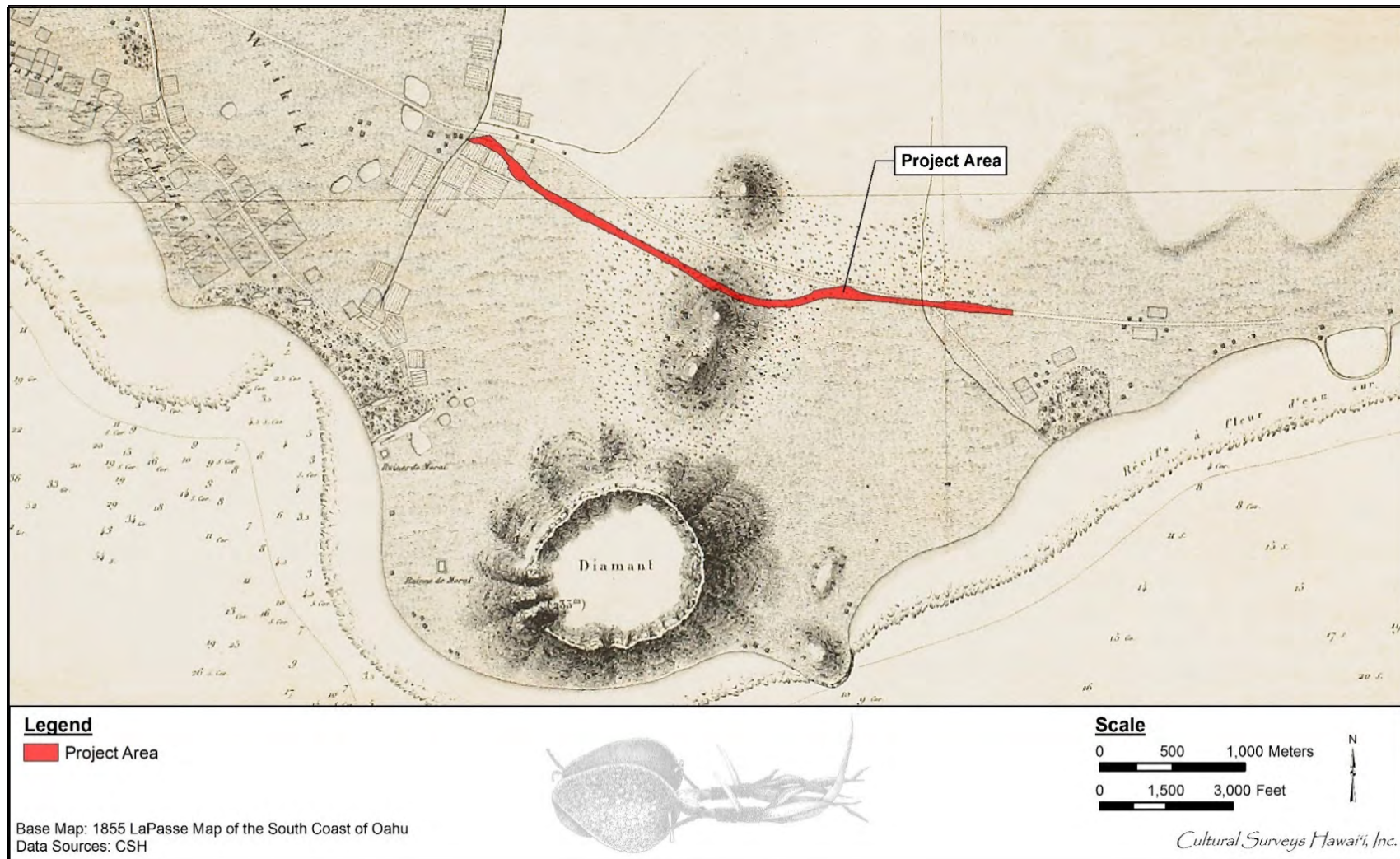


Figure 16. 1855 LaPasse map of the South Coast of O'ahu (portion), showing project area between and outside of the main taro cultivation and habitation areas. To the west are the ponds (ovals), taro fields (squares), and habitation areas in coconut groves (small circles) of Waikiki; to the east is the settlement and coconut grove of Wai'alaie

AMP for the H-1 Guardrail-Shoulder Improvements, Kapi'olani to 'Āinakoa Ave., Pālolo, Wai'alaie, Honolulu, O'ahu

TMKs: [1] 2-7-029, 2-7-030, 3-2-001, 3-2-007, 3-2-009, 3-2-010, 3-2-011, 3-2-012, 3-2-013, 3-2-014, 3-2-038, 3-2-039, 3-2-040, 3-2-041, 3-2-042, 3-2-043, 3-3-011, 3-3-012, 3-5-016, 3-5-017, 3-5-019, 3-5-023, 3-5-025, 3-5-044

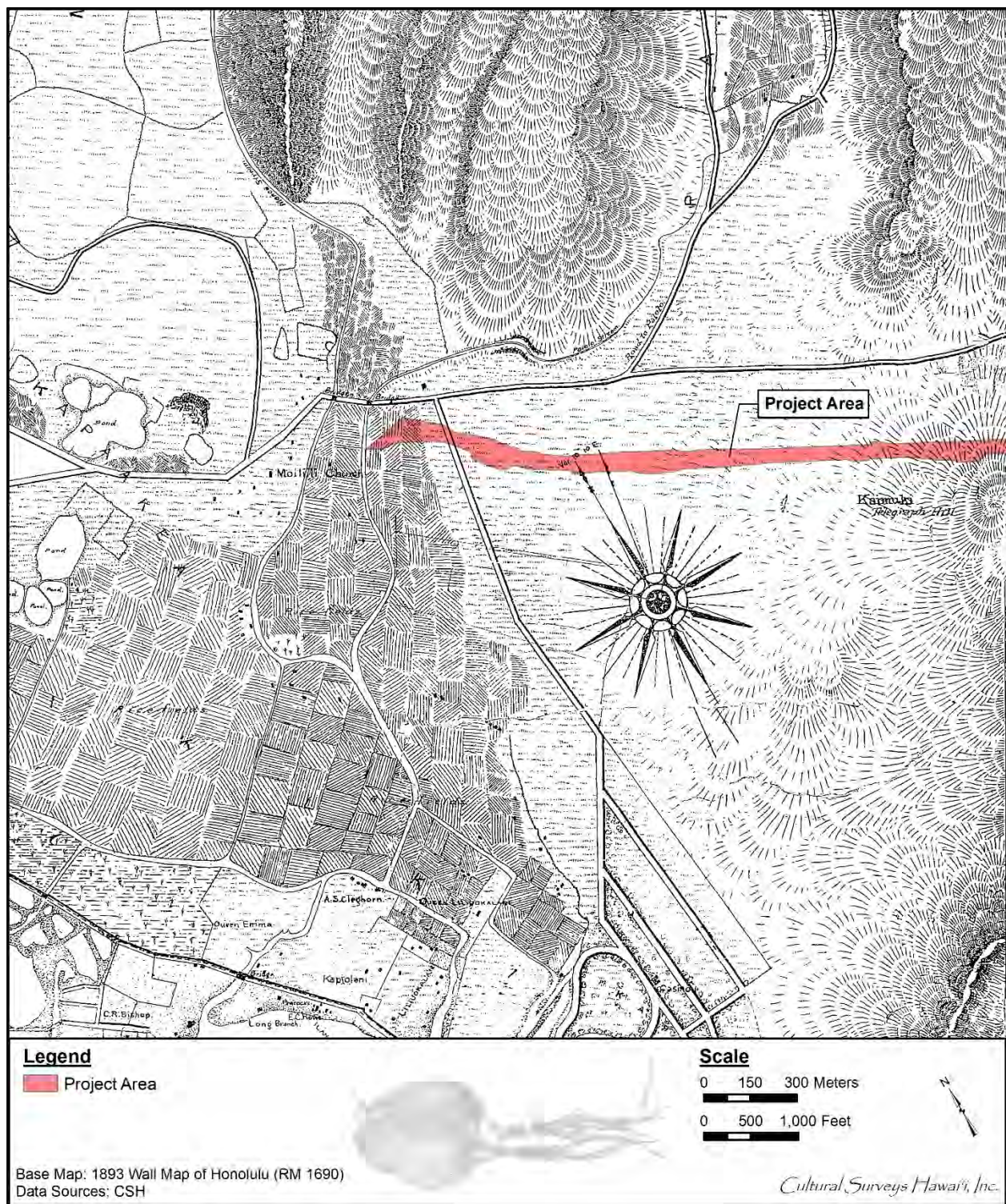


Figure 17. 1893 Wall map (portion) of the Honolulu District, showing little cultivation in main portion of project area, but rice fields in the extreme western end of the project area

of the project area is within the *'ili* of Pāhoa (meaning, “dagger”). By the time of the Māhele, this *'ili* was considered part of Waikīkī, not Palolo. Kamehameha I gave this land to his English friend, John Young, and in the Māhele it was awarded to John Young's son, Keoni Ana as LCA 8515, *'āpana* (lot):4. Only one *kuleana* claim was made in this *'ili*. An 1881 map (Figure 18) shows this section of Pāhoa had few habitation or taro lands, and was at the beginning of the era for residential development.

The central section of the project area is within the *'ili* of Kapahulu in Palolo Ahupua'a. The *'ili* of Kapahulu was claimed by Lunailo as part of LCA 8559B, *'āpana* 32. Nine *kuleana* claims to commoners were also made for this *'ili*. An 1883 map (Figure 19), shows proposed residential development marked by roads denoted by dashed lines. The dashed lines indicate these are “proposed” roads or dirt roads that have not yet been improved.

2.1.5.2 Wai'alae

The *'ili* of Wai'alae Iki was awarded to Abner Pākī, the father of Bernice Pauahi Bishop, while Wai'alae Nui was given to Victoria Kamāmalu, granddaughter of Kamehameha (see Figure 19). The award for Kamāmalu also included a *lele* (land unit) of Wai'alae Nui within Wai'alae Iki. A *lele* is also called a “jump land” as it is not always contiguous to the main award. The *lele* of Kamāmalu seems to have contained most of the wetland taro lands around Wai'alae Spring.

Subsequently in the Māhele, Land Commission Awards (LCAs) were given to commoners and others who could prove residency on and use of the *kuleana* parcels they claimed. In Wai'alae Iki and Wai'alae Nui, 55 awards were claimed and 37 were awarded. The *kuleana* awards for Wai'alae indicate numerous taro *lo'i* (irrigated fields) along the inland springs, *kula* land used for dryland crops, the rights to mountain and sea fishery resources, claims for fishponds, and house lots near the taro fields and along the coast. All but one of the awards contains more than one *'āpana*, or lot, which could be non-contiguous. Coastal parcels were usually used for house lots; *mauka* lots near streams, *'auwai* (irrigation ditches), and springs were used for *kalo* (taro) patches; and *kula* land was used for dryland cultivation of sweet potatoes and other dryland crops, or as pasture.

2.1.6 Late Nineteenth to Early Twentieth Century

2.1.6.1 Pālolo

Handy and Handy (1972:483), in their work on traditional Hawaiian agriculture, *Native Planters in old Hawai'i*, note Pālolo Valley (to the west of Wai'alae) was “the last valley with extensive wet-taro lands.” E.S. Craighill Handy (1940) carried out a field survey on O'ahu in the 1930s, recording the general location of abandoned agricultural terraces and terraces still in use for the cultivation of traditional Hawaiian crops. During this time, taro was still cultivated along streams and by the freshwater spring on the Wai'alae coast, and other crops, especially sweet potatoes, were grown wherever the soil was adequate.

Handy (1940:74) noted Wai'alae had three moderate-sized gulches with streams of constant flow, but he could not find any agricultural terraces for irrigated taro patches (*lo'i*) in these areas during his field surveys. Abandoned taro terraces could still be seen near Wai'alae Spring, on the flat lands near the Wai'alae coast.

