Section 9 Ma‘alo, Wailua Ahupua‘a

9.1 Environmental Setting

9.1.1 Natural Environment

The Ma‘alo project area is located approximately two miles inland from the east shore of Kaua‘i, a couple of hundred meters south of the south fork of the Wailua River in Wailua Ahupua‘a, TMK: [4] 3-9-002 (Figure 58 and Figure 59). The *ahupua‘a* of Wailua is situated in the old *moku* (or district) of Puna, but today is located in two separate judicial districts. North of the Wailua River is in the district of Kawaihau and south of the river, where the Ma‘alo project area is located, is the Līhu‘e District. It is the largest *ahupua‘a* in both district systems, totaling 20,255 acres. Stretching from the shoreline to its *mauka* extent at Wai‘ale‘ale (elevation 5080 feet), the *ahupua‘a* encompasses most of the small streams and tributaries that flow into the Wailua River - the largest and singular navigable river in the state (Handy and Handy 1972:425).

The Wailua River and its tributaries comprise the major drainage system for the central area of the Līhu‘e basin. The Līhu‘e basin is bounded by the Hā‘upu Mountains to the south, Wai‘ale‘ale to the west and the Makaleha mountains to the north.

The project area receives approximately 60 inches of rainfall annually, and is a nearly level expanse of land. Soils in the area (Figure 60) consist almost entirely of Puhi Silty Clay Loam (PnB, PnC), a well-drained soil found in upland areas, with some portions consisting of Lihue Gravelly Silty Clay (LIB) (Foote et al. 1972).. The dissected valley of the south branch of the Wailua River is immediately north of the project area, and Wailua Falls is located about one mile north.

9.1.2 Built Environment

The area immediately surrounding the Ma‘alo project area is fairly rural, with an aerial photograph (Figure 61) showing the land being used primarily for agricultural fields. Most development in this area is focused on the south side of Kālepa Ridge near the shore. Ma‘alo Road and Wailua Falls are to the west and northwest of the project area.

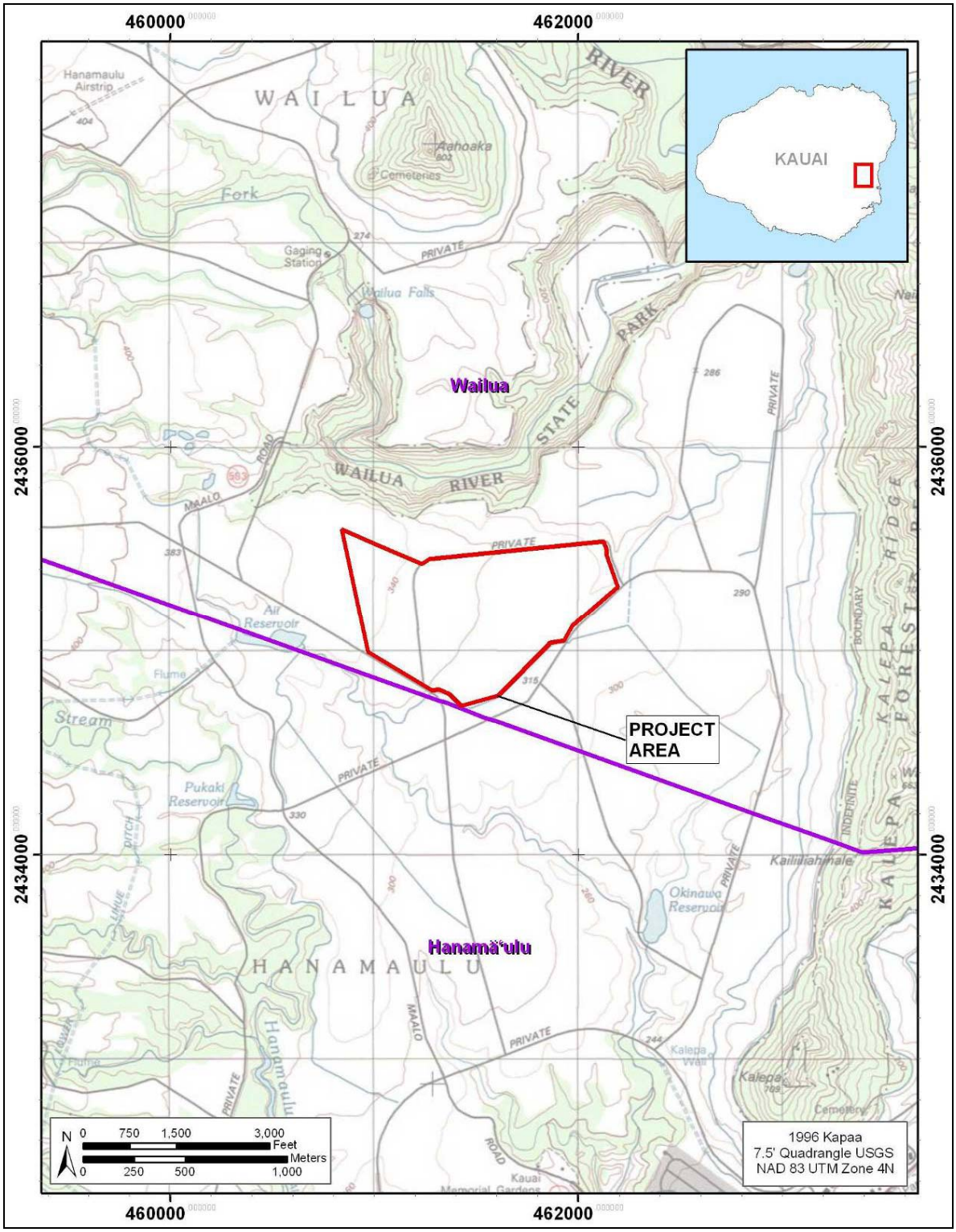

Figure 58. Portion of 1996 U.S.G.S. 7.5-minute topographic Kapaa quadrangle, showing the Ma‘alo project area

