Section 2 Background Research

Hawaiians recognize several land divisions in varying scales, including *moku* (districts), *ahupua‘a* (land division generally running from the mountains to the sea), ‘*ili* (smaller land divisions within an *ahupua‘a*), and smaller land divisions (Malo 1976:16). S. K. Kuhano wrote in 1873 (cited in Kame‘eleihiwa 1992:330) that O‘ahu was divided into six *kalana* (although later scholars refer to these same divisions as *moku*)—Kona, ‘Ewa, Wai‘anae, Waialua, Ko‘olau Loa and Ko‘olau Poko—that were further divided into 86 *ahupua‘a*. Within the *moku* of Wai‘anae, there were eight *ahupua‘a* including (from south to north) Nānākuli, Wai‘anae, Mākaha, Kea‘au, ‘Ōhikilolo, Mākua, Kahanaāiki, and Keawa‘ula (Kame‘eleihiwa 1992:330). Modern maps and land divisions still generally follow the ancient system and use the same land divisions. This archaeological monitoring plan includes the *ahupua‘a* of Mākaha.

2.1 Place Names

Place names or *wahi pana* (storied places) are an integral part of Hawaiian culture, as particular places that were given a name to commemorate an event that occurred there. The *wahi pana* were passed on through language and oral tradition, thus preserving the unique significance of the place. Hawaiians named all sorts of objects and places, points of interest that may have gone unnoticed by persons of other cultural backgrounds. Hawaiians named taro patches, rocks and trees that represented deities and ancestors, sites of houses and *heiau* (places of worship), canoe landings, fishing stations in the sea, resting places in the forests, and the tiniest spots where miraculous or interesting events are believed to have taken place (Pukui et al. 1974:x).

The Project area is located within the *ahupua‘a* of **Mākaha**, which extends from the crest of the Wai‘anae Mountain Range to the coast, situated between Wai‘anae Ahupua‘a to the southeast and Kea‘au and Mākua Ahupua‘a to the northwest. Prominent place names of Mākaha are placed on Figure 8, a 1932 Land Court Application map. The place names indicated on the map were collected from the following sources: 1998 U.S. Geological Survey 7.5-Minute Series Topographic Map, Wai‘anae Quadrangle; a map of coastal place names in Clark’s (1977:90) *Beaches of O‘ahu*; a map drawn for the Makaha Valley Historical Project (Green 1980:22); an 1860 map of Kea‘au by J. W. Makalena (Hawai‘i Land Survey Division, Registered Map No. 95); and an undated (ca. 1875-1900) map of Wai‘anae by M. D. Monsarrat (Hawai‘i Land Survey Division, Registered Map No. 600).

There are very few historical records from this area of the island. There are different interpretations of the place name Mākaha. Pukui et al. (1974:139) translates Mākaha as “fierce,” in reference to the inhabitants of the land. Alexander (1902, in Sterling and Summers 1978:60) interprets Mākaha as “robbery,” in reference to a story about cannibal robbers who threatened travelers on the coastal trail through the Wai‘anae District. Another interpretation of Mākaha concerns the dispersal of people after Kamehameha I conquered the island of O‘ahu in 1795.

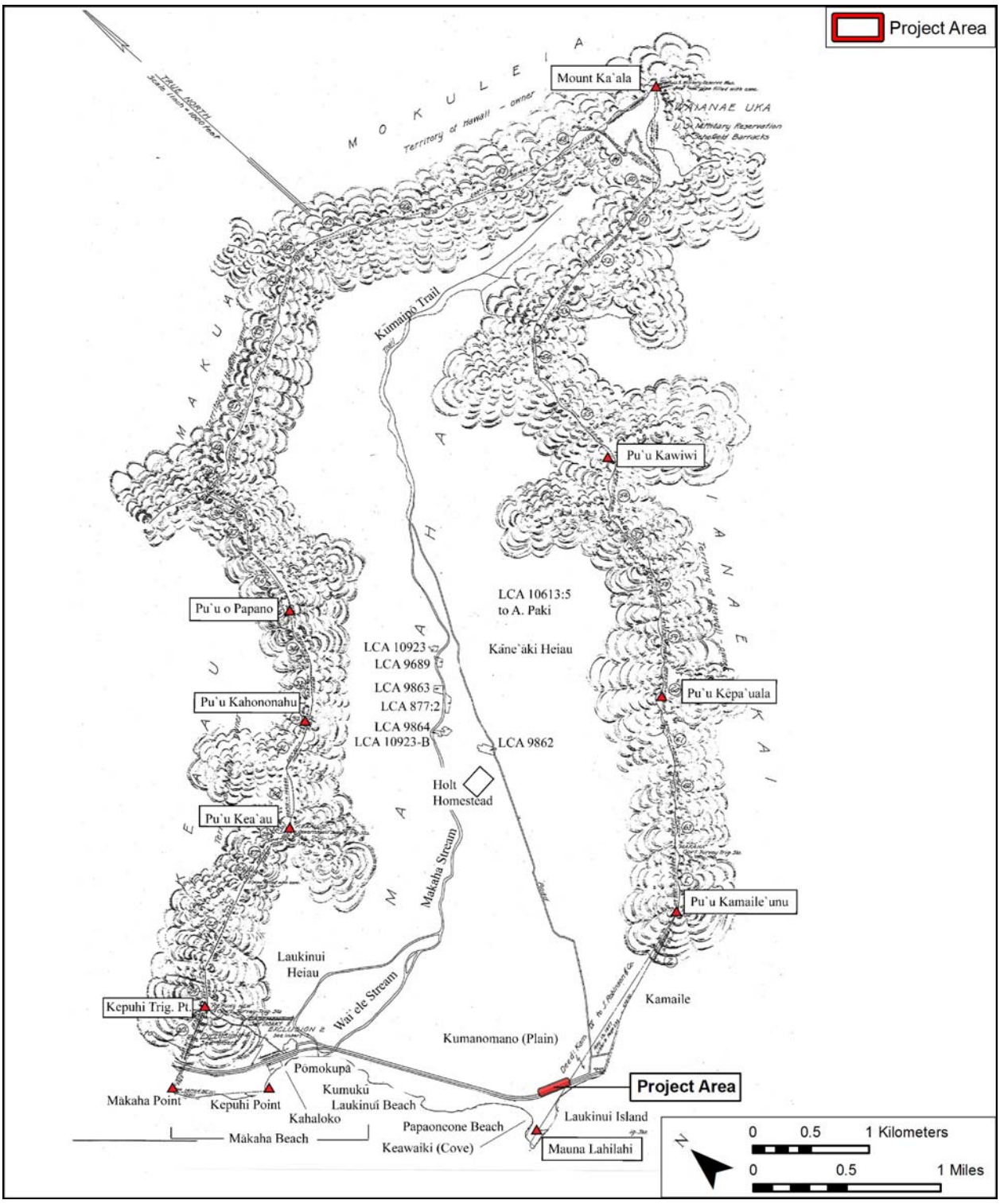

Figure 8. Place names and LCAs of Mākaha (base map, 1932 Map of Waianae Company Lands in Mākaha, Hawai‘i Land Survey Division, Land Court Application 1052)

> After the rout of the army of Kalanikupule, the king of Oahu at Nuuanu, April 29, 1795 by the invading army of Kamehameha Nui, the conquered Oahuans were driven from their homes, their lands seized and divided amongst the friends of Kamehameha—the despoiled people in large numbers fled to Waianae and settled there. This part of Oahu being hot, arid, isolated, with little water, was not coveted by the invaders…romance and sentiment hovers round Mount Kaala (the mount of Fragrance), and three valleys extending from its western base to the Waianae shore, Makaha, the valley of robbery; Po-kai, the valley of the dark sea; Lualualei, the valley of the flexible wreath… (Mouritz 1934:128, in Sterling and Summers 1978:68)

Place names in the immediate vicinity of the Project area include Mauna Lahilahi, Laukīnui, Keawaiki, and Ke Kula o Kumanomano.

2.1.1 Mauna Lahilahi

The Project area is immediately *mauka* (inland, toward the mountains) of **Mauna Lahilahi** (“thin mountain”), a high, thin promontory at the southern boundary of Mākaha Ahupua‘a. Mauna Lahilahi is shown on an 1884 map made during George Jackson’s survey of the Wai‘anae Coast (Figure 9). The line dividing Mākaha Ahupua‘a from Wai‘anae Ahupua‘a runs along the center of the promontory. In 1793, Captain Vancouver recorded the first written account of Mauna Lahilahi “… [Mauna Lahilahi] is a high rock remarkable for its projecting from a sandy beach. At a distance it appears to be detached from the land” (Vancouver 1978:217).

Noted ethnographer Mary Kawena Pukui (cited in Sterling and Summers 1978:77) says of the feature: “This hill is very thin as though it had been sliced with a knife and so it was called Mauna Lahilahi.” The hill was regarded as sacred to many residents and visitors, who walked over or around the promontory to get to Turtle (Papaoneone) Beach to fish or collect *limu* (seaweed) from the shore (Ahlo 1986:4). Several residents noted that in accessing Turtle Beach from the east, you should travel around the shore, circling clockwise around the promontory. However, to return you should travel a different way, on either one of two inland trails, *mauka* of Lahilahi. One resident remembered that her great-aunt said that there were once three *heiau* on top of Mauna Lahilahi. These may have been *ko‘a* (fishing shrines), as fishermen often climbed to the top of Lahilahi to spot schools of fish (Ahlo 1986:2). According to Beckwith (1970), the ancient Hawaiian ‘Ai‘ai was entrusted with the task of marking the fishing grounds around each of the islands. Marked by stones left by ‘Ai‘ai, each of these locations were famous for different styles of fishing, as well as different fish species. In Mākaha, Mauna Lahilahi is one such fishing marker (Beckwith 1970).

2.1.2 Laukīnui

Offshore of the promontory of Lahilahi (on the Wai‘anae side) is a small islet today known as **Shark Island** (Ahlo 1986:6) (Figure 10). The ancient name of the island was **Laukīnui**, which translates as “large united family.” The island was known as the mother of the family, the reefs “following the shore line in scallops” were known as the children (Tutu Ana Kahawai, Nov. 1954, Waianae, cited in Sterling and Summers 1978:77). Pukui (cited in Sterling and

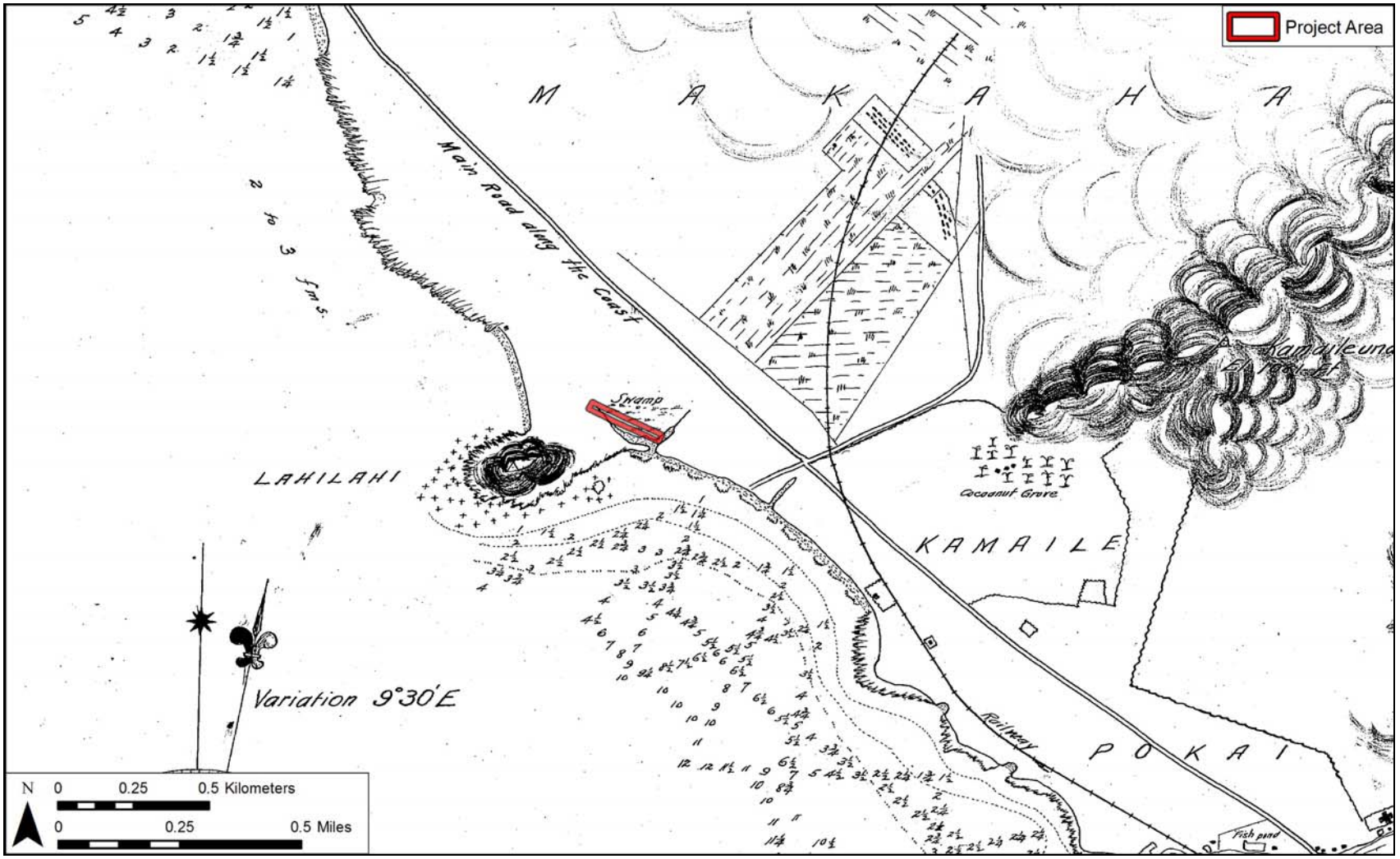

Figure 9. 1884 Hawaiian Government Survey Map of Waianae and Adjacent Coast, O‘ahu, George E. G. Jackson Surveyor (Hawai‘i Land Survey Division, Registered Map 1348), showing the location of the Project area