The following information about the late nineteenth and early twentieth century history of Pālolo is drawn mainly from Pearson's (1982) *A History of Palolo Valley*. In the 1890s, rich

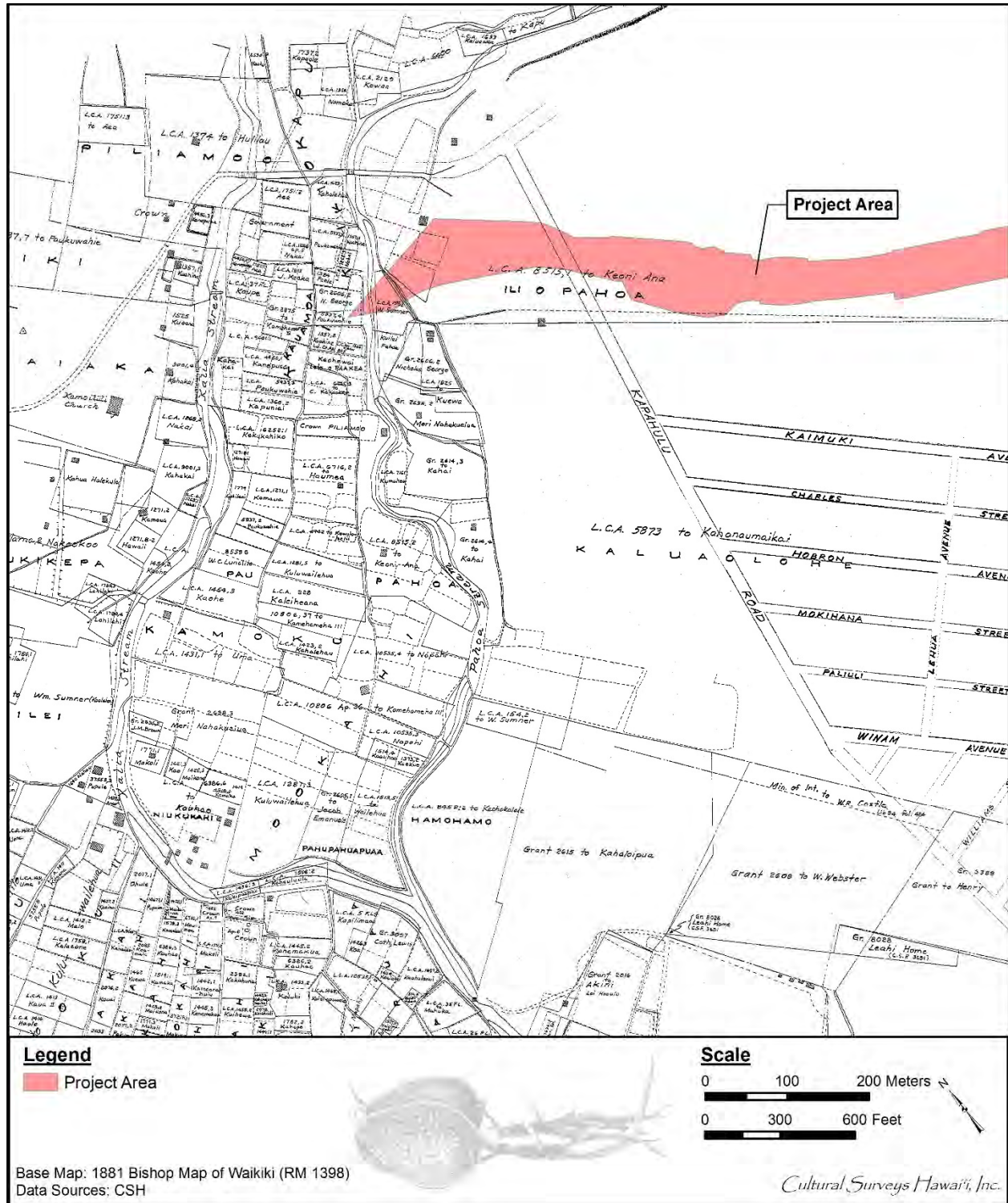


Figure 18. 1881 Bishop map (portion) of Waikīkī showing western end of project area in Pāhoa 'Ili, Waikīkī Ahupua'a; the project area is in a generally barren area, with no noted habitations and cultivated patches

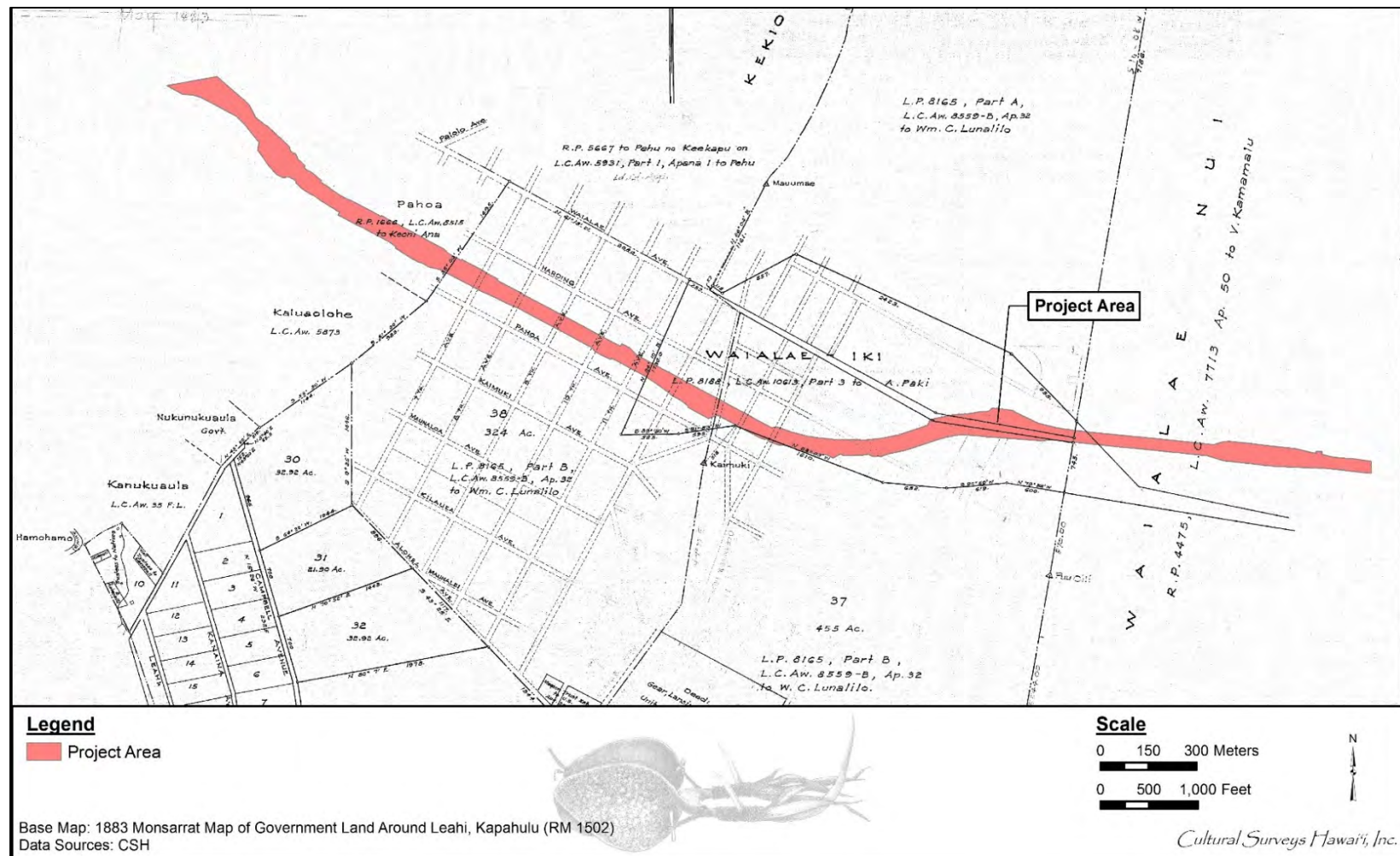


Figure 19. 1883 Monsarrat map (portion) of government land around Lē'ahi (Diamond Head), showing the west central portion in the 'ili of Kapahulu (*makai* of "Kekio") in Palolo Ahupua'a, the central portion in an irregular section of Wai'alaie Iki Ahupua'a and the eastern section in Wai'alaie Nui Ahupua'a; note the roads shown in the Kapahulu section are dashed, indicating that at this point they are "unimproved" (dirt roads) are merely "proposed"

businessmen from Honolulu bought up many of the *kuleana* parcels and surrounding lands. After the failed rebellion of Robert Wilcox in 1895, the territorial government passed a law that all crown lands owned by the *ali'i* were forfeited and became property of the government, which reserved the right to sell the lands. Thus, lots in Kapahulu, Wai'ōma'o, Pūkele, and Ka'auwealoa began to be sold. Some of the lands in Pūkele and Wai'ōma'o were set aside for Hawaiian homestead lands. Land companies, composed of several businessmen who pooled their money to buy the land for development, bought most of the land.

In 1894, O'ahu was hit with an epidemic of the bubonic plague, carried by rats. The urban centers were most severely affected by the sickness, but rural farms were also infected by the rats, which inhabited the outbuildings. Many Native Hawaiian taro farmers died during this epidemic. In urban Honolulu, Chinatown was burnt to the ground accidentally in an effort to contain and destroy the rats that bore the disease. Many of the Chinese who had lived in Honolulu town moved to nearby areas such as Pālolo to build new homes and to farm the taro lands once owned by the Hawaiians. By the turn of the century, Pālolo had a greater population of Chinese than Hawaiians.

In the early twentieth century, much of the land in Pālolo was considered too swampy, too steep, or too remote. The first sections to be developed were the McCully, Kapahulu, and Kaimukī areas, as shown on a 1902 map of O'ahu (Figure 20). In 1908, a mule-drawn trolley car service was built along the Wai'alae Road, linking the people of lower Pālolo to the urban center at Honolulu. By 1920 (Figure 22), the entire Waikīkī and Palolo sections of the project area have been developed, mainly as part of the "Kaimuki Tract." The population in Pālolo Valley was still relatively low, as can be seen in a 1919 fire control map (Figure 21). Houses are clustered around the *makai* border of the *ahupua'a*, adjacent to the land of Kaimukī, or directly along the major roads in the upper valley. The tax area of Pālolo Valley (St. Louis Heights-Pālolo-Wilhelmina) recorded a population of 2,358 in 1920 (Schmitt 1978:19). In 1927, four businessmen joined to form Palolo Vista, Inc., a land company, which first bought 93 acres of land from Carlos Long. By 1932, there were 3,000 people living in the valley, as can be seen in the increasing density of houses on a 1927-1928 map. Pālolo (including the neighborhoods of St. Louis Heights and Wilhelmina Heights) continued to grow and by 1970, the population was 30,000 (Schmitt 1978:19).

2.1.6.2 Kaimukī

The western end of the project area extends through the neighborhood of Kaimukī, once considered part of Pālolo and now considered within Waikīkī. The name means "the *ti* (*Cordyline terminalis*) oven," and refers to a legend that the *menehune* (Hawaiian little people) cooked *ti* roots in earth ovens on Kaimukī Hill (Pukui et al. 1974:69). The neighborhood grew up around the hill, which is a small shield volcano that formed after the major Diamond Hill eruption (Stearns 1966:86–87). Kaimukī is known as "The Oldest Little Business Town" on the island, and it was one of the first large subdivisions outside Honolulu (Watanabe 1996).

Kaimukī hill was used as a main trig station by surveyors mapping Kulaokahua, or the "plains of Waikīkī." Pu'u o Kaimukī had in fact been used for many years as a semaphore signal station, where reports of incoming ships were sent to Honolulu. This led to some people calling the *pu'u* "Telegraph Hill" (Takasaki 1976:67).

In 1884, Daniel Paul Isenberg, who later became a territorial senator, bought the property for \$2,325. He used this land to grow alfalfa and raise cattle and blooded horses (Damon 1931:788,

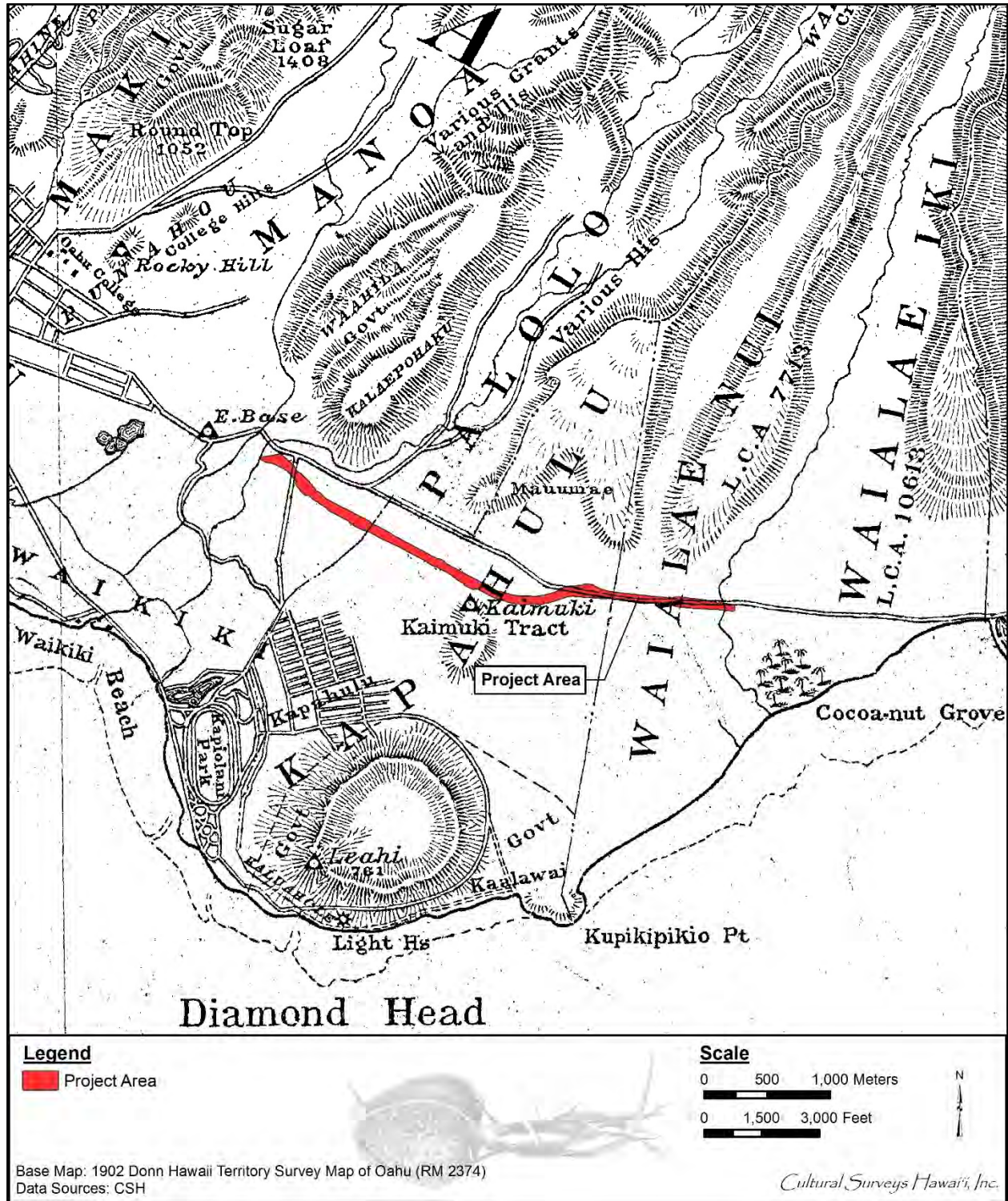


Figure 20. 1902 Donn map (portion) of O'ahu (Registered Map No. 2374), showing project area near the early residential areas of Kapahulu (near Diamond Head) and the "Kaimuki Tract"