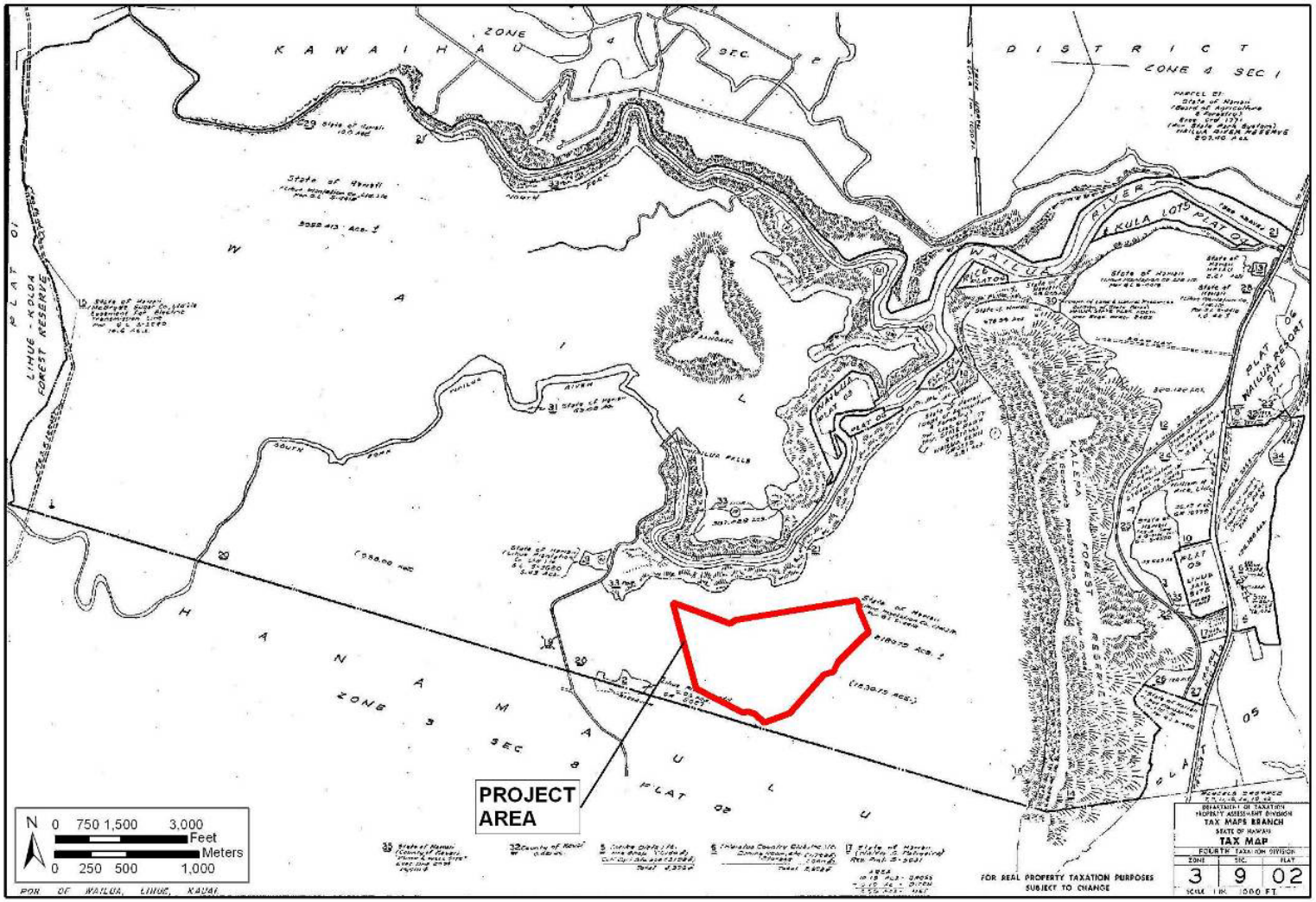

Figure 59. Tax map (TMK) [4] 3-9-002 showing Ma‘alo project area location

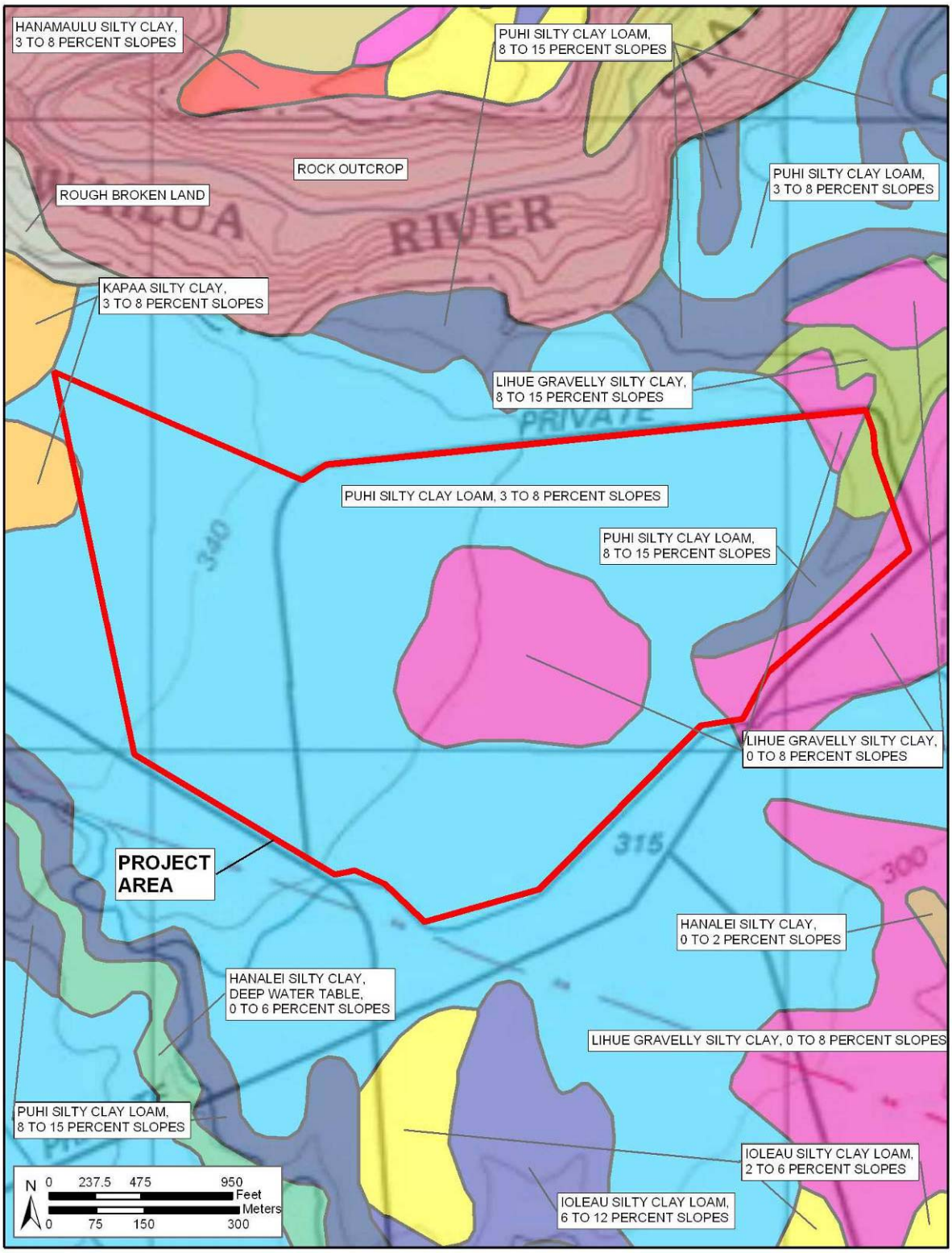

Figure 60. Soils map showing Ma‘alo project area location

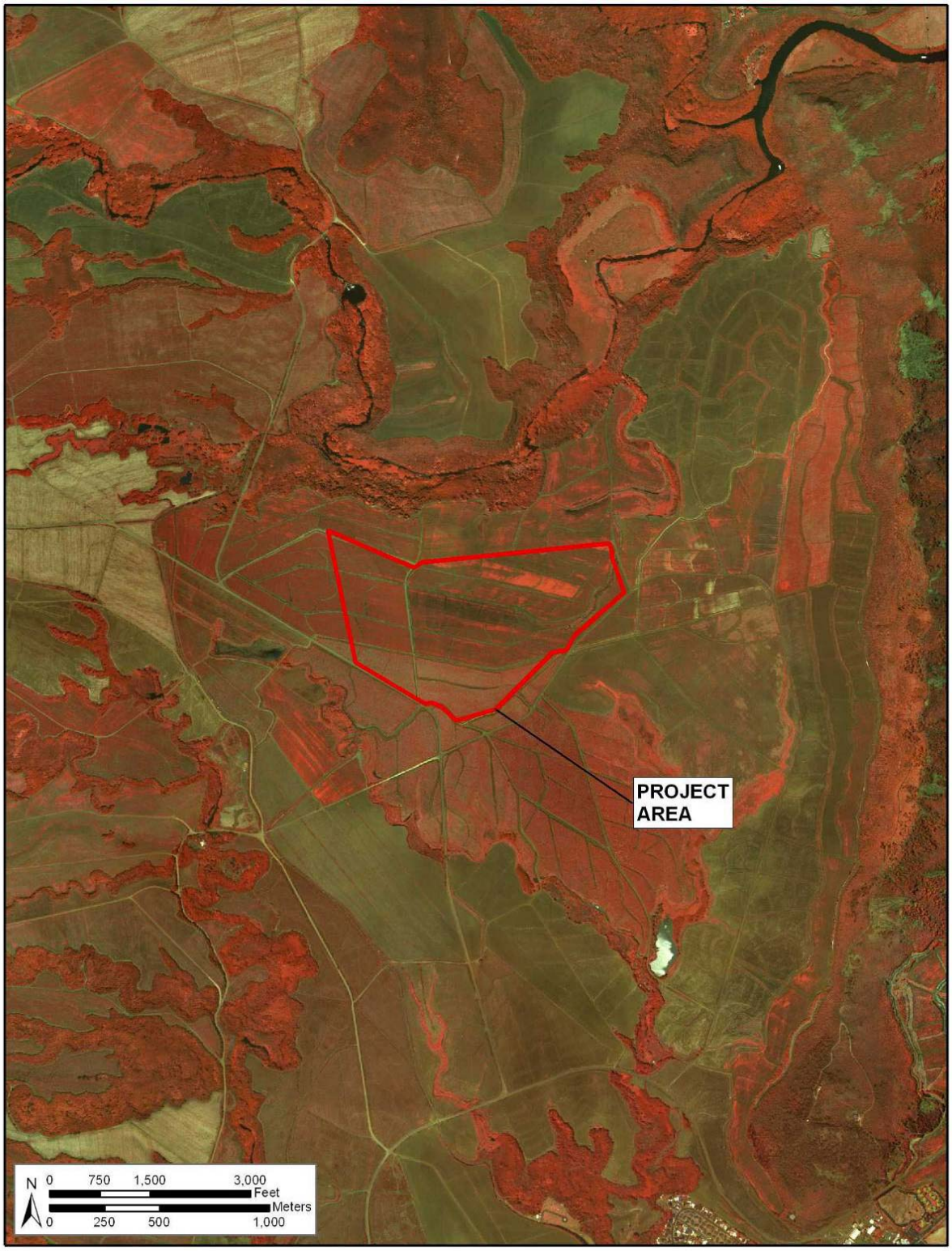

Figure 61. Aerial photograph showing Ma‘alo project area location

9.2 Traditional and Historical Background

9.2.1 Origin of the Place Name - Wailua

The most popular and literal meaning of the place name Wailua is "two waters," supposedly referring to the two main forks (north and south) that flow together to form the Wailua River. However, as Lyle Dickey says (1917:15) “this explanation never seems to occur to a native Hawaiian.” Other meanings include "water pit" referring to the pools at the bottom of several waterfalls along the river's course (Damon 1931:360) and “ghost or spirit” (Kikuchi 1973:5).

Perhaps even more plausible is the explanation that it comes from the name of the high chief – Wailuanuiaho‘āno.

> Wailuanui-a-Ho‘ano was born in ‘Ewa, O‘ahu, and his descendants went to Kaua‘i and to Maui, and wherever they settled they called the land after the name of their ancestor. Wailua was a song of La‘akona, ancestor of the ‘Ewa family by Ka-ho‘ano-o-Kalani. His name, Wailuanui-a-Ho‘ano, came from adding the name of his mother [Kamakau 1976:7].

9.2.2 Mythological and Traditional Accounts of Wailua

Archaeological and ethnographic evidence reinforce one another and indicate that Wailua was the religious and political center of Kaua‘i during ancient times. There were more *heiau* (temples) in Wailua than in other *ahupua‘a* on Kaua‘i (see Bennett 1931). The lower portion of the river valley, *makai* of Nonou ridgeline to the north and Mauna Kapu to the south, was known as Wailuanuiho‘āno (Wailuanuiaho‘āno) or alternately Wailuanuilani. It was an area so sacred that it was *kapu* to *maka‘āinana* or commoners. Only the *ali‘i*, their *kahuna* and retainers could reside or visit here (Dickey 1917). Also, there have been at least seven major *heiau* recorded in this relatively small area of the *ahupua‘a* (Ching 1968:28). This complex of *heiau* was declared a National Historic Landmark in 1962 (Figure 62).

A survey of traditional mythological literature shows Wailua prominently associated with some of the most famous legendary and historical figures including Maui, Kawelo, Pikoiakaala, Laieikawai, Mō‘īkeha, La‘amaikahiki and Kaililauokekoa (Dickey 1917; Fornander 1916-19; Kalākaua 1888; Rice 1923). These associations suggest an ancient and continuous occupation of the area. Martha Yent (1989:1) suggests that because of the traditional connection of several Wailua *heiau* with Mō‘ikeha as well as the mythical *menehune*, the religious complex there may have been constructed circa A.D. 1200.

Also pointing to the great antiquity and importance of the settlement at Wailua is that the area is, in recorded traditions, the site of many “firsts.” Dickey records claims that the first *kalo* (taro) and *‘uala* (sweet potato) on Kaua‘i were said to be planted by Mō‘ikeha here (Dickey 1917:24). Mō‘ikeha’s *hānai* (foster) son, La‘amaikahiki, brought the first temple drum to the islands and placed it at the *heiau* of Holoholokū at Wailua (Fornander 1878-85:II:62). Here also were introduced the first *hau* trees on Kaua‘i at Hihiakalahau along the river below Poliahu Heiau, and the first coconut tree in the islands at Molohua, just north of the river mouth (Dickey 1917:16, 24, 30).

