Section 5  Umi, Wahiawa Ahupua‘a

5.1 Environmental Setting

5.1.1 Natural Environment

The Umi project area is located within the *makai* (seaward) portion of Wahiawa Ahupua‘a, one to two miles inland and 0.33 miles north of the Numila Sugar Mill (Figure 21 and Figure 22). Wahiawa Ahupua‘a is in the district of Kōloa and is bounded by ‘Ele‘ele, Hanapēpē, and Kalāheo Ahupua‘a.

Annual rainfall in the project area averages around 40 inches. The major land-form in the vicinity is Kalāheo Gulch just to the east. The topography of the parcel is slightly sloping to the southwest. Soils are primarily Kōloa Stony Silty Clay (KvB and KvC), which are well-drained soils on upland slopes generally used for sugarcane (Figure 23). The *makai* portion of the project area also has areas of Lihue Silty Clay (LhB) and Makaweli Stony Silty Clay Loam (MhB).

5.1.2 Built Environment

The area immediately surrounding the Umi project area is rural, with the aerial photograph (Figure 24) showing that the landscape as almost entirely agricultural fields (the project area is understood as planted in coffee). Kalāheo town is located about a mile northeast, with Halewili Road on the parcel’s west side connecting Numila and Kalāheo with the Umi project area about half way in between. Other modern developments in the area are minimal.
Figure 21. Portion of 1996 U.S.G.S. 7.5-minute topographic Hanapēpē quadrangle, showing the Umi project area location
Figure 22. Tax Map (TMK) [4] 2-2-001 showing Umi project area location

Archaeological Literature Review of 8 Possible Locations for a Kaua‘i Municipal Landfill

TMK: [4] 2-2-001
Figure 23. Soils map showing location of project area

Archaeological Literature Review of 8 Possible Locations for a Kaua'i Municipal Landfill

TMK: [4] 2-2-001
Figure 24. Aerial photograph showing Umi project area location
5.2 Traditional and Historic Background

5.2.1 Mythological and Traditional Accounts

Wahiawa (Wahi-awa), or “milkfish place,” was said to have been named after the tradition of the Pōhaku-awa stone (Clark 2002). The Pōhaku-awa stone is a large boulder with a bowl carved into its surface, formerly located “about a mile west of Brydeswood on the trail to the upper Wahiawa lands” (Sandison 1956). The stone was said to have been used in traditional Hawaiian times by fisherman transporting *awa* (milkfish) from the brackish Nōmilu fishpond to a large pool in the Wahiawa Stream. “The fisherman stopped the night at Pohakuawa and kept his catch alive in cool fresh water in the bowl of the rock that was draped over with vines to keep the stone cool and keep the fish from jumping out” (Sandison 1956). The *awa* fish (*Chanos chanos*) has close associations with *loko* (fishponds), and was a common fishpond species throughout the islands.

Wahiawa Valley was also the location of the legendary stone, Kaua‘i-iki (Little Kaua‘i). A legend explains that in the process of clearing their *lo‘i* (irrigated terrace) of stones, a Hawaiian family came across this stone. Resembling a map of Kaua‘i, they left the stone in place and gave it its name (Sandison 1956). A famous ‘ōlelo no‘eau (proverb or poetical saying) Kaua‘i refers to the Kaua‘i-iki stone:

\[
\begin{align*}
I \text{ ‘ike ‘oe ia Kaua‘i a puni a} \\
\text{‘ike ‘ole ia Kaua‘i–iki, ‘a‘ole no} \\
\text{‘oe i ‘ike ia Kaua‘i.}
\end{align*}
\]

If you have seen all of the places on the island of Kaua‘i
and have not seen Little Kaua‘i,
you have not seen the whole of Kaua‘i. [Pukui 1983:128]

The stone was re-located and remains in the gardens at Kukuiolono.

Legendary accounts place a battle occurring at Wahiawa between members of the ruling family of Kaua‘i (Fornander 1959). ‘Aikānaka, the then king of Kaua‘i, had recently been defeated in battle by his younger brother, Kawelo. Following the conquest, Kawelo divided the lands to his choosing, leaving ‘Aikānaka to live in poverty with no lands and no home. ‘Aikānaka settled in upland Hanapēpē, where he was later visited by Kaeleha, the son of Kawelo. The two met at Wahiawa, at the home of Ahulua. Kaeleha was shown great kindness and hospitality by ‘Aikānaka, and therefore felt indebted to him.

Taking pity on ‘Aikānaka for the way he was forced to live, Kaeleha instructed him on how to defeat his father, Kawelo, in battle. ‘Aikānaka was told to fight Kawelo with stones because he was never taught to dodge stones thrown at him. Learning of the possible uprising by ‘Aikānaka, Kawelo sent Kamalama to confirm the rumors. Kamalama returned news that ‘Aikānaka and Kaeleha were gathering stones and making preparations for war. With great anger that his son would join ‘Aikānaka and rebel against him, Kawelo immediately traveled to Wahiawa:

When he [Kawelo] arrived at Wahiawa, he saw several war canoes belonging to Kaeleha and Aikanaka, just back of the great mounds of stones. On the sides of the mounds of stones, he saw women and children with stones in their hands, and
all were apparently ready for the conflict. All Kawelo had in his hands were his war club, Kuikaa, and his wife’s pikoi, two weapons to defend himself with…In the fight, Kawelo was not able to dodge the stones that were hurled at him, for a great many of them were thrown at the same time, therefore he stood in one place while the stones were hitting him from all sides. In the course of time, Kawelo was completely covered by the stones, the stones rising until his height was reached…After a while the mound of stones over Kawelo grew higher and higher, when at last nothing else could be seen but a great mound of stones which was like a grave for Kawelo. [Fornander 1959:104-108]