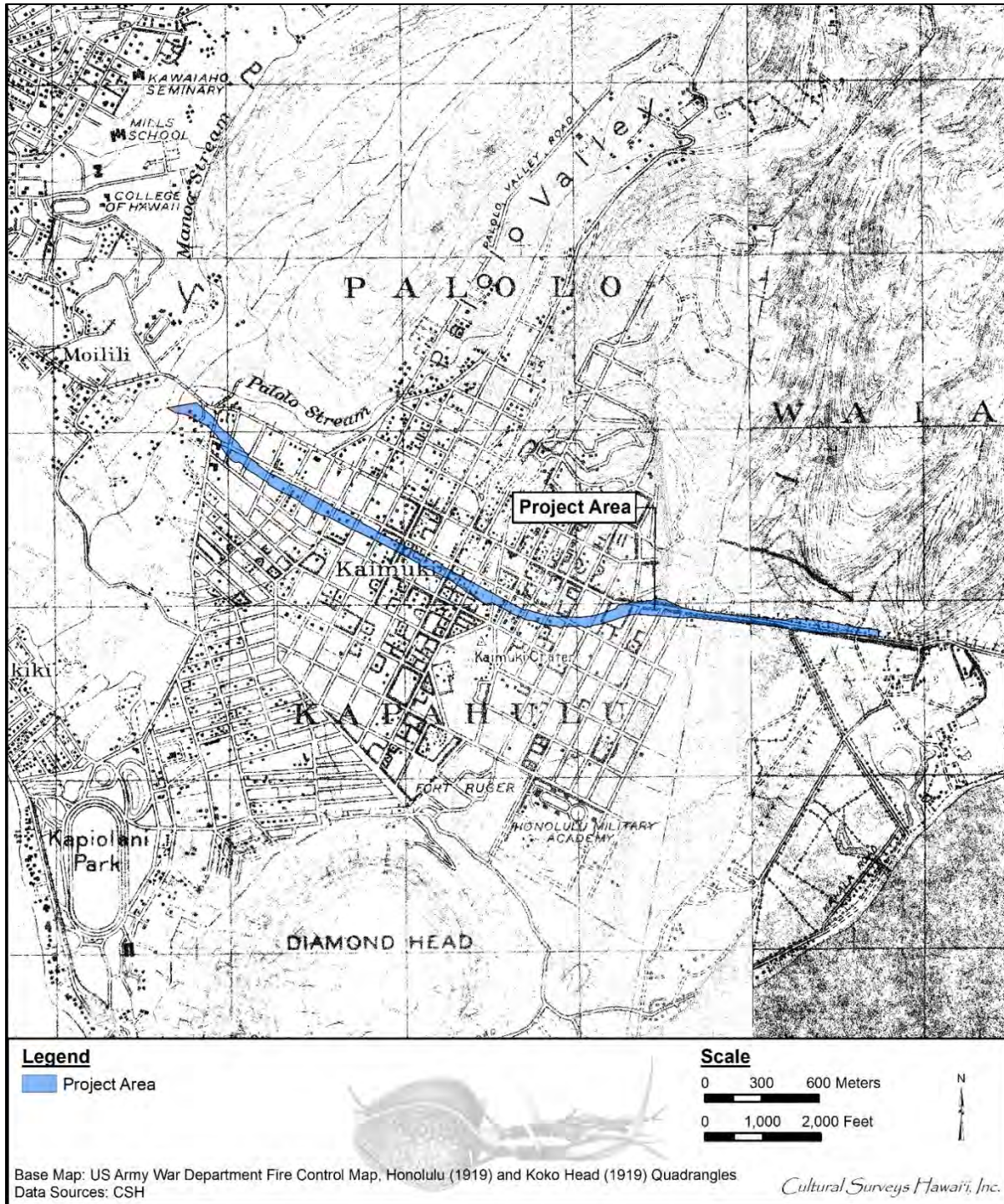


Figure 21. Portion of the 1919 Honolulu and 1919 Koko Head U.S. Army War Department fire control map, showing the location of the project area; at this time the grid of roads in Kaimukī and Kapahulu are laid out, but houses and commercial structures are still scattered along the main roads; the Wai'ālae section is still largely undeveloped, shown divided into fenced areas for cattle

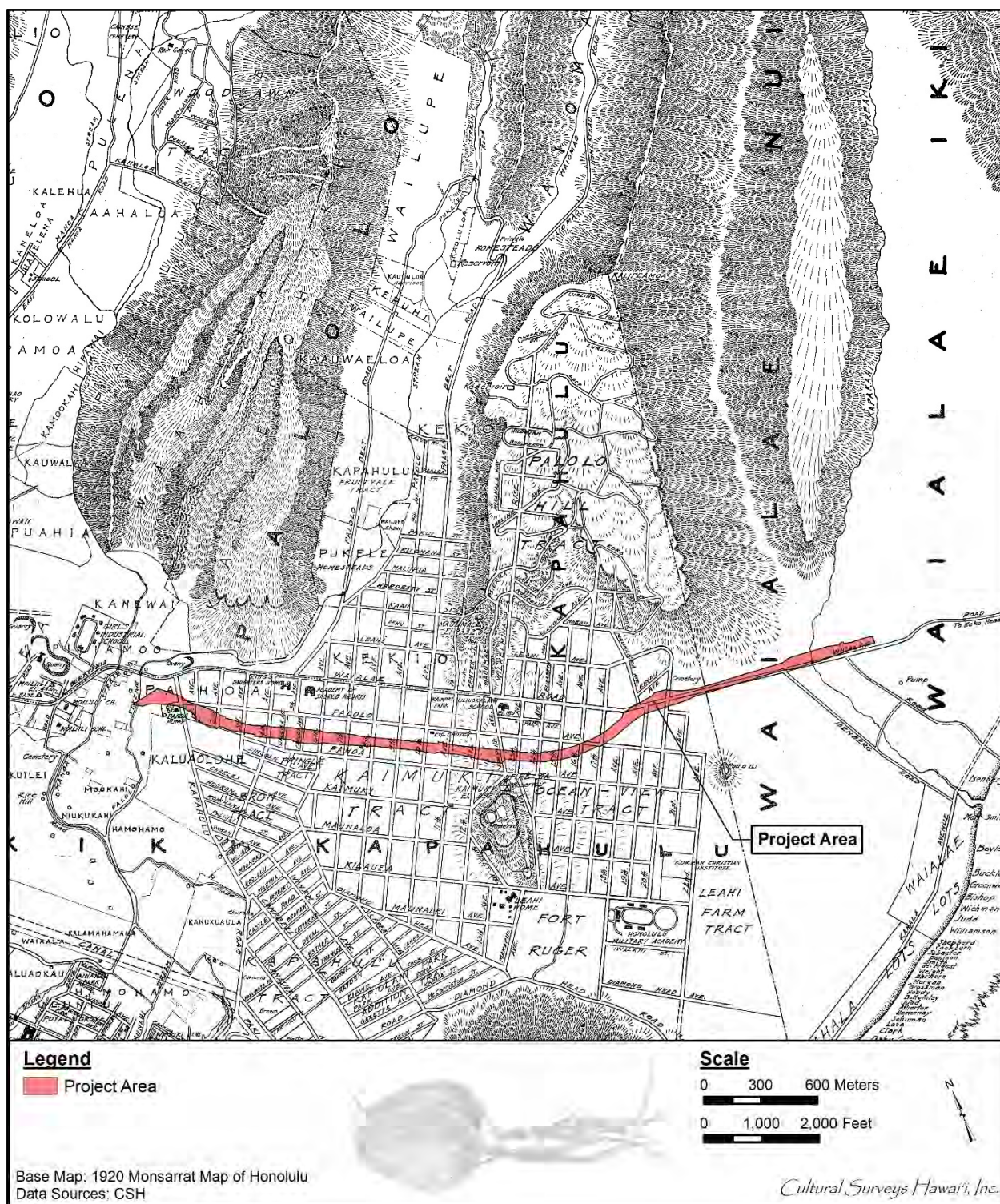


Figure 22. 1920 Monsarrat map (portion) of the Honolulu, showing the western section mainly in the “Kaimuki Tract”

AMP for the H-1 Guardrail-Shoulder Improvements, Kapi'olani to 'Āinakoā Ave., Pālolo, Wai'alae, Honolulu, O'ahu

31

TMKs: [1] 2-7-029, 2-7-030, 3-2-001, 3-2-007, 3-2-009, 3-2-010, 3-2-011, 3-2-012, 3-2-013, 3-2-014, 3-2-038, 3-2-039, 3-2-040, 3-2-041, 3-2-042, 3-2-043, 3-3-011, 3-3-012, 3-5-016, 3-5-017, 3-5-019, 3-5-023, 3-5-025, 3-5-044

829). Beyond the cattle, the area was also inhabited by ostriches, which were raised by Dr. George Trouseau, King Kalākaua's court physician, who allowed the birds to roam from Kapi'olani Park to Kaimukī (Mills 1939). With the addition of land also owned by his father, Isenberg's property extended from Kapahulu Avenue to Kāhala Beach (Takasaki 1976:68).

In the 1960s the H-1 Freeway was built, allowing cars to bypass Kaimukī on their way to and from Honolulu. Businesses began to suffer, even though lobbying by the community resulted in the building of a Kaimukī off-ramp. This slow-down did have one positive result; it preserved many of the 1930s and 1940s structures of the business district, keeping Kaimukī from being overdeveloped with modern high rises and large shopping malls (Watanabe 1996).

2.1.6.3 Kapahulu

The central portion of the project area extends through Kapahulu, once an *'ili* of Palolo, but now considered part of Waikīkī. The modern community of Kapahulu is bounded by Kapahulu Avenue on the west, Harding Avenue on the north, Alchea and Eighth Avenues on the east, and Monsarrat Avenue on the south. However, Kapahulu once extended all along the *mauka* slopes of Diamond Head: "Kapahulu means the 'worn out soul,' or 'the nightmare.' Locals of the area understand the concept because of the heavy traffic surrounding the area that wears out the roads" (KHNL 2004).

In 1889, one of the first private residences in the area was built by the businessman Charles Snodgrass Martin, who excavated a well onto his property at Campbell Avenue and Hīnano Street. He also raised pigs and cattle, which roamed all around Diamond Head. In the 1920s, other owners began to subdivide the property to sell to new residents and businesses. At this time, land could be sold for as low as 25 cents a square foot.

The area between Lincoln and Kaimukī avenues, near where H-1 Interstate Highway meets Kapahulu Avenue today, has many homes dating to the 1920s to 1940s. Several of the homes are built in a uniquely Hawaiian style, with double-pitched roofs and single-wall construction. Today the community has about a population of 1,000 people and is known for its antique stores, Hawaiian dealers, surfboard shops, and restaurants. One of the more famous businesses in the community is Leonard's Bakery, which began in 1953 when Leonard Rego first made a batch of malasadas based on his mother's recipe and sold them in this bakery

2.1.6.4 Wai'alae Land Use

Chinese immigrants moved into southeastern O'ahu early to raise rice in former taro lands or to set up rural farms. They raised poultry, vegetables, pineapple, and watermelons, or worked at the fishponds or on the ranches. In the 1920s and 1930s, the Lam family had a farm in Wai'alae. One daughter, Amy Young remembered the following:

We all worked from early morning until dusk. We had many hens, chickens, and ducks. . . . There were hundreds and hundreds of chickens and ducks to be killed and dressed!

We grew papayas, vegetables, sweet potatoes—mostly for our own use. [Char and Char 1988:9]

One crop introduction that did not succeed was large-scale pineapple cultivation. Chung Kun Ai, founder of City Mill, tried to grow pineapples in the 1920s in the uplands of Wai'alae. He leased some land from the Waialae Agricultural Company through the agency of Castle and Cooke Company. He wrote in his autobiography:

We next secured from the Bishop Estate two pieces of barren land at Waialae and Wailupe. We spent \$9,000 to build a road into our Waialae Valley land and to put up shacks for our laborers. Again, after a few months, most of our young pineapple plants wilted, and those that had escaped wilting were blighted by the strong cold wind of winter. We had to chalk up another dead loss. [Ai 1960:218]

In the 1850s Captain John Ross leased 300 acres in Wai'alae from the Kamehameha family for a ranch. He built a house in the coconut grove that appears on several early maps (see Figure 23). He was famous for his prize beef cattle and his parties. The long-term lease to Waialae Ranch was purchased from the Bishop Estate in 1887 by Daniel Paul Rice Isenberg, who used the land to raise horses and beef cattle and as a dairy, which later became part of the Honolulu Dairymen's Association and even later part of Meadow Gold Dairy (Hitch and Kuramoto 1981:36).

Ethel Damon, descendant of early missionary families on Kaua'i, relates some of the contemporary views of the Waialae Ranch from letters between the children of the Isenberg and Cooke families. As soon as Paul Isenberg reached his majority, he took all of his inheritance to develop the ranch in Wai'alae.

The land had never really been utilized to its full capacity and young Paul Isenberg went into it with high hopes, plowing extensively for alfalfa fields, installing large pumps for irrigation and purchasing valuable cattle and blooded race horses. [Damon 1931:788]

Isenberg expanded the house on the beach that John Ross had built, adding several rooms, a porch, and a large beachfront *lanai*. In the early 1920s, the estate was sold to Frederick G. Schattauer, the ranch manager, and two men associated with the Bank of Hawaii. They continued to run the ranch as a dairy, but were losing money on the enterprise.