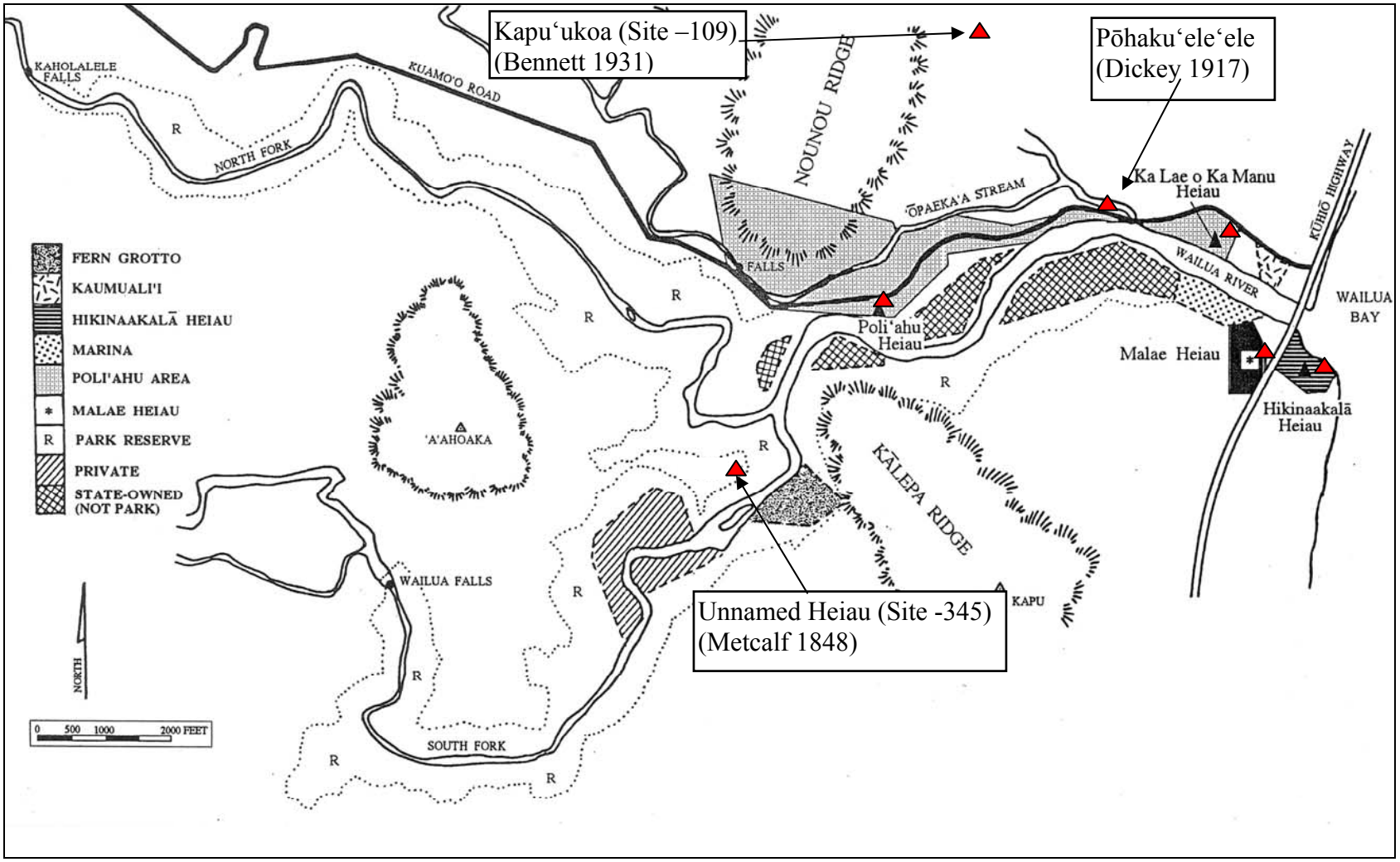

Figure 62. Map of the location of the seven *heiau* of Wailua (some locations approximate) marked by red triangles (modification of figure in Yent 1997b:5)

In relation to the current project area, Ching (1968) mentions two place names of importance originally noted by Dickey (1917). The first is Wailua Falls (or Waiehu Falls, see Figure 63), just north of the project area, from which it was said that “King Kaumualii used to jump down” (Dickey 1917). There is also a story of a girl whose lover was killed in battle, who, upon looking down and seeing his face in the pools at the base of the falls, jumped down and was killed; “her spirit is still there and at times its wailing may be heard in the water” (Dickey 1917:34). Just above Wailua Falls is a place called Kawelowai, which also has several legends associated with it.

9.2.3 Early Historic Period

Few Westerners visited Wailua in the years just after Cook’s arrival and detailed descriptions of the area are scarce. Most of the voyagers during the late eighteenth and early nineteenth centuries landed at Waimea, on the southwestern side of the island, a location that would eventually overshadow Wailua in its royal importance because of the opportunities there to associate and trade with these foreigners (Lydgate 1920). An 1878 Government Survey map by W.D. Alexander (Figure 63) shows that there is little development near the current project area, although there are fairly extensive agricultural fields – apparently rice – nearby to the south.

However, in March 1793, Wailua was still the “capital” of Kaua‘i and Capt. George Vancouver, who had already visited the island several times, both under Capt. James Cook and later as captain of his own expedition, knew this fact well and tried to land there. Although conditions prevented him from anchoring, Vancouver observed the area from off shore and gave this description:

> This part seemed to be very well watered, as three other rapid small streams were observed to flow into the sea within the limits above mentioned. This portion of Attouai, the most fertile and pleasant district of the island, is the principal residence of the King, or, in his absence, of the superior chief, who generally takes up his abode in an extensive village, about a league to the southward of the north-east point of the island. Here Enemo the regent, with the young prince Tamooerrie, were now living . . . [Vancouver 1798:221-222].

Within decades of western contact the area lost its ancient importance, and likely its population also. The *ali‘i* who enjoyed and benefited from their contact with westerners, spent more time in Waimea - the preferred anchorage for visiting ships. Also the complex of *heiau* at Wailua lost their great significance after the abolishment of the *kapu* system.

Missionary Hiram Bingham passed through Wailua twice in 1824 and visited the birthplace of King Kaumuali‘i (the *pōhaku ho‘ohānau* site), a *hōlua* slide, and the lower falls on the south fork of the river, but left no clues as to the size or extent of the settlement there (Bingham 1847:220, 231).

In October 1840, members of the U.S. Exploring Expedition came to Wailua and recorded the following:

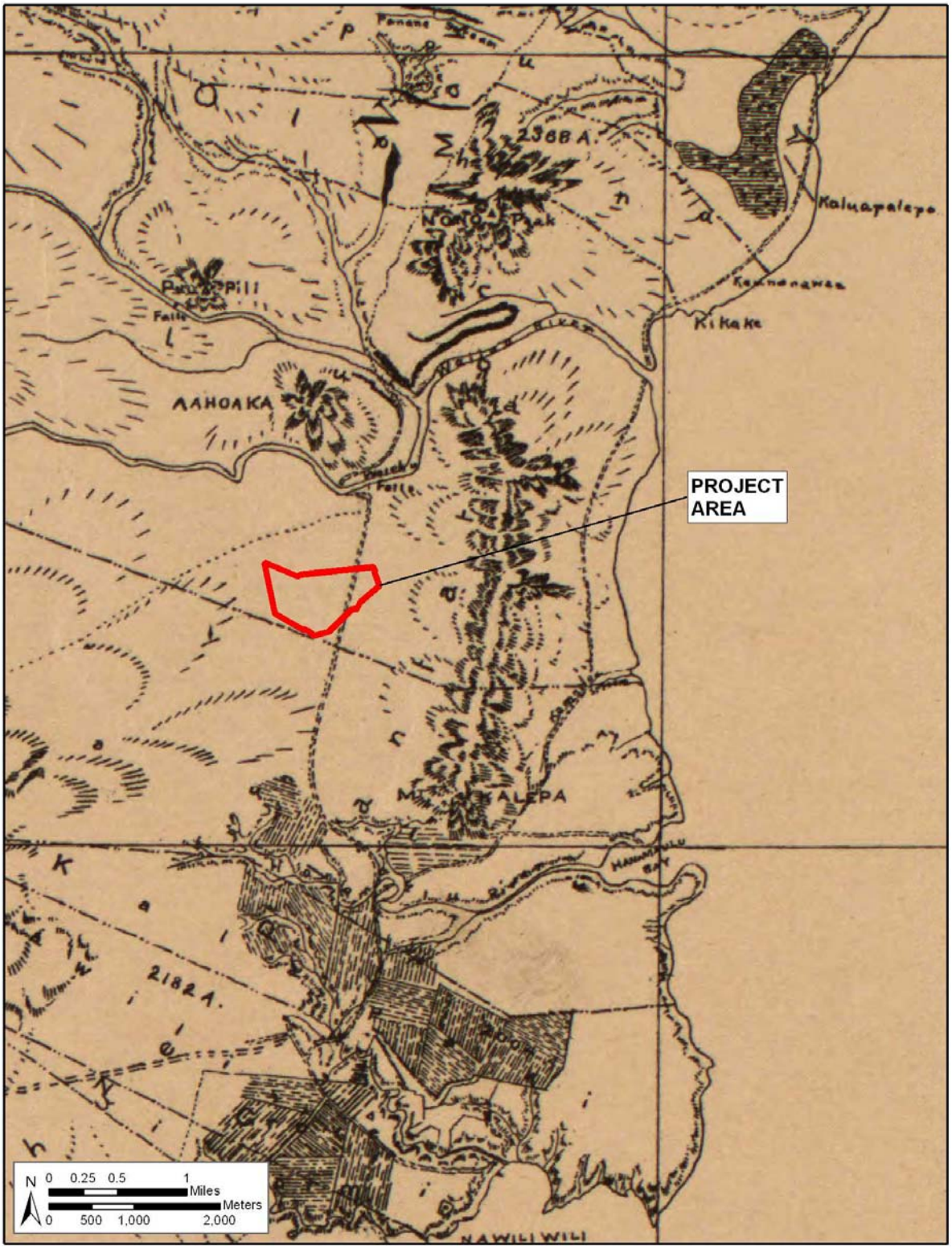

Figure 63. 1878 Government Survey map by W.D. Alexander, showing location of Ma‘alo project area and “Waiehu Falls”

The country on this route was uninteresting, until they reached Wailua, the residence of Deborah, a chief woman of the islands, readily known as such from her enormous size, and the cast of her countenance. She has a person living with her called Oliva Chapin, who speaks English, and has learned how to extort money. Deborah has about forty men in her district; but they were absent, being employed in the mountains cutting timber to pay the tax to the king.

Near Deborah's residence are extensive fishponds belonging to her, which have been made with great labour: they are of different degrees of saltiness. The fish are taken from the sea when young and put into the saltiest pond; as they grow larger, they are removed into one less salt, and are finally fattened in fresh water. While our gentlemen were there, Deborah received young fish in payment of the poll-tax, which were immediately transferred to her ponds.

Wailua, (two waters,) was formerly a place of some importance. It is situated on a small stream of the same name, in a barren, sandy spot.

Deborah furnished them with a double canoe, to carry them up the river to visit the falls. Taking the western branch, they ascended it for two and a half miles.

There are many good taro-patches and sugar plantations on its banks. They landed in what appeared to have been an old crater, in front of a basin, with high perpendicular bank. The low grounds along the river are extremely fertile, producing bread-fruit, sugar-cane, oranges, etc. The latter, however, are suffering from the blight, and some of the trees were covered with a black smut, produced by a species of aphis.

In ascending, an insulated black rock is passed, known as the “Muu,” which has been detached from a high rocky bluff, that is remarkable for the dikes visible in it.

They afterwards ascended the bank, two hundred feet high, and crossed about half a mile to the falls, over a plain covered with grass and wild sugar-cane. The stream was very small, running sluggishly, and passed over a precipice of barren rocks, one hundred and sixty feet in height. Although there is neither tree nor shrub along the stream above the fall, the valley beneath is filled with them; the most conspicuous was the pandanus. The whole scene is picturesque. Below, the falls present a very curious appearance, the wind continually breaking and dispersing the water in heavy showers over a great variety of ferns, which are growing in the crevices of the rocks. The volume of water does not exceed ten hogsheads a minute. In the basin beneath were found many fine specimens of *Neritina granulata*, and two other species were found further down the stream, about four feet below the surface; these were procured by diving. Mr. Rich obtained specimens of the plants.