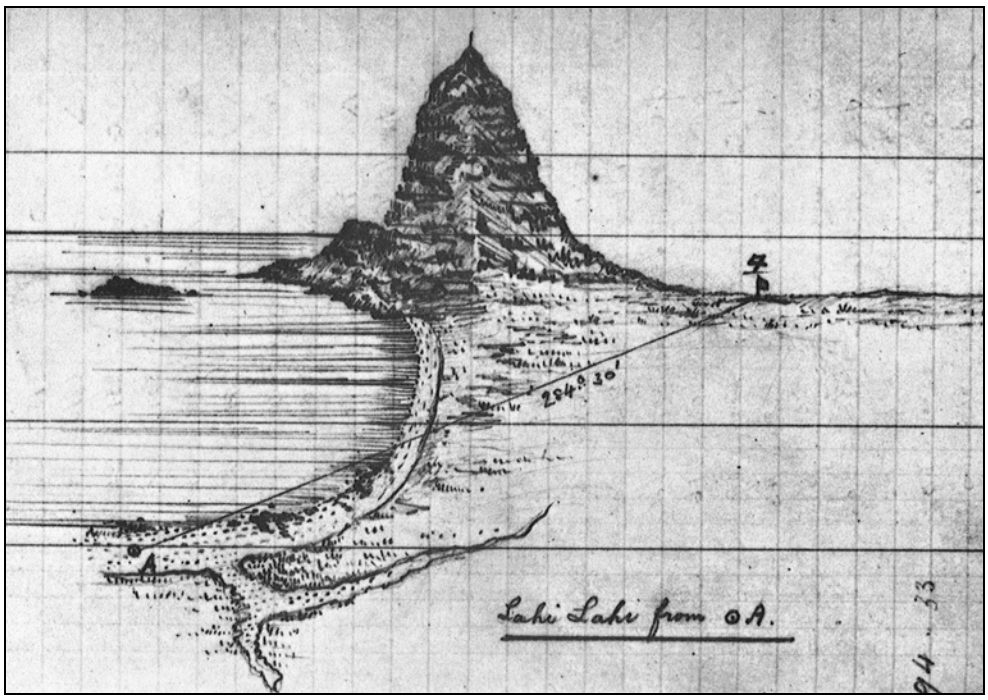

Figure 10. 1884 Sketch of Mauna Lahilahi and Laukīnui Island from Kamaile, drawn by George Jackson during his survey of the Wai‘anae Coast (Jackson notebook 1884)

Summers 1978:77) indicates the name of the islet was **Laukianui**, meaning "large concentration."

2.1.3 Keawaiki

At the southern end of a beach known as **Papaoneone** ("sandy shelf") (as well as **Lahilahi Crescent**, **Turtle Beach**, or **Keawaiki Beach**) is a small cove adjacent to Mauna Lahilahi, called **Keawaiki** ("the little bay"). Poe (n.d.:6) said that Keawaiki Beach was a net-fishing place (*ku‘una*) where *honu* (turtles), *kala* (surgeonfish, unicorn fish), ‘*enenue* (pilot fish), *pualu* (surgeonfish), and *uhu* (parrotfish) were caught.

2.1.4 Ke Kula o Kumanomano

The flat, arid land (*kula*) inland of the Mākaha beaches to the settlement of Kamaile in Wai‘anae Ahupua‘a was known as **Ke Kula o Kumanomano** ("stand in greatness," Kelsey n.d.:2). An 1889 visitor to Mākaha noted:

> We rode to the plain of Kumanomano…and it is said of the place, the teeth of the sun is sharp at Kumanomano. Makaha rose above like a rain cloud. We passed in front of a famous hill Malolokai. We saw the talking stone standing there. (Haleiwa Hotele [sic], Kuokoa, August 11, 1899, cited in Sterling and Summers 1978:79)

On the border of Mākaha and Wai‘anae "between the ridge and Mauna Lahilahi" was a spring, called Kekoo, in the area of Kamaile, which was used for the irrigation of taro (McAllister 1933:115).

2.1.5 Swamp and Settlement at the current Project area

The current Project area is located on a former swamp, according to the Jackson (1884) map (see Figure 9). A stream channel, now a dry gully, once extended along the northern side of Kamaile‘unu Ridge, and drained into a swampy area on the Kamaile shore in Wai‘anae Ahupua‘a, in the area now known as **Mauna Lahilahi Beach Park**. The stream may have been called **‘Eku Stream** (“to root, as does a pig”; Clark 1977:907). Poe (n.d.:3) said, “Eku Stream, now called Ke-aupuni Stream. At its mouth in the sea is Kau-puni. It runs from Kāne-wai Mountain to the shore of Honus (?).” There is a question mark after this quote, suggesting that the editor, James Kekahuna, could not locate or confirm some of these place names.

A sketch by the missionary Hiram Bingham (1826, reprinted in Green 1980:9) shows a small settlement of four houses just *mauka* of Mauna Lahilahi, which may have been within or in the immediate vicinity of the Project area (Figure 11). In addition, the Reverend Levi Chamberlin, when touring the schools in the Mākaha area in 1826, mentions four houses just inland of Mauna Lahilahi (Green 1980:17).

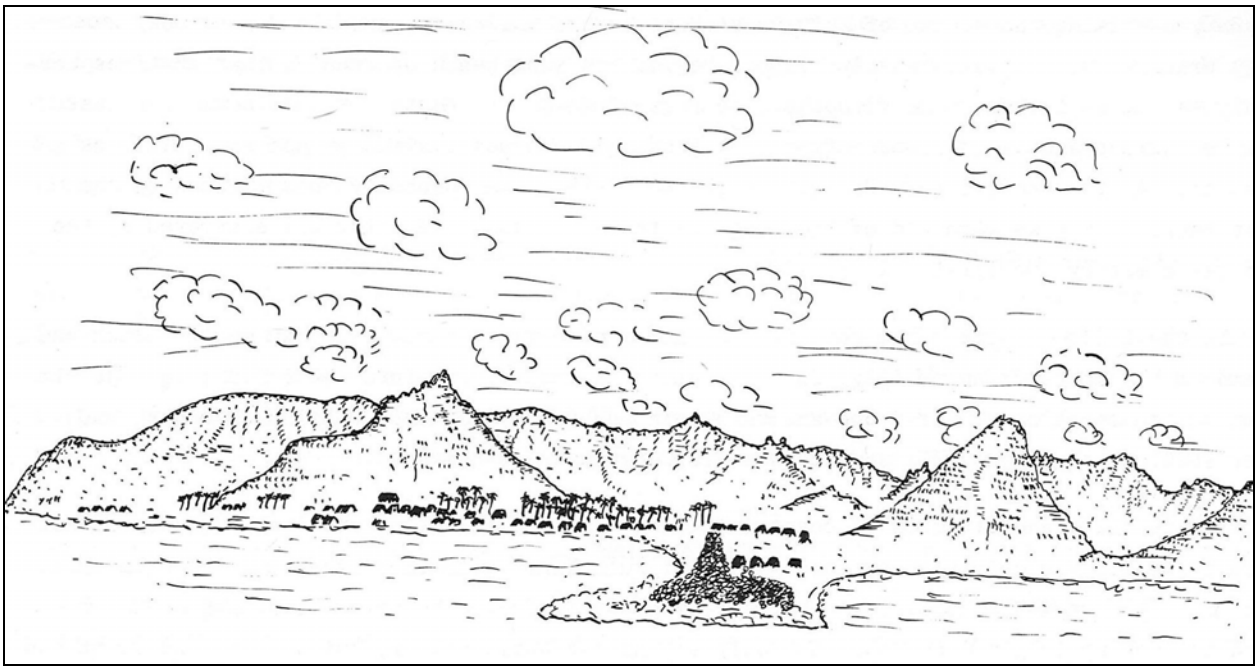

Figure 11. 1826 sketch of Wai‘anae and Mākaha Ahupua‘a by the missionary Hiram Bingham, indicating a small settlement *mauka* of Mauna Lahilahi (original sketch in the Hawaiian Mission Children’s Society Library; reprinted in Green 1980:9)

2.1.6 Other Place Names in Mākaha

At the coast, the dividing line between Mākaha and Kea‘au is at **Ka Lae o Mākaha**, or **Mākaha Point**. The area, noted for a rocky, raised reef good for pole fishermen, was also called “Takato” in the historic period, probably named for a resident or fisherman (Clark 1977:94). The point is on the western side of a high ridge called **Kepuhi**, extending out into the ocean and ending at **Kepuhi Point**, or **Ka Lae o Kepuhi**. The word *kepuhi* translates as “to blow”, and the Kepuhi Point was probably named for the numerous “blowholes” found along the reef in this

area (Clark 1977:93). Pu‘u Kepuhi was known as a “Guard’s Peak” (Poe, to Kekahuna n.d.:1), probably in reference to a legend of robbers in Mākaha who watched from the ridge for unwary. On Kepuhi Ridge was the legendary cave used by robbers, **Malolokai** (“low tide”). Above the coastal trail that led from Mākaha to Kea‘au were two *pōhaku* (stones), **Pōhaku o Kanaloa** (“stone of the god Kanaloa”) on the Kea‘au side and **Pōhaku o Kāne** (“stone of the god Kāne”) on the Mākaha side (McAllister 1933:121–122; Site 174). Clark (1977:94) indicates the stone on the Mākaha side was Pāpale o Kāne, the “hat of Kāne,” and that it was above the Hawaiian Electric booster station at the base of the cliffs. McAllister (1933:121) placed Malolokai Cave near Mākaha Point.

To the east of Kepuhi Ridge, near the intersection of Lawai‘a Street and Farrington Highway, was a *pōhaku* called **Pōhaku o Kīkēkē** (“clapping, or knocking rock”). If a person stood four or five feet away and clapped his hands, the stone would produce an echo of the sound (Clark 1977:94). Residents believed that there was a hollow area below the stone, perhaps a lava tube, which created the unusual sound. A long-time resident, Henry Poe, called the rock **Pōhaku Pa‘ipa‘i** (“clapping stone”), where “a person would hide under this stone and slap it to attract attention” (Poe, to Kekahuna n.d.:2). McAllister (1933:121) wrote of a large rock (Site 173), that was “once an object of worship,” according to an 1839 visitor to the Wai‘anae coast. This may be a reference to the same “clapping rock.” He places this rock east of Malolokai Cave, thus suggesting that the *pōhaku* associated with the robbers and the “clapping rock” *pōhaku* are different stones. Other ethnographers suggest that the two stones are the same. A note in an 1899 Hawaiian language newspaper describes Malolokai as: “A famous hill at which there is a talking stone” (*Kuokoa*, August 11, 1988, p. 4, cited in Sterling and Summers 1978:79).