2.1.7 A Review of Twentieth Century Maps

A series of historic maps (see Figure 21 through Figure 27) shows the changes on the vicinity of the project area in the twentieth century. On a 1919 U.S. Army War Department map (see Figure 21), a grid of roads for the new residential developments of Kaimukī and Kapahulu are laid out, but houses and commercial structures are still scattered only along the main roads; the Wai'alae section is still largely undeveloped. Much of coastal Wai'alae is still part of Waialae Ranch, which consists of a series of fenced fields and paddocks for Paul Isenberg's cattle and horses. A hint of the fading richness of the cultural landscape is evident in the complexity of the water courses, unimproved roads, walls, and fences depicted. Foot trails are depicted ascending most of the valleys and ridges including one ascending the nose of Wai'alae Iki Ridge.

On the 1933 and 1934 U.S. Army War Department fire control maps (see Figure 24 and Figure 25), the Kaimukī-Kapahulu area is a dense residential area, and development in Wai'alae has begun both along the coast and into Wai'alae Nui Valley. The Wai'alae Avenue in Wai'alae has been designated Route No. 1, Kalaniana'ole Highway, by 1943. A 1953 USGS topographic map

(see Figure 26) shows continued residential expansion throughout Wai‘alae. Individual houses are no longer shown on USGS maps, but red shading indicates most of the area is in a well-developed residential area. The eastern end skirts the boundary of the Wai‘alae Golf Course. By 1969 (see Figure 27), the project area is within a dense mixed residential/commercial area (red shade) and terminates on the eastern end on the boundary of the Wai‘alae Golf Course.

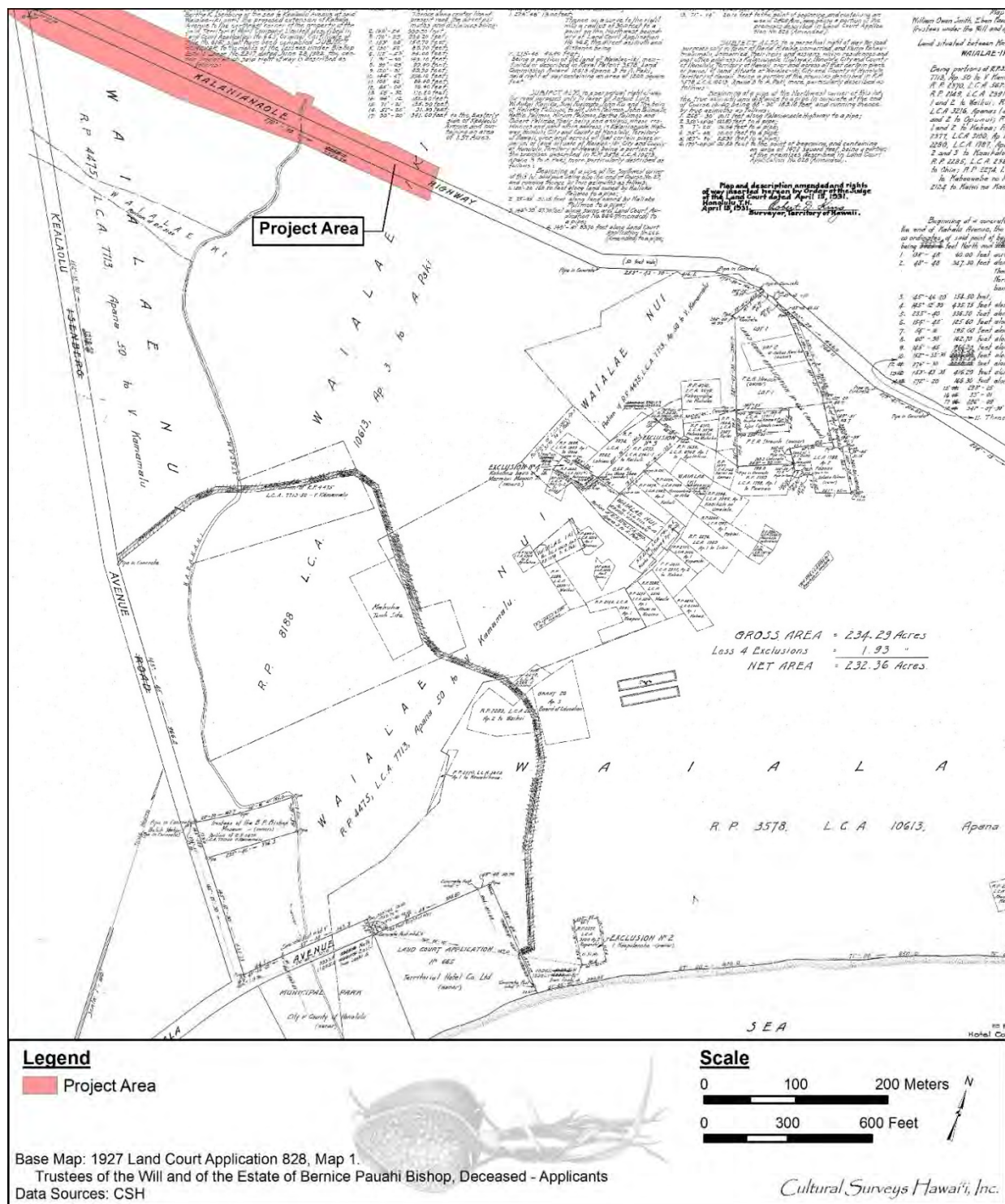


Figure 23. 1927 Land Court Application 828 Mapa to Bishop Estate, showing ranch lands and the house of John Ross and Paul Isenberg at the coast (Hawai'i Land Survey Division 1927); the eastern section of the project area terminates before the cluster of *kuleana* awards near Wai'ālae Spring shown in the upper portion of the map

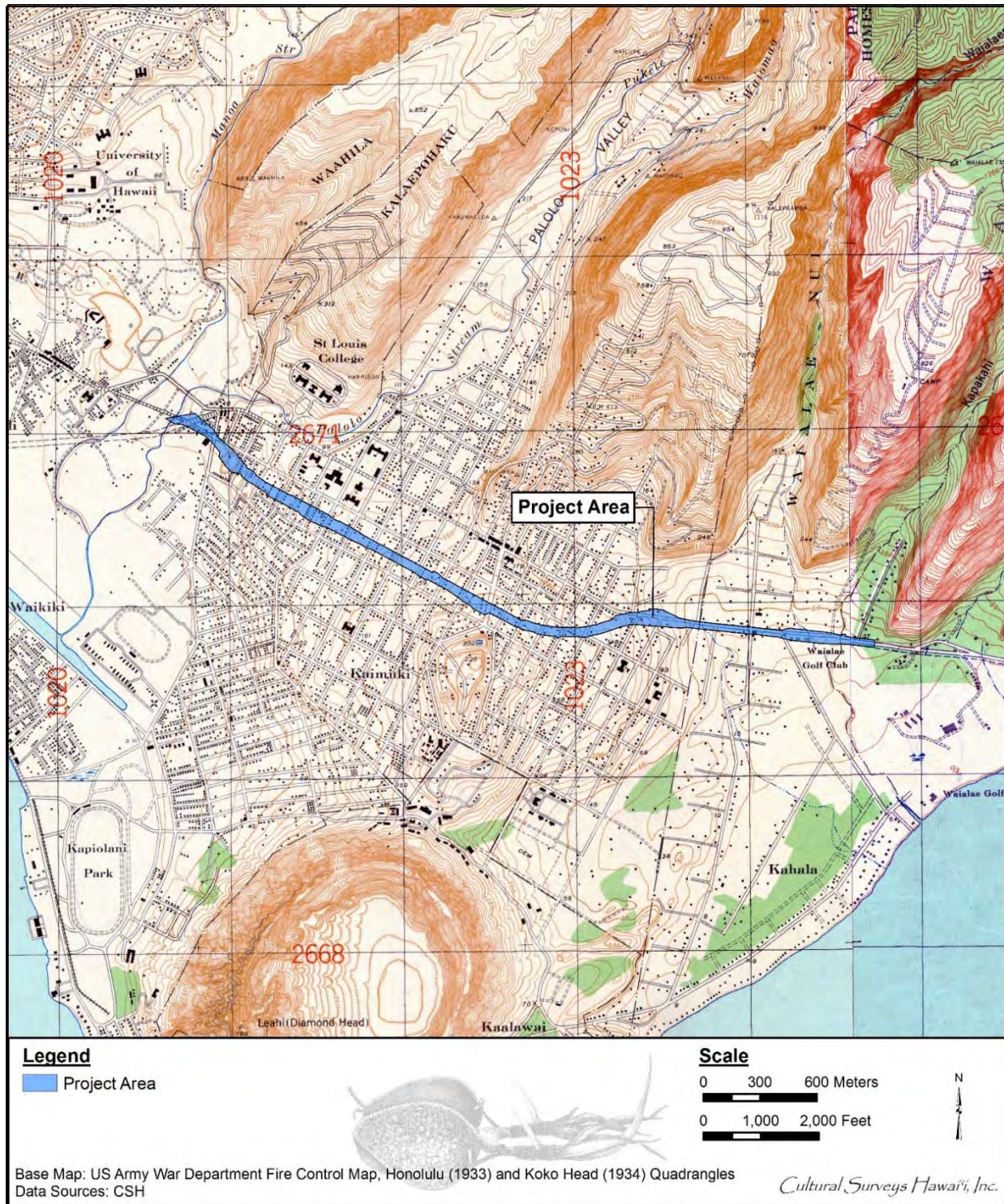


Figure 24. Portion of the 1933 Honolulu and 1934 Koko Head U.S. Army War Department fire control map, showing the location of the project area; the Kaimukī-Kapahulu area is a dense residential area, and development in Wai‘alae has begun both along the coast and into Wai‘alae Nui Valley

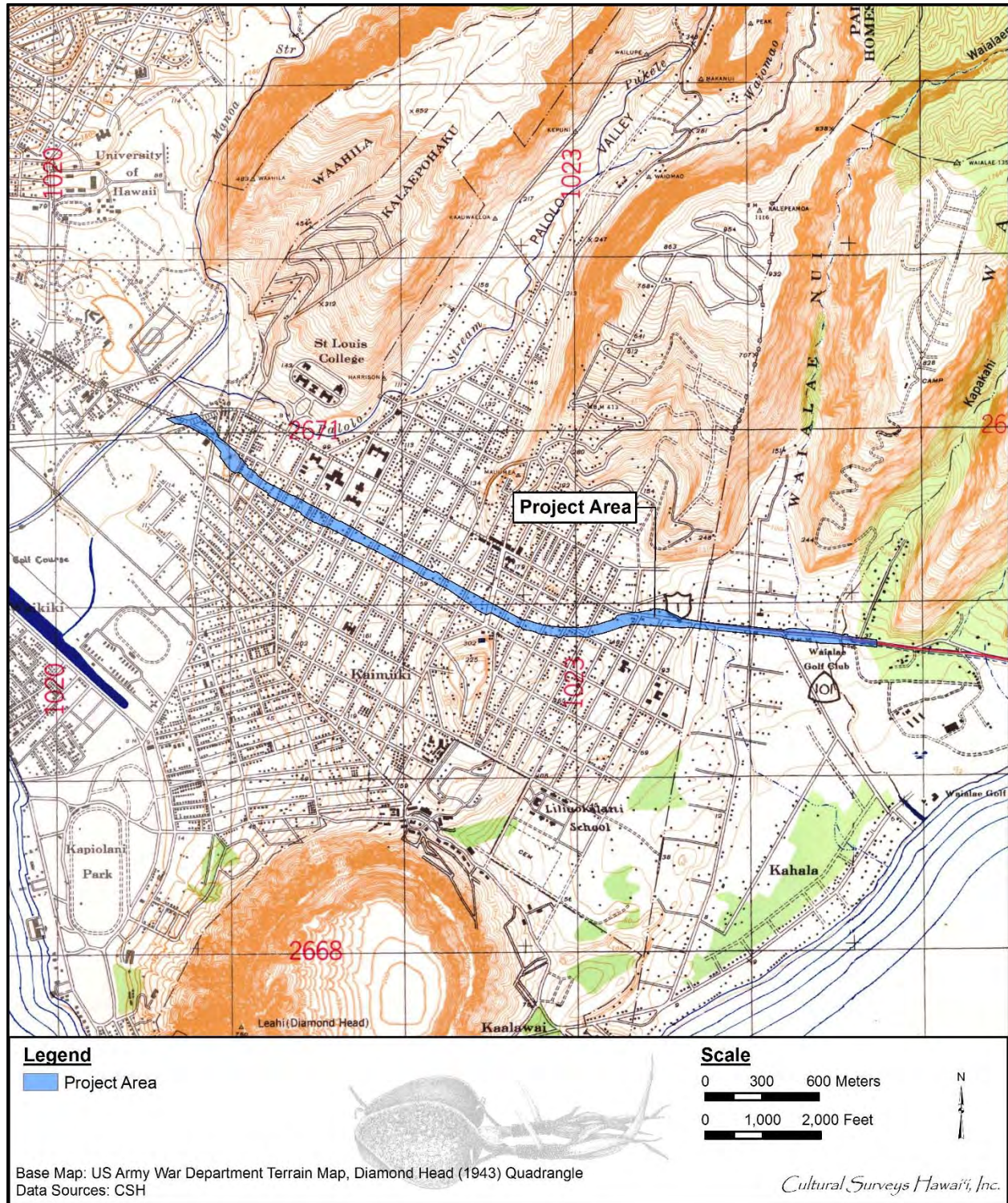


Figure 25. Portion of the 1943 Diamond Head U.S. Army War Department terrain map, showing the location of the project area; the map is similar to the 1933 map