Kawelo’s body was later removed from the mound of stones. The people beat his lifeless body with clubs to insure that he was dead. The body was then carried from Wahiawa to ‘Aiakāna’s temple at Maulili in Kōloa Ahupua’a. Arriving at Maulili near dark, Kawelo’s body was left within the temple enclosure overnight, with a plan of offering the body to the gods the following morning. However, Kawelo miraculously awakened and recovered from his injuries. The following morning, at the arrival of ‘Aiakāna, Kaeleha, chiefs, warriors, men, women, and children, Kawelo surprised the gathering with chanting:

Kawelo then ceased chanting and began the slaughter, killing every one; none escaped. Kaua’i therefore once more came under the rule of Kawelo, and he again assumed the reins of power. [Fornander 1959:112]

5.2.2 Early Historic Period

The earliest historical documents describing traditional life in the vicinity of the current project area generally concern Waimea and Hanapēpē (west of the project area). In 1792, Archibald Menzies, serving as doctor and botanist under Captain Vancouver, who led one of the earliest English expeditions to the Hawaiian Islands, described a grass fire burning over the plains several miles to the east of Waimea (i.e. in the vicinity of Hanapēpē). Vancouver first supposed it to be a signal of hostilities, but was told it was the annual burning to rid the plains of old vegetation, as the new grass crop would come up “clear and free of stumps,” providing the best grass for thatching houses (Menzies 1920:32-33).

During the early historic period, the Hanapēpē-Wahiawa area was again the setting of a battle over control of Kaua’i. This battle was part of a wider civil conflict known as the “Kaua’i Rebellion”, a last ditch effort by supporters of the Kaua’i Island chiefs to resist takeover by Hawai’i Island chiefs. In 1824, Kaumuali‘i, the ruling chief of Kaua’i and Ni‘ihau, became gravely ill. Nearing death, Kaumuali‘i declared “Our ‘son’” be his successor and “Let the lands be as they are; those chiefs who have lands to hold them, those who have not to have none” (Kamakau 1961:265). Following his death, Kahalai’a, nephew of Kaumuali‘i and chief from Hawai’i Island, was announced as the new ruler over Kaua’i and Ni‘ihau. However, the people of Kaua’i, both chiefs and commoners, expected one of Kaumuali‘i’s sons, Keali‘iahonui or Humehume, to be named as successor.

Kahalai’a traveled to Kaua’i and settled at the former Russian Fort at Waimea. Soon after, a hostile sentiment spread among the people of Kaua’i over being ruled by an ali‘i (chief) from Hawai’i. During this uneasy period, the missionary Hiram Bingham traveled to Wahiawa, leaving the following account:
I visited the disaffected George [Humehume] at his estate - the little secluded Wahiawa. It was a small valley, running back from the sea to the mountains, containing some twenty small habitations, about a hundred souls, and some hundred acres, very little cultivated, yielding a scanty amount of the common productions of arum, bananas, cocoanuts, potatoes, sugar-cane, squashes, melons, and wild apples. At the foot of this valley, I found George living much in the original native style, in a dingy, dirty, thatched house at the sea-side, just where the surf washes a small beach between two rocky cliffs. [Bingham 1847:229]

The Kaua‘i warriors, led by Humehume, subsequently rebelled and attacked the fort at Waimea, where the Hawai‘i chiefs had gathered. Armed with guns, the men of Hawai‘i were able to hold off the rebels until the arrival of reinforcements from O‘ahu. More than ten ships later arrived (Kamakau 1961):

On August 8 [1824] the battle of Wahiawa was fought close to Hanapēpē. The Hawai‘i men were at Hanapēpē, the Kaua‘i forces at Wahiawa, where a fort had been hastily erected and a single cannon (named Humehume) mounted as a feeble attempt to hold back the enemy. In the evening there was an advance made, but the forces of Hawai‘i retired to Hanapēpē for the night...Large numbers of Kaua‘i soldiers had gathered on the battleground, but they were unarmed save with wooden spears, digging sticks, and javelins. Many women were there to see the fight. The men acted as if death were but a plaything. It would have been well if the gods had stepped in and stopped the battle. No one was killed on the field, but as they took to flight they were pursued and slain...For ten days the soldiers harried the land killing men, women, and children. [Kamakau 1961:268]

The battle of Wahiawa was later known as the “‘Pig eating’ (‘Aipua’a) because the dead were left lying for the wild hogs to devour” (Kamakau 1961:233). Following the battle it was also noted:

A great deal of property was taken, among other things horses and cattle, which had become numerous on Kaua‘i because the foreigners had given many such to Kaumuali‘i…After the battle the chiefs all came together and Kalanimoku redistributed the lands of Kaua‘i…The last will of Kaumuali‘i, who had the real title to the lands, was not respected…It was decided that Kahalai‘a should not remain as ruler, but the islands be turned over to the young king [Kauikeaouli, Kamehameha III], and Kaikio‘ewa was appointed governor and Kahalai‘a recalled…The lands were again divided. Soldiers who had been given lands but had returned to Oahu had their lands taken away, chiefs who had large lands were deprived of them, and the loafers and hangers-on (palaulelelo) of Oahu and Maui obtained the rich lands of Kaua‘i. (Kamakau 1961:268-269)

This defeat of the Kaua‘i chiefs marked the end of armed uprisings on Kaua‘i against the unification efforts of the Big Island and Maui chiefs. Following the rebellion, queen regent Ka‘ahumanu, as she did elsewhere, ordered the old gods, idols and sacred pōhaku (stones) of Kaua‘i to be destroyed (Wichman 1998:28).
5.2.3 Mid- to Late-1800s