South of Kepuhi Ridge was a long sandy beach called **Kahaloko** (“the pond”) (Poe n.d.:2). Streams from the upland areas ended in this area at a marsh or pond near the beach. Clark (1977:92) says the pond was called **Mākāhā**, named for a *mākāhā*, the Hawaiian word for a sluice gate used to keep the larger fish in the pond. This pond was later filled-in during construction of the O‘ahu Railway and Land Company (OR& L) railroad through coastal Mākaha. There was once a small settlement near the beach, which can be seen as a coconut grove on a drawing made by the missionary Hiram Bingham in 1826 (see Figure 11). John Papa ‘Ī‘ī (1959:98) mentioned the settlement as being adjacent to the coastal trail: “There were many houses at Makaha, where a fine circle of sand provided a landing place for fleets of fishing canoes.” South of the mouth of Wai‘ele Stream, the beach was known as **Pōmokupā**, and the rocky area just south of the sandy beach was called **Kumukū**. Clark (2002:204) suggests that Kumukū may translate as “school of red goatfish.” Today the entire coastal area from Kahaloko to Kumukū is known as **Mākaha Beach**, famous for championship surfing contests.

Laukīnui Beach extends south of Kūmuku around **Laukīnui Point**. *Laukīnui* translates as “large *kī* leaf.” The ti leaf, *lau kī*, was worn around the neck as a charm against evil spirits, especially by *kahuna*, or priests. There was once a *heiau* called **Laukīnui Heiau** in this area (McAllister 1933:123), and the Laukīnui place name may refer to the *heiau* or its priests. The Holt family, who owned most of Mākaha in the late nineteenth and early twentieth centuries, used this coastal area to pasture cows, and thus the area was referred to by fisherman as **Pipi**, or “beef” (Clark 1977:91).

Mauka of the Mauna Lahilahi promontory is the ridge that separates Mākaha from Wai‘anae, called **Kamaile‘unu** (“the striped *maile* vine”), with the highest point of the ridge called **Pu‘u**

Kamaile. Along this ridge are two named *pu‘u*, (peaks): **Pu‘u Kēpa‘uala** (“red gum hill”; Soehren 2009) and **Pu‘u Kawiwi**. The northern, *mauka* point of Mākaha is at **Mount Ka‘ala** (possibly “laughter”, Thrum 1922:635, or “fragrance,” Sterling and Summers 1978:68). With an elevation of 4,040 ft. above sea level, Ka‘ala is the highest peak on O‘ahu. Along the ridge separating Mākaha from Kea‘au Ahupua‘a, there are three named *pu‘u*: **Pu‘u o Papano** (“dark hill”), **Pu‘u o Kahononahu**, and **Pu‘u Kea‘au**.

Mākaha Ahupua‘a is watered by the perennial **Mākaha Stream**, which carved a broad lower valley and a narrow upper valley 2.5 miles inland. The stream extends from the slopes of Mount Ka‘ala down to the northern portion of the Mākaha shoreline. The mouth of the stream was a marsh or *muliwai* (backshore pond). On early maps of Mākaha, there is only one stream that reaches the shore, called **Kahawai** (the Hawaiian word for stream) or Mākaha. Modifications to the stream for plantation irrigation later changed the flow pattern and volume of the stream. On other historic maps, Mākaha Stream is shown as dividing near the shore into two streams, Mākaha Stream and **Wai‘ele Stream** (“dug water”). Irrigated taro patches and associated permanent house sites have been recorded near the junction of the lower and upper valleys along Mākaha Stream. Poe (n.d.:5) noted that at Mākaha Stream “in time of heavy rain the water would wash the sand of the beach into the sea, and before it returned small *‘ama‘ama* [mullet], *awa* [milkfish], and *ahole* [flagtail] would come, grow big, and be caught by the people.”

There were at least two *heiau* located in Mākaha. The primary *heiau*, **Laukīnui Heiau** (“large ti leaf”), was located at the coast along Laukīnui Beach, and **Kāne‘ākī Heiau** (“hair switch Kāne) is located at the junction of the lower and upper valleys. Mitchell (1930:174, cited in Soehren 2009) claimed that there might be a third *heiau*, or possibly a coastal *ko‘a* (fishing shrine) on Kepuhi Point. Mitchell said that the Hawaiian Government Survey established a triangulation station in 1875 on Kepuhi Point “on a stone platform said to be an ancient *heiau*.”

Because of the low number of Land Commission Awards (LCAs), there are only a few known *‘ili* (subdivisions of *ahupua‘a*) names in Mākaha Ahupua‘a. From the Land Commission testimony, Soehren (2009) lists nine *‘ili*, suggesting meanings for several of the *‘ili* based on translations in the *Hawaiian Dictionary* (Pukui and Elbert 1986). The *‘ili* are **Ahakea**, **Kahihi**, **Kahueiki** (“the small gourd”), **Kapua‘a** (“the pig”), **Kekio**, **Laukīnui** (“large ti leaf”), **Laulauwa‘e** (“laua‘e fern frond”), **Mak**a, and **Waikani** (“sounding water”).

2.2 Mythological and Traditional Accounts

Although there are many traditional accounts detailing the pre-Contact period of other portions of the Wai‘anae District, few exist for Mākaha Ahupua‘a. Nevertheless, the shores fronting the beautiful Mākaha Valley were known for their abundant marine resources. Edward Iopa Kealanahele’s account “How Makaha got its name” (Kealanahele 1975) highlights the varied and abundant ocean resources:

> Long ago, there lived in this valley a handsome young chief named Makaha. His skill as a fisherman gained island-wide attention, which eventually reached the ears of Ke Anuenue [the rainbow], the goddess of rain, who lived in upper Manoa Valley.

> She was so intrigued that she sent her trusted winged friend, Elepaio, to investigate Makaha. Elepaio returned with exciting stories of Makaha's daring and skills.
>
> The next morning, Ke Anuenue created an awe-inspiring double rainbow which arched from Manoa Valley to this valley, from where she and her retinue could watch Makaha perform his daring feats at the ocean.
>
> The people of the Wai‘anae Valley were petrified by that magnificent rainbow that ended in this unnamed valley where Makaha lived.
>
> Knowing that Ke Anuenue was watching, they prayed that she would bring them the much needed gentle rains and not the harsh storms she could create when displeased.
>
> Makaha, aware of her presence, scaled Mauna Lahilahi and called loudly to his aumakua [his ancestral spirit] Mano ai Kanaka, the most vicious of man-eating sharks. As Mano ai Kanaka glided in from the ocean, Makaha dived from the rocky pinnacle, emerged on Mano ai Kanaka's back and rode with regal grandeur.
>
> As the two disappeared into the depths, the sea became calm. Suddenly Makaha seemed to be everywhere along the rocky coast gracefully tempting death. Then, just as suddenly, Makaha seemed to skim the ocean as Mano ai Kanaka carried him to shore.
>
> Makaha then carried his entire catch to the rainbows end deep in the valley and offered it to Ke Anuenue. Deeply touched, she sent gentle rains to the parched earth of the great Wai‘anae Valley. She was impressed by the selection of seafood that was offered her but was disappointed by the quality of the poi, mai‘a [banana] and uala [sweet potato] which were dry and stringy. She demanded to know why since she was so accustomed to good quality fruits. She was told that it was because of the lack of rainfall in the valley.
>
> Ke Anuenue became enamored with Makaha and from then on her double rainbow would appear in Makaha's kuleana [land area] and gentle rains would fall on Wai‘anae so the people could enjoy lush bananas and an abundance of taro.
>
> The people built a heiau in honor of Ke Anuenue and Makaha but Ke Anuenue refused the honor and named the entire valley, Makaha, by which it is now known. (Kealanahele 1975)

Mākaha residents may have owed their successful exploitation of marine resources to more than just skill. Harry George Poe, born in Mākua Valley in 1882, recounted in his diary that robbers threw their victims into a pit that went underground to the ocean (McGrath et al. 1973:11). He explains, "The reason is, they wants a man's legs without no hair on to make [an] aku [tuna] fishhook. They believed in those days that the human leg is best, lucky hook for aku" (McGrath et al. 1973:11). Such an account supports the definition given by Mary Kawena Pukui et al. (1974:139) for "Mākaha" as "fierce" and especially the suggestion by Roger C. Green (1980:5) that the translation refers to the "fierce or savage people" who once inhabited the valley.

Green (1980:5) mentions "…the ‘Ōlohe people, skilled wrestlers and bone-breakers, by various accounts [who] lived in Mākaha, Mākua, and Kea‘au, where they often engaged in robbery of passing travelers." One *mo‘olelo* (oral tradition) concerning the fierceness of Mākaha involves robbers and cannibals:

> Long ago there lived here a group of people who are said to have been very fond of human flesh. At high altitude on each side of the ridge [separating Mākaha from Kea‘au], guards were stationed to watch for people crossing this narrow stretch of land between the mountains and the sea. On the Makaha side, they watched from a prominent stone known as Pohaku o Kane, on the Kea‘au side, from a stone known as Pohaku o Kanaloa. The individual who passed here was in constant danger of death, for on each side of the trail men lay in wait for the signal of the watcher. If a group of persons approached, too many to be overcome by these cannibalistic peoples, the guards called out to the men hidden below, "Moanakai" (high tide); but if, as frequently happened, only two or three people were approaching the watchers called "Mololokai" (low tide). The individuals were then attacked and the bodies taken to two small caves on the seaside of the road. Here the flesh is said to have been removed and the bones, skin, and blood left in the holes, which at high tide, were washed clean by the sea.
>
> For many years these people preyed upon the traveler until at one time men from Kauai, hairless men [‘*Ōlohe*] came to this beach. They were attacked by these cannibals but defeated them, killing the entire colony. Since then the region has been safe for traveling. (McAllister 1933:121–122)

In a different version, the robbers called out, *Mololo kai e, mololo kai*! for only one traveler, and when a large party passed, *Nuinui kai e,* or, *Kaiko‘o kai e, kaiko‘o*! ("strong, rough seas"; Pukui and Elbert 1986:166) (Poe, to Kekahuna n.d.:2). Theodore Kelsey (n.d.:1) says it was the daughter of the robbers who called out the warnings, a short *Mololo-kai e*, if a small party approached, or the phrase "*Kaiko‘o –a-a-a-a-he-a*", in a long chanting style for a large party.

Lua, often referred to as the "art of *lua*" or the Hawaiian martial art, literally means "hand-to-hand fighting" that includes bone-breaking (Pukui and Elbert 1986:213). This art was tied to a particular cave within Mākaha Valley, Malolokai. The art of *lua* is reportedly taught only to the *ali‘i* and their guards, as it was a long-standing familial secret and could only be passed down through relatives. In the early 1920s, the *kapu* (tabu) was broken, and the Hawaiian martial art of *lua* was taught to other people outside of the bloodline. *Lua* had an array of weapons used in combat, which were made of different types of hardwood, such as *kauwila* and *kawa‘u*, found throughout the Hawaiian Islands. Marine resources were also used to make weapons, such as the knifelike *leiomano*, which incorporates shark teeth, or the marlin (swordfish) bill. A brief account (*Kuokoa*, July 12, 1923, in Sterling and Summers 1978:79) of the cave mentioned above states: "…Malolokai lies below [beyond] the hill of Maunalahilahi close to a cliff. Below, in the level land of Waihokaea are the bones of the travelers who were killed by skilled *lua* fighters."

The hero Kawelo took his canoe to the Wai‘anae coast to try to capture the supernatural parrotfish called Uhumakaikai. While there, he was informed that his family on Kaua‘i were being persecuted by ‘Aikanaka, the chief of that island. He landed on the Wai‘anae Coast to present an offering at a *heiau* before travelling to Kaua‘i to challenge ‘Aikanaka. In some

versions, this *heiau* was Kāneikapua‘a at Kamaile, in Wai‘anae Ahupua‘a. In other versions, it was at Kāne‘āki Heiau in Mākaha (Westervelt 1963:183).