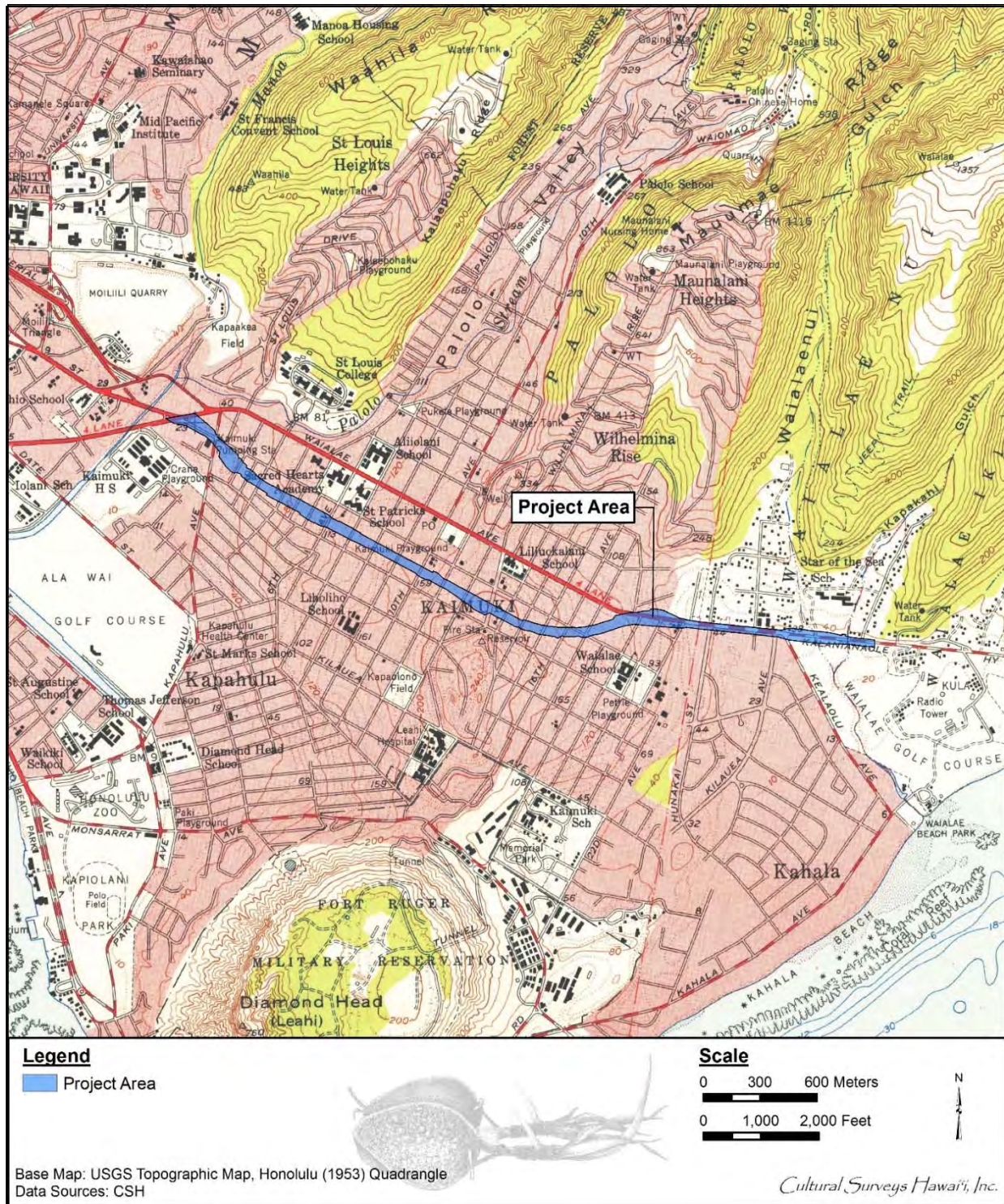


Figure 26. Portion of the 1953 Honolulu USGS topographic quadrangle showing location of the project area; individual houses are no longer shown, but red shading indicates most of the area is in a well-developed residential area; the eastern end skirts the boundary of the Wai'alae Golf Course

AMP for the H-1 Guardrail-Shoulder Improvements, Kapi'olani to 'Āinakoā Ave., Pālolo, Wai'alae, Honolulu, O'ahu

38

TMKs: [1] 2-7-029, 2-7-030, 3-2-001, 3-2-007, 3-2-009, 3-2-010, 3-2-011, 3-2-012, 3-2-013, 3-2-014, 3-2-038, 3-2-039, 3-2-040, 3-2-041, 3-2-042, 3-2-043, 3-3-011, 3-3-012, 3-5-016, 3-5-017, 3-5-019, 3-5-023, 3-5-025, 3-5-044

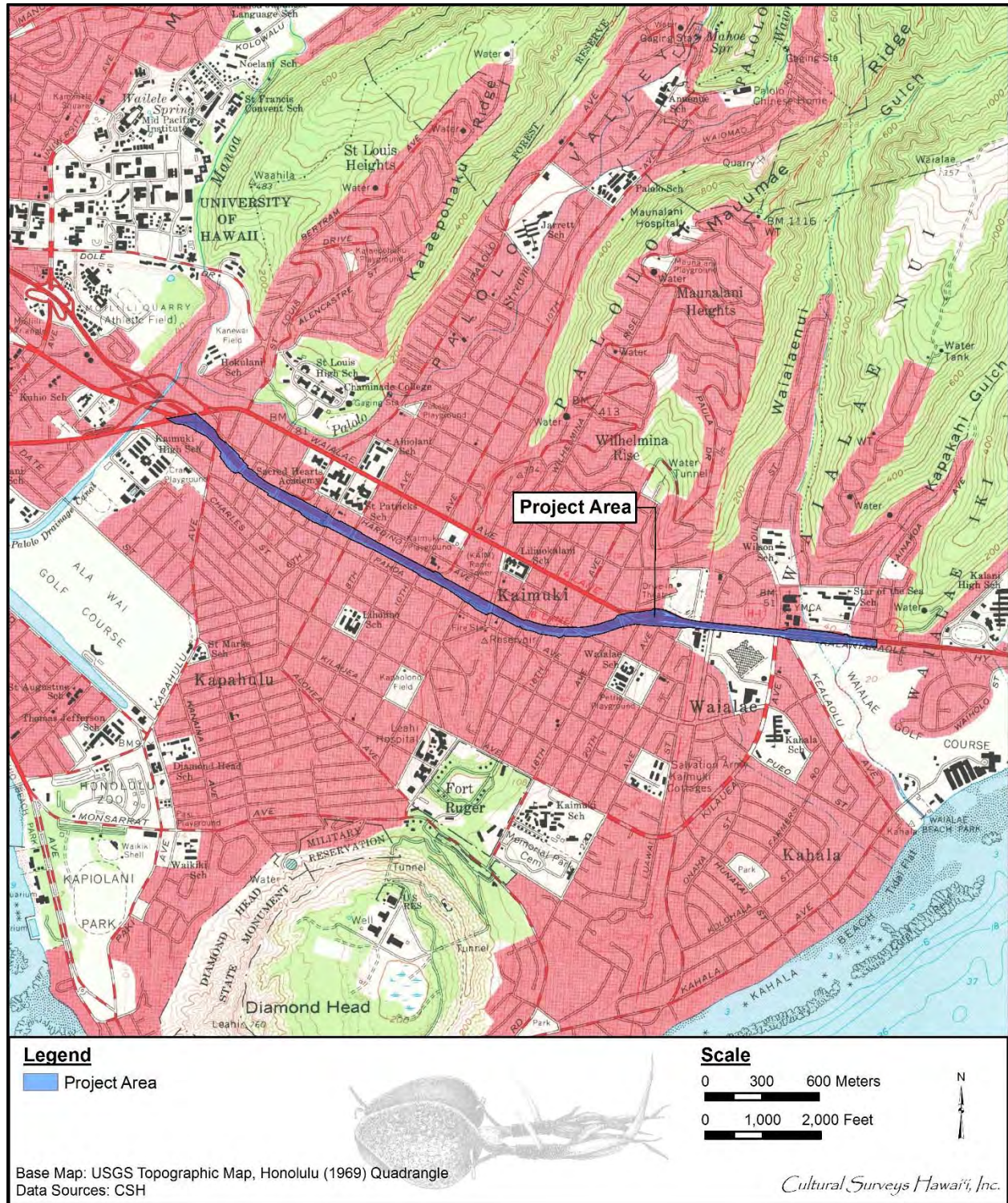


Figure 27. Portion of the 1969 Honolulu USGS topographic quadrangle showing location of the project area; the project area is within a dense mixed residential/commercial area (red shade) and terminates at the eastern end on the boundary of the Wai'ala'e Golf Course

AMP for the H-1 Guardrail-Shoulder Improvements, Kapi'olani to 'Āinakoā Ave., Pālolo, Wai'ala'e, Honolulu, O'ahu

39

TMKs: [1] 2-7-029, 2-7-030, 3-2-001, 3-2-007, 3-2-009, 3-2-010, 3-2-011, 3-2-012, 3-2-013, 3-2-014, 3-2-038, 3-2-039, 3-2-040, 3-2-041, 3-2-042, 3-2-043, 3-3-011, 3-3-012, 3-5-016, 3-5-017, 3-5-019, 3-5-023, 3-5-025, 3-5-044

2.2 Previous Archaeological Research

Only a few archaeological surveys have been conducted in Wai'ālae Nui and Wai'ālae Iki. Most of the archaeological work in the area was initiated by the inadvertent discovery of human remains during construction activities—particularly along Kāhala Avenue. The locations of previous archaeological study areas can be found on Figure 28 and previously identified archaeological sites on Figure 29. A summary of the previous archaeological reports is found in Table 2 and a list of all historic properties, including twentieth century buildings, is presented in Table 3. A more detailed discussion of the archaeological studies and their findings follows these tables.

2.2.1 Thrum 1908 – Mau'umae Heiau

In a survey of *heiau* on O'ahu, Thomas Thrum (1908:41) described Maumae Heiau as “Maumae. Palolo, above Kaimuki, a medium-sized heiau of po'okanaka class, credited to the time of Olopana. Foundations only remain.” In his 1930 survey of principal archaeological sites of O'ahu, McAllister (1933:196) could not confirm this *heiau*. Pukui et al. (1974:150) states the correct spelling of this word should be Mau'umae, which means “wilted grass,” as the name is based on a legend of the gods Kāne and Kanaloa. The two gods wrestled and trampled down the grass on this ridge so that the grass withered (Pukui et al. 194:15). Mau'umae is also the name of a cinder cone and ridge on the boundary between Pālolo and Wai'ālae (Soehren 2017).

Fornander (1919:5:478), in the context of an edict of Kamehameha the Great called “Maumae,” mentions that “Maumae was also the name of a *heiau* that stood on the right hand, or southern, side of Pālolo hill at entrance of the valley.” An alternate name for Pālolo Hill is Ma'ema'e Hill, which would put this *heiau* on the side of Kaimukī facing Maunalua at the base of Mau'umae Ridge near Wilhelmina Rise. In the Bishop Museum database, this site, although it has never been confirmed, was designated State Inventory of Historic Places (SIHP) # 50-80-12-2290.

2.2.2 McAllister 1933 – Mō'ili'ili Petroglyphs

Petroglyphs on a bluff on the north bank of Palolo Stream were first recorded by Kenneth P. Emory of the Bishop Museum.

There were, according to Emory (n.d.), in one group ‘eight human figures, all solid, triangular, bruised, except one linear.’ In another group, there were ‘five figures, all solid, triangular, bruised, all careless of execution, but old and certainly the real thing.’ [McAllister 1933:78]

McAllister confirmed these two groups of petroglyphs in the 1930s on the north bank of Palolo Stream, about 400 ft east of the Saint Louis Street bridge. By that time, the petroglyphs were faint and could barely be seen (McAllister 1933:78). These petroglyphs were designated SIHP # 50-80-14-061.

2.2.3 Bishop Museum 1960s – Wai'ālae Private Cemetery

On 13 August 1963, during the excavation for a new sewer line on the golf course, five or six bones were found in a trench. Dr. Robert Bowen of the Bishop Museum was notified of the find, and he visited the site. The construction firm (with no prior notice to the museum) dug into a “mound” and uncovered additional skeletal material. Because of the proposed construction, museum personnel decided to initiate a program of salvage archaeology. A total of 26 burials were