5.2.3.1 Land Commission Awards

During the Māhele, the *ahu‘a‘a* of Wahiawa, consisting of approximately 5,857 acres, was awarded to Moses Kekua‘iwa (LCA 7714-B). Kekua‘iwa was the grandson of Kamehameha I, and as a Hawaiian *ali‘i*, he was not required to prove his tenure on the land. An additional 18 claims for *kuleana* parcels within Wahiawa were made by commoners able to prove their occupation and cultivation of the land. In general, the *kuleana* awards in Wahiawa were for 1 to 3 acres, which is typical of LCAs in the vicinity. The awarded lands were also situated within, or in the immediate vicinity of Wahiawa Valley and Stream, the main source of fresh water for domestic and agricultural usage within the *ahu‘a‘a*. No maps indicating the precise locations of each of the LCAs were readily available. However, the numerous ‘ili (land section within an *ahu‘a‘a*) names, and references to landmarks such as *pu‘u* or the seashore, in the LCA documentation indicate widespread settlement throughout both the *mauka* and *makai* regions of Wahiawa Valley. References are also made to the “community of Wahiawa” located in the vicinity of the Government Road (present day Kaumuali‘i Highway) (N.R. Vol. 9, p. 388-389), indicating the focus of settlement within Wahiawa Ahupua‘a was likely at this locale. The LCA documentation also indicated that nearly all of the claimants received their *kuleana* land at the time of Kakio‘ewa, evidence of the major redistribution of land within Wahiawa as a result of the battle of 1824.

Land Commission documents recording these *kuleana* land claims further clarify our understanding of the *āina* from the perspective of the native Hawaiians in traditional times by defining specific land use practices within the claimed parcels (Table 4). As the majority of the LCAs were located within Wahiawa Valley, adjacent to Wahiawa Stream, land use was focused on the cultivation of wetland taro (*lo‘i*). A definite pattern is observed in the available documentation, indicating dense cultivation of taro, as evidenced by large numbers of *lo‘i* within relatively small parcels of land. The claimant’s house lot was also typically located within the same ‘āpana (land parcel) as his *lo‘i*. Additional ‘āpana of an individual LCA were generally for discrete *kula* land located outside of Wahiawa Valley. For example, within an approximately 1 acre parcel, David Papohaku (LCA 3323) claimed 40 *lo‘i*, *kula* (pasture) land, as well as a house lot. Also within the LCA 3323 documentation was the following testimony given by G.B. Rowell, a foreign missionary living in the islands:

I am told that Mr. Pease refused to survey the house lots of nearly all the Claimants in the Valley of Wahiawa. It is the opinion of the natives that he was bribed to do so by the konohiki. I have no time to attend to those lots, though pressed to do so by the people and I fear they must be deprived of them. G.B. Rowell (F.T. Vol. 12, p. 242).

The passage indicates one of the numerous roadblocks commoners faced in receiving their *kuleana* lands. Therefore, while LCA documentation can provide insight into land use practices and other facets of traditional life, it may not always be a good indication of actual population and into land use at the time of the Māhele. Settlement and cultivation of lands were likely much greater than is represented by *kuleana* land awards.
Table 4. Land Commission Awards in the vicinity of the Umi project area

