

Olowalu Sugar Company

In 1875, in anticipation that the sugar industry would rebound Lāhainā, businessman Milton Philip started to acquire land in Olowalu and Ukumehame. By 1876, the sugar industry rebounded. Another Maui resident, Goodale Armstrong, also acquired Olowalu property and together with Milton Philip started the Olowalu Plantation in 1876 utilizing former crown and *kuleana* land. By 1878, the Olowalu Plantation produced its first crop and completed its first mill. (Ainsworth, 2011).

Phillip and Armstrong formally organized the Olowalu Sugar Company in 1881 on lands given up by the West Maui Plantation. The sugar venture was originally represented by the agency of Mcfarlane & Co., with shares in the plantation purchased by Theophilus Harris Davies, who became the agent for the enterprise in the late 1880s.

The history of the Olowalu Sugar Company included the construction of a mill and wharf development at Olowalu prior to 1884 (Wright, 1974). In addition to processing cane harvested from the fields of Olowalu and Ukumehame (**Table 22**), the mill was also contracted to process the cane harvested by Maunalei Sugar Company, a Lānaʻi island enterprise. Cane harvested by the Maunalei Sugar Company in Keomuku was shipped from Halepalaoa to be processed at Olowalu beginning with the 1899 crop. Processing of the Lānaʻi cane continued until 1901 with the closing of the Maunalei Sugar Company (Conde and Best, 1973).

Sugar crop figures for the Olowalu plantation are listed in **Table 22** for the years leading up to annexation with the United States (listed as tons) (based on figures reported in the Louisiana planter and sugar manufacturer weekly for the years indicated).

Table 22. Sugar Crops from 1891 through 1900 by Tons

1891	1892	1893	1894	1895	1896	1897	1898	1899	1900
760	859	702	937	905	1,163	1,112	1,425	1,502	1,480

The continuing decline in the number of Hawaiians and their preference for other occupations compelled the Olowalu Plantation to hire Chinese laborers. Approximately 120 workers living in both Olowalu and Ukumehame relied on Olowalu Plantation for their living.

Olowalu Railroad

Henry Turton is credited during the early 1880's with planning construction of the first railway in Lāhainā to facilitate cane hauling from the cane fields in Kā'anapali to the Lāhainā-based mill. A two-foot wide narrow gauge railroad track from the fields in Olowalu and Ukumehame was built to the Olowalu mill and started carrying sugarcane by its steam powered locomotive in 1882. The railroad ran alongside what was termed the "government" or public road and onto Olowalu Landing.

The first reference regarding the use of a railroad at Olowalu Plantation to transport cane to the mill was found in the Planter's Monthly for April, 1882. The use of a "fowler railroad plant" at the Olowalu Plantation was considered by historian Jesse "Jay" Conde to mean that the track had been installed, and the cane cars in operation utilized "mule power" until the enterprise could afford to order a locomotive (Conde and Best, 1973). By November of 1882, according to the Hawaiian Gazette, the Olowalu railroad had completed the two-mile section of track to Ukumehame, for a total of three (3) miles of fixed track. By 1918, new steel rails were being installed to replace the existing layout. The use of the railroad at Olowalu had made it possible to harvest and transport over six thousand tons of sugar in a single year (Gilmore, 1936).

At the turn of the 20th century, the reorganization of the Pioneer Mill Company resulted in the construction of "twenty miles" of new railroad, replacing old lines and extending the entire length of the plantation, with branches emanating mauka into the upper elevations of the cane fields (Conde and Best, 1973). By the late 1920's, the Pioneer Mill Company developed a complex transport system including irrigation flumes used to transport cane to railroad "car loading stations" (Conde and Best, 1973).

A dramatic technological change to cane production at the Pioneer Mill occurred in 1946 when it became more economical to use trucks to transport the harvested cane instead of railroad carts. As reported in a Pioneer Mill Co.

Annual, the year of 1953 marked the final elimination of railroad use in the Pioneer Mill Company (Conde and Best, 1973).