In Hi‘iaka’s “Address to Cape Kaena,” she mentioned Mākaha as she traveled along the sunny coast. As she stood at the top of the Pōhākea Pass, looking back she sang the following song (Emerson 1965:157):

Kunihi Kaena, Holo i ka Malie;	Kaena’s profile fleets through the calm,
Wela i ka La ke alo o ka pali;	With flanks ablaze in the sunlight-
Auamo mai i ka La o Kilauea;	A furnace-heat like Kilauea;
Ikiiki i ka La na Ke-awa-ula	Ke-awa-ula swelters in heat;
Ola i ka makani Kai-a-ula Kohola‘ lele-	Kohola‘-lele revives in the breeze
He makani ia no lalo.	That breath from the sea, Kai-a-ulu.
Haoa ka Loa i na Makua;	Fierce glows the sun of Makua;
Lili ka La i Ohiki-lolo	How it quivers at Ohiki-lele-
Ha‘a-hula le‘a ke La i ke kula,	‘Tis the Sun-god’s dance o‘er the plain,
Ka Ha‘a ana o ka La i Makaha;	A riot of dance at Makaha.
Oi ka niho o ka La i Ku-manomano;	The sun-tooth is sharp at Kumano;
Ola Ka-maile i ka huna na niho	Life comes again to Maile ridge,
	When the Sun-god ensheaths his fang.
Mo‘a wela ke kula o Walio;	The Plain Walio‘ is sunburned and scorched;
Ola Kua-iwa i ka malama po	Kua-iwa revives with the nightfall;
Ola Waianae i ka makani Kai-a-ulu	Waianae is consoled by the breeze
Ke hoa aku la i ka lau o ka niu	Kai-a-ulu and waves its coco fronds;
Uwe’ o Kane-pu-niu i ka wela o ka La;	Kane-pu-niu’s fearful of sunstroke
Alaila ku‘u ka luhi, ka malo‘elo‘e,	A truce, now, to toil and fatigue:
Auau aku i ka wai i Lua-lua-lei	We plunge in the Lua-lei water
Aheahe Kona, Aheahe Koolau wahine,	And feel the kind breeze of Kona,
	The cooling breath of the goddess,
Ahe no i ka lau o ka ilima.	As it stirs the leaves of ilima.
Wela, wela i ka La ka pili i ka umauma,	The radiant heat scorches the breast
I Pu‘u-li‘ili‘i, i Kalawalawa, i Pahe-lona,	While I sidle and slip and climb
A ka pi‘i‘na i Wai-ko-ne-ne’-ne;	Up one steep hill then another;
Hoomaha aku i Ka-moa-ula;	Thus gain I at last Moa-ula,
A ka luna i Poha-kea	The summit of Poha-kea.
Ku au, nana i kai o Hilo:	There stand I and gaze oversea
	To Hilo, where lie my dewy-cold
Ke ho‘omoe a‘e la i ke kehau	Forest preserves of lehua
O a‘u hale lehua i kai o Puna,	That reach to the sea in Puna-
O a‘u hale lehua i kai o Ku-ki‘i.	My lehuas that enroof Kuki‘i (Emerson 1965:157)

Emerson translated the verse on Mākaha as “A riot of dance at Makaha.” In three other versions of this chant, the verse concerning Mākaha has been translated as “The sun dances over Mākaha,” “The dance of the sun at Mākaha,” and “The sun dances upon Mākaha’s lands” (Ho‘oulumāhiehie 2006:263–265).

2.3 Trails

John Papa ‘Ī‘ī (1959:96–98) describes a network of leeward O‘ahu trails (Figure 12), which in early historic times provided access to the Wai‘anae District from central O‘ahu via the Pōhākea and Kolekole passes through the Wai‘anae Range, and from the coast via Pu‘u Kapolei in the south and Ka‘ena Point in the north. Another trail called Kūmaipō traversed Mākaha Valley. ‘Ī‘ī also describes a trail that traversed Mākaha Valley, called Kūmaipō. The coastal trail has evolved through the horse-and-buggy era to the present Farrington Highway, including the current Project area.

2.4 Historic Background

2.4.1 Early Historic Period to 1850

Earliest accounts specific to Mākaha describe a good-sized inland settlement and a smaller coastal settlement. Green (1980:20–21) describes Mākaha’s coastal settlement as “…restricted to a hamlet in a small grove of coconut trees on the Kea‘au side of the valley, some other scattered houses, a few coconut trees along the beach, and a brackish water pool that served as a fish pond, at the mouth of the Mākaha Stream.” This small coastal village, within a coconut grove, is shown on the 1884 map of the Wai‘anae coast by the surveyor George Jackson (see Figure 9).

The primary early historic settlement in Mākaha was inland, associated with irrigated taro fields along Mākaha Stream. Associated with the inland settlement was the principal *heiau* of Mākaha, Kāne‘ākī Heiau. The perennial Mākaha Stream supported traditional wetland agriculture—taro in the pre-Contact and early historic periods and later sugar cane. Increased rainfall in the inland areas of Mākaha Valley would have also supported seasonal dryland cultivation of crops such as sweet potatoes.

One well-known chief during the early historic period was Boki, governor of O‘ahu under Kamehameha I, and nephew to Ka‘ahumanu. Although Boki had a residence in Wai‘anae Village, he appointed the chiefs Aua and Kanepaiki to oversee the Wai‘anae and ‘Ewa Districts, respectively. Control of Wai‘anae was later given to Kanepaiki as well (Bingham 1847:296; Chamberlain 1956:38). After Boki’s death, Liliha (his wife) gave the entire *ahupua‘a* of Mākaha to Kuho‘oheihei (Abner) Pākī, father of Bernice Pauahi (Green 1980:14–15). Soon after, Pākī was Christianized, and by the time Liliha died in 1839, the majority of Mākaha people had accepted Christianity. Although several individuals are recorded as having charge over Mākaha at various times, Pākī claimed the entire *ahupua‘a.*

2.4.2 Māhele

In 1845, the Board of Commissioners to Quiet Land Titles, also called the Land Commission, was established “for the investigation and final ascertainment or rejection of all claims of private individuals, whether natives or foreigners, to any landed property” (Chinen 1958:8). This led to the Māhele, the division of lands between the king of Hawai‘i, the *ali‘i*, and the common people, which introduced the concept of private property into Hawaiian society. Kamehameha III divided the land into four categories: certain lands to be reserved for the king and the royal house were known as Crown Lands; lands set aside to generate revenue for the government were known as Government Lands; lands claimed by *ali‘i* and their *konohiki* were called Konohiki

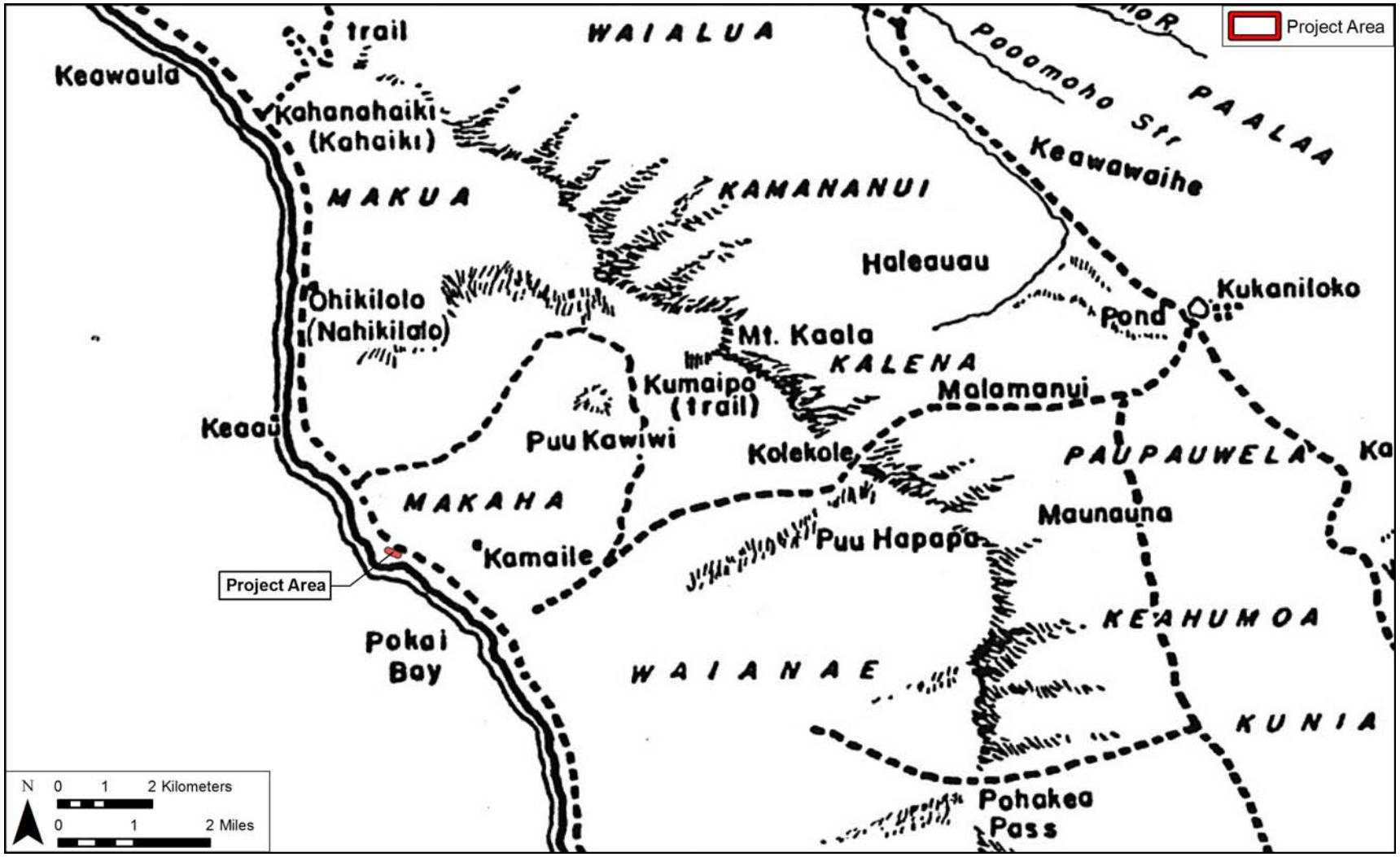

Figure 12. Trails of Leeward O‘ahu, ca. 1810, map by Paul Rockwood (reprinted in ‘Ī‘ī 1959:96)

Lands; and habitation and agricultural plots claimed by the common people were called *kuleana* (land rights) (Chinen 1958:8–15).

In 1848, the crown and the *ali‘i* received their land titles, known as Land Commission Awards (LCA). Members of the royal family were awarded entire *ahupua‘a*, while high-ranking *ali‘i* were awarded entire *‘ili* and lesser *konohiki* were awarded half of an *‘ili* (Kame‘eleihiwa 1992:269, 279). The lands awarded as Crown Lands and Konohiki Lands, as well as lands designated as Government Lands, were “subject to the rights of native tenants.” The Kuleana Act of 1850 “authorized the Land Commission to award fee simple titles to all native tenants who occupied and improved any portion of Crown, Government, or Konohiki Lands” (Chinen 1958:29). It is through records for Land Commission Awards (LCA) generated during the Māhele that the first specific documentation of life in Mākaha, as it had developed up to the mid-nineteenth century, came to light.

Mākaha Ahupua‘a had 13 *kuleana* claims, of which eight were awarded (Table 1). Seven of these kuleana LCAs were located in a cluster along Mākaha Stream, in the mid-valley area of Mākaha Ahupua‘a (see Figure 8). The location of the LCA cluster corresponds to the aforementioned inland settlement area. In the vicinity of the inland settlement are the Holt Homestead and Kāne‘āki Heiau. The remaining unclaimed lands in Mākaha were awarded to Abner Paki (LCA 10613:5). It is suggested Pākī was able to wield a certain amount of control over the residents of Mākaha during the Māhele, resulting in the limited number of applications for LCAs. Taxpaying adult males in 1855 numbered 39, suggesting there were more families living and working the Mākaha lands than was reflected in Māhele awards (Barrere 1970:7).

Table 1. Land Commission Claims in Mākaha Ahupua‘a.

LCA #	Claimant	‘Ili	Land Use	Awarded
877:2	Kaana/ Poomano	Kapuaa	--	One ‘*āpana*, 1.6 ac.
8228	Inoaole	Laukinui	*Kula*, house lot	No
8763	Kanakaa	Hoaole	--	No
9689	Nahina	Kekio	16 lo‘i	One ‘*āpana*, 1.0 ac.
9859	Napoe	Aheakai, Mooiki	17 *lo‘i, kula*, house	No
9860	Kalua	Luulauwaa	House lot	No
9861	Nahina	Kekio	--	No
9862	Kanehaku	Kekio, Mooiki	Five lo‘i, kula	One ‘*āpana*, 2.4 ac.
9863	Kala	Waikani	House lot	One *‘āpana*, 1.3 ac.
9864	Kapea	Laukinui	19 lo‘i, kula	One *‘āpana*, 1.2 ac.
10613	Pākī, Abner	Ahupua‘a	--	*‘Āpana* 5, 4,933 ac.
10923	Uniu	--	--	One *‘āpana*, 0.5 ac.
10923B	Alapai	Kapuaa	Seven lo‘i, kula	One *‘āpana*, 0.5 ac.