<table>
<thead>
<tr>
<th>LCA #</th>
<th>Claimant</th>
<th>‘Ili</th>
<th>Land Use</th>
<th>Claims Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>387</td>
<td>ABCFM (Mission)</td>
<td>Agriculture</td>
<td>2 ‘āpana, kula, lo‘i</td>
<td></td>
</tr>
<tr>
<td>3215</td>
<td>Niha</td>
<td>Maloloiki</td>
<td>Habituation, Agriculture</td>
<td>2 ‘āpana, 1 house lot, 1 kula, 18 lo‘i</td>
</tr>
<tr>
<td>3285</td>
<td>Waolani</td>
<td>Kanuimalai</td>
<td>Agriculture</td>
<td>2 ‘āpana, 1 kula, 30 lo‘i, 1 pigpen</td>
</tr>
<tr>
<td>3323</td>
<td>Papohaku</td>
<td>Nana</td>
<td>Habituation, Agriculture</td>
<td>1 ‘āpana, 1 house lot, 1 kula, 40 lo‘i</td>
</tr>
<tr>
<td>3356</td>
<td>Nahuina</td>
<td>Kukuiopio</td>
<td>Agriculture</td>
<td>1 ‘āpana, 1 kula, 14 lo‘i</td>
</tr>
<tr>
<td>3413</td>
<td>Pooahi</td>
<td>Malolonui, Kapaniau</td>
<td>Agriculture</td>
<td>2 ‘āpana, 2 kula, 30 lo‘i</td>
</tr>
<tr>
<td>3595</td>
<td>Kanupaka</td>
<td>Malolonui</td>
<td>Habituation, Agriculture</td>
<td>2 ‘āpana, 1 house lot, 1 kula, 18 lo‘i, 1 pigpen</td>
</tr>
<tr>
<td>5350</td>
<td>Puahiki, Nawaalau</td>
<td>Puuokahala</td>
<td>Habituation, Agriculture</td>
<td>1 ‘āpana, 1 house lot, 1 kula, 12 lo‘i, 1 pigpen</td>
</tr>
<tr>
<td>5446</td>
<td>Nawaalau, Ezekiela</td>
<td>Puuokahala, Nana</td>
<td>Habituation, Agriculture</td>
<td>2 ‘āpana, 1 house lot, 1 kula, 18 lo‘i</td>
</tr>
<tr>
<td>6325</td>
<td>Kekauonohi</td>
<td>Wahiawa (ahu`pu’a)</td>
<td>Agriculture</td>
<td>1 ‘āpana, 1 cattle enclosure (not awarded)</td>
</tr>
<tr>
<td>6557</td>
<td>Pohakahi</td>
<td>Kamokila</td>
<td>Habituation, Agriculture</td>
<td>1 ‘āpana, 1 house lot, 13 lo‘i</td>
</tr>
<tr>
<td>7714B</td>
<td>Kekua'iwa (Kekuanaoa)</td>
<td>Wahiawa (ahu`pu’a)</td>
<td>All unclaimed land within the ahupua’a (as an ali‘i)</td>
<td></td>
</tr>
<tr>
<td>8010</td>
<td>Aikala</td>
<td>Kauikuimalai</td>
<td>Habituation, Agriculture</td>
<td>1 ‘āpana, 1 house lot, 1 kula, 30 lo‘i</td>
</tr>
<tr>
<td>8256</td>
<td>Hohoiea</td>
<td>Malolonui</td>
<td>Habituation, Agriculture</td>
<td>2 ‘āpana, 1 house lot, 1 kula, 2 lo‘i</td>
</tr>
<tr>
<td>9057</td>
<td>Kaanaana</td>
<td>Waikupenau</td>
<td>Habituation, Agriculture</td>
<td>2 ‘āpana, 1 house lot, 1 kula, 23 lo‘i (not awarded)</td>
</tr>
<tr>
<td>10273</td>
<td>Meheula</td>
<td>Nupaiki</td>
<td>Habituation, Agriculture</td>
<td>2 ‘āpana, 1 house lot, 1 kula, 19 lo‘i, 1 goat pen</td>
</tr>
<tr>
<td>10632</td>
<td>Pahao</td>
<td>Kahookaeo, Palanohi</td>
<td>Agriculture</td>
<td>1 ‘āpana, 14 lo‘i, 1 pigpen (not awarded)</td>
</tr>
<tr>
<td>10686</td>
<td>Paele</td>
<td>Nupa</td>
<td>Habituation, Agriculture</td>
<td>2 ‘āpana, 1 house lot, 1 kula, 21 lo‘i, 1 pigpen</td>
</tr>
<tr>
<td>10946</td>
<td>Wailele</td>
<td>Kaluhi</td>
<td>Agriculture</td>
<td>1 ‘āpana, 1 kula, 10 lo‘i</td>
</tr>
<tr>
<td>11088</td>
<td>Kui</td>
<td>Kukuiopio</td>
<td>Habituation, Agriculture</td>
<td>1 ‘āpana, 1 house lot, 1 kula, 7 lo‘i, 1 pigpen</td>
</tr>
</tbody>
</table>
The American Board of Commissioners for Foreign Missions (ABCFM) was also awarded a parcel of land within Wahiawa Valley (LCA 387:2). Testimony describing the claimed land indicated it was used for the cultivation of taro and was “known by the name of Kaua’iki” (F.R. Vol. 2, p. 44). LCA 387:2 is located on the TMK map, immediately makai of Kaumuali‘i Highway. The description of the parcel as taro land known as Kaua‘iki, along with the account that the Kaua‘i ‘Iki stone was removed from a taro patch during road building activities suggests that LCA 387:2 was the original location of the legendary Kaua‘i ‘Iki stone and taro patch.

5.2.3.2 Population

The earliest documentation of the population of the district of Kōloa, including Wahiawa, appears in the 1850s when missionary censuses recorded a total population of 1,296 (Schmitt 1977:12). A population distribution map (Figure 25) by Coulter (1971) indicates the population of Wahiawa circa 1853 “was concentrated chiefly on the lower flood plains and delta plains of rivers where wet land taro was raised on the rich alluvial soil” (Coulter 1971:14). Population totals of the entire island of Kaua‘i prior to 1850 had shown rapid decline, suggesting that a similar trend likely occurred in Wahiawa. By 1872, the population of Kōloa bottomed out at 833, and then began steadily increasing to 1,500 in 1884, 1,835 in 1896 and 4,564 by 1900 (Schmitt 1977:13).

Figure 25. Map showing population estimate for Kaua‘i in 1853 (in Coulter 1971:16)
5.2.3.3 Foreign Interests

Duncan McBryde relocated to Wahiawa from his estate in Wailua circa 1860 (Damon 1931). He acquired a lease for lands at Wahiawa from Victoria Kamāmalu, sister of Moses Kekua'iwā. Kamāmalu inherited the unclaimed lands at Wahiawa following the untimely death of Kekua'iwā in 1848. McBryde drove his herd of cattle across the island and began the development of the extensive Wahiawa Ranch. The McBryde family estate, known as Brydeswood, was built in the uplands of Wahiawa, mauka of the government road. By 1870, in addition to ranching, McBryde also ventured into sugar cane cultivation in Wahiawa and surrounding lands at Kalāheo and Lāwa‘i (Damon 1931). Duncan McBryde died in 1878 at the age of 52, leaving behind his widow and six children. Soon after the death of Duncan McBryde, Mrs. Elizabeth McBryde entered into a partnership forming the ‘Ele‘ele Sugar Plantation. In the upland region of Wahiawa Valley, the ‘Ele‘ele Ditch had also been constructed to take water from Wahiawa Stream to water the cane lands of the ‘Ele‘ele Sugar Plantation.

5.2.4 1900s

In 1899, Walter D. McBryde, son of Duncan McBryde, and W.A. Kinney founded the McBryde Sugar Company. The plantation primarily consisted of land already owned by the McBryde Estate, including the Wahiawa Ranch and lands in neighboring Kālaheo and Lāwa‘i. In addition, lands owned by the former Kōloa Agriculture Company and ‘Ele‘ele Sugar Plantation were also incorporated. To irrigate the mid-sized plantation (approximately 4,700 planted acres), between 1900 and 1907 the McBryde Plantation constructed 30 large and small reservoirs, as well as an extensive system of ditches to collect water from the uplands (Yamanaka and Fuji 2001). These plantation ditches, pumps, and reservoirs are visible on a 1900 map of the McBryde Sugar Company lands (Figure 26).