Mr. Peale found but few birds; ducks were abundant on the river's banks, some of which were killed. Rushes were growing along the banks from eight to ten feet in length, four or five feet under the water; besides these, the banks were covered with hibiscus and ricinus (castor-oil trees), growing wild [Wilkes 1846:IV:68-69].

Debora Kapule was a member of Kaua‘i’s royalty. Kapule, the former wife of Kaua‘i sovereign Kaumuali‘i, took up residence in Wailua in 1835, shortly after the rebellion of 1824 in which Kaumuali‘i's son George led a revolt which was put down by forces loyal to Kamehameha II. Debora, who remained loyal to Kamehameha II, was granted lands at Wailua by Ka‘ahumanu, *kuhina nui* or regent of the islands. The fishponds mentioned above as belonging to Debora Kapule were located on the property of the former Coco Palms.

9.2.4 The Māhele Period

During the 1848 privatization of land in Hawai‘i, known as the Māhele, only fifty-one parcels totaling approximately 75 acres were awarded to twenty-seven individual claimants in Wailua. These parcels comprise 122+ *lo‘i* (ponded fields), 5 *mo‘o* (strips of cultivated land), 24 house lots, and 8 *kula* (typically pasture claims). All of the parcels are within approximately a mile of the shore. Of the parcels on which *kalo* was cultivated on the north side of the Wailua River, most were watered by *‘auwai* (irrigation canals) sourced in ‘Ōpaeka‘a (or Wailuaiki) Stream, as shown in the Lydgate Map of 1920 (Figure 64).

There are 11 other *ahupua‘a* on Kaua‘i with greater numbers of claims at the time of the Māhele (1848-1853). When it was the former religious, economic and social center of Kaua‘i more land would have been under cultivation, not only for the *lo‘i* and *kula*, but other traditional crops, such as *wauke* and *noni*, bananas, woods and fishponds. The fact that so few claimed land in Wailua at the time of the Māhele, no doubt reflects Wailua's changed status after trading ships and missionaries arrived. Communities grew up around the new social and economic centers, especially on the south side of the island and drew people away from their former establishments. By the mid-1800s only a small population, decimated in part by disease, existed in the Wailua River Valley within a mile from the sea. They were displaced within decades by imported farmers and crops.

All of the *kuleana* (land claim) awardees originally received their land from Debora Kapule “in the days of Kaikioewa” or “in the days of Ka‘ahumanu” indicating a rather short tenancy since around 1825 or later. It is generally understood that following the suppression of the Kaua‘i Rebellion of 1824 by the forces loyal to Kamehameha II there was a massive redistribution of Kaua‘i lands. Apparently when Debora Kapule received the Wailua lands from Ka‘ahumanu, she served as *konohiki* (overseer) for the *ahupua‘a* or in her own words, the *haku‘āina* or landlord (*Native Register* 1848:IX:55-56).

It appears likely that the commoner lands of Wailua were far more extensive than what was documented in the *māhele*. On the other hand the general pattern seems likely to have been much the same with Hawaiian activity focused on the river flood plains. No commoner (kuleana) Land Commission Awards lie near the present Ma‘alo project area.

9.2.5 Post-Māhele Period

Like most well watered areas in Hawai‘i, rice crops began taking over former *lo‘i kalo* in the second half of the 1800s. This sharing of the land by the Chinese rice farmers and native *kalo* growers continued through the end of the century. Knudsen (1991:152) visited Wailua in 1895:

> We rode through the Lihue Plantation cane fields, passed through Hanamaulu and came to the Wailua River. What a sight! The great river lay clear and placid -

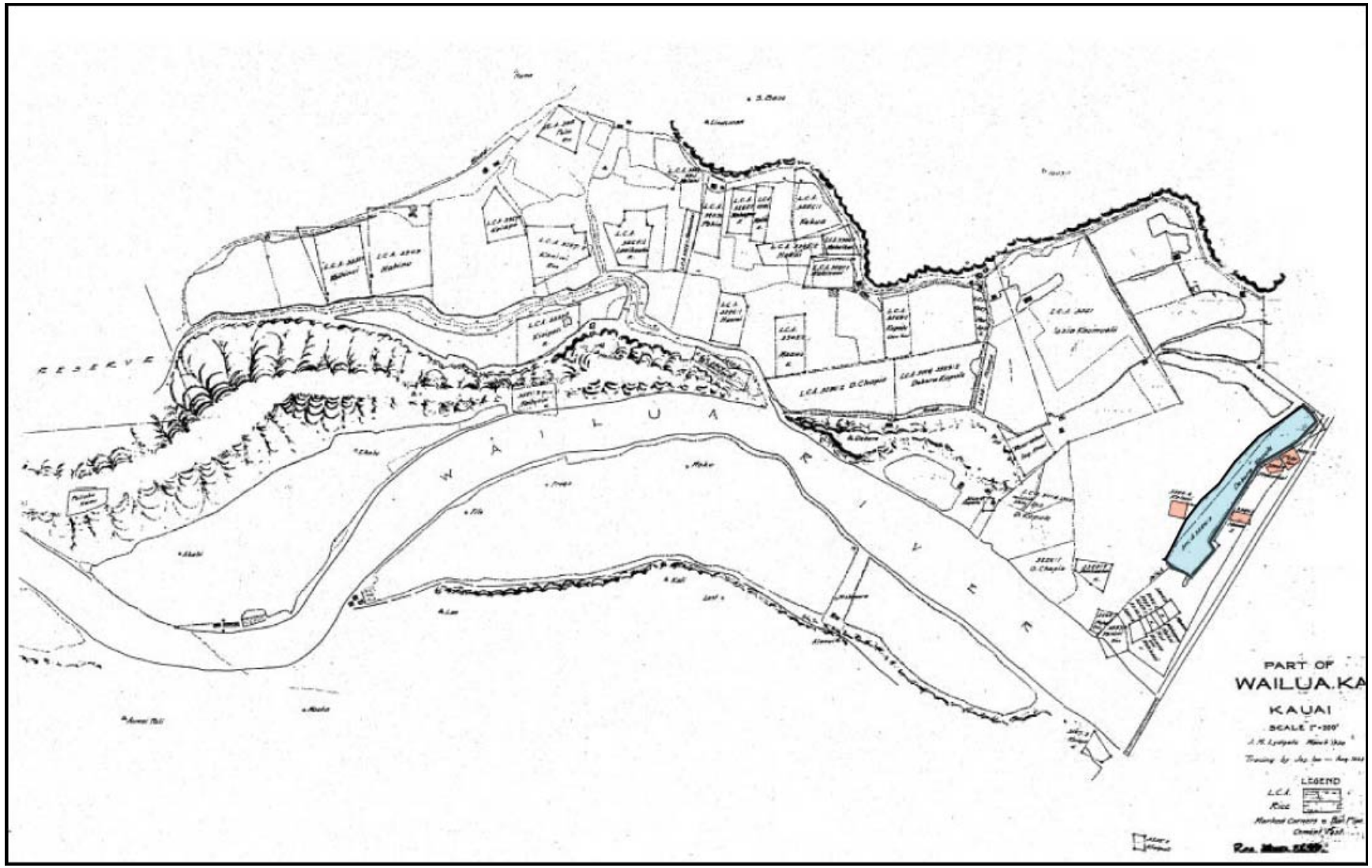

Figure 64. 1920 map by John Lydgate, showing LCA awards in Wailua Kai focused on the flood plain on the north side of the river

> winding away up toward the mountains with rice fields and taro patches filling all the low lands.

By 1935, Handy (1940:67) found no *kalo* being cultivated. The terraces had been taken up by rice, sugar cane, sweet potato and pasture. However:

> Kapa‘a, Waipouli, Olohena, and Wailua are districts which have broad coastal plains bordering the sea, any part of which would be suitable for sweet potato plantings; presumably a great many used to be grown in this section. There are a few flourishing plantations in Wailua at the present time [Handy 1940:153].

9.2.6 The Plantation Era

The Līhu‘e Plantation Company Ltd. began in 1849 as the Henry A. Pierce & Company (Figure 65). The first stretch of the Līhu‘e Plantation Company railroad was laid and the first sugar moved by rail on January 7, 1892. By 1921, the Līhu‘e Plantation Co. was reputed to have the most modern and extensive railroad system in the islands. Figure 66 shows portions of the railroad system traveling near and through the project area. In that same year the Līhu‘e Plantation Company sponsored the separately incorporated Ahukini Terminal & Railway Company, which “was inaugurated as a common carrier railroad to operate between Ahukini and Kealia.” (Condé and Best 1973: 166). In 1934, the Līhu‘e Plantation Co. absorbed the A. T. & R., which then became an operating part of its parent company. The conversion from railroad to truck hauling began in 1957 and was completed by 1959. The 1959 annual report noted “With the completion of the harvesting season this year (October 10, 1959) hauling cane over our railroad system comes to an end. We are the last plantation in the Island to give up the railroad and move to truck hauling. This marks the end of an era” (Condé and Best 1973: 165-169). By the 1960s very little activity within the vicinity of the project area is apparent, other than a few private roads and the Wailua River State Park (Figure 67).

9.2.7 Summary of Settlement Patterns

The Wailua River, along both shores, was the most important high-status area on Kaua‘i in pre-Contact times. This area was the royal center where the high chiefs and chiefesses carried on their business when they were not traveling about the island(s), and where they entertained visitors. Today we see a small portion of this royal center when we look at the remnants of five of the *heiau* (where official decision making was carried out), the Hauola Pu‘uhonua (place of refuge), the birthstones, the royal coconut grove, the bellstone and the royal fishponds. There exist no visible surface remnants of the chiefly homes, the supporting *lo‘i* and *kula* lands, the places of recreation, the burial place called Mahunapuoni (just *makai* of Kapule's fishponds), the fish traps or the canoe landings.