Foreign Laborers

During the latter part of the century the sugar industry boomed, causing an increased need for labor. Olowalu's labor force not only increased to approximately 149 to 167 laborers, but it became more ethnically diverse. By 1904, the workforce consisted of Hawaiians, Americans, Europeans, Portuguese, Puerto Ricans, Chinese and Japanese. Americans and Europeans dominated management and skilled positions. Hawaiians worked in skilled and semi-skilled jobs while Japanese, Chinese and Puerto Ricans handled field jobs. During World War I, there was a shortage of laborers and the Olowalu Company began recruiting laborers from the Philippines.

Olowalu Irrigation System

Minimal rain at Olowalu made the plantation totally dependent on irrigation. In 1904, water moved along a six-mile supply ditch from Olowalu Valley and was distributed via four (4) miles of additional ditches. It is estimated that the first well drilled at Olowalu for the plantation was sunk in 1905 (Well 11), a single shaft with 670 feet of lateral tunnels designed to skim three (3) million gallons per day (mgd) of fresh irrigation water from sources beneath the Olowalu plains. In around 1908, an additional well was drilled at Ukumehame, a pump that had a capacity of 1- $\frac{1}{4}$ mgd (Stearns and Macdonald, 1942). Following the development of the water system, field production increased and by 1930 sugar yields rose from 1,480 tons to 2,966 tons (Haneberg, 1931). In 1917, Olowalu Company began a program to line the ditches with concrete to retain water, first in Olowalu and later in Ukumehame.

With the acquisition of Olowalu Sugar Company, Pioneer Mill Company invested in improvements to the two (2) small and relatively crude water systems. In 1933, the first inclined shaft in the territory of Hawai'i was drilled at Olowalu (Well 10) under the direction of C.A. Brown which resulted in a yield of 5.25 mgd (Stearns and MacDonald, 1942). The following year, Well 12 was drilled at Ukumehame to replace the 1908 well. This well had a yield of 4.75 mgd (Stearns and McDonald, 1942).

The Pioneer Mill Company built the Honokohau ditch in 1904 to bring water to the arid coastal lands. With the construction of the Honokohau ditch, the Pioneer Mill Company was able to reach back into the mountain valleys and obtain water in a system developed by the Honolua Ranch, effectively delivering about 20 mgd to the Pioneer Mill fields. This main ditch was augmented over the years with seven (7) additional ditches.

Water delivered by the supply ditch from Olowalu Stream amounted to 1,000,000 gallons per day (GPD), and 14 artesian wells could produce an additional 2,000,000 gallons. Water was stored in two (2) reservoirs with a total 1,000,000-gallon capacity. Two (2) 70-horsepower pumps could move 3,000,000 GPD for irrigation. During the dry months, the amount of water in the ditches and wells declined.

Olowalu Landing

In 1910, Olowalu Landing consisted of a rock pier built up with small boulders which ran about 200 feet into the sea. The pier supported a square wooden-frame derrick and an extension of the company's railroad line. In 1914, Olowalu Landing served as one (1) of 12 landings on Maui where the Inter-Island Steamship Company scheduled regular stops. Steamers carried freight, passengers and mail to and from Olowalu. Freight shipments were limited to Olowalu Company and the C. Sam Lung store almost exclusively. Because of difficulty in shipping sugar at low tide, in 1919 the company built a new boat landing 250 feet further out and deepened the boat channel.

In 1917, Olowalu Company began a program to line the ditches with concrete to retain water, first in Olowalu and later in Ukumehame. In 1918, Olowalu Company embarked on major improvements which included rebuilding the Olowalu mill and building a new and larger warehouse. During World War I, there was a shortage of laborers and the Olowalu Company began recruiting laborers from the Philippines. In 1932, the mill at Olowalu was dismantled and shipped to the Philippine islands (Gilmore, 1936).