A major railroad line is shown extending from ‘Ele‘ele Harbor in the west and continuing east through McBryde Sugar Company lands to Kuku‘uila Harbor in Kōloa (“R.R. from Eleele” shown well south of the project area on Figure 26). Extensive development of plantation camps was undertaken to house the large numbers of plantation laborers (Figure 27). The structures were concentrated in the vicinity of the rail line crossing of Wahiawa Valley, located both within Wahiawa Valley, as well as along the upper edge of the valley. Lands on the upper plateau areas outside of Wahiawa valley are indicated to be planted in cane. Plantation ditches (including both a mauka-makai distributing ditch and cross-slope discharge ditch) extend through the current project area, transporting water to lands of the McBryde Sugar Company.

Following the expansion of sugar cultivation by McBride Sugar Company, a “New Mill” (Numila) was constructed in Wahiawa to replace the mill at ‘Ele‘ele. A 1910 map (Figure 27) shows the location of the McBryde Plantation Mill site. Additional plantation development in the vicinity of the current project area included the construction of a reservoir (i.e. Kapa Reservoir). A 1922 Map of McBryde Sugar Company lands (Figure 28) shows the extent of the sugar plantation at the time. Also indicated on the map is the extensive network of reservoirs, irrigation ditches and plantation railroad lines. Despite the widespread land disturbance caused by sugar cane cultivation on the lands outside of Wahiawa Valley, it appears that remnants of traditional land use were observable in the mid 1900s (Figure 29). The following accounts record these observations:
Figure 26. 1900 Map of McBryde Sugar Company Lands (RM 2145), M.D. Monsarrat and McBryde Company surveyors, showing the location of the project area and “New Mill Site”
Figure 27. 1910 U.S.G.S. Topographic Map, Hanapēpē Quadrangle, showing the location of the project area and the McBryde Plantation Mill
Figure 28. 1922 Map of McBryde Sugar Company (adapted from Conde and Best (1973:193)), showing the extent of sugar cane cultivation in the vicinity of the project area
Figure 29. 1963 U.S.G.S. Topographic Map, Hanapēpē Quadrangle, showing the location of the project area and features discussed in the text
Of this upper area [of Wahiawa Valley] Bennett (1931:115) remarks that “the remains of terraces” were observed to be “remarkable in places for their number on a small area of land.” According to our own observation in the lower valley, there were house sites both above and below the present highway, and abandoned terraces below the bridge on what is now ranch land. The water which used to irrigate these terraces from Wahiawa Stream is now taken by the ‘Ele’ele plantation ditch. (Handy and Handy 1972:429)

Sugar cane cultivation continued to dominate land use through the mid-1900s. The 1963 map also indicates two features within Wahiawa Valley, just west of the current project area, including a small cemetery and petroglyphs.

In 1985, the McBryde Sugar Company ranked as Hawai‘i’s 8th largest sugar plantation. However, sugar plantations soon became unprofitable in the islands, bringing an end to McBryde’s sugar production in 1996. Much of the former McBryde sugar lands were converted into coffee production, with the Kaua‘i Coffee Company replacing the McBryde Sugar Company. The former Wahiawa and ‘Ele’ele cane lands in the vicinity of the current project area are believed to be presently planted in coffee.

5.3 Previous Archaeological Research

There have been few large-scale systematic archaeological surveys in the Wahiawa area, although several inventory surveys have been done in the general area (i.e., Hanapēpē, ‘Ele’ele, etc.). The following summarizes previous research within Wahiawa Ahupua’a and relevant nearby areas (Figure 30 and Table 5).

5.3.1 Early Archaeological Research

The earliest attempt to record archaeological remains in Wahiawa Ahupua’a was made by Thrum (1906). Heiau located throughout the state were documented, and four heiau were reported in Wahiawa. Kaunuolono, located in Wahiawa, was described as “a large heiau of square shape; part of its walls are still standing. Class unknown” (Thrum 1906:37). Kahilinai, located in Wahiawa-uka, was described as “a walled heiau of large size, long since destroyed” (Thrum 1906:37).

The first systematic archaeological survey of the island of Kaua‘i was performed by Wendell C. Bennett in 1929 (Bennett 1931). Bennett attempted to relocate sites previously described by Thrum, as well as identify additional significant sites. Bennett documented extensive archaeological site complexes all the way up the Hanapēpē Stream, and other more scattered sites along the coast and within the Wahiawa Stream drainage (Figure 30). It is important to understand that Bennett’s work was conducted after commercial sugar cane and other historic activities had destroyed or damaged many sites.

Most of the sites documented by Bennett were relatively easy to access and relatively conspicuous, many consisting of terraced taro plots and house sites up the main stream at Hanapēpē and within Wahiawa, but Bennett also recorded a remarkable number and variety of heiau. In the ahupua’a of Wahiawa, he records three sites (i.e. Sites 61-63) (Figure 30). Site 61, designated as taro terraces in Wahiawa Valley, are described as “remarkable in places for their
Figure 30. Previous archaeological studies and a sampling of sites in the vicinity of the Umi project area
Table 5. Previous Archaeological Studies near the Umi project area