The Wailua Complex of Heiau, on both sides of the Wailua River, was the focus of political and religious activity. The *makai* section of the *ahupua‘a* near the river mouth was the focus of daily life for the royal families. Some house sites were south of the river on the dunes (*makai* of the present highway), but the majority of house sites were on the north side of the river just *mauka* of the highway. Inland, along the floodplain, are remnants of the many *lo‘i* parcels and other house sites as well. There is archaeological evidence that agricultural use of the land stretched far *mauka* along the Wailua River and its tributaries, and supported a relatively large

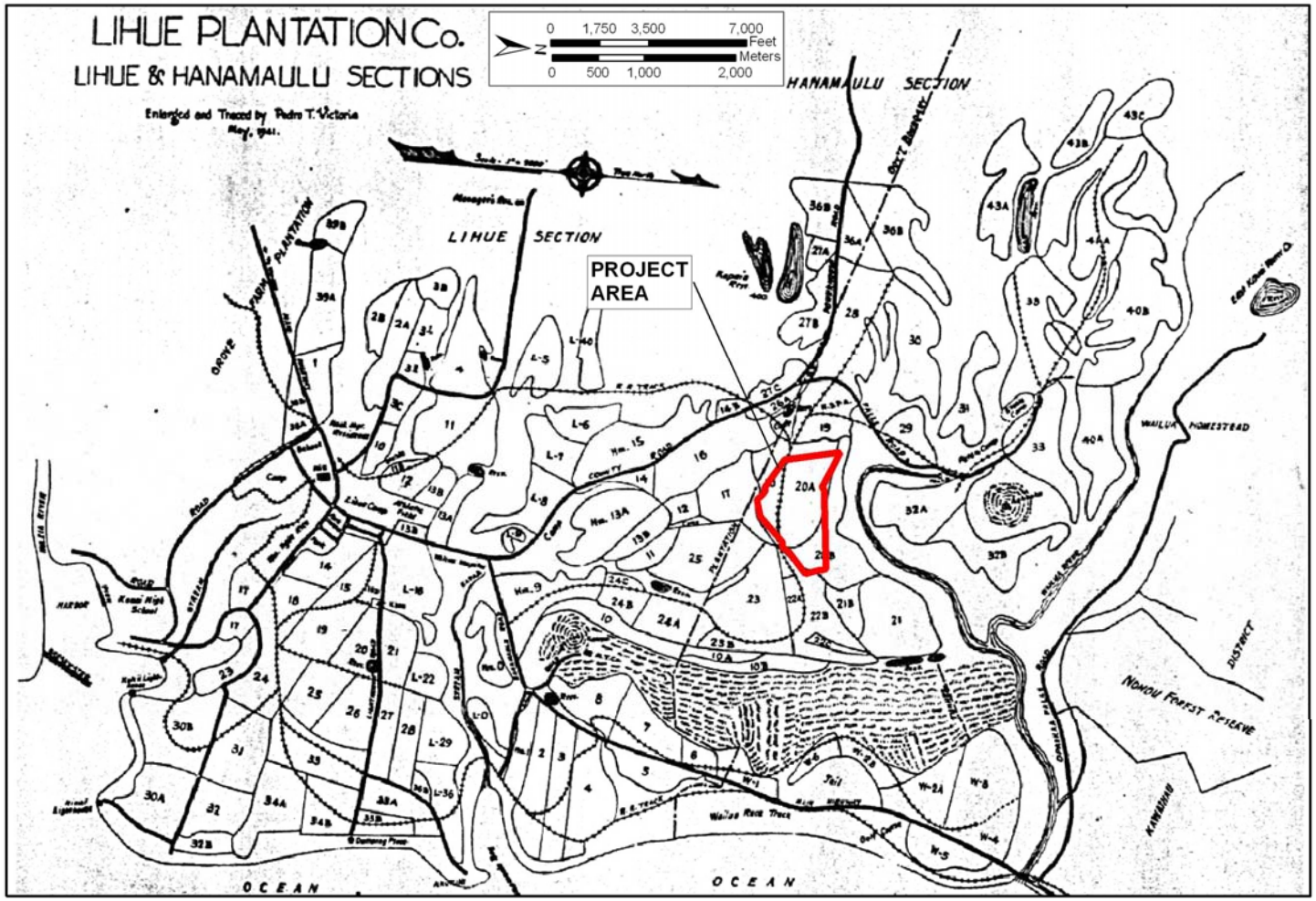

Figure 65. Līhu‘e Plantation Co. map showing intensive sugar cane cultivation in and surrounding the Ma‘alo project area. Note that map is as originally drawn, with north to the reader’s right.

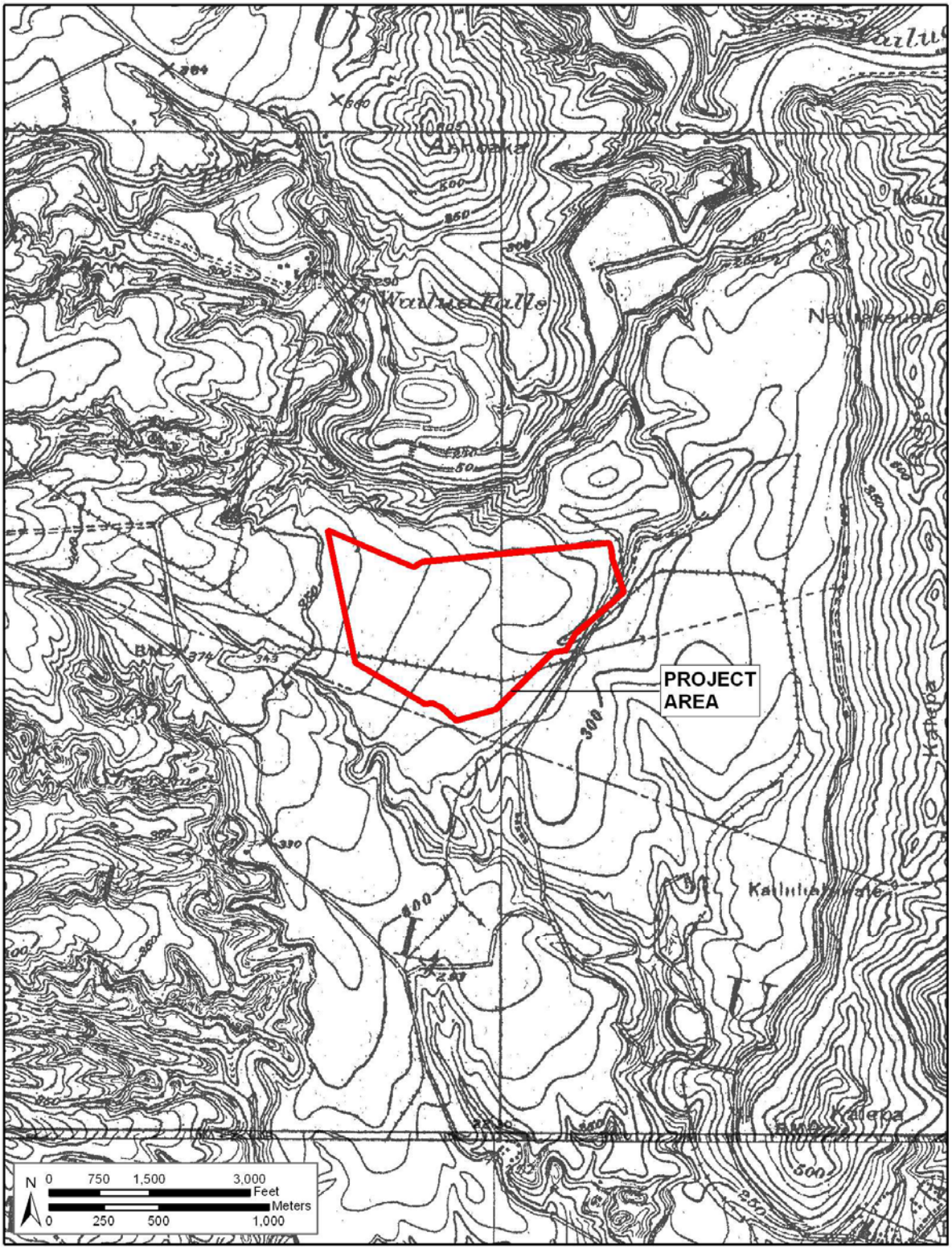

Figure 66. Portion of 1910 U.S. Geological Survey, showing Ma‘alo project area

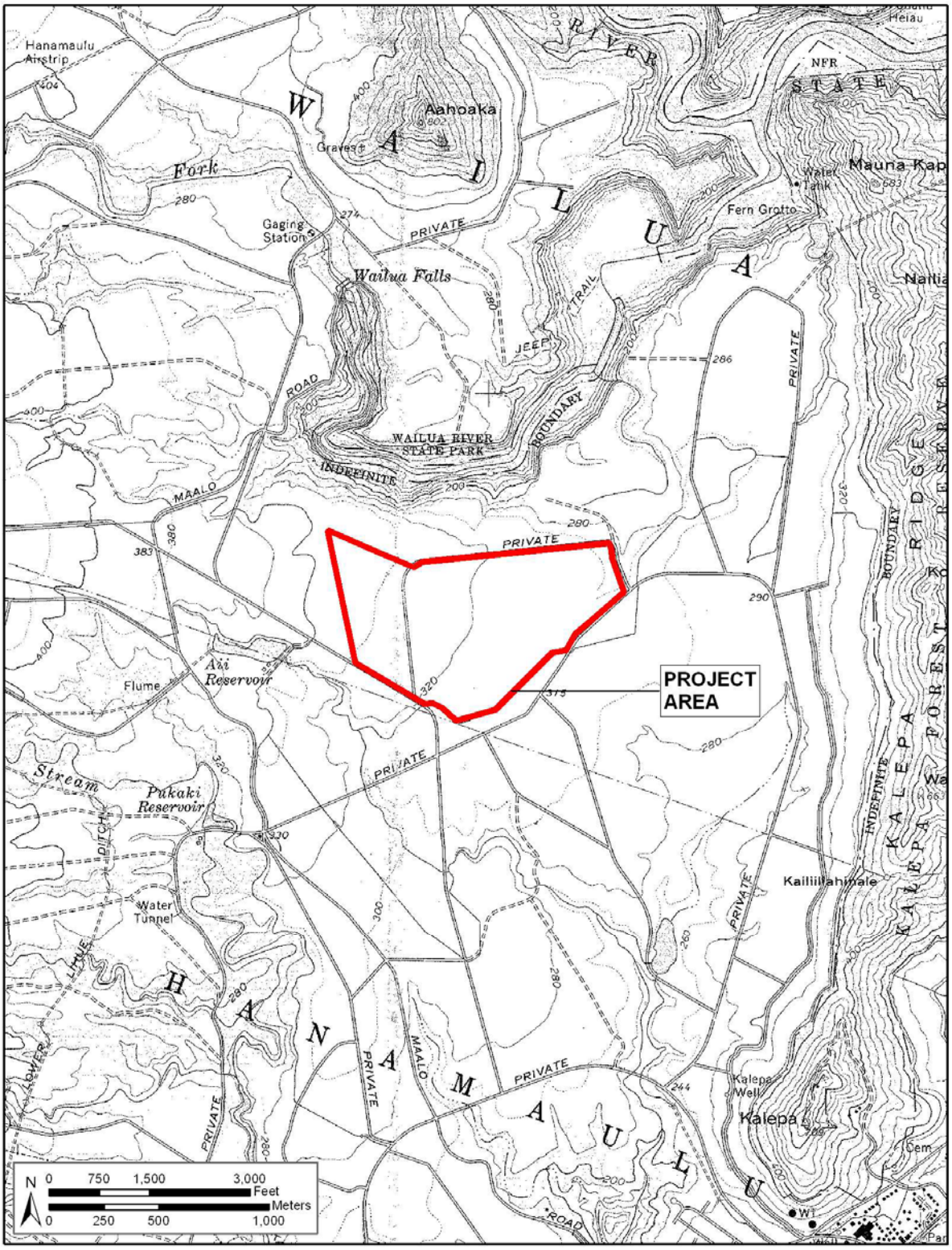

Figure 67. Portion of 1963 U.S. Geological Survey, showing Ma‘alo project area

population at an earlier time. Archival records mention other resources, including bananas, wood for canoes and housing, and *kukui* (candlenuts) for lights as coming from farther inland.