Land use information for the Mākaha LCAs is sparse. As the LCAs are clustered along Mākaha Stream, multiple *lo‘i* (irrigated gardens) were located within many of the *kuleana* parcels. *Kula* lands (non-irrigated lands used for dryland crops or pasture) and house lots are also mentioned. Aside from these general land specifications, it is noted that a large quantity of *ma‘o* was growing on *kula* land in the Kamaile area near the boundary between Mākaha and Wai‘anae Ahupua‘a. *Ma‘o* (*Gossypium tomentosum*), a native species of cotton, was used traditionally in making *kapa* (cloth).

Overall, the Māhele documents indicate that Mākaha's primary settlement was inland where waters from Mākaha Stream could support *lo‘i* and *kula* cultivars. Although there is evidence for settlement along the shore including a fishpond in back of Mākaha Beach, this was limited to scattered, isolated houses. The only cluster of coastal habitation structures seemed to be concentrated near Mākaha Beach or near the Kea‘au end of Mākaha. In contrast, the *‘ili* of Kamaile in Wai‘anae supported one of the largest coastal settlements in the Wai‘anae District. Intensive land use coupled with ready access to marine resources including salt pans and fishponds made this an ideal spot for habitation. Several *heiau* and significant landmarks in Kamaile and adjacent Pōka‘ī and Pāhoa ‘Ili attest to the religious and political importance of that area.

2.4.3 1850-1900

In 1855, Chief Pākī died, and to clear his debts the administrators of his estate sold his Mākaha lands to James Robinson and Co. In 1862, upon the death of Robert Holt, one of the partners in the Mākaha endeavor, the Mākaha lands were acquired by the Holt estate, who "placed the lands in trust for the Holt legatees and their heirs" (Barrere 1970:7). The Holt family dominated the economic, land-use, and social scene in Mākaha from this time until the end of the nineteenth century. Owen Jones Holt, son of Robert Holt leased the family's Mākaha lands and developed a commercial ranch, known as Makaha Ranch. The successful ranch was in operation for 40 years, with activities including: raising pigs, cattle, horses, sheep, chickens, and turkeys; planting rice, coffee, fruit trees, and watermelons; and selling firewood. It is also noted that peacocks were bred at the ranch from birds given to Kamehameha V in 1865 by the Japanese government (Barrere 1970:7). Owen Jones Holt also developed a large residence on Makaha Ranch, known as the "country seat." Associated ranching activities likely occurred within the project area during this period. Owen Jones Holt began leasing Mākaha lands to non-family members in 1880. He subsequently leased portions of these lands for sugar cane cultivation. During this time, a swamp was located at the current Project area (Figure 13).

2.4.4 1900 to Present

Prior to the 1880s, the Wai‘anae coastline may not have undergone much alteration. The old coastal trail probably followed the natural contours of the local topography. With the introduction of horses, cattle, and wagons in the nineteenth century, many of the coastal trails were widened and graded to accommodate these new introductions. However, the changes probably consisted of superficial alterations to the existing trails and did not entail major realignments. Kuykendall (1953:26) describes mid-nineteenth century road work: "Road making as practiced in Hawaii in the middle of the nineteenth century was a very superficial operation, in

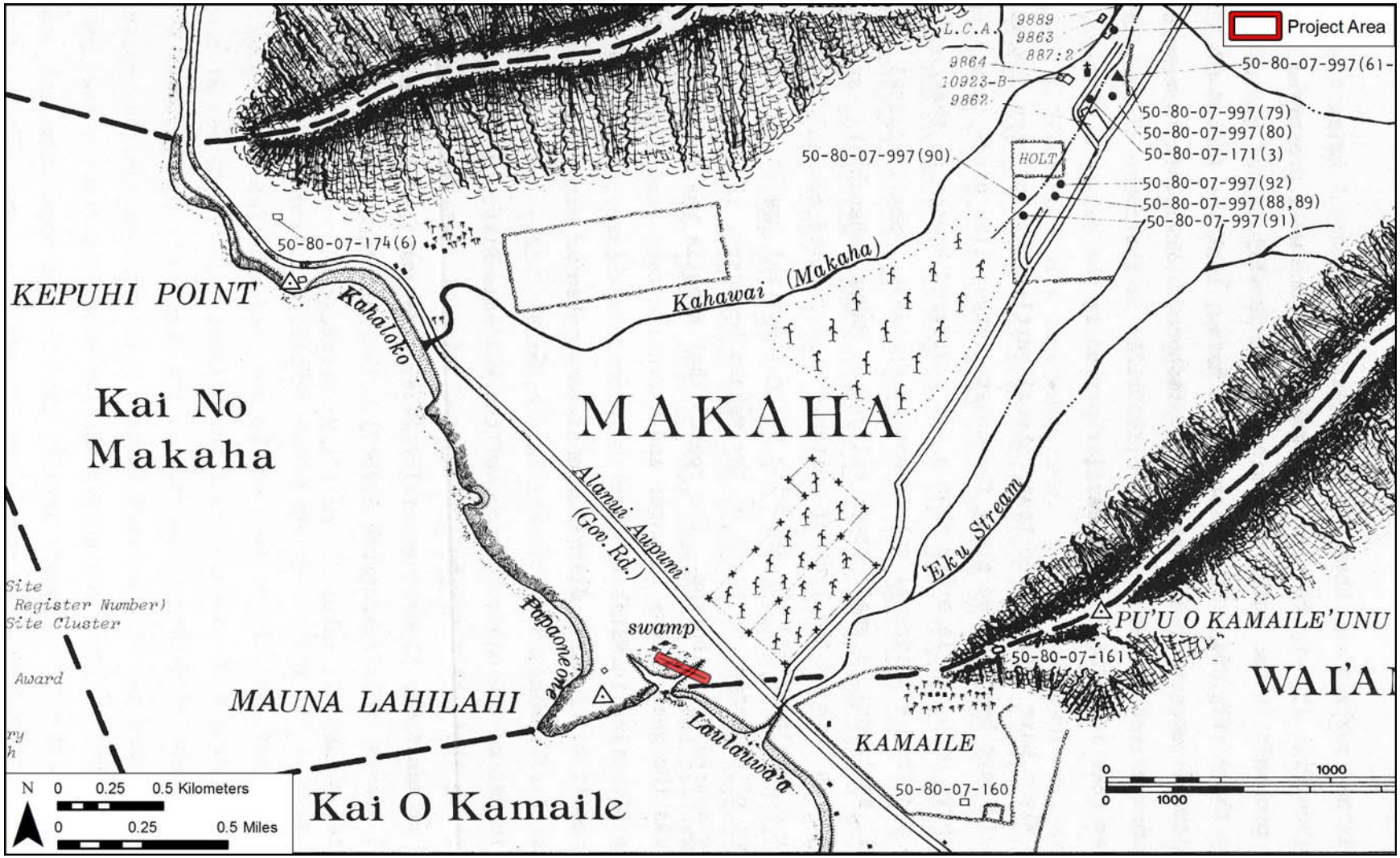

Figure 13. Map of Coastal Wai‘anae circa 1855–1884, showing the approximate location of the Project area; note the location of the Government Road (from Green 1980:22).

most places consisting of little more than clearing a right of way, doing a little rough grading, and supplying bridges of a sort where they could not be dispensed with."

The first real alteration to the Wai‘anae coastline probably came with the growth of the Wai‘anae Sugar Company. The Holt Ranch had begun selling off its land in the early 1900s (Ladd and Yen 1972) and by 1923, all of Mākaha Valley was owned and operated by Wai‘anae Sugar Plantation. The company cultivated sugar cane in three valleys—Mākaha, Wai‘anae, and Lualualei—and to more easily transport their cane to the dock and to the mill at Wai‘anae Kai, a railroad was constructed in 1880. A series of historic maps from 1919 to 1943 show the O.R. & L. alignment, which runs parallel to the Government Belt Road, as being directly within the current Project area (Figure 14 to Figure 17). After the Belt Road was completed, further roadwork was carried out in the 1930s on what was called the "Wai‘anae Road" (Department of Transportation 1923). This work mostly followed the Government Belt Road alignment of 1912.

Land use in lower Mākaha Valley and along the coast continued to be dominated by plantation sugar cane cultivation. In the 1930s, the Wai‘anae Sugar Company sold out to American Factors Ltd. (Amfac, Inc.). In 1945, Amfac contracted the firm of James W. Glover, Ltd. to tunnel into a ridge in the back of Mākaha Valley. The completed tunnel, known as the "Glover Tunnel" was 4,200 feet long with a daily water capacity of 700,000 gallons (McGrath et al. 1973:145).

The use of the Glover Tunnel water for irrigating sugar cane fields was short lived, as Amfac announced in 1946 that its plantation operations were no longer profitable and it planned to liquidate its nearly 10,000 acres of land. Chinn Ho managed to broker a deal with the Capital Investment Company to purchase 9,150 acres of land in the Wai‘anae District (McGrath et al. 1973:145). The optimistic Ho believed a large increase in population along the Wai‘anae Coast would create a demand for land, and therefore a large return on the investment. By 1952, over 1,600 house and farm lots were sold along the Wai‘anae Coast. A historic map indicates a few residences in the vicinity of the current Project area in 1954 (Figure 18), and by 1977, substantial residential development in the area had taken place (Figure 19).

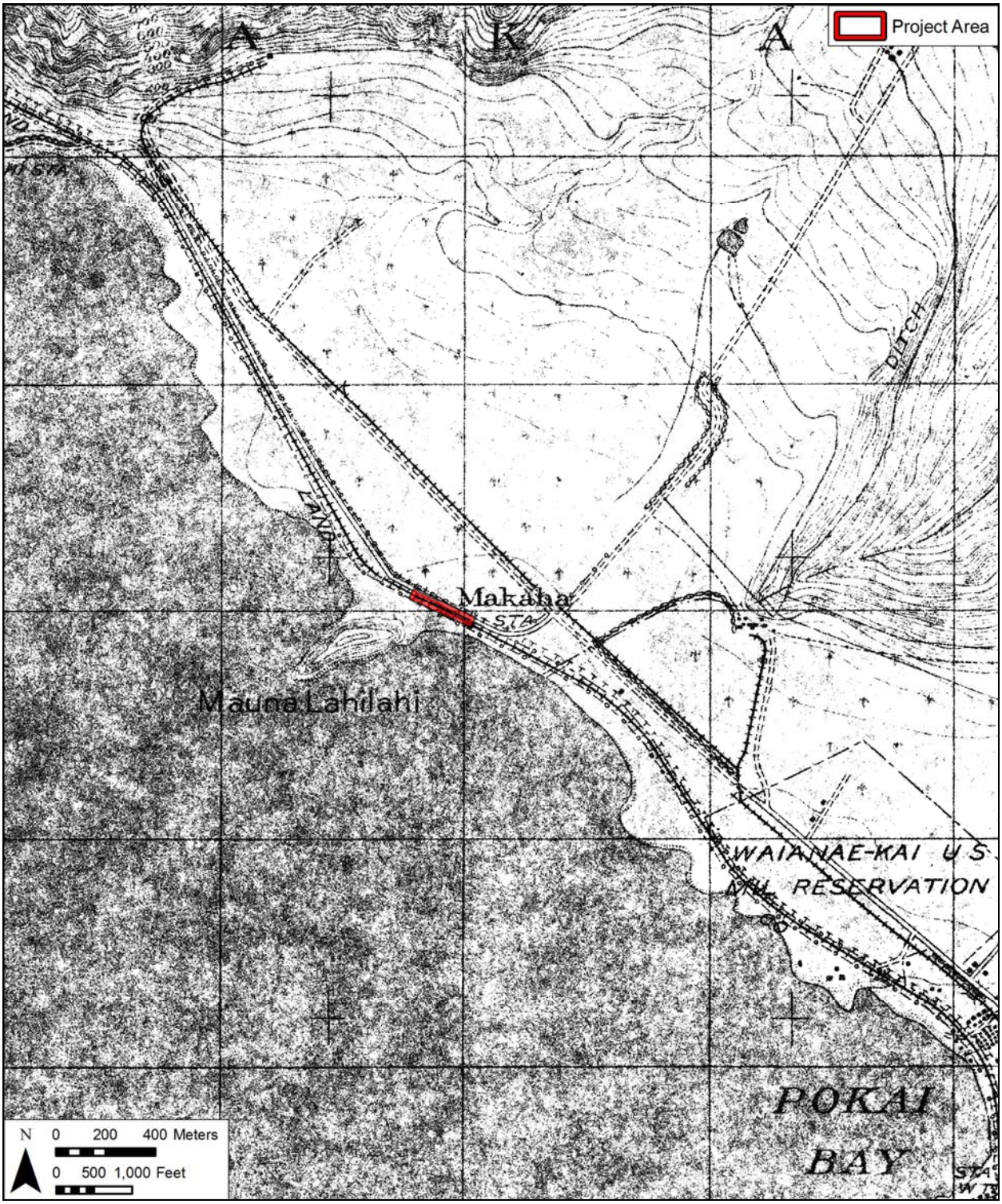

Figure 14. 1919 U.S. War Department Fire Control map, Wai‘anae Quadrangle, showing the Project area