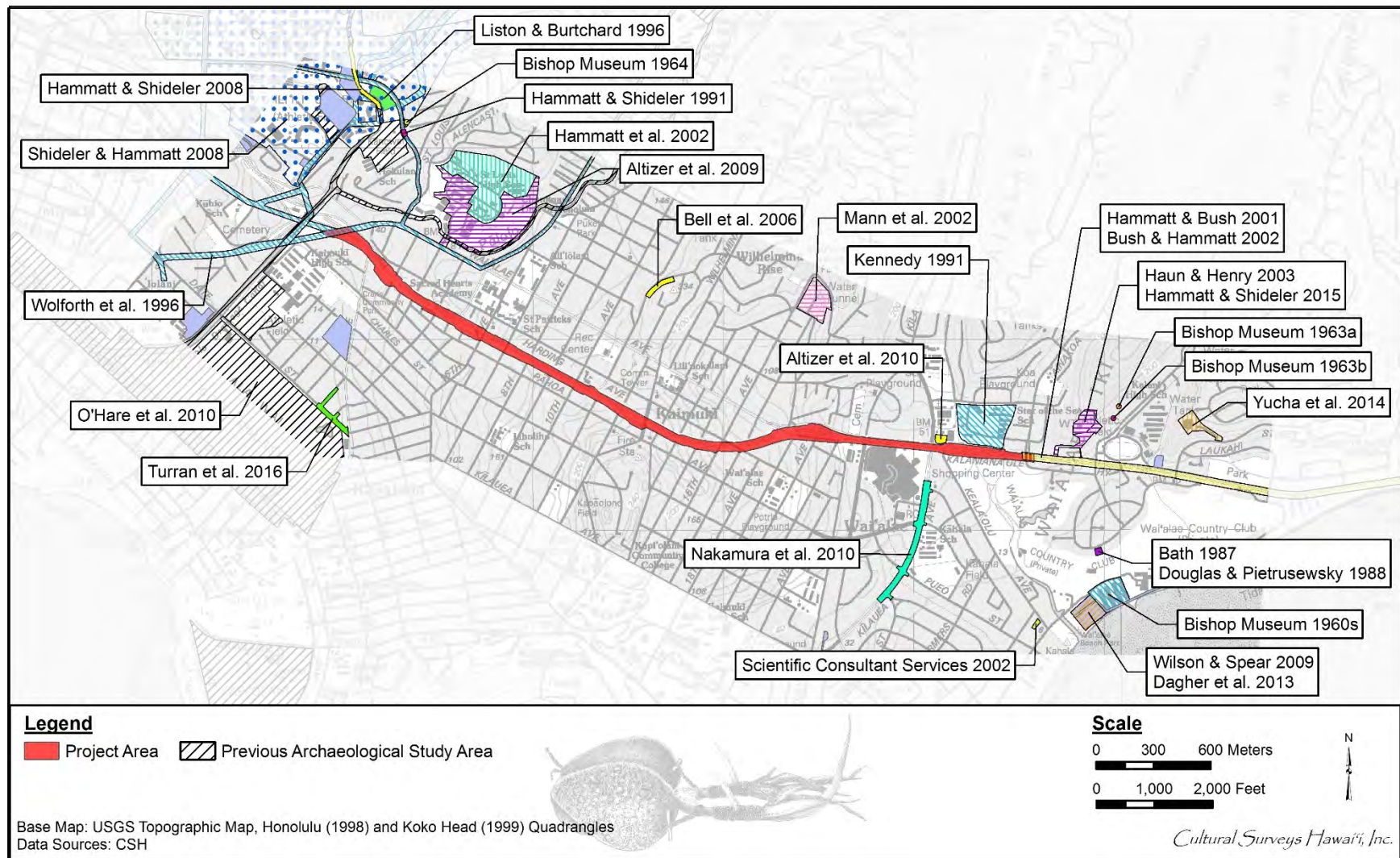


Figure 28. Portion of the 1998 Honolulu USGS topographic quadrangle showing previous archaeological study areas in the vicinity of the project area

AMP for the H-1 Guardrail-Shoulder Improvements, Kapi'olani to 'Āinakoā Ave., Pālolo, Wai'alae, Honolulu, O'ahu

TMKs: [1] 2-7-029, 2-7-030, 3-2-001, 3-2-007, 3-2-009, 3-2-010, 3-2-011, 3-2-012, 3-2-013, 3-2-014, 3-2-038, 3-2-039, 3-2-040, 3-2-041, 3-2-042, 3-2-043, 3-3-011, 3-3-012, 3-5-016, 3-5-017, 3-5-019, 3-5-023, 3-5-025, 3-5-044

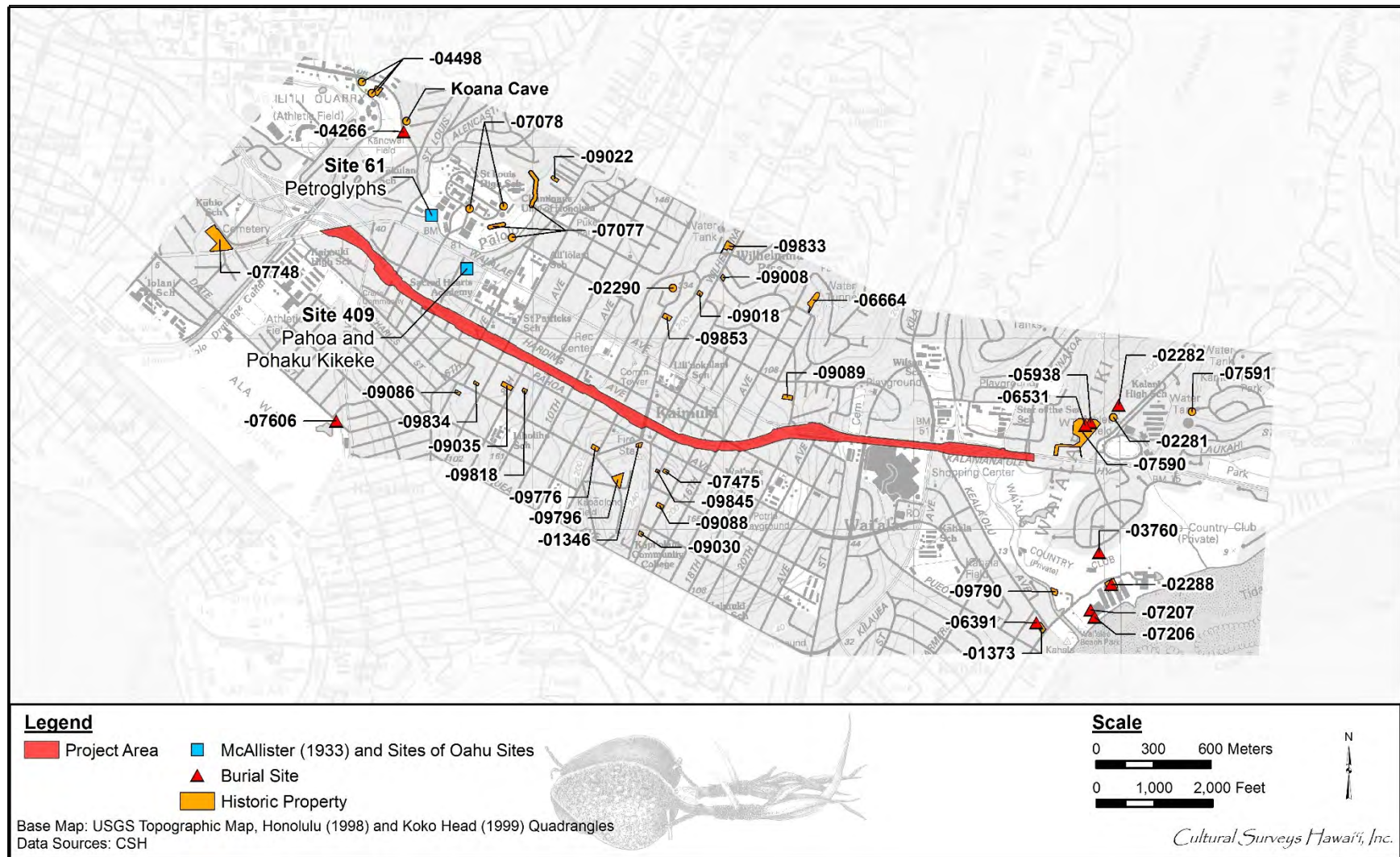


Figure 29. Portion of the 1998 Honolulu USGS topographic quadrangle showing previously identified historic properties in the vicinity of the project area

AMP for the H-1 Guardrail-Shoulder Improvements, Kapi'olani to 'Āinakoa Ave., Pālolo, Wai'ālae, Honolulu, O'ahu

TMKs: [1] 2-7-029, 2-7-030, 3-2-001, 3-2-007, 3-2-009, 3-2-010, 3-2-011, 3-2-012, 3-2-013, 3-2-014, 3-2-038, 3-2-039, 3-2-040, 3-2-041, 3-2-042, 3-2-043, 3-3-011, 3-3-012, 3-5-016, 3-5-017, 3-5-019, 3-5-023, 3-5-025, 3-5-044

Table 2. Previous archaeological work in the vicinity of the project area

Author	Location	Project Type	Site*	Results
Thrum 1908	Mau'umae Ridge	<i>Heiau</i> Survey	2290	Ruins recorded in 1908; destroyed by 1933
McAllister 1933	Palolo Stream, north bank	Mō'iliili Petroglyphs record	61	Reported faint petroglyphs on bluff on north bank of Palolo stream, 400 ft east of St Louis St bridge; probably destroyed by construction of a new bridge
Bishop Museum 1960s	Wai'alaie Cemetery, Wai'alaie Golf Course	Burial report	2288	Private historic family cemetery
Bishop Museum 1963a	Wai'alaie Iki Ridge	Hawaiian archaeology survey (HAS)	2281	Small lava tube cave with burials in back, midden in front with dog bones, excavated 1963
Bishop Museum 1963b	Wai'alaie Iki Ridge	HAS	2282	Small lava tube with scattered human remains and three pieces of 3-ft long pieces of wood with squared ends, possibly from canoes, reported in 1963
Bishop Museum 1964	Koana Cave, mauka of St. Louis College	Burial report	None	Bishop Museum archaeologist(s) visited site in 1960s in response to report of burial in cave
Sterling and Summers 1978	Kaimukī, near Pu'u Kaimukī	Literature review	409	Literature review for "bellstone," believed destroyed before 1908 (not included on Fig. 28)
Bath 1987	1013 Waiholo St, Kāhala	Burial recovery	3760	Describes inadvertent find of a pre-Contact human burial, one individual
Douglas and Pietrusewsky 1988	1013 Waiholo St	Osteological report	3760	Osteological report of Bath and Griffin 1988 find
Hammatt and Shideler 1991	Dole St	Burial find	4266	Minimum of 18 individuals disinterred from a pre-Contact cemetery, SIHP # -4266
Kennedy 1991	Star of the Sea Church	Surface survey	—	No surface features identified
Liston and Burtchard 1996	Kāpapa Lo'i Kānewai	Data recovery	4498	Testing revealed pond-field sediments dating to AD 1443-1681

Author	Location	Project Type	Site*	Results
Wolforth et al. 1996	Kamoku-Pukele 138-KV transmission line	Archaeological inventory survey	4266 4498	Two previously reported historic properties (SIHP # -4266, the Dole Street Cemetery, and SIHP # -4498, the Kāpapa Kānewai Lo'i) within project area
Hammatt and Bush 2001	Kalaniana'ole Hwy	Monitoring for water/gas mains		No subsurface features or burials found during monitoring of trench excavations
Bush and Hammatt 2002	Kalaniana'ole Hwy	Monitoring for water/gas mains		No subsurface features or burials found during monitoring of trench excavations
Hammatt et al. 2002	Chaminade University Campus, Pālolo Ahupua'a	Archaeological inventory survey		No archaeological or historical sites identified other than Chaminade University campus itself
Mann et al. 2002	Proposed Mau'umae Nature Park, TMKs: [1] 3-3-014:016 and 018	Archaeological inventory survey and cultural assessment	6664	Identified infrastructure relating to Honolulu Board of Water Supply Wai'alae Shaft Water Tunnel, constructed in 1935 (SIHP # -6664); no cultural practices identified within project area
Scientific Consultant Services 2002	814 Keala'olu St, (Kiihala), TMK: [1] 3-5-07:15	Burial recovery	6391	Letter to Burials Site Program, SHPD documenting an inadvertent find; reports four individuals
Haun and Henry 2003	Waialae 180' Reservoir	Burial report-cave	5938, 6531	Remains of five individuals found at site SIHP # -5938 and one infant cranium found at SIHP # -6531
Bell et al. 2006	Sierra Dr on Highview Place, TMKs: [1] 3-3-006:031, 033-037	Archaeological field check and literature review		No potential for historic properties along the stretch of Sierra Dr
Hammatt and Shideler 2008	Kānewai Cultural Center, University of Hawai'i-Mānoa	Archaeological literature review and field inspection	4498	No new archaeological features noted during brief field inspection

Author	Location	Project Type	Site*	Results
Shideler and Hammatt 2008	University of Hawai'i-Mānoa	Archaeological reconnaissance survey	4498	Field inspections made at Kānewai <i>lo'i</i> (SIHP # -4498), Koana Cave, a possible wall of Hipawai Heiau (SIHP # -63), and Wa'ahila Ridge area; SIHP # -63 not near project area
Altizer et al. 2009	Chaminade University Campus, TMKs: [1] 3-3-001:001 and 006	Archaeological inventory survey	7707 7078	Two historic properties identified, consisting of terrace and water control features associated with original campus construction (SIHP # -7707) and building foundations and morgue egresses associated with military use during WWII (SIHP # -7078)
Wilson and Spear 2009	Wai'alae Country Club	Archaeological monitoring		No significant finds
Altizer et al. 2010	4346 Wai'alae Ave, TMK: [1] 3-5-017:003	Archaeological monitoring		No historic properties identified
Nakamura et al. 2010	Kīlauea Ave	Archaeological monitoring		Mid-twentieth century to modern artifacts recovered
O'Hare et al. 2010	Ala Wai Watershed project	Cultural resources and ethnographic study		Identified 40 sites within 10 m of Makiki, Mānoa, and Pālolo watershed streams; none near current project area
Dagher et al. 2013	Wai'alae Country Club Clubhouse	Archaeological Monitoring	7206 7207	Two probable pre-Contact to early historic burials found, SIHP #s -7206 and -7207
Yucha et al. 2014	Wai'alae Iki Reservoir	Archaeological Inventory Survey	7591	Temporary habitation rock shelter (SIHP # -7591) found with possible pre-Contact midden and historic use
Hammatt and Shideler 2015	Wai'alae 180 Reservoir	Archaeological Inventory Survey	5938 6531 7590	Two previously identified caves (SIHP #s -5938 and -6531) revisited; new complex, historic infrastructures for reservoir designated SIHP # -7590
Turran et al. 2016	Palani Ave ROW	Archaeological monitoring	7606	Human skeletal remains (SIHP # -7606) discovered in a karst-type environment

* Site = SIHP = State Inventory of Historic Places number (each site number in the table is formally preceded by the numbers "50-80-14 (unless otherwise noted) representing the State of Hawai'i, O'ahu Island, and the USGS 7.5-Minute Series Quadrangle, respectively); SIHP #s -2281 and -2282 are preceded by 50-80-15

Table 3. Previously identified historic properties in the vicinity of the Project Area