Historic and modern agricultural activity has drastically impacted the landscape in the vicinity of the project area (see aerial photograph, Figure 61, above). It is likely that pre-contact agricultural and habitation activity areas were located near the project area, especially along the Wailua River and its tributaries, but disturbance from rice and sugarcane farming has probably destroyed any remains of pre-contact archaeology within the project area.

9.3 Previous Archaeological Research in Wailua Ahupua‘a

Previous archaeological projects in Wailua Ahupua‘a are shown in Figure 68, and Table 10 provides a list of archaeological research conducted within Wailua Ahupua‘a, including columns for source, location, nature of study, and findings. Figure 69 shows the location of archaeological sites identified within Wailua Ahupua‘a in relation to the project area, and Table 11 is a list of archaeological sites within the *ahupua‘a* which includes columns for state site numbers, site type, location and reference. Sites and project areas within one mile of the Ma‘alo project location are denoted by an asterisk.

Extensive archaeological work has been conducted in Wailua Ahupua‘a, but nearly all studies have focused on either the coastal areas or the Wailua River banks. Relatively very little work has been conducted near the current project area, *mauka* of the Kālepa Ridge. There have been a few studies that specifically address the south fork of the Wailua River, which is near the present project area. Both Soehren 1967 and Ching 1968 conducted broad surveys of the Wailua River valley and its north and south fork, identifying a variety of archaeological sites including several *heiau* (see Figure 62), habitation areas, and fairly extensive agricultural modification. Later work in the *mauka* portions of the *ahupua‘a* include archaeological assessments by Folk and Ida (1981) and Carpenter and Yent (1995); these studies primarily noted agricultural terraces along the banks of the Wailua River, with more extensive archaeological finds closer to the river mouth. Nearly all archaeological reports in the vicinity of the project area note extensive rice and/or sugar fields from the historic period.

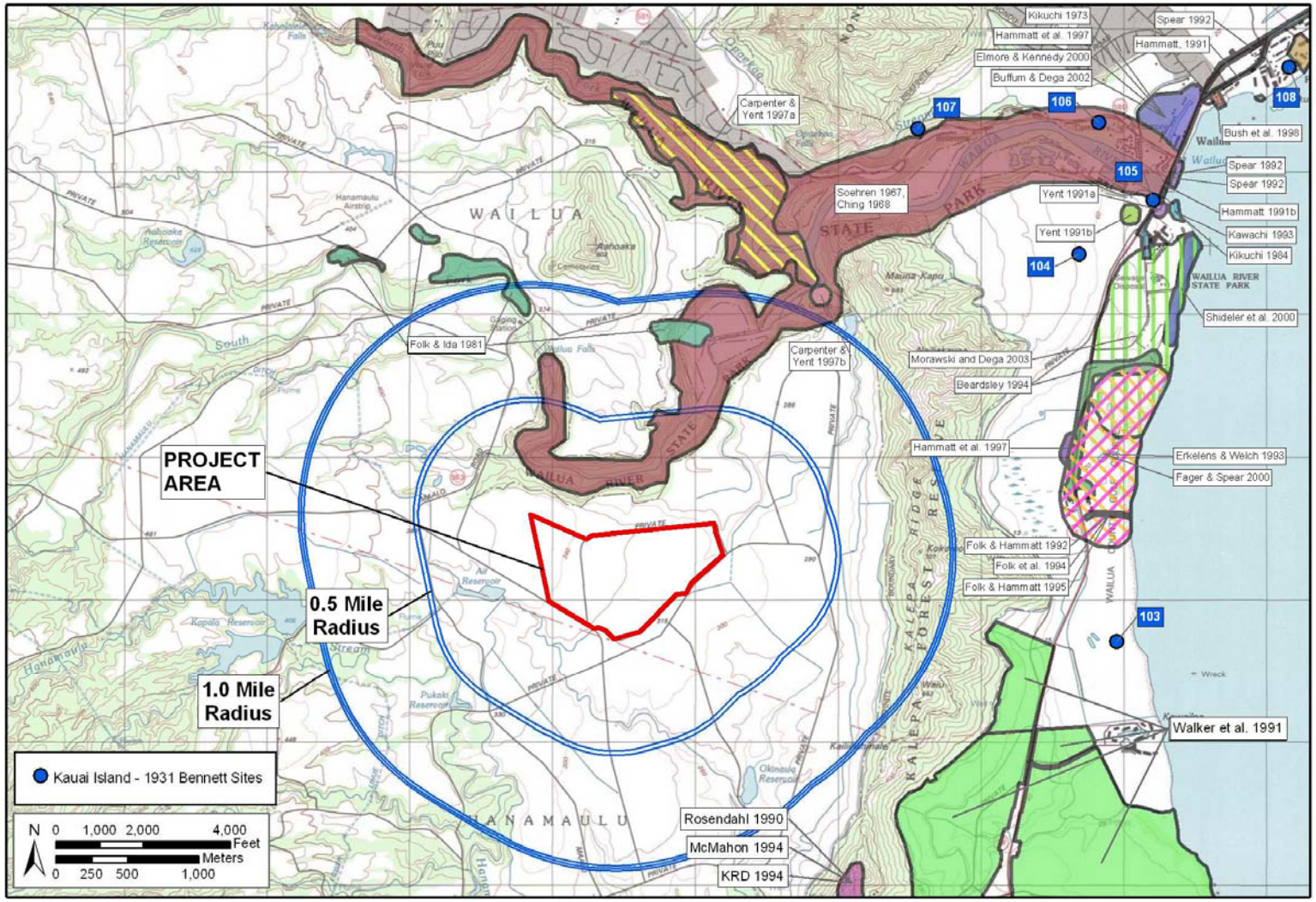

Figure 68. Previous archaeological studies near the Ma‘alo project area

Table 10. Previous Archaeological Studies near the Ma‘alo Project Area

Source	Location	Nature of Study	Findings
Thrum 1906	Mouth of Wailua River	Listing of *heiau*	Lists 4 *heiau*: Malae, Poli‘ahu, Holoholokū and Hikinaakalā
Bennett 1931	Mouth of Wailua River	Archaeological reconnaissance survey of *heiau* and place of refuge	Describes 6 sites- Site 103: Dune burials, Site 104: Malae Heiau, Site 105: Hikinaakalā Heiau, Site 106: Holoholokū Heiau and sacred grove, Site 107: Poli‘ahu Heiau and Site 109: an unnamed *heiau*
Soehren 1967*	Wailua River Valley including North and South Forks	Field Trip Report	Locates and briefly describes 34 sites with B.P.B.M. site numbers A1-1 to A1-34
Ching 1968*	Wailua River Valley including North and South Forks	Surface Survey	Locates and briefly describes Soehren’s (1967) 34 sites and adds sites 35-58 with B.P.B.M. site numbers A1-1 to A1-58
Handy and Handy 1972	Archipelago-wide, discuss Wailua Ahupua‘a	Native Planters Study	Discuss agricultural pattern at Wailua Ahupua‘a
Kikuchi 1973	Coco Palm Hotel, north of Wailua River, *mauka* of Kūhiō Highway	Burial Study	Discusses 34 burial finds, other features and artifacts
Kikuchi 1974	Mouth of Wailua River	*Heiau* Study	Hikinaakalā Heiau
Walton and Spilker 1974	Lydgate State Park Pavilion Project, south of river mouth, *makai* of Kūhiō Highway	Assessment and sub-surface testing (7 post hole digger excavations)	Testing did not locate any archaeological materials
Kikuchi et al. 1976	Holoholo-kū and Pōhaku Ho‘ohānau	Study of oral documentation and historical records	Compendium of information regarding these sites
Cox 1977	Wailua Golf Course	Burial Recovery project	13 burials located (Sites -542 to -546 and -819)
Yent 1980	North side of *makai* portion of Wailua River	Evaluation of bellstone	Bellstones located, described and traditions are given along with preservation recommendations

Source	Location	Nature of Study	Findings
Folk and Ida 1981*	South fork of the Wailua river	Archaeological Reconnaissance Survey	Re-located several of the sites discussed in Ching 1968, recorded several agricultural terraces
Kikuchi 1984	South of Mouth of Wailua River	Mapping of Petroglyphs	Survey of petroglyphs noted 36 figures, more possibly in river and bulldozer damage from clearing mouth of river
Kikuchi 1987b	Malae Heiau, South of mouth of Wailua River	Adze study	Discusses adze fragments from Malae Heiau
Yent 1987	South of Mouth of Wailua River	Demolition of old comfort station and corings for new comfort station	No subsurface cultural deposits located
Dunbar 1988	Wailua Complex of Heiau	National Register of Historic Places Inventory-Nomination Form	“One of the most important site complexes in the Hawaiian Islands”
Yent 1989a	South side of the mouth of Wailua River Hikinaakalā Heiau and Hau‘ola area	Mapping and testing of Site 50-30-08-105 in 1986 (6 1m^2 excavations)	Concluded 2 periods of occupation, one historic, and an earlier period may or may not be associated with *heiau* building
Hammatt 1991a	Wailua River Mouth	Subsurface Testing	No cultural deposit observed
McMahon 1991	Eastern margin of Sleeping Giant Mountain on the north edge of Wailua Ahupua‘a	Archaeological Investigations	No significant findings
Walker et al. 1991	Work on both sides of Kūhiō Hwy. At the south end of the *ahupua‘a*	Archaeological inventory survey for a master plan	Identified no sites
Yent 1991a	Mouth of Wailua River	Archaeological Testing	Although several fill layers and extensive ground alteration was indicated, a possible pre-contact cultural deposit was noted; no site number was assigned

Source	Location	Nature of Study	Findings
Yent 1991b	Malae Heiau South of mouth of Wailua River	Park Planning	Discusses Malae Heiau in context of proposed incorporation into Wailua River State Park
Yent 1991c	South side Wailua River Mouth	Damage Assessment	Summary of petroglyph site 50-30-08-105A
Folk and Hammatt 1992	Wailua County Golf Course from coast to Kūhiō Highway	Assessment for Fiber Optic Cable	Examination of exposed strata revealed no cultural material; informants described burials in the golf course area.
Kikuchi and Remoaldo 1992	Island-wide, B005 on north bank of *makai* Wailua River	Cemeteries of Kaua‘i	Identifies site 50-30-08-B005-Poli‘ahu Japanese Cemetery
Spear 1992	North of Wailua River mouth, *makai* of Kūhiō Highway	Sub-surface Testing (7 backhoe trenches)	No significant findings; two charcoal lenses noted.
State of Hawai‘i 1992	Poli‘ahu Heiau	Interpretive Signage Plan	Summarizes data on Poli‘ahu Heiau
Yent 1992	Mouth of Wailua River	Hurricane Damage Assessment	Damage report
Erkelens and Welch 1993	Kaua‘i Community Correctional Center west of Kūhiō Highway and the Wailua County Golf Course	Archaeological assessment	Summarizes literature and notes probability of burials
Kawachi 1993	Mouth of Wailua River	Survey of river mouth (4-1-04:01)	Discovered unreported submerged petroglyph, no site number assigned
Beardsley 1994	Kaua‘i Community Correctional Center west of Kūhiō Highway and the Wailua County Golf Course	Sub-surface testing for sewer line	One burial designated Site -9357 regarded as part of Bennett’s site 50-30-08-103 but no other significant findings