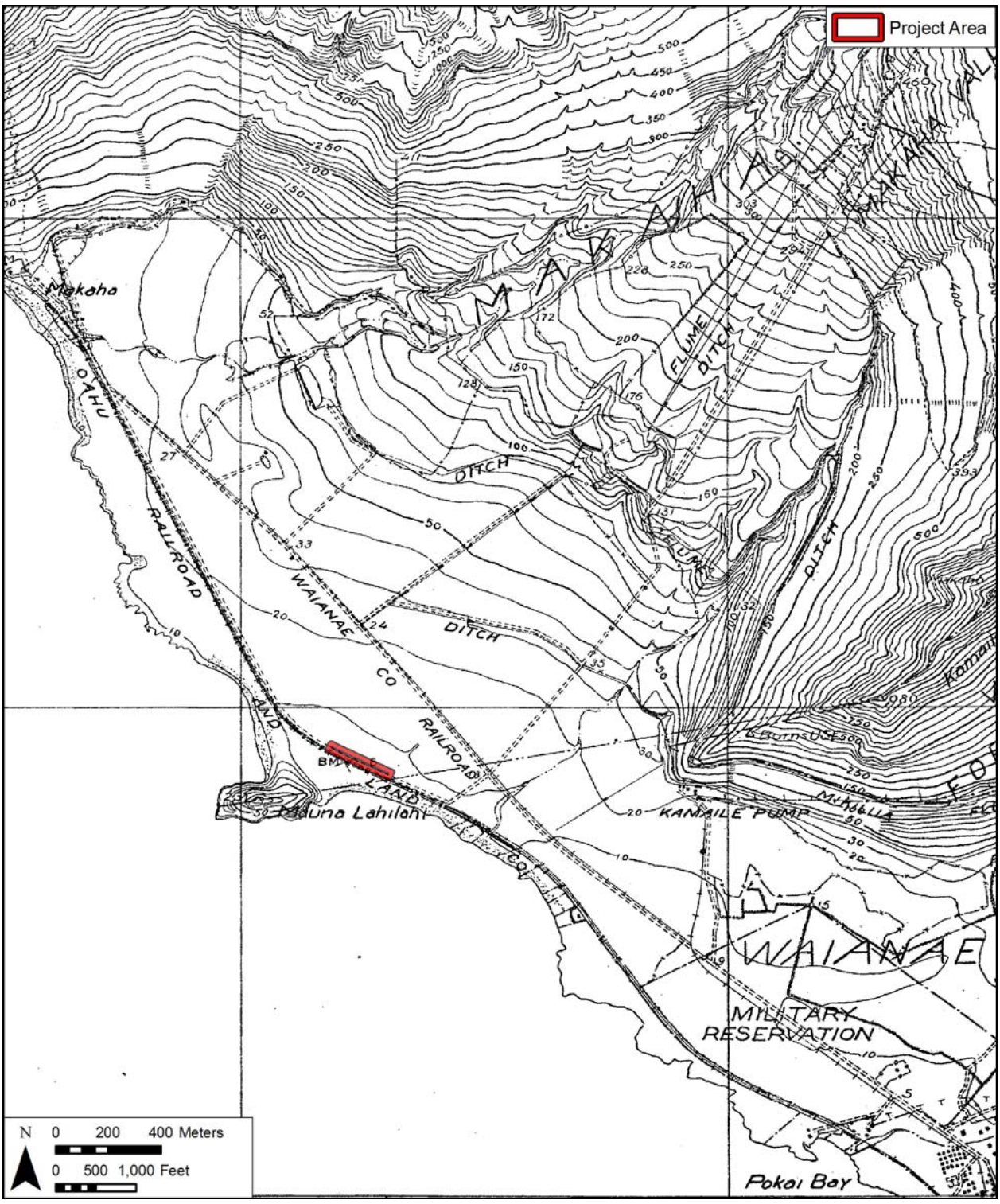

Figure 15. 1927–1928 U. S. Geological Survey topographic map, portion of Kaena Quadrangle, showing the Project area

Figure 16. 1936 U.S. War Department Fire Control map, Kaena Quadrangle, showing the Project area

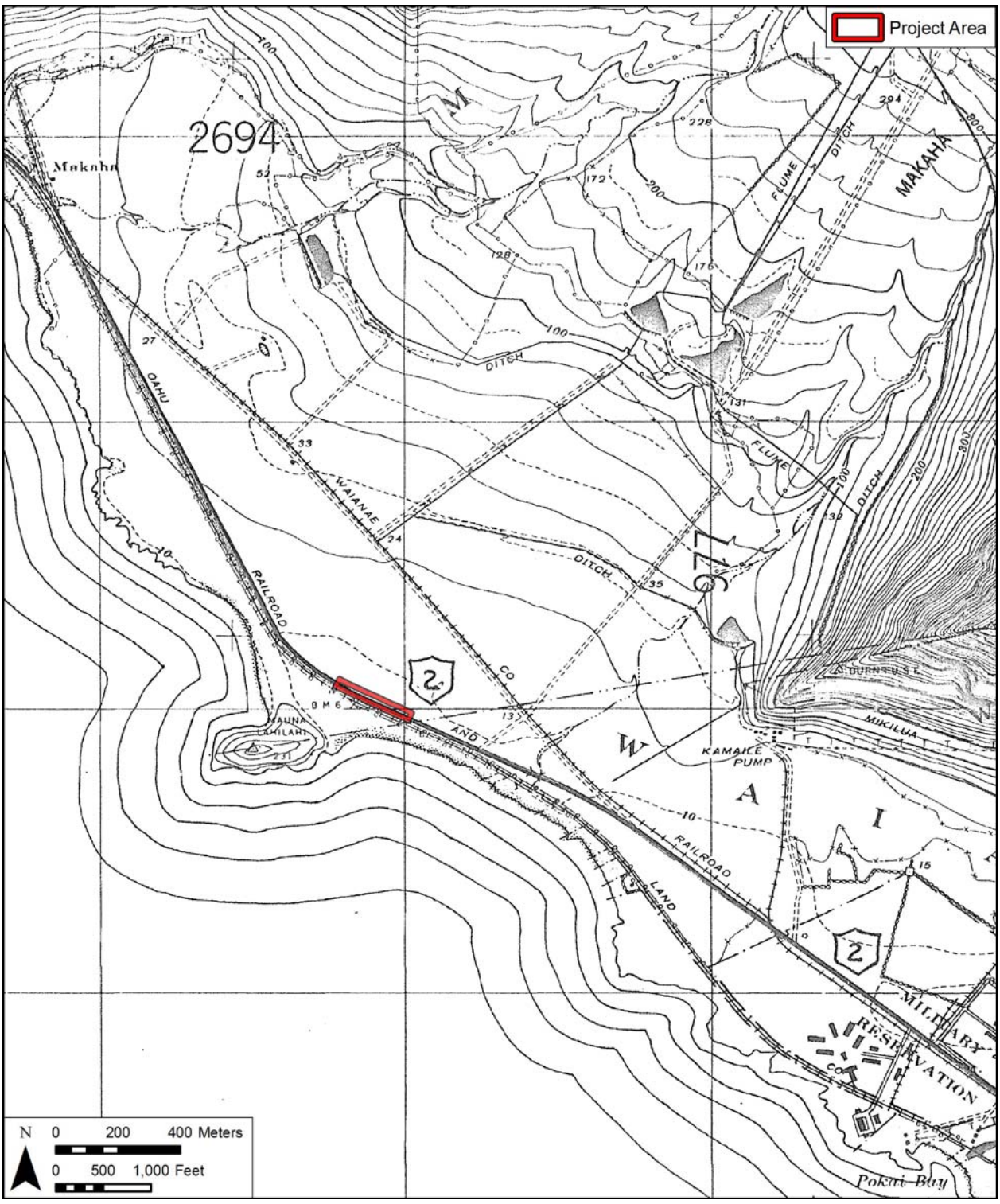

Figure 17. 1943 U.S. War Department Fire Control map, Wai‘anae Quadrangle, showing the Project area

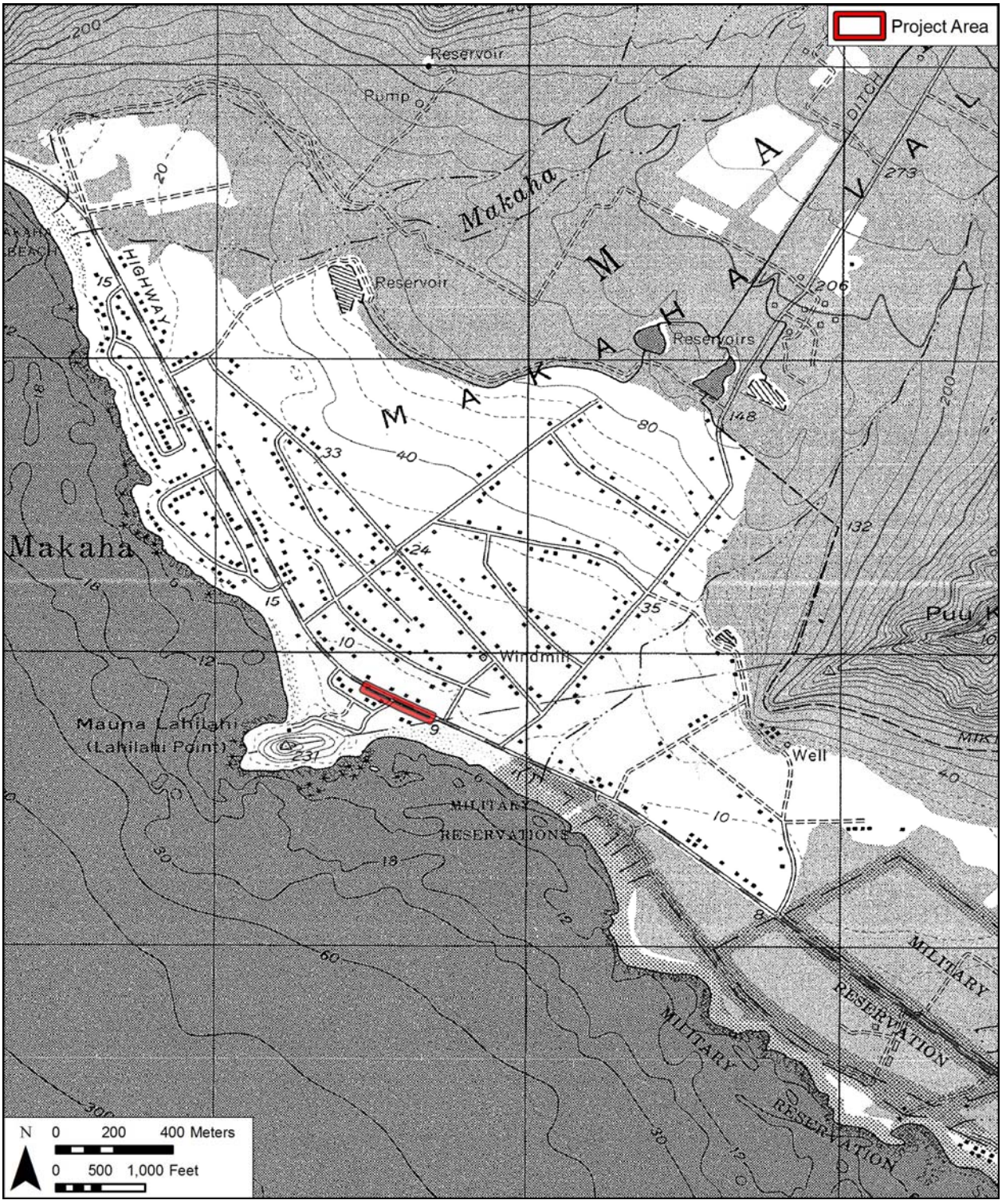

Figure 18. 1954 U. S. Army Mapping Service topographic map, portions of Wai‘anae Quadrangle, showing the Project area

Figure 19. 1977 U.S. Geological Survey, orthoimagery, Wai‘anae Quadrangle, showing the Project area

2.5 Previous Archaeological Research

Previous archaeological studies in the southern *makai* (toward the sea) portion of Mākaha and the northern makai portion of Wai‘anae Ahupua‘a are shown in Figure 20 and summarized in Table 2. Studies in the immediate vicinity of the current Project area are described in the following section, and previously identified historic properties located near the current Project area are shown in Figure 21 and presented in Table 3.