<table>
<thead>
<tr>
<th>Reference</th>
<th>Type of Investigation</th>
<th>General Location</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thrum 1907</td>
<td>Heiau Study</td>
<td>Hawaiian Islands</td>
<td>Briefly describes four <em>heiau</em> in Wahiawa: Huhu‘akai Heiau, Waiopili Heiau, Kaunuolono Heiau, and Kahilinai Heiau (“long since destroyed”).</td>
</tr>
<tr>
<td>Bennett 1931</td>
<td>Island-wide Survey</td>
<td>Kaua‘i</td>
<td>Briefly describes three sites in Wahiawa, all along Wahiawa stream: Site 61, taro terrace in Wahiawa Valley, Site 62, Waiopili Heiau, and Site 63, Huhu‘akai Heiau on Wahulua Bay.</td>
</tr>
<tr>
<td>Handy 1940 (in Kikuchi 1963)</td>
<td>Reference on Hawaiian planting techniques</td>
<td>Hawaiian Islands</td>
<td>Wahiawa Valley well known for extensive <em>palaha</em> taro cultivation; house sites and abandoned terraces now (in 1940) used as ranch land; mentions previous <em>olona</em> cultivation and taro related <em>Kaua‘i-iki</em> stone (relocated to Kukui-o-Lono Park).</td>
</tr>
<tr>
<td>Kikuchi 1963</td>
<td>Archaeological Survey and Excavations</td>
<td>Hanapēpē, Wahiawa, Kalāheo, Lawa‘i, Kōloa, etc.</td>
<td>Description and mapping of 7 sites in Wahiawa including heiau, petroglyphs and house sites; name of Wahiawa’s bay, <em>Ahulua</em>, defined as two altars/temple, suggests two <em>heiau</em> once located at the bay (one identified as Hu‘ahu‘akai Heiau, the other perhaps, Nana-i-kahiki).</td>
</tr>
<tr>
<td>Handy et al. 1972</td>
<td>Reference on Hawaiian planters</td>
<td>Hawaiian Islands</td>
<td>Historical childhood account of Wahiawa <em>ahupua‘a</em> (given in 1935 by Keahi Luahine, recounted by Mary Pukui) describes extensive taro <em>palaha</em> terraces, some <em>wauke</em> (paper mulberry) plantations, <em>kula</em> houses and sweet potato plantations; irrigation water from Wahiawa Stream has since been redirected to the ‘Ele‘ele plantation ditch.</td>
</tr>
<tr>
<td>Clark 1990</td>
<td>Survey of Beaches</td>
<td>Kaua‘i and Ni‘ihau</td>
<td>Wahiawa Bay (a.k.a. Ahulua Bay) described as large, sand-bottomed bay lined on both sides with low sea cliffs and undeveloped beach area; degraded condition of stream and bay due to failure of an inland dam in the 1930’s.</td>
</tr>
<tr>
<td>Reference</td>
<td>Type of Investigation</td>
<td>General Location</td>
<td>Findings</td>
</tr>
<tr>
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</tr>
<tr>
<td>Hammatt 1990</td>
<td>Archaeological Reconnaissance</td>
<td>72 acres in ‘Ele’ele</td>
<td>No new sites.</td>
</tr>
<tr>
<td>Hammatt 1992</td>
<td>Burial Report</td>
<td>Kaua’i Aggregates Quarry, Wahiawa</td>
<td>Site -1893, 6-7 pre-contact burials exposed on west side of Wahiawa Stream, likely burial ground.</td>
</tr>
<tr>
<td>Spear 1992</td>
<td>Inventory Survey</td>
<td>Hanapēpē First United Church</td>
<td>Pre-contact and historic cultural layers found during excavations.</td>
</tr>
<tr>
<td>Glidden, Maly and Rosendahl 1993</td>
<td>Cultural Resources Assessment</td>
<td>Wahiawa, McBryde Sugar Mill</td>
<td>No new sites.</td>
</tr>
<tr>
<td>Tulchin and Hammatt 2004</td>
<td>Inventory Survey</td>
<td>Kaua’i Aggregates Quarry, Wahiawa</td>
<td>Two sites located (50-30-09-393 consisted of two terraces, and 50-30-09-1893 consisted of a single burial, near the burial ground described in Hammatt 1992).</td>
</tr>
<tr>
<td>Dockall et al. 2005</td>
<td>Inventory Survey</td>
<td>Mauka Wahiawa</td>
<td>Identified three sites, all historic (50-30-09-3917, 3918, and 3919)</td>
</tr>
<tr>
<td>Tulchin and Hammatt 2005</td>
<td>Inventory Survey</td>
<td>Kukuiolono Park</td>
<td>Identified three sites (50-30-10-3906, 3907, and 3908)</td>
</tr>
<tr>
<td>Monahan and Hammatt 2008</td>
<td>Inventory Survey</td>
<td>‘Ele’ele</td>
<td>No new sites.</td>
</tr>
</tbody>
</table>

number on a small area of land” (Bennett 1931:115). He also notes that “there are platform house sites in the valley; burial caves and petroglyphs also reported” (Bennett 1931:115). Sites 62 and 63 are heiau originally described by Thrum (1906) and relocated by Bennett in 1929. However, both were destroyed by the time of Bennett’s survey. Site 62, Waiopili Heiau, was described as:

in Wahiawa Valley, on the bluff on the east side, a short distance on the seaward side of the government road. This structure is described by Thrum as “An oblong heiau of good size, walls still standing.” The cane fields have now been run close to the edge of the bluff, and in clearing the fields of stone the heiau has been obscured so far as any plan is concerned. (Bennett 1931:115)

Site 63, Huhu’akai Heiau, was described as

on Wahulu [Wahiawa] Bay, Wahiawa. Thrum says “A medium sized heiau; portion of its walls may yet be seen. Class unknown.” It is mostly destroyed. A platform of irregular shape is left, the front part of which is paved with small
stones and the rest roughly paved. Nothing that would identify it as a heiau now remains. (Bennett 1931:115).

Other nearby sites Bennett described are outside of Wahiawa Ahupua’a. East of the project area, in Kalāheo Ahupua’a, Bennett describes sites 64 (house sites in Kalāheo Gulch), 65 & 66 (two destroyed heiau, Kahalekii Heiau and Kukuiolono Heiau). West of the project area, in Hanapēpē Ahupua’a, are sites 54 through 57, all inland sites including a few heiau.