Source	Location	Nature of Study	Findings
Folk et al. 1994	Wailua County Golf Course from coast to Kūhiō Highway	Archaeological Inventory Survey with sub-surface testing	No significant finds
Hammatt et al. 1994	Lands *mauka* of Kūhiō Highway	Archaeological Assessment	Identifies archaeological concerns including: 1) impact on the Wailua Complex of *heiau*, 2) impact on potential burial sites in the Wailua Golf Course and the Coco Palms Resort area, and 3) impact on existing and former Wailua marshlands in the vicinity of the County Correctional facility and on the north side of Wailua River
Flores 1995	Malae (Malaeha‘akoa) Heiau; south of Wailua River mouth, *mauka* of Kūhiō Highway	Historical and Cultural Research	Data on the *heiau* (Site 50-30-08-104) and Wailua Ahupua‘a in general is presented
Folk and Hammatt 1995	Wailua County Golf Course from coast to Kūhiō Highway	Monitoring fiber-optic cable conduits	Found remains of eight individuals from disturbed, possibly secondary, deposits
Hammatt et al. 1997	Lands *mauka* of Kūhiō Highway	Archaeological Inventory Survey for Kūhiō Highway widening	1 new site found north of river, 50-30-08-756; a terrace
Carpenter and Yent 1997a*	North Fork of the Wailua River	Archaeological Reconnaissance	Notes high potential for extensive archaeology
Carpenter and Yent 1997b	North Fork of Wailua River, Fern Grotto	Archaeological Reconnaissance	Found one site near the fern Grotto Area, at a proposed kayak landing site
Yent 1997a	Extreme south, coastal Wailua, *makai* of Kūhiō Highway	Burial Treatment and Monitoring Plan	Plans to attend proposed work at a temporary automobile storage facility close to Dune Burials sites
Yent 1997b	Malae Heiau, south of Wailua River, *mauka* of Kūhiō Highway	Vegetation Removal and Landscaping Plan	Outlines methodology and guidelines for vegetation removal at Malae Heiau

Source	Location	Nature of Study	Findings
Yent 1997c	Malae Heiau	Vegetation Removal Report	Summarizes work
Bush et al. 1998	Parcel between Papaloa Road and beach	Inventory Survey	No cultural finds
Fager and Spear 2000	Wailua Golf Course	Archaeological Monitoring Report	Documents several burials
Shideler et al. 2000	Lydgate Park	Inventory Survey	Recommends monitoring during proposed construction of bike trail
Yent 2000	Holoholokū and Hikina‘akalā sites	Restoration Report	Describes restoration of *heiau* and birthstones
Hammatt 2001	Along Kūhiō Highway	Archaeological Assessment	Indicates high potential for encountering historic properties north of Wailua River during proposed installation of fiber optic cable
Rechtman and Clark 2001	Parcel between Kuamo‘o Road and Wailua River	Inventory Survey	No cultural findings
Shideler et al. 2001	Lydgate Park	Archaeological Assessment	Summarizes work
Buffum and Dega 2002	Coco Palms	Archaeological Monitoring Report	Cultural layer identified as site -1711
Dega and Powell 2003	Kūhiō Hwy.	Archaeological Monitoring Report	Feature of site -1711 described
Hammatt and Shideler 2003	Kūhiō Hwy. Bypass options	Archaeological Assessment	Summarizes work, describes six new sites (667, 668, 676-679)
Morawski and Dega 2003	Lydgate Park	Monitoring Report	Two burials, two isolated skeletal finds and a cultural layer (Site -356)
Hammatt 2005	Coco Palms resort, lagoon feature	National Register of Historic Places Nomination Form	Weuweu-Kawai-iki Fishpond; Debora Kapule’s Fishponds LCA 3111/3559
Hoffman et al. 2005	Coco Palms resort	Archaeological Inventory Survey with Subsurface Testing	Three sites recorded: two historic fishponds, an historic burial ground, and an intermittent traditional cultural layer

Source	Location	Nature of Study	Findings
O’Hare et al. 2005	Pu‘u Kī Ridge	Research Report and Archaeological Assessment	Research on the place names Holoholokū and Kalaeomanu and Assessment of Site 676 on Pu‘u Kī Ridge
O’Leary & Hammatt 2006	Coco Palms resort – NW corner	Archaeological Inventory Survey Addendum	No additional historic properties beyond those described in the original archaeological inventory survey were identified during excavation for this addendum
Carney & Hammatt 2007	Leho Drive 24” Sewer Line Installation	Archaeological Monitoring Report	No cultural material observed

*Indicates archaeological studies within one mile of the current project area

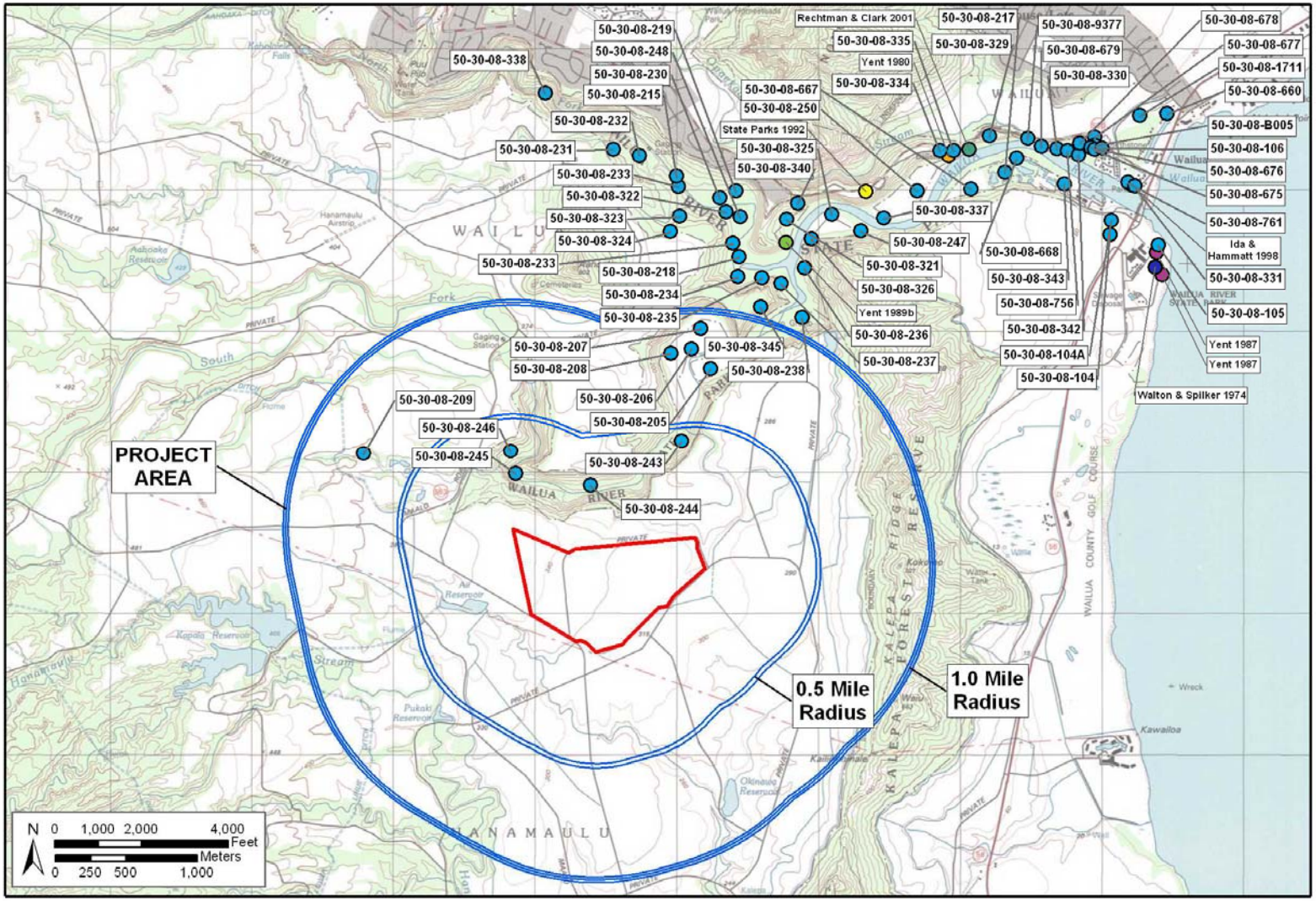

Figure 69. Previously identified historic properties near the Ma‘alo project area

Table 11. Archaeological Sites near the Ma‘alo Project Area

Site 50-30-08-	Site Type/ Name	Location	Size/Comments	Reference
B005	Poli‘ahu Japanese Cemetery (Site 50-30-08-675)	South side Kuamo‘o Road (Poli‘ahu Road)	Discrete Historic Cemetery approx 118 burials, interments as late as 1979	Kikuchi and Remoaldo 1992:66-74
103	Dune Burials	Wailua Golf Course, large area, not well defined; primarily seaward of Kūhiō Hwy, N of Wailua Golf Course club house	Minimum number of individuals encountered to date approx. 100; consultation and monitoring in vicinity indicated	Bennett 1931:125; Erkelens & Welch 1993; Beardsley 1994; Fager & Spear 2000, Morawski & Dega 2003
104	Malae Heiau	South bank of Wailua River, 200 feet *mauka* of Kūhiō Highway	Part of Wailua Complex of Heiau National Historic Landmark - defined area 2 acres, *heiau* and buffer 9.49 acres, in State Park, Yent 2000 specifies view corridor concerns	Thrum 1906:40; Bennett 1931:125; Yent 1991b; Yent 2000
104A	Adze Workshop/ flake scatter	In cane field N and NE of Malae Heiau to road to marina	Within 9.49 acre Malae Heiau and buffer parcel in State Park	Kikuchi 1987:1-9; see Yent 2000
105	Hikinaakalā Heiau and Pu‘uhōnua o Hauola	Southern side of the mouth of Wailua River	Part of Wailua Complex of Heiau defined area 2.3 acres in State Park	Thrum 1906:40; Bennett 1931:125-126; Kikuchi 1974; Yent 1989
106	Kalaeokamanu (Holoholokū) Heiau & the Pōhaku Ho‘ohānau	North bank of the Wailua River at the base of Pu‘ukī	Part of Wailua Complex of Heiau defined area 37,960 sq ft., in State Park	Bennett 1931:127; Damon 1934
107	Poli‘ahu Heiau	Wailua River State Park	Part of Wailua Complex of Heiau defined area 49,140 sq ft., in State Park	Thrum 1906:40; Bennett 1931:127
205*	Makea, agricultural terraces	South fork of Wailua River	Land used for rice farming and pasture lands in modern times	Ching 1968:24