2.5.1 Kennedy 1986

Kennedy (1986) carried out archaeological investigations focused on the north side of Mauna Lahilahi identifying five sites including a possible *heiau*, *kuahu* (family shrine) or *ko‘a* (fishing shrine) (Site 1), a *koa* (Site 2), an L-shaped rock terrace (Site 3), a linear pile (Site 4)., and an enclosure (Site 5). These sites are part of SIHP 50-80-07-3704, Mauna Lahilahi; the northeastern section of Site -3704 is approximately 200 feet from the current Project area.

2.5.2 Komori 1987

Komori (1987) carried out archaeological survey and testing at Mauna Lahilahi, relocating Kennedy’s (1986) five sites (C4-306 through 310) and an additional eleven sites (C4-311 and 312, C3-24 through 32). These sites included petroglyphs, enclosures, terraces, rock shelters and midden, and lithic scatters, several of which contain branch coral. This suggests that those sites may have been associated with religious activities. Komori reports eight radiocarbon dates rather tightly in the A.D. 1300 to 1650 period.

2.5.3 Kawachi 1990

Kawachi (1990) documented remains of at least two individuals recovered from a crevice in Mauna Lahilahi. The remains had been sealed in a small hole, with two large cobbles placed in the hole to seal it. These human remains are part of SIHP 50-80-07-3704, Mauna Lahilahi.

2.5.4 Kalihiwa and Cleghorn 2003

Kalihiwa and Cleghorn (2003) identified three historic properties, comprised of five features, during archaeological monitoring for a water system improvements project in ten streets. The three sites consisted of SIHP 50-80-07-6521, a pit feature; SIHP 50-80-07-3325, a concrete flume, and SIHP 50-80-07-6522, two fire features. Sites -6521 and -3325 are located approximately 1,400 feet *mauka* from the current Project area, and Site -6522 is located quite distant from the Project area. Kalihiwa and Cleghorn determined that Site -3325 is no longer assessed as being significant, and Sites -6521 and -6522 contain no cultural materials; as such, they are assessed as being not significant.

One section of the study included Lahilahi Street, which converts to Farrington Highway at the current Project area, and is located adjacent to Mauna Lahilahi (SIHP 50-80-07-3704). Sand deposits were present within 30 meters of the northwestern and southeastern intersections of Lahilahi Street and Farrington Highway. Layer II, from 30–54 centimeters below ground surface, included scattered charcoal flecking.

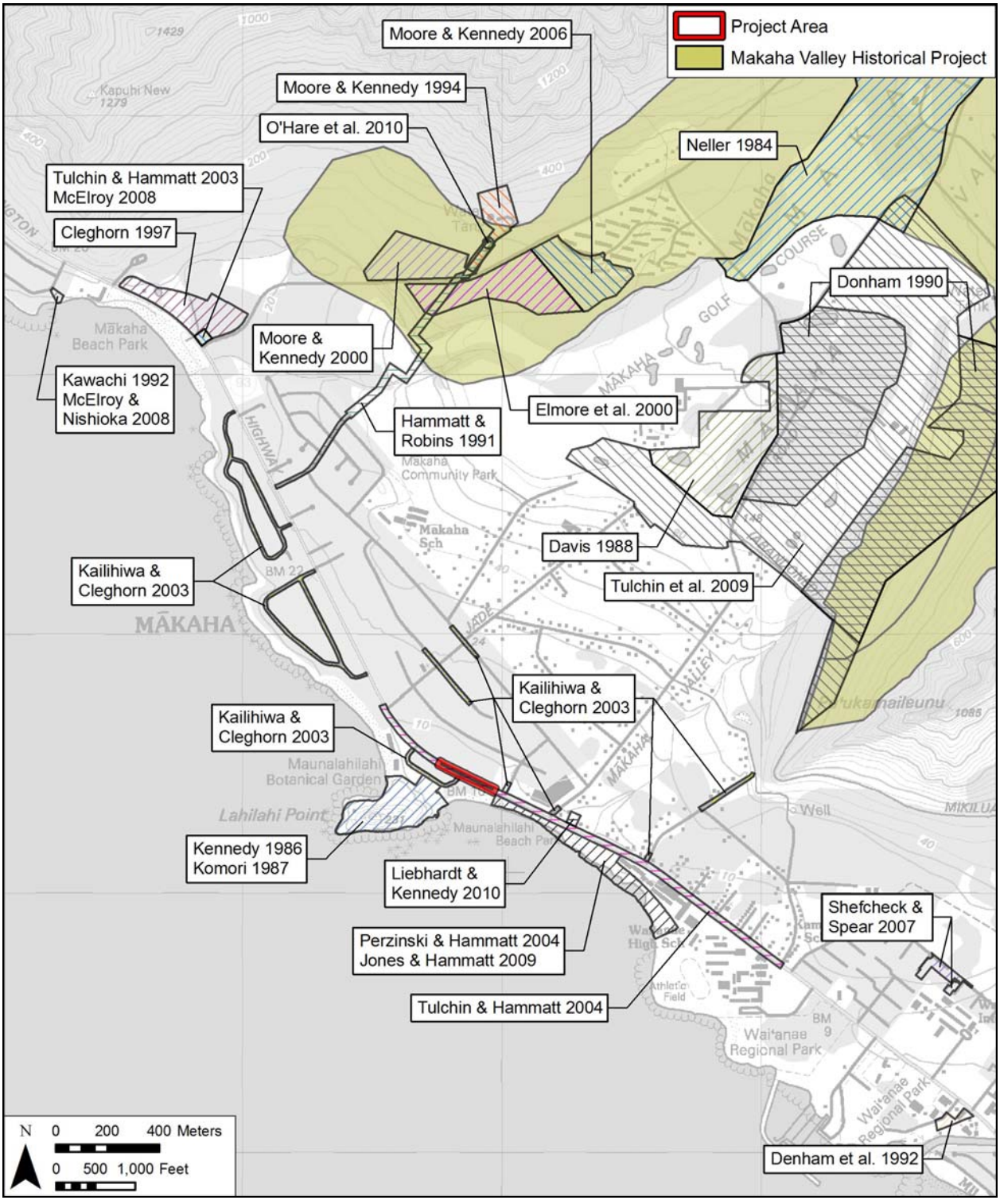

Figure 20. Previous Archaeological Studies in the southern *makai* portion of Mākaha Ahupua‘a and the northern *makai* portion of Wai‘anae Ahupua‘a

Table 2. Previous Archaeological Studies in Mākaha Ahupua‘a and the Northern *Makai* Portion of Wai‘anae Ahupua‘a

Author	Location	Type of Study	Findings
McAllister 1933	Island-wide	Island-Wide Survey	Described seven sites in Mākaha, including: 169, a terrace complex; 170, Kāne‘ākī Heiau; 171, a terrace complex; 172, a platform; 173, a legendary stone; 174, Laukīnui Heiau; and 175, Mololokai pits
Green 1969, 1970, 1980; Ladd and Yen 1972; and Ladd 1973	Mākaha Valley	Mākaha Valley Historical Project	Documented over 600 archaeological features in the upper valley and 1,131 features in the lower valley; provided evidence of permanent pre-Contact inland settlement in Mākaha Valley
Bordner 1981, 1983	Corridor for “Makaha Wells” in Upper Mākaha Valley	Archaeological Inventory Survey	Documented numerous features, consisting primarily of agricultural terrace complexes; features also included possible agricultural *heiau*, temporary shelters, boundary walls, historic road, and possible habitation platform
Kennedy 1983	Upper Mākaha Valley, “Well IV”	Archaeological Monitoring	No evidence of buried features or artifacts observed
Neller 1984	Lower Mākaha Valley, Site Area 997	Archaeological Reconnaissance Survey	Relocated features and identified additional features in Site Area 997 of the Makaha Valley Historical Project; features included a shrine, small cemetery, historic church ruins, agricultural terrace complex, small *heiau*, platforms, and historic house sites including the Holt Homestead; area noted to have been disturbed by bulldozing

Author	Location	Type of Study	Findings
Hammatt, Shideler and Borthwick 1985	Northern Portion of Lower Mākaha Valley, Mid-Valley Well Site	Archaeological Reconnaissance Survey	Identified 10 historic properties, interpreted to be related primarily to dryland agriculture and possibly habitation; features included possible habitation terraces, agricultural mounds and terraces, and a historic cattle wall
Barrera 1986	Northern Portion of Lower Mākaha Valley, Mid-Valley Well Site	Archaeological Inventory Survey	Identified four historic properties comprised of seven features, including four platforms, a U-shaped habitation enclosure, a terrace, and a wall; excavated 17 test pits, yielding charcoal flecks
Kennedy 1986	Coastal Mākaha, Mauna Lahilahi	Archaeological Inventory Survey	Identified five historic properties, including a possible shrine, a *ko‘a* (fishing shrine), linear mound, and enclosure.
Komori 1987	Coastal Mākaha, Mauna Lahilahi	Archaeological Inventory Survey	Relocated five historic properties identified by Kennedy (1986) and identified an additional 11 historic properties, including petroglyphs, enclosures, terraces, rock shelters, midden scatters, and lithic scatters; subsurface testing yielded eight radiocarbon dates, clustered tightly in the A.D. 1300 to 1650 period
Bordner and Cox 1988	Upper Mākaha Valley	Archaeological Mapping Project	Conducted detailed mapping of historic properties previously identified by the Makaha Valley Historical Project; findings suggest that the importance of dryland agriculture had been previously underestimated
Davis 1988	Lower Mākaha Valley, Makaha Valley Resort	Archaeological Reconnaissance Survey	Identified five historic properties, including three plantation reservoirs, a plantation irrigation ditch, and a railroad berm
Donham 1990	Lower Mākaha Valley, Makaha Valley Country Club	Archaeological Inventory Survey	Identified a terrace for dryland agriculture and/or habitation

Author	Location	Type of Study	Findings
Kawachi 1990	Coastal Mākaha, Mauna Lahilahi	Burial Report	Documented remains of at least two individuals recovered from a crevice in Mauna Lahilahi
Hammatt and Robins 1991	Lower Mākaha Valley	Archaeological Inventory Survey	Identified a single historic property, consisting of a linear earthen berm along the south bank of Mākaha Stream; the berm was interpreted to be associated with commercial sugar cane cultivation, functioning as a field boundary or as an improvement to the stream bank; subsurface testing in the study corridor yielded nothing of archaeological significance.
Kawachi 1992	Coastal Mākaha, Kepuhi Point	Burial Report	Documented human remains eroding from a sand bank following Hurricane ‘Iniki; the burial was reported to have included staghorn coral at major joints and a possible shell *niho palaoa* (pendant worn by the *ali‘i*)
Moore and Kennedy 1994	Northern Portion of Lower Mākaha Valley	Archaeological Inventory Survey	No historic properties identified
Cleghorn 1997	Coastal Mākaha, Mākaha Beach Park	Archaeological Inventory Survey	Identified remains of O. R. & L. railroad infrastructure and subsurface testing revealed a cultural layer and a pond/wetland area; radiocarbon dating of the cultural layer yielded a date range of A.D. 1440–1690.
Pagliaro 1997	Kāne‘ākī Heiau	*Heiau* Restoration Report	Documentation of *heiau* restoration work

Author	Location	Type of Study	Findings
Elmore et al. 2000	Northern Portion of Lower Mākaha Valley	Archaeological Inventory Survey	Identified one historic property, comprised of three features, including a bi-faced wall, a pavement, and a platform; subsurface testing within the features yielded traditional Hawaiian artifacts; features were interpreted to be related to dryland agriculture and habitation
Moore and Kennedy 2000	Northern Portion of Lower Mākaha Valley	Archaeological Inventory Survey	Identified one historic property, comprised of two features, including a remnant wall and a stone mound/boulder alignment; subsurface testing did not yield any cultural material; features were interpreted to be related to dryland agriculture and habitation
Bush et al. 2002	Lower Mākaha Valley, Mauna ‘Olu Estates	Archaeological Monitoring Report	No cultural material was observed during monitoring
Kailihiwa and Cleghorn 2003	Coastal Mākaha, 10 Streets	Archaeological Monitoring Report	Identified three historic properties, comprised of five features; features included a pit, concrete flume, two fire pits, and a charcoal deposit
Tulchin and Hammatt 2003	Coastal Mākaha, Mākaha Beach Park	Archaeological Inventory Survey	No historic properties identified
Tulchin and Hammatt 2004	Coastal Mākaha, Farrington Highway	Archaeological Monitoring Report	No cultural material was observed during monitoring
Perzinski and Hammatt 2004	Mauna Lahilahi Beach Park	Archaeological Inventory Survey	Two new sites were recorded: SIHP 50-80-07-6634, an intact cultural layer; and SIHP 50-80-07-6635, an historic basalt alignment; two previously recorded sites were noted: SIHP 50-80-07-4064, a concentration of burials, and SIHP 50-80-07-9714, a portion of the OR&L railroad.