SIHP # 50-80-14-	Site Type	Age	Source
Koana Cave	Cave with possible subsurface deposits; may once have had a burial	Pre-Contact	Shideler and Hammatt 2008; Shideler and Hammatt 2008
61	Mō'ili'ili Petroglyphs	Pre-Contact	McAllister 1933
409	Pāhoa and Pōhaku Kīkēlē	Pre-Contact	Sterling and Summers 1978
1346	Kaimukī Fire Station; part of Fire Station-theme group; architect: R.G. Miller	Historic; built 1924	National Register of Historic Places (NRHP)
1373	English Tudor/French Norman Cottages; 15 residences	Historic; built between 1923 and 1932	NRHP; Historic Hawai'i foundation 2014
2281	Burial(s) in a cave, unknown number	Pre-Contact	Bishop Museum 1963a; Barrera 1974
2282	Burial(s) in a cave, unknown number	Pre-Contact	Bishop Museum 1963b; Barrera 1974
2288	Burials – Wai'ālae Cemetery	Historic	Bowen and Soehren 1960s – 17713, 22625
2290	Mau'umae Heiau	Pre-Contact	Thrum 1908
3760	Burial, primary flexed adult female	Pre-Contact to Early Historic	Bath 1987; Douglas and Pietruszewsky 1988
4266	Dole Street Cemetery with at least 18 individuals	Pre-Contact to Early Historic	Hammatt; Wolforth et al. 1996
4498	Kāpapa Lo'i Kānewai; agricultural complex	Pre-Contact to Early Historic	Liston and Burtchard 1996; Wolforth et al. 1996
5938	Cave with burials (5 individuals)	Pre-Contact	Haun and Henry 2003
6391	Burial, four individuals		Scientific Consultant Services (SCS) 2002; Dye and Jourdan 2007
6531	Cave with one human infant cranial fragment	Pre-Contact	Haun and Henry 2003; Hammatt and Shideler 2015
6664	Honolulu Board of Water Supply Wai'ālae Shaft water tunnel	Historic; built 1935	Mann et al. 2002
7077	Chaminade University campus foundation	Historic	Altizer et al. 2009

SIHP # 50-80-14-	Site Type	Age	Source
7078	Chaminade University – WWII structure	Historic	Altizer et al. 2009
7206	Burial, partial burial in burial pit	Pre-Contact to Early Historic	Dagher et al. 2013
7207	Burial, in situ human burial	Pre-Contact to Early Historic	Dagher et al. 2013
7475	931 14th Ave; Craftsman-style bungalow	Historic, built 1924	Hawai'i Register of Historic Places (HRHP); Historic Hawai'i foundation 2014
7590	Historic reservoir	Historic	Hammatt and Shideler
7591	Overhang shelter	Pre-Contact to Early Historic	Yucha et al. 2014
7606	Burial	Pre-Contact to Early Historic	Turran et al. 2016
7748	Mō'ili'ili Japanese Cemetery	Historic; opened 1908	HRHP
9008	Lemon Wond Holt Residence, 3704 Anuhea St; Tudor picturesque style	Historic; built 1932	NRHP; Historic Hawai'i foundation 2014
9018	Antonio and Arcenia Soares Residence, 1407 Koko Head Ave; Hawaiian style bungalow	Historic; built 1926	NRHP; Historic Hawai'i foundation 2014
9022	Owen and Ellen Williams Residence, 3206 'Āhinahina Place; Craftsman style Hawaiian house	Historic; built 1931	NRHP; Historic Hawai'i foundation 2014
9030	George Miller/Juliet Carlson Residence, 747 Ocean View Dr; Hawaiian plantation style home	Historic; built 1938	NRHP; Historic Hawai'i foundation 2014
9035	Leong-Yap Residence, 934 8th Ave; Bungalow Hawaiian style house	Historic; built 1928	NRHP; Historic Hawai'i foundation 2014
9086	Leong and Mildred (Chang) Young Residence, 847 Pa'āhanua St; Colonial Revival style house	Historic; built 1933	HRHP; Historic Hawai'i foundation 2014
9088	Kin and Lau Shee Lum Residence, 840 15th Ave; Mediterranean revival house	Historic; built 1926	HRHP; Historic Hawai'i foundation 2014
9089	Henry Ho Court, 1252-1256A 'Ēkaha Ave, four Craftsman bungalows	Historic	HRHP; Historic Hawai'i foundation 2014

SIHP # 50-80-14-	Site Type	Age	Source
9776	Frank and Juliette Lee Residence, 917 12th Ave; custom house by architect Cyril W. Lemmon of Lewers & Cooke	Historic; built 1932	NRHP; Historic Hawai'i foundation 2014
9790	Jean Charlot Residence, 4956 Kāhala Ave; split level French Rural style house associated with noted Hawaiian artist Jean Charlot	Historic; built 1958	NRHP; Historic Hawai'i foundation 2014
9796	Kaimukī Reservoir, Kaimukī Scout Bowl (used as Boy Scouts Troop 10 headquarters since 1917), 3640 Crater Rd	Historic; built 1898 as a city reservoir	NRHP; Historic Hawai'i foundation 2014
9818	George Yanagihara Residence, 941-A 8th Ave; Hawaiian style bungalow house	Historic; built 1930	NRHP; Historic Hawai'i foundation 2014
9833	Hale Hani Court, 1526, 1534 Wilhelmina Rise (five houses); Craftsman style bungalows – Hawaii Regional style	Historic; built 1938	NRHP; Historic Hawai'i foundation 2014
9834	Virgin Biggs Residence, 3334A Kaimukī Ave; Hawaiian style bungalow	Historic; built 1929	NRHP; Historic Hawai'i foundation 2014
9845	Alice K. Rodenhurst Residence, 928 14th Ave, Hawaiian style bungalow	Historic; built 1936	NRHP; Historic Hawai'i foundation 2014
9853	Albert R. "Sunny" Cunha (famous musician) House, 1805 Center St	Historic; built 1926	NRHP; Historic Hawai'i foundation 2014

disinterred by Bishop Museum archaeologists, under the direction of Robert Bowen and Lloyd Soehren, between 7 January and 22 January 1966 (Bowen and Soehren 1966).

At first the archaeologists believed the burial ground dated to around 1825 to 1845. This was then corrected to 1825 to 1870, based on recovered grave goods such as bottles, the hexagonal coffin-style of one burial, and the presence of tooth evulsion (extraction by force). In the pre-Contact/early post-Contact periods, Hawaiians knocked out their front teeth (evulsion) in a pattern to mark the death of a loved one or high *ali'i*. However, the archaeologists contacted by former residents in January 1966 were told the area was a private cemetery called Pu'u Makani, or Wa'ialae Private Cemetery, used by local residents and by ranch workers as late as 1920. On 24 January 1966 the museum decided that since there were recent burials at the cemetery, disinterment should be conducted by a mortuary service rather than by archaeologists. The Greenlawn Funeral Home disinterred 17 additional burials and planned to reinter the remains at a local cemetery. An unknown number of burials were left in place within the mound. No formal report was published for this excavation, but background information can be viewed at the Bishop Museum Archives (Anthropology Group 1, Box 6.7). The site has been designated SIHP # 50-80-14-2288.

2.2.4 Bishop Museum –1963a, 1963b

Two sites, SIHP #s 50-80-15-2281 and -2282, were identified by the Bishop Museum surveys in May 1963. Both are mentioned in the report—"List of Hawaiian Sites on Bishop Estate Lands" (Barrera 1974:104)—and are currently listed online on the Bishop Museum's (1963a, 1963b) Hawaiian Archaeological Survey Database. According to these sources, SIHP # -2281 consisted of a small lave tube with burials in back and midden and dog bones in front. The reports mention it was excavated, but little was found. There are no further details on the condition or number of burials. SIHP # -2282 was a small lava tube with scattered human remains and three pieces of wood with squared ends (possible canoe fragments). The number of burials is not recorded.

2.2.5 Bishop Museum 1964 – Koana Cave

Human skeletal remains were reportedly collected from Koana Cave by a resident of St. Louis Heights in the 1950s (ca. 1953), and turned over to the Bishop Museum, which accessioned these in the middle 1960s (Bishop Museum 1964). The Bishop Museum has no record of such a visit; however, they have an accession of an adult female crania (osteological catalogue #2863) dated 10 July 1964 from St. Louis Heights, O'ahu, giving a person with the same last name (different first initial) as the source. Typically, a museum archaeologist would have investigated such a discovery. At that time, the cave was deemed to have relatively little excavation potential (report in Shideler and Hammatt 2008:69).

In 2008, CSH archaeologists (Shideler and Hammatt 2008:78, 81–82) visited Koana Cave, which consisted of one small main chamber. No human bones were found in the cave, although there were a few cow bones and burnt *kukui* nut shells scattered on the floor. A small terraced area was located outside the main chamber, immediately south of the opening. The terrace area had been modified in the modern era as a gardening site, but there is a high probability that historically significant cultural deposits could be found during subsurface excavations in this terraced area.

2.2.6 Sterling and Summers 1978 – Pāhoa and Pōhaku Kīkēkē

The “Bell-stone” known as Pōhaku Kīkēkē, or “rapping stone” (Pukui and Elbert 1986:149, 334), was formerly located on the modern boundary between Pālolo and Kaimukī, which is today marked by the alignment of Wai‘alae Avenue. It is shown on the trail map based on John ‘Īī’s information on early nineteenth century trails (see Figure 15). It was once near the ‘Ewa (west) end of Sacred Hearts Academy near Fifth Avenue. Children living in the inland area of Kaimukī struck this stone to announce to their friends on the coast they were coming down to the beach to surf (Pearson 1982:10). This stone was reported as destroyed or removed prior to 1908 (Sterling and Summers 1978:277–278). It was associated with the legends of Hi‘iaka, sister of Pele, in her travels around O‘ahu. When Hi‘iaka encountered *mo‘o* (supernatural creatures), she often fought them, turning them into stone. She met two of these *mo‘o* in Pālolo, Pāhoa and Makahuna. In a different version of the story, Pāhoa is the name of a male *mo‘o*, who sat each day on a small hill called “Pāhoa’s Knoll” (Ho‘oulumāhie 2008:291–293). In yet another version of this legend, Hi‘iaka destroyed a *mo‘o* called Līlīehua and placed the ringing voice of the creature in the rock Pōhaku Kīkēkē, located on the lower side of the road going to Wai‘alae (Sterling and Summers 1978:278).

According to Mary Kawena Pukui, the fragments of Pōhaku Kīkēkē are among the stones in front of the main building of the King’s Daughters Home on the corner of Fourth and Wai‘alae avenues. (M.K. Pukui, 16 March 1954 in Sterling and Summers 1978:279). Although the stone has been destroyed, it was designated SIHP # 50-80-14-409.

2.2.7 Bath 1987; Douglas and Pietrusewsky 1988

During excavation of a swimming pool on a property at 1013 Waiholo Street (approximately 500 m south-southwest of Waialae 180’ Reservoir), the SHPD was informed of the discovery of human bones by the medical examiner’s office (Bath and Griffin 1988). The burial was in a flexed position. A subsequent examination of the remains by Douglas and Pietrusewsky (1988) of the University of Hawai‘i determined the bones were of a female, approximately 35 years old. The burial was designated SIHP # -3760.

2.2.8 Hammatt and Shideler 1991

In 1990, human remains were encountered in the course of trenching for a Board of Water Supply 24-inch water main at Dole Street near Kānewai Park. A minimum number of 18 individual skeletal remains were disinterred from the site by CSH archaeologists (Hammatt and Shideler 1991). The Dole Street burials (SIHP # 50-80-14-4266) were associated with three formal artifacts of traditional design and with cultural layers dated to the fifteenth century AD. These burials were later reburied on the grounds of the Center for Hawaiian Studies (Hammatt and Shideler 1991).

2.2.9 Kennedy 1991

Joseph Kennedy (1991) conducted a surface survey of a 7.5-acre parcel occupied by facilities for the Star of the Sea Church-School complex located *mauka* and adjacent to Kalaniana‘ole Highway. Two lava tubes and six caves were found, but they did not contain any cultural material. No other surface features were found.

2.2.10 Liston and Burtchard 1996

Archaeological data recovery was conducted at the Kāpapa Lo‘i ‘o Kānewai (a.k.a. Kānewai Cultural Garden) in association with construction of the University of Hawai‘i Center for Hawaiian Studies building (Liston and Burtchard 1996). The Kāpapa Lo‘i ‘o Kānewai, designated SIHP # 50-80-14-4498, consisted of a 1.7-acre parcel including active cultivation of taro *lo‘i* and native Hawaiian plants. The area had been restored in the early 1980s by a group including community members, University students, and alumni. The data recovery work was later conducted in a portion of the *lo‘i* area that would be impacted by construction. Backhoe testing revealed evidence of a prehistoric irrigation system and pond-field agriculture. Radiocarbon dating of recovered samples indicated a period of prehistoric usage (AD 1443-1681), abandonment, and later reconstruction in the early historic period (Liston and Burtchard 1996).

2.2.11 Wolforth et al. 1996

The objective of the Wolforth et al. 1996 study was to provide information appropriate to and sufficient for preparation of an environmental impact statement (EIS). The project area is situated in the lands of Mānoa, Pālolo, and Waikīkī, Honolulu District. This study for the Kamoku-Pukele 138-kV Transmission Line Alignments reports one previously unrecorded archaeological site (PHRI Site 1726.1) encountered within the project impact area. One previously unrecorded archaeological site (SIHP # 50-80-14-5463) was encountered just beyond the limits of the project area. Portions of two previously recorded archaeological sites (SIHP #s -4266 and -4498) were confirmed within the project area and inspected. Two historic sites are located adjacent to the project area: the University of Hawai‘i (SIHP # -1352) is listed on the Hawai‘i Register of Historic Places (HRHP), and the Church of the Crossroads (SIHP # -9749) is listed on the National Register of Historic Places (NRHP).