Site 50-30-08-	Site Type/ Name	Location	Size/Comments	Reference
206*	Mill site	South fork of Wailua River	Rice mill, appears on map dated to 1900	Ching 1968:24
207*	Agricultural terraces	South fork of Wailua River	Agricultural terraces, planted in rice	Ching 1968:24
208*	‘Auwai	South fork of Wailua River	Only some portions intact	Ching 1968:25
209*	Agricultural terraces	North of Wailua Falls	Not particularly extensive	Folk and Ida 1981
217 (Soehren & Ching Site 10)	Kauhihalau agricultural site	S. of *makai* portion of Wailua River, E quarter in Wailua State Marina	Virtually no data, size unclear, further work in area indicated; in State Park	Ching 1968:16
243 (Soehren & Ching Site 29)*	Flats, probably agricultural terraces	South fork of Wailua River	Virtually no data	Ching 1968:25
244 (Soehren & Ching Site 30)*	Probable agricultural terraces	South fork of Wailua River	Virtually no data	Ching 1968:25
245 (Soehren & Ching Site 31)*	Stone platform	South fork of Wailua River	14 x 14 (feet?), stone platform; possible house site	Ching 1968:25
246 (Soehren & Ching Site 32)*	Agricultural terraces	South fork of Wailua River	Agricultural terraces	Ching 1968:25
247 (Soehren & Ching Site 33)	Kamalau agricultural site	N. of Mauna Kapu on flats	Virtually no data, size unclear, further work in area indicated; in State Park	Ching 1968:16
250 (Soehren & Ching Site 11)	Hauloa agricultural site	N. of *makai* portion of Wailua River	No data, size unclear, further work in area indicated; in State Park	Ching 1968:16

Site 50-30-08-	Site Type/ Name	Location	Size/Comments	Reference
321 (Soehren and Ching Site 12)	*‘Auwai*, earthen ditch	N of Confluence of North and South Forks, Wailua River (associated with sites 218 and 250) along base of valley wall	Little data, length unclear, further work in area indicated; in State Park	Soehren 1967; Ching 1968:16; Yent 1989a:7; Carpenter and Yent 1997:35
325 (Ching Site 38)	Kamalau and Kulaina storied rocks	N of Mauna Kapu, at *mauka* end of site -247 one rock in middle of river below Poli‘ahu *Heiau*	Site consists of two storied rocks; description insufficient for identification; in State Park	Ching 1968:16-18
326 (Ching Site 39)	Kamalau and Kulaina storied rocks	N of Mauna Kapu, at *mauka* end of site -247 one rock in middle of river below Poli‘ahu *Heiau*	Site consists of two storied rocks; description insufficient for identification; in State Park	Ching 1968:16-18
329 (Ching Site 42)	Ahuhauli, reported home and burial ground of Kumauna/ Lono Kelekoma family	North of *makai* portion of Wailua River “near the little hillock, Ahuhauli, where the one (lone) tall coconut tree stands” (Salisbury, 1936)	Virtually no data, size unclear, further work in area indicated; in State Park	Ching 1968:14, Salisbury 1936
330 (Ching Site 43)	Kaluamokila legendary cave through hill from N to S, south end just above water level; sealed with a stone,	North of *makai* portion of Wailua River	Virtually no data, may only be legendary, further work in area indicated; in State Park	Ching 1968:13
331 (Ching Site 44)	Old Rice Mill	North of Wailua River mouth, just *mauka* of Smith’s and Doris’ old boat landing	Still stood in 1953, only foundations are left in State Park, testing and marker recommended;	Ching 1968:12-13

Site 50-30-08-	Site Type/ Name	Location	Size/Comments	Reference
334 (Ching Site 47)	Pōhaku‘ele‘ele Heiau (and several other sites reported by Dickey [1917:29])	“On the *makai* tip of a hill near the eastern end of the promontory between the two northern branches of the Wailua River” (Dickey 1917:14)	Virtually no data, some uncertainty about the location, size unclear, further work in area indicated; in State Park	Dickey 1917:29; Ching 1968:14-15
335 (Ching Site 48)	Bellstone(s)	North of *makai* portion of Wailua River	Part of Wailua Complex of Heiau National Historic Landmark - defined area N.A.; in State Park	Ching 1968:14
337 (Ching Site 50)	Hihiakalahu “the place where the first *hau* trees of Kaua‘i grew”	North of Mauna Kapu, south of Poli‘ahu	Seemingly just a legendary *hau* tree grove, size unclear; in State Park	Ching 1968:16
340 (Ching Site 53)	Agricultural Terraces “indicated as being in rice in 1900 and 1923”	North of confluence of North and South Forks, Wailua River	Virtually no data, size unclear, further work in area indicated; in State Park	Ching 1968:18
342 (Ching Site 55)	Agricultural flat “appears as rice land on Monsarratt’s map of 1900 and Wall’s map of 1923"	North of *makai* portion of Wailua River	Virtually no data, size unclear, further work in area indicated; in State Park	Ching 1968:13
343 (Ching Site 56)	*Kula* “indicated as *kula* land on Wall’s map of 1923"	South side of *makai* portion of Wailua River	Virtually no data, size unclear, further work in area indicated; in State Park	Ching 1968:16
356	Pre-contact cultural layer	Lydgate Park	Extent of the cultural layer remains unknown	Morawski and Dega 2003

Site 50-30-08-	Site Type/ Name	Location	Size/Comments	Reference
502	Wailua Complex of Heiau	Mouth of the Wailua River	Includes five discrete parcels, sites: -104, -105, -106, -107, -335; in State Park	1962 National Register of Historic Places; 1981 Hawai‘i Register of Historic Places
542	Burial	North part of Wailua County Golf Course	Burials part of Site -103 consultation and monitoring in vicinity indicated	Cox 1977
543	Burial	North part of Wailua County Golf Course	Burials part of Site -103 consultation and monitoring in vicinity indicated	Cox 1977
544	Burial	North part of Wailua County Golf Course	Burials part of Site -103 consultation and monitoring in vicinity indicated	Cox 1977
545	Burial	North part of Wailua County Golf Course	Burials part of Site -103 consultation and monitoring in vicinity indicated	Cox 1977
546	Burial	North part of Wailua County Golf Course	Burials part of Site -103 consultation and monitoring in vicinity indicated	Cox 1977
634	Extensive wetlands, former *lo‘i* area	North bank of Wailua River	130-acre; further archaeological work indicated	Hammatt et al. 1997:68,70
660	Burial	N. end of Coco Palms; N of Wailua River mouth	1 historic burial, consultation and monitoring indicated	Elmore and Kennedy 2000
667	Linear Terrace	North side of pasture access road, *mauka* of Smith’s Tropical Paradise	Approx. 2 m by 5 m long, further archaeological work indicated	Hammatt and Shideler 2003
668	Cement slabs inscribed with year 1926	North central portion Smith’s Tropical Paradise	An area 4 m by 5 m., further archaeological work indicated	Hammatt and Shideler 2003

Site 50-30-08-	Site Type/ Name	Location	Size/Comments	Reference
675	Poliahu Japanese Cemetery	East end of Pu‘u Kī Ridge above Pōhaku Ho‘ohānau and Holoholokū Heiau	(formerly known as 50-30-08-B005)	Hammatt and Shideler 2003
676	Alignments and enclosures	Greatly modified as a contemporary sacred site – possibly former *heiau*	Recent modifications make it difficult to discern what is a traditional Hawaiian construction	Hammatt and Shideler 2003
677	Two lava tubes	Just S. of Kuamo‘o Road in the N side of Pu‘u Kī 100 m W of Pōhaku Ho‘ohānau	No cultural material observed but traditional use likely	Hammatt and Shideler 2003
678	Terrace	central Pu‘u Kī summit ridge	modest alignment on top of ridge	Hammatt and Shideler 2003
679	Overhang rock shelter	N bank of Wailua River, SW portion of Pu‘u Kī ridge	No cultural material observed but traditional use likely	Hammatt and Shideler 2003
680	Two historic fishponds	Coco Palms water feature	Approximately the same size and location as the Coco Palms water feature	Hoffman et al. 2005
681	Burial ground	SE corner of the Coco Palms	Size and extent uncertain	Hoffman et al. 2005, Kikuchi 1973
756	Terrace	North bank of Wailua River	In State Park, 30 m by 12 m-further archaeological work indicated	Hammatt et al. 1997:68,70
761	Burial	North bank of Wailua River mouth	Consultation and monitoring in vicinity indicated	Ida and Hammatt 1998
819	Burial	North part of Wailua County Golf Course	Burials understood as part of Site -103 consultation and monitoring in vicinity indicated	Cox 1977

Site 50-30-08-	Site Type/ Name	Location	Size/Comments	Reference
1711	Cultural layer	Coco Palms Resort	Extent of cultural layer remains unknown	Buffum & Dega 2002; Dega & Powell 2003:38-49), Hoffman et al. 2005
1980	Burial	Wailua County Golf Course east of County Correctional Facility, half way to the sea	Minimum number of eight individuals encountered	Folk and Hammatt 1995
9357	Burial	County Correctional Facility	Burial understood as part of Site -103, consultation and monitoring in vicinity indicated	Beardsley 1994

*Indicates archaeological sites within one mile of the current project area

9.4 Assessment

9.4.1 Historic Properties within the Ma‘alo project area

There are no known archaeological sites in the proposed Ma‘alo location. However, this is somewhat complicated by the fact that no archaeological studies have been done within the project area. The aerial map (see Figure 61) and historical research show that the Ma‘alo location has been impacted by agricultural activity in the historic and modern periods. Overall, the liklihood of archaeological finds within the project area pre-dating commercial agriculture is rather low, primarily due to historic disturbance. Some sites relating to commercial agriculture, such as remnants of a pre-1910 railroad in the south portion of the project area (see Figure 65 and Figure 66) may be present

9.4.2 Historic Properties within one mile of the Ma‘alo project area

Several historic properties are within one mile of the Ma‘alo project, all located along the south branch of the Wailua River (see Figure 69). These sites (State site numbers -243 to -246 and -205 to -209) were located by Ching (1968) and Folk and Ida (1981). The sites consist of agricultural terraces, an *‘auwai*, a rice mill and a stone platform (possible house site).

9.4.3 Summary

The Ma‘alo project area contains no known historic properties and, although no archaeological inventory survey has been done within the parcel, there is low probability of there being historic properties in the area. While there are several historic properties within a half-mile of the project area, these are located in a different environmental zone – along the south fork of the Wailua River, rather than the flat agricultural land that comprises the Ma‘alo project area. The Wailua river was clearly an important place in pre-contact activities, with a high site density and several *heiau* at the mouth of the river, but the upland area near the current project has very low site density. In part this may be due to disruption by rice cultivation and the sugarcane industry. As aerial photography (see Figure 61) shows, the Ma‘alo location has been heavily impacted by agricultural activity, and the likelihood of either surface or subsurface archaeological findings (other than sites relating to commercial agriculture) is very minimal. Therefore, our assessment does not indicate that any historic properties would be impacted by development of the parcel, and no mitigation measures in this regard would be likely.