Pioneer Mill Company

In early May of 1931, Olowalu Company was sold to American Factors, Ltd. (Amfac) who had owned the much larger adjoining Pioneer Mill Company

plantation for \$400,000.00. On December 31, 1931, the Olowalu Sugar Company was un-incorporated and placed within the holdings of Pioneer Mill Company (Burns, 1932). The sale of Olowalu included 1,178 acres of fee-simple land and all its sugar equipment and railroad. The sale of Olowalu to Amfac proved to be the last major land addition to Pioneer Mill, bringing the size of the plantation to more than 14,000 acres. With the sale of Olowalu Company the mill was closed and all milling was transferred to Pioneer's Lāhainā mill as well as its offices (Ainsworth, 2011).

The Pioneer Mill Company was established as a partnership in 1862, between James Campbell, Henry Turton, and Benjamin Pittman. The first Pioneer Mill plantation lands were deeded to the partners by Benjamin Pittman for the price of \$30,000.00 (Conde and Best, 1973). How Pittman obtained such a sizable piece of land is unknown, however, one may posit that the first Pioneer Mill lands were in Launiupoko ahupua'a which was acquired by Thomas Phillips in 1840 (Wong-Smith in Graves, 1991).

The Pioneer Mill was incorporated in 1885 and sold to H. Hackfeld & Company, the predecessor of Amfac, Inc. (Wong-Smith in Graves and Goodfellow, 1991).

General reorganization of the Pioneer Mill Company began around the turn of the 20th century. A prospectus for change describes assets of the four (4) main cane fields composing the company at that time (Conde and Best, 1973):

- Lāhainā - 1,000 acres of land on the flat and outside of small kuleanas, (land areas claimed by the Hawaiians under royal grants), the land is fee simple (could be deeded).
- Launiupoko - 2,900 acres of fee simple land, lying between Lāhainā and Olowalu.
- Wahikuli - A tract of government land of 5,000 acres, under lease for eighteen years, lies between Lāhainā and Kā'anapali.
- Kā'anapali - Some 3,600 acres at various levels, fee simple land, beyond Wahikuli.

The 1931 expansion of Pioneer Mill Company into Olowalu and Ukumehame was expected to bring an additional 3,000 tons of sugar per year (Pioneer Mill

Company, 1932). During this same period, less lucrative cane fields, specifically in upper Launiupoko, were abandoned for the most part due to labor shortages “imposed by World War II” (Graves and Goodfellow, 1991). At around this time, during the 1930’s, the Pioneer Mill Company also began cattle ranching in the abandoned cane fields of Launiupoko. According to Herbert Kinores, Pioneer Mill Company ranch foreman, ranching infrastructure including walls, fences, and wooden and stone-walled corrals were constructed in the Launiupoko region above the cultivated cane fields (Graves and Goodfellow, 1991).

The intensive sugarcane agriculture under the direction of Pioneer Mill continued operations from Ukumehame to Launiupoko until 1998. The final harvest and closure of Pioneer Mill was in 1999 (Kubota, 1999).

Plantation Community

As plantation laborers from other countries increased, the proportion of Hawaiians in the community decreased. Although the majority of laborers worked for the plantation and lived in community provided housing, there were individuals that sought other opportunities. Kintaro and Kise Kawasaki purchased land and operated a truck farm in Olowalu. They also ran a store located behind the current Olowalu Store which was called the Olowalu *Nihonjin Shokai*, or Olowalu Japanese Store which operated until the 1940s. In addition to the Japanese store, by 1904, C. Sam Lung & Company, owned by H. A. Heen of Honolulu, operated a general store and coffee saloon until the 1930s when the M. Ichiki Store in Lāhainā expanded into Olowalu.

The change in the workforce also brought changes to the community. In addition to the Olowalu School, by 1910 a Japanese Language School was started to teach Japanese children the language and culture of their homeland.