Author	Location	Type of Study	Findings
McDermott and Tulchin 2006	Coastal Mākaha, Farrington Highway Mākaha Bridges 3 and 3A	Archaeological Inventory Survey	Identified five historic properties, including two historic bridges, remnants of the OR&L railroad, and a subsurface cultural layer containing previously disturbed human skeletal remains
Hammatt, Dey and Tulchin 2007	Lower Mākaha Valley	Archaeological Inventory Survey	Identified four historic properties, comprised of 15 features; features included a plantation-era irrigation ditch and associated retaining walls, a ranch-related cattle wall, a traditional Hawaiian agricultural terrace, and a historic habitation complex containing walls, terraces, a mound, and an enclosure; the historic house site was identified as a former residence of members of the Holt family; subsurface testing yielded a radiocarbon date range of A.D. 1430–1650)
Hazlett and Hammatt 2007	Coastal Mākaha, Farrington Highway Mākaha Bridge 3	Archaeological Monitoring Report	No cultural material was observed during monitoring
McElroy 2008	Coastal Mākaha, Kepuhi Point	Archaeological Monitoring Report	No cultural material was observed during monitoring
Hammatt, Yucha and Perry 2009	61-Acre Parcel, TMK: [1] 8-4-002: 043, 044, 048 & 063	Archaeological Literature Review and Field Inspection	Seven historic properties identified: a wall, an alignment three mound clusters, a mound and berm complex, a solitary mound, probably all associated with sugar cane cultivation
Jones and Hammatt 2009	Mauna Lahilahi Beach Park	Archaeological Monitoring Report	Two human burial sites were identified: SIHP 50-80-07-6704 and -6705.

Author	Location	Type of Study	Findings
Liebhardt and Kennedy 2010	Intersection of Makaha Valley Road and Farrington Highway	Archaeological Inventory Survey	No historic properties identified
O’Hare, Shideler and Hammatt 2010	Board of Water Supply Fire Dip Tank	Archaeological Assessment	No historic properties identified

Figure 21. Archaeological Sites in the Vicinity of the Project Area

Table 3. Archaeological Sites in the Vicinity of the Project Area

Site Number	Site Type	Description	Source
SIHP 50-80-07-3704	Mauna Lahilahi	A natural promontory at the southern end of Mākaha Valley; subsurface cultural deposits, evidence of marine and religious activities and stone tool production, petroglyphs and crevice burials all included under one SIHP designation	Kennedy 1986; Komori 1987; Kawachi 1990
50-Oa-C3-24 (50-80-07-3704a)	Enclosure	Remnant of what was previously a more extensive cultural deposit; used as a house site in the early 1900s	Komori 1987
50-Oa-C3-25 (50-80-07-3704b)	Rockshelter	Very substantial and well preserved cultural deposit, indicating two periods of occupation that are associated with use of marine resources	Komori 1987
50-Oa-C3-26 (50-80-07-3704c)	Petroglyphs	26 petroglyphs on rock faces of an outcrop; 17 are anthropomorphic	Komori 1987
50-Oa-C3-27 (50-80-07-3704d)	Rectangular enclosure	Possibly a religious structure or specialized structure such as a men’s house	Komori 1987
50-Oa-C3-28 (50-80-07-3704e)	Quadrangular structure with pavement	Branch coral indicates site may be associated with religious activity	Komori 1987
50-Oa-C3-29 (50-80-07-3704f)	Walled rectangular enclosure	Branch coral indicates site may be associated with religious activity	Komori 1987
50-Oa-C3-30 (50-80-07-3704g)	Wall	Branch coral indicates site may be associated with religious activity	Komori 1987
50-Oa-C3-31 (50-80-07-3704h)	Rockshelter	Near petroglyphs (C3-26)	Komori 1987
50-Oa-C3-32 (50-80-07-3704i)	Mounded midden exposure	Temporary habitation	Komori 1987

Site Number	Site Type	Description	Source
50-Oa-C4-306 (50-80-07-3704)	Depressions	Associated with agricultural activities, such as planting crops of sweet potatoes	Komori 1987
50-Oa-C4-307 (50-80-07-3704k; Kennedy Site 2)	Platform and terrace	Temporary habitation in association with the use of marine resources	Komori 1987
50-Oa-C4-308 (50-80-07-3704l; Kennedy Site 3)	Stacked stone terrace	Intact cultural deposit with a possible posthole feature; site of stone tool manufacturing	Komori 1987
50-Oa-C4-309 (50-80-07-3704m; Kennedy Site 4)	Boulder outcrop with two terrace walls	Likely constructed around 1935 as a boundary wall and later to store large boulders	Komori 1987
50-Oa-C4-310 (50-80-07-3704n)	Walled enclosure	Pre-Contact activity in or near the site, but walls of recent construction	Komori 1987
50-Oa-C4-311	Terrace at base of cliff	Pre-Contact activities, terrace may have been a planting area	Komori 1987
50-Oa-C4-312	Footpath	Footpath partially encircles Mauna Lahilahi	Komori 1987
SIHP 50-80-07-3325	Concrete flume	Assessed to be no longer significant	Kalihiwa and Cleghorn 2003
SIHP 50-80-07-6521	Pit feature	Since the site contains no cultural materials, it was assessed as not being significant	Kalihiwa and Cleghorn 2003
SIHP 50-80-07-6634	Cultural layer	Radiocarbon dated to A.D. 1430 indicating pre- and post-Contact settlement of the shoreline	Perzinksi and Hammatt 2004
SIHP 50-80-07-6635	Rectangular alignment	No associated cultural layer	Perzinksi and Hammatt 2004
SIHP 50-80-07-4064	Human burials	Two human burials, one eroding out of a wave cut bank and the other likely a burial crypt	Perzinksi and Hammatt 2004
SIHP 50-80-07-6705	Human burials	Human remains of one individual within a layer of sandy clay sediment	Jones and Hammatt 2009

Kalihiwa and Clegorn developed a map, based on excavations, showing areas of high cultural sensitivity due to the presence of sand deposits, as they have the potential of containing Native Hawaiian burials. They recommended that those areas continue to have on-site monitoring for future projects; the current Project area is not located within their area of reconstructed sand deposits.

2.5.5 Tulchin and Hammatt 2004

Tulchin and Hammatt (2004) conducted archaeological monitoring along Farrington Highway from Jade Street in Mākaha Ahupua‘a to Kaulawaha Road in Wai‘anae Ahupua‘a, including the current Project area. Sand deposits were observed at the eastern end of Lahilahi Street, at the current Project area. During excavation, no indigenous or historic-era artifacts were observed, but a single charcoal sample recovered from a buried sand pocket on Jade Street was radiocarbon dated to A.D. 1719–1820. Tulchin and Hammatt recommended on-site and on-call archaeological monitoring for future subsurface work based in part on consideration of soil types.

2.5.6 Perzinksi and Hammatt 2004

Perzinkski and Hammatt (2004) conducted an archaeological inventory survey at the Mauna Lahilahi Beach Park in Wai‘anae Ahupua‘a. A total of two new sites and two previously documented sites were recorded. The new sites consist of SIHP 50-80-07-6634, an intact cultural layer; and SIHP 50-80-07-6635, an historic basalt alignment. The two previously recorded sites are SIHP 50-80-07-4064, a concentration of burials, and SIHP 50-80-07-9714, a portion of the OR&L railroad.

Site -6634, the intact cultural layer radiocarbon dated to A.D. 1430, indicates continued use and settlement of the shoreline, including a pre-Contact component and an early post-Contact cultural deposit. This site is located approximately 1,200 feet from the current Project area. Site -6635 is a rectangular alignment without any cultural layer. This site is located approximately 1,300 feet from the current Project area. Site -4064 consists of two human burials, one eroding out of a wave cut bank and the other a probably burial crypt. This site is located approximately 1,300 feet from the current Project area. Site -9714, located quite distant from the Project area, consists of a portion of the former OR&L railroad berm that was formerly used to transport sugarcane from Wai‘anae Sugar Company land to the ‘Ewa mill.

2.5.7 Jones and Hammatt 2009

Jones and Hammatt (2009) conducted archaeological monitoring for the Mauna Lahilahi Beach Park in Wai‘anae Ahupua‘a. Two human burial sites were identified: SIHP 50-80-07-6704 and -6705. Site -6704 is a primary burial found lying on its back in a fully extended position within a coffin, with historic-era artifacts. This burial was located in a layer of clay sediment with no cultural layer present, quite distant from the Project area. Site -6705, located approximately 1,200 feet from the current Project area, included human remains that appeared to have been disarticulated prior to their discovery. This burial was located in layer of sandy clay sediment. Although previous archaeology had determined a greater concentration of cultural deposits within the sand deposits, the presence of burials within the clay deposits suggested to

Jones and Hammatt that cultural deposits might be found anywhere within Mauna Lahilahi Beach Park.

2.5.8 Liebhardt and Kennedy 2010

Liebhardt and Kennedy (2010) conducted an archaeological inventory survey near the border of Mākaha and Wai‘anae Ahupua‘a at the intersection of Makaha Valley Road and Farrington Highway. The site had been extremely disturbed, and no historic properties were identified.

2.6 Background Summary and Predictive Model

The southern coastal section of Mākaka Ahupua‘a in the vicinity of the current Project area is most noted for Mauna Lahilahi, a promontory of cultural importance. Sixteen archaeological sites including petroglyphs, enclosures, terraces, rock shelters and midden, lithic scatters, and ko‘a, as well as a crevice burial, are included in SIHP 50-80-07-3704; radiocarbon dates range from A.D. 1300 to 1650. The northeastern section of Site -3704 is approximately 200 feet from the current Project area. Several of these sites contain branch coral, which suggests that they may have been associated with religious activities. In close proximity to the Project area are other place names, including the small island Laukīnui, the cove Keawaiki, and the inland plain called Ke Kula o Kumanomano.

The current Project area is located on a former swamp, according to a map drawn by Jackson in 1884 (see Figure 9), which likely was part of a drainange system of ‘Eku Stream into the current Mauna Lahilahi Beach Park. A sketch by the missionary Hiram Bingham in 1826 (see Figure 11) shows a small settlement of four houses just *mauka* of Mauna Lahilahi. This appears to have been within or in the immediate vicinity of the Project area (Figure 11). The establishment of the OR&L railway along the former coastal trail in the late 1800s at the current Project area contributed to increased settlement and residential development by the mid-1900s. Two historic-era sites (a concrete flume and a pit feature) are located about 1,400 feet *mauka* of the current Project area (Kalihiwa and Cleghorn 2003).

A map generated by Kalihiwa and Cleghorn (2003) shows areas of high sensitivity due to the presence of sand deposits and the potential of containing Native Hawaiian burials, and thus the imperative for on-call monitoring. This map did not include the current Project area, but the same study noted that sand deposits were present within 30 meters of the southeastern intersection of Lahilahi Street and Farrington Highway at the current Project area. In addition, Layer II, from 30–54 centimeters below ground surface, included scattered charcoal flecking (*Ibid.* 2003). Another study along Farrington Highway also observed sand deposits at the eastern end of Lahilahi Street at the current Project area (Tulchin and Hammatt 2004). The closest documented burial sites, subsurface cultural layers, and sites are located about 1,200–1,300 feet south of the Project area along Mauna Lahilahi Beach Park. These sites include: SIHP 50-80-07-6634, an intact cultural layer radiocarbon radiocarbon dated to A.D. 1430 indicative of continued use and settlement of the shoreline (Perzinkski and Hammatt 2004); SIHP 50-80-07-6635, an historic basalt alignment (Perzinkski and Hammatt 2004); SIHP 50-80-07-4064, a concentration of burials (Perzinkski and Hammatt 2004), and human remains of one individual (Jones and Hammatt 2009).

Intact subsurface cultural deposits, features, and/or human skeletal remains, relating to both pre-Contact and early post-Contact traditional Hawaiian habitation and agriculture, may be encountered beneath fill sediments associated with the construction of Farrington Highway. Traditional Hawaiian cultural deposits or features could include the following: pond and *lo‘i* sediments; *kuāuna* (embankments) that served as boundaries of ponds or *lo‘i*; and buried land surfaces containing midden, artifacts, or hearth features. Post-Contact cultural deposits or features could include the following: isolated artifacts; trash pits; privies; and building foundations or other subsurface structural features.