2.2.12 Hammatt and Bush 2001; Bush and Hammatt 2002

In 2001 and 2002, CSH conducted archaeological monitoring for the installation of a gas main (Hammatt and Bush 2001) and a water main (Bush and Hammatt 2002) from ‘Āinakoa Avenue to West Hind Drive. The main trenching line was composed primarily of fill materials associated with different phases in the development of the highway; however, the presence of isolated sand deposits were observed. No cultural material was encountered during installation of the gas main (Hammatt and Bush 2001). One horseshoe and one *poi* pounder fragment were collected during installation of the water main (Bush and Hammatt 2002).

2.2.13 Hammatt et al. 2002

CSH (Hammatt et al. 2002) carried out an archaeological inventory survey of a 21-acre northwest portion of Chaminade University Campus (TMKs: [1] 3-3-001: por. 001 and 006). The background research and field work, including limited subsurface testing of some promising overhangs, identified no archaeological or architectural historic properties within the study area other than the Chaminade University campus itself. No further archaeological study was recommended.

The research did, however, underscore the historic importance of the campus as the culmination of the Catholic Church’s endeavors in higher education in Hawai‘i which began in 1846. While the St. Louis College/Chaminade University Kalaepōhaku campus was not begun until ca. 1925,

several of the extant buildings (including Freitas Hall, Henry Hall, Bertram Hall and Eiben Hall) predate 1928 and are significant historic structures. In addition to the historic importance associated with Catholic higher education, there is also the historic importance as a World War II hospital of sufficient stature as to merit a visit by President Franklin D. Roosevelt.

This study also highlighted concerns for the former site of Mau'oki Heiau which may have been located in close proximity to the Saint Louis 22 Caliber rifle range on a low bluff adjacent to Pālolo Stream, just southwest and outside the project area. The authors indicated this adjacent area may merit further study prior to any further development of the southwest adjacent portion of the campus.

2.2.14 Mann et al. 2002

CSH conducted an archaeological inventory survey for the proposed Mau'umae Nature Park, Palolo. The only archaeological site documented during the course of the archaeological inventory survey were features and infrastructures relating to the Honolulu Board of Water Supply Wai'alae Shaft Water Tunnel (TMK: [1] 3-3-014:por. 16). The tunnel was constructed in 1935 as a means to improve water supply to residences of Wilhemina Rise. However, poor pumping conditions and excessive industrial accidents caused the station to be completely abandoned 47 years later in 1984. Although the shaft is no longer in operation, the infrastructure that remains today is an important architectural feature of the twentieth century, and a good example of a Honolulu Board of Water Supply shaft type. Features documented included a dressed basalt block portal structure, a stone line ditch, a chain-link fence, a basalt boulder concentration, a stone wall, a terrace enclosure, a step alignment, and a depressed area of large basalt boulders. This complex was designated SIHP # 50-80-14-6664

2.2.15 Scientific Consultant Services 2002

In 2002, Scientific Consultant Services (SCS) conducted a recovery of human skeletal remains exposed during subsurface excavations at 814 Keala'olu Street. The report on this burial could not be found at the SHPD office. However, the report and location of the burials are mentioned in Dye and Jourdan (2007:8), who note four individuals were found. Note that Dye and Jourdan (2007:8) call the site SIHP # 50-80-14-6632 in the previous archaeology section of their report, but this seems to be a mistake as the next listed site, on 4773 Kāhala Avenue, is also called SIHP # 50-80-14-6632. The citation in the reference section of the report (Dye and Jourdan 2007:52) calls the site on 814 Keala'olu Street SIHP # 50-80-14-6391, which is probably the correct number.

2.2.16 Haun and Henry 2003

In 2003, archaeologists from Haun and Associates (Haun and Henry 2003) conducted a surface survey of the 8-acre Wai'alae 180' Reservoir Replacement project site near the Kalani High School Athletic Field. Two caves with human remains were found; one contained the remains of multiple individuals and the other contained fragments of an infant skull. The caves were designated SIHP #s 50-80-14-5938 and -6531. Both burial cave sites were assessed as significant and were recommended for preservation.

2.2.17 Bell et al. 2006

A literature review and field check report for a 152-m long rock fall area along Sierra Drive in Pālolo was completed by CSH in 2006 (Bell et al. 2006). The field inspection concluded the rock

fall area is not a natural cliff face, but appears to be primarily a very unstable and vertical road cut. Further, the 'a'ā (lava rock) forming the majority of the bedrock is not well consolidated and the slope is not believed to be amenable to the formation of caves and the soft, easily weathered material is so full of inclusions it would not be a good place to carve petroglyphs. No further archaeological work was recommended for the project during the stabilization of the Sierra Drive rock fall area, as it was concluded this part of the cliff face was no older than Sierra Drive itself.

2.2.18 Hammatt and Shideler 2008

CSH (Hammatt and Shideler 2008) completed a literature review and field inspection report for the Kānewai Cultural Garden (SIHP # 50-80-14-4498) at the University of Hawai'i-Mānoa in 2008. No new archaeological features were noted during the field inspection. The background research and field inspection demonstrated that Kānewai Cultural Garden (SIHP # -4498) consists of modern surface features (irrigation ditches feeding into taro pond-fields) overlying centuries-old deposits consistent with a long history of gardening at this spot along the Mānoa Stream. Subsurface testing (archaeological excavation), radiocarbon dating and pollen analysis by International Archaeological Research Institute, Inc. (Liston and Burtchard 1996) demonstrated use of the area as a taro *lo'i* from the middle 1400s, and perhaps earlier. It is also important to state the nearby "Dole Street burials" documented by CSH (Hammatt and Shideler 1991) are reburied on the grounds of the Center for Hawaiian Studies.

2.2.19 Shideler and Hammatt 2008

For a literature review and field inspection report for the University of Hawai'i-Mānoa campus, CSH archaeologists made field inspection of four portions of the campus; the Kānewai *lo'i* (SIHP # 50-80-14-4498), Koana Cave, a possible location of Hipawai Heiau (SIHP # 50-80-14-63) and the Wa'ahila Ridge area. The archaeologists concluded the Kānewai *lo'i* was a highly significant historic property, regardless of the many modern modifications to the taro pond-field area. For the Koana Cave, they found no additional human bones, other than those collected by the Bishop Museum in the 1950s. Only a few cow bones and some charred *kukui* nutshells were noted on the cave floor. The archaeologists did note a terrace area outside the cave dripline that was modified into a garden area. Although modified, there may still be undisturbed sub-surface remains in this terrace. A rock wall was located on the campus in an area denoted on some early twentieth century maps as a rock enclosure near Mānoa Church. This may be the remains of a wall around Hipawai Heiau (SIHP # 50-80-14-61). CSH archaeologists carried out a reconnaissance survey of the 50-acre Wa'ahila Ridge project area, and two areas of prominent rock exposures and overhangs, possible pre-Contact rock shelters, were noted.

2.2.20 Altizer et al. 2009

CSH carried out an archaeological inventory survey addressing approximately 29 acres of the southeast portion of the Chaminade-Saint Louis School campus (Altizer et al. 2009). Two historic properties were identified: SIHP # 50-80-14-7077, consisting of landscaping, a drainage system, and wall terrace remnants associated with the original construction of St. Louis College in 1927-1928; and SIHP # 50-80-14-7078, a World War II-era building foundation and a World War II-era mortuary egress present in the southeastern corner of T.C. Ching Hall.

2.2.21 Wilson and Spear 2009

In 2009, SCS (Wilson and Spear 2009) carried out archaeological monitoring at the Waialae Country Club. No cultural deposits of historic significance were identified.

2.2.22 Altizer et al. 2010

CSH (Altizer et al. 2010) archaeologists monitored redevelopment at 4346 Wai‘alae Avenue in 2009. No cultural deposits were identified as a result of the project’s monitoring program. The project area’s subsurface deposits appear to have been disturbed by past land use, which likely included extensive earthmoving activity and importation of fill sediments into the project area.

2.2.23 Nakamura et al. 2010

Pacific Consulting Services, Inc. (Nakamura et al. 2010) produced a report on archaeological monitoring in support of traffic signalization improvements on Kīlauea Avenue. Isolated historic artifacts dating to the mid-twentieth century were reported from two fill deposits.

2.2.24 O’Hare et al. 2010

In 2009 and 2010, 12 survey areas were chosen for field inspections for the Ala Wai Watershed project in the areas of Kaka‘ako and Waikīkī. The survey areas were mainly “open spaces” and usually consisted of athletic fields or playgrounds with little vegetation. Five of these project areas were in the Waikīkī project area: Fort DeRussy, Ala Wai Park, Ala Wai Golf Course, Kaimukī High School, and Kapi‘olani Regional Park. In addition, the archaeologists surveyed both banks of the Ala Wai Canal. The CSH surveyors did not find any archaeological features in the six areas during the 2009-2010 field inspections (O’Hare et al. 2010).

2.2.25 Dagher et al. 2013

In 2013, archaeologists from SCS (Dagher et al. 2013) monitored upgrade work at the Wai‘alae Country Club Clubhouse. During monitoring, two human burials were found, SIHP #s 50-80-14-7206, a partial set of remains associated with a burial pit, and -7207, an in situ burial. Historic artifacts, volcanic glass debitage, and a basalt coffee-bean sinker were recovered from screening of backfill material near the burial at SIHP # -7206. The sinker may have been a grave good. The burials were determined to be likely Hawaiian, buried in a traditional manner that spans the pre-Contact to early history periods.

2.2.26 Yucha et al. 2014

CSH carried out an inventory survey for the Wai‘alae Iki ‘180 Reservoir Rockfall Mitigation project in 2014 (Yucha et al. 2014). A 100%-coverage pedestrian inspection of the project area identified one historic property. SIHP # 50-80-15-7591 was a cave located along a steep cliff face in the northern corner of the project area. Modifications within the cave include a one-course basalt cobble and small boulder alignment located along the northern side of the opening. Lumber and a metal can were found on the surface. A test unit was excavated within the cave. A small quantity of charcoal and marine shell was identified and collected, but the charcoal was not suitable for radiocarbon testing. The site, designated SIHP # 50-80-14-7591 was identified as a temporary habitation shelter, likely used as early as the pre-Contact period into the historic period. All skeletal material was returned to the excavations, which were backfilled.

2.2.27 Hammatt and Shideler 2015

In 2014, CSH (Hammatt and Shideler 2015) conducted additional archaeological inventory survey for the Wai‘alaie 180’ Reservoir Lot A (rock fall mitigation) in three rock fall hazard areas. Three historic properties were identified, two previously identified caves (Haun and Henry 2003) with human skeletal remains, and several structures associated with the Wai‘alaie 180’ Reservoir Complex. The two caves (SIHP #s 50-80-14-5938 and -6531) were relocated by CSH archaeologists and photographed. Eight features associated with the Wai‘alaie 180’ Reservoir were mapped, described, and photographed. These eight features were comprised of a concrete storage tank, an access road of degraded asphalt, mortared basalt walls and curbstones, two drainage ditches, and a brick and mortar structure with a concrete roof, a retaining wall/ditch, and two basalt/concrete U-shaped structures. This complex was designated SIHP # 50-80-14-7590. The reservoir first appears on a 1953 map, so it is more than 50 years old.

2.2.28 Turran et al. 2016

From 2013 to 2014, CSH conducted archaeological monitoring for Palani Avenue drainage improvements (Turran et al. 2016), approximately 650 m south of the project area. Inadvertently discovered human skeletal remains (SIHP # -7606) were discovered in a karst-type environment observed throughout the project area covered with fill. No other cultural or historic material was observed during excavations.

2.3 Background Summary

The project area is in portions of Pālolo, Wai‘alaie, and Waikīkī. Based on historic maps, it was in a fairly barren area in the pre-Contact and early historic periods, with no evidence for extensive wetland or dryland agriculture or for permanent habitation. There are, however, several rock shelters on the ridges and stream banks that were used for temporary habitation and for burial.

During the first half of the nineteenth century, glimpses of the southeast coast of O‘ahu are provided in accounts of missionary visitors. Gilbert F. Mathison, walking through the area in 1822, noted a fishing village containing about 100 huts near Maunalua fishpond in Maunalua Ahupua‘a, east of Kuli‘ou‘ou Ahupua‘a. He also reported “occasional huts, scattered here and there together with several fine groves of cocoa-nut trees” as he continued traveling westward along the coast. A settlement at Wai‘alaie can be seen on a map of the southeast coast of O‘ahu made by Lt. LaPasse (see Figure 16) aboard the French naval vessel *Eurydice*, which visited the island in 1855.

During the mid-nineteenth century, LCAs were given to commoners and others who could prove residency on and use of the *kuleana* parcels they claimed. For the project area, most of the land was given to the crown or high *ali‘i*, who usually rented or sold the land to cattle ranchers.

In the 1850s, Captain John Ross leased 300 acres in Wai‘alaie from the Kamehameha family for a ranch. He was famous for his prize beef cattle and his parties. The long-term lease to Waialae Ranch was purchased from the Bishop Estate in 1887 by Daniel Paul Rice Isenberg, who used the land to raise horses and beef cattle and as a dairy, which later became part of the Honolulu Dairymen’s Association and even later part of Meadow Gold Dairy (Hitch and Kuramoto 1981:36). Chinese immigrants moved into southeastern O‘ahu early to raise rice in former taro lands or to set up rural farms. They raised poultry, vegetables, pineapple, and watermelons, or worked at the fishponds or on the ranches.

Early archaeological work focused on describing remnants of *heiau* such as Mau'umae Heiau Hipawai Heiau, and legendary features such as Pōhaku Kīkēkē and the Mō'ili'ili petroglyphs. By the time of the Bishop Museum's (McAllister 1933) survey of sites in 1930, most of the sites and features had deteriorated or had been destroyed. Previously identified historic properties recorded during recent studies include rock shelters (some with burials) and modern infrastructure for water supply reservoirs and tunnels. Twentieth century structures, such as early Chaminade University buildings and residential homes built in specific architectural styles, are also located in the vicinity of the project area.