5.3.2 More Recent Archaeological Research

In the 1960s, Kikuchi conducted an archaeological survey of the traditional district of Kona from Makaweli to Kīpū-Kai (Kikuchi 1963); he revisited sites identified by Bennett, and recorded additional sites and features. In Wahiawa Ahupua’a, Kikuchi revisited Bennett’s sites, as well as recorded newly identified sites in the area. A total of 15 sites were described, 8 encircling Ahulua (Wahiawa) Bay and 7 located mauka of the Halewili Bridge over Wahiawa Stream. No sites were located within the current project area. The mauka cluster of sites (i.e. Kikuchi sites 8-14, State sites 3040-3045, nearest the current project area), included a shelter cave, petroglyphs, a grind stone, a house site, and an old Japanese plantation camp (Kikuchi 1963). Along the coast, on the western edge of Ahulua (Wahiawa) Bay, Kikuchi described Sites 15 through 19 (State sites 3046-3048), including a cave shelter, a rock pile, calcified midden, and an adze grinding stone (Kikuchi 1963). Site 20, near the sandy shoreline of Ahulua Bay, was “Camp One,” a plantation camp that was destroyed by the tidal wave of 1946 (Kikuchi 1963).

Kikuchi designates Site 21 as potential remains of Hu‘ahu‘akai Heiau, one of the two heiau described by Bennett, and offers the following description:

Along the eastern slope of the mouth of Wahiawa valley, on the slopes facing Ahulua [Wahiawa] Bay, a peculiar wall was seen about 30 feet above the road leading to the shore…Upon closer examination the wall proved to be quite thick, 4-5 feet, and about 5 feet high. No other structures were seen back of the wall. The wall may prove to be just another wall constructed during recent times but it may also be the portion of Hu‘ahu‘akai heiau which Bennett described (Kikuchi 1963:18).

Site 22 refers to the Weli shelter site excavated by the Bishop Museum in the summer of 1959, in which the entire area is “now considered hopelessly destroyed [by vandals] even though small areas are untouched” (Kikuchi 1963:22). Sites 23 and 24 are also described as shelters.

Hammatt (1990) conducted an archaeological reconnaissance of a 72-acre area located west of the current project area in Hanapēpē. No archaeological sites were found; this was attributed to the documented presence of commercial sugar cane operations (McBryde Sugar Co.) for many years in this area. A 1923 field map of McBryde’s operations, for example, shows the subject parcel as in portions of cane field nos. 9A and 9B (see Figure 28), and commercial sugar cane was probably grown in this area at least as early as the 1880s (see Dorrance and Morgan 2000). Hammatt also summarized prior surveys in and around the subject parcel, and noted that neither Bennett (1931) nor Kikuchi (1963) documented archaeological resources in this area.

Numerous archaeological sites have been documented in the vicinity of Wahiawa Bay and the lower reaches of Wahiawa drainage, immediately east of the current project area) (Figure
14). Spear (1992) discusses several of these sites, including Huhuakai Heiau (SIHP No. -63) and cave shelters (3050, 3051 & 3052); these sites are primarily from the Kikuchi 1963 and Bennett 1931 studies.

Hammatt (1992) documented a traditional-style burial site (SIHP No. -1893) containing the remains of at least six (6) individuals eroding from the banks of Wahiawa Stream, just above (mauka of) the mouth of the bay, at the Kaua‘i Aggregate Quarry. Inspection of the surrounding slope area revealed the presence of numerous ahu (cairns) and pavings interpreted to be probable burial sites. One burial was also located in an overhanging ledge in the vicinity. It was also noted:

> It is likely that the entire slope between the stream level and the top of the cliff which covers an area of perhaps ½ acre contains Hawaiian burials interred in the rocky slope deposits. (Hammatt 1992:6)

Archaeological monitoring was conducted at the site of the McBryde Sugar Mill at Numila, in association with the proposed construction of a NEXRAD radar station (Glidden et al. 1993). Monitoring of the removal of a large boulder pile did not reveal the presence of any cultural material.

A recent archaeological inventory survey (Tulchin and Hammatt 2004) of an approximately 9-acre project area adjacent to the burial site described by Hammatt (1992) documented traditional-style stone terracing (SIHP No. -393), interpreted as a pre-contact house site, along the western bank of the stream, as well as an additional set of human skeletal remains, interpreted as part of the previously-identified SIHP No. -1893.

Another recent archaeological inventory survey was conducted on the far mauka slopes of Wahiawa Ahupua’a (Dockall et al. 2005), with three historic properties identified during the inventory survey. Site 50-30-09-3917 is a remnant of an irrigation canal known locally as the Native Ditch, however, the history of the feature indicates its construction in about 1900. This feature served to transport water from the Wahiawa Stream watershed. Site 50-30-09-3918 is identified as Alexander Dam that consists of a concrete spillway and a hydraulic filled dam with a rock- armored front. Site 50-30-09-3919 represents the forebay feature that receives water from outlet tunnels below the reservoir; the forebay then feeds water into a riveted pressurized penstock feature that transmits water to KCOF coffee fields and a hydroelectric station at Kalāheo.

In 2005 Tulchin and Hammatt conducted an archaeological inventory survey at Kukuiolono Park in Kalāheo Ahupua’a. Three sites comprised of 22 features were identified and recorded. Site 50-30-10-3906 consisted of an assemblage of historic properties, including historic artifacts and historic structures, within Kukuiolono Park attributed to the Estate of Walter D. McBryde. Site 50-30-10-3907 consisted of a collection of traditional Hawaiian stones and artifacts assembled by Walter D. McBryde. 50-30-10-3908 consisted of the graves of Walter D. McBryde and companion.

In 2008 Monahan and Hammatt conducted an archaeological inventory survey at ‘Ele‘ele Industrial Park. No historic properties were found.
5.3.3 Settlement Pattern

From research of historic documents, cultural documentation, and previous archaeological studies, it is apparent that land use in the vicinity of the current project area is long and varied, extending from pre-contact times into the modern era. The presence of multiple *heiau* within the *ahuupua‘a* suggests the relative importance of Wahiawa in traditional times. *Heiau* were located in both the uplands and near the shore. Cultural accounts, as well as LCA documentation indicated settlement within the *ahuupua‘a* was focused on Wahiawa Valley and the immediate area. Abundant stream and spring water was available for the cultivation of wetland taro, as well as other traditional staple foods, within the fertile stream valley. Research indicated dense agricultural terracing throughout the interior of Wahiawa Valley from the uplands to the sea. Habitation areas were noted both within the valley, as well as on the *kula* land above. The “Community of Wahiawa” was said to have been centered near the government road (present day Kaumuali‘i Hwy.). The sheltered waters and sandy shoreline of Wahiawa Bay would have allowed for harvesting of marine resources and provided an ideal landing site for canoes. Traditional burial interment practices included cave burials within the slopes of Wahiawa Valley, and burials in the sandy sediments on the banks of Wahiawa Stream and *muliwai*.

Before the historic-era destruction of many traditional sites and features, the current project area would likely have contained archaeological sites related to *kula* (dry-land) gardening activities, including most notably sweet potatoes. Writing about this general area, Handy (1940:154) states:

> Upland kula lands that were famous for their sweet potatoes were Kukuiolono above Lawai (the present park covering the McBride [sic] estate) and the elevated kula lands east of Wahiawa Stream. I was unable to obtain any information as to the uplands of Kalihi and Kilauea, but this and much of the kula land from here to Kealia is the same type of terrain and presumably was once used to some extent for growing sweet potatoes by taro planters in these districts. A kamaaina of Wahiawa says that inland of the cliff named Kawaikapuluna, the people used to have taro patches in the gulch, while their houses and potato patches were on the kula land above, bordering the gulch on either side. I was told this arrangement was typical also of Nawiliwili, and presumably also of Hanamaulu, Hanapēpē, Makaweli, and Waimea in the lower sections of their canyons.”

Land use in the early historic period came to be dominated by livestock ranching. Historic documentation suggested that cattle and horses were widespread in Wahiawa from the time of Kaumuali‘i. Extensive commercial agriculture ventures, including ranching and sugar cane cultivation later came to dominate land use in Wahiawa Ahupua‘a. Major land disturbance by plantation agriculture was for the most part restricted to the upper plateau areas suitable for sugar cane cultivation, though several ditches were constructed to draw irrigation water from Wahiawa Stream. Plantation Camps were constructed to house the large number of plantation laborers. The camps were generally located within Wahiawa Valley, centered around the railroad crossing (present day Halewili Rd.), and at the shore of Wahiawa Bay. Modern land use includes the conversion of the sugar cane fields to coffee.
5.4 Assessment

5.4.1 Historic Properties within the Umi project area

There are no known archaeological sites in the proposed Umi location. However, this is complicated by the fact that no archaeological studies have been carried out within the project area. The aerial photograph (see Figure 24) and historical research show that the Umi location has been largely impacted by agricultural activity in the late 1800s and modern periods. Overall, the chance of highly significant surface archaeological finds in the project area is low, primarily due to historic disturbance.

5.4.2 Historic Properties within one mile of the Umi location

Several historic properties are located within approximately one mile of the Umi project area. Sites 50-30-09-3040 through 3045 and Sites 61 and 62 are located about a mile west of the project area, primarily along the Wahiawa Stream. Site 61 (described by Bennett 1931) consists of taro terraces in Wahiawa Valley. Bennett noted that “there are platform house sites in the valley; burial caves and petroglyphs also reported” (Bennett 1931:115). Sites 62 is Waiopili Heiau, originally described by Thrum (1906) and relocated by Bennett in 1929. Seven sites were located by Kikuchi (1963) mauka of the Halewili Bridge over Wahiawa Stream. The mauka cluster of sites (i.e. Kikuchi sites 8-14; State sites 3040-3045), include a shelter cave, petroglyphs, a grind stone, a house site, and an old Japanese plantation camp (Kikuchi 1963). Some of these sites probably correspond to what Bennett reported seeing near Site 61.

To the east of the project area, in Kalāheo Ahupu’a, there are also several sites within approximately one mile. These include State sites 3906-3910 (at Kukuiolono Park), 3054-3055 (see Kikuchi 1963), and 65-66 (see Bennett 1931).

Additionally, the McBryde Plantation Mill (Numila) is a mile south of the parcel. Two of the camps associated with the McBryde Sugar Company (Camp 6 and 7) are within less than a mile of the project area; these camps are shown on the 1963 USGS map (see Figure 29), but are not on the 1910 map (see Figure 27). There also appears to be a ditch along the southern boundary of the parcel, which could be associated with activities at the McBryde Sugar Company. Our background research and inquiries at SHPD did not produce any additional information regarding these items.

5.4.3 Summary

The 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 highly significant historic properties, given that the project area has been heavily impacted by agricultural development. There are several known historic properties within one mile of the project area. The majority of these are in areas that have been developed in the late 1800s and modern times (i.e., the McBryde Mill and Kukuiolono Park), and the sites are primarily historic in nature. The majority of other nearby sites have not been surveyed in recent years, thus making it difficult to assess their current status and how development of the project area may affect these historic properties. However, nearly all known historic properties are located more than a half-mile outside of the project area, and nearly all are located in different environmental zones (i.e., along Wahiawa Stream). Therefore, development of the parcel is unlikely to have adverse effects on nearby historic properties, and no mitigation measures are currently recommended for those...
sites. There is some likelihood of historic features related to agriculture such as ditches being present in the project area. Such sites related to commercial agriculture rarely present much of an impediment to development.