As the community changed so did the religious community. Besides the Olowalu Hawaiian Protestant Church, other religions started congregations in Olowalu. In 1916, a permanent Roman Catholic Church was built in Olowalu. By 1921, the Church of Jesus Christ of Latter Days Saints operated one (1) of eight (8) branches of the West Maui Division of the church.

In 1918, Pioneer Inn Company under the management of George Freeland operated the Olowalu Theater. Sports also played an important role in the community. Games such as baseball and football played informally at Olowalu supplemented a formal athletic program sponsored by Pioneer Mill. In 1948 there were organized programs in basketball, baseball, softball, jungle-ball, bowling, volleyball, wrestling, and boxing for boys and in volleyball, softball and basketball for girls.

Olowalu boasts of two (2) sports heroes. Salvador “Dado” Marino, the first world boxing champion from Hawai‘i was born in Olowalu in 1915, a member of one (1) of the first Filipino families to work for Olowalu Company. Although he spent only his early childhood at Olowalu, he considered Maui his home island. He won the world flyweight championship at age 35 in 1950 and successfully defended the title a year later. He retired from boxing in 1952. In the 1960s he moved to the mainland where he died in 1989.

Olowalu’s other hero, Wallace “Wally” Yonamine, was born there in 1925 and raised in the community, living a typical plantation life. A talented multi-sport star at both Lahāināluna and Farrington High Schools, he first turned to professional football. The San Francisco 49ers drafted him in 1947, making Yonamine the first Asian American professional football player.

After a short period of playing minor league baseball on the mainland, in 1951 Yonamine began a four-decade career as a highly successful baseball player, coach and manager in Japan. As a result, he became the first American voted into Japan’s baseball Hall of Fame. In 1998, Yonamine received the Japanese Order of the Sacred Treasure for his “extraordinary efforts in promoting the exchange of sports and friendship between Japan and the United States.”

When Yonamine was playing ball in Japan, he returned to Olowalu at the end of each season, saying “When I go there, it helps me look back over time. Olowalu still makes me feel humble.”

Housing in Olowalu was provided by the plantation and Olowalu remained a plantation camp from the 1930s to the eventual phasing out of Company housing by the 1970s- (Ainsworth, 2011).

Late 1900s to Modern Era

In the late 1900s and toward the end of the Sugar Era in Lāhainā, small scattered residential lots were present within the current project area along the shoreline at Olowalu and in the upper reaches of the valley. These isolated house lots are referred to as *kuleana* (Kimo Falconer, in Robins et al., 1994) and likely represent original boundaries of land claims made during the Māhele.

Travel to Lāhainā was over the gravel Pali Road which originally was built for horses and later improved to allow automobile travel. Federal aid enabled the Territory of Hawai'i's Highway Department to pave a two and half mile stretch of road at Olowalu in 1938. The work slightly realigned the lanes toward the ocean and made the road almost entirely straight. The one-lane bridge just outside the village, a well-known Olowalu feature, was widened to accommodate two (2) cars at the same time (Ainsworth, 2011).

In 1950, Territorial Contractors began construction of the Olowalu Pali section of what was then termed the Sunset-Skyline highway, replacing the old Pali Road. This segment stretched from McGregor Point to Olowalu (Ainsworth, 2011).

Part of this effort included “Operation Puka-in-the Pali”, the construction of Hawai'i's first highway tunnel. Signifying the importance of this accomplishment, the launching of construction was marked by a blessing and *lu`au* for 600. Blasting began in September 1950 from the Wailuku end and progressed at six (6) feet a day. Workers emerged on the other side in February 1951. The 315-foot long tunnel and 5.2-mile highway officially opened in October 1951 to territory-wide fanfare (Ainsworth, 2011).

The widening and surfacing of the 2.6-mile section of the Pali Road going from Olowalu to Lāhainā began in 1951. Highway officials did not consider the work done in 1938 on this stretch of highway, described then as “light paving”, to be adequate (Ainsworth, 2011).

During the 1970s, Maui Electric installed a power line between Mā`alaea and the town of Lāhainā. The existing line stretches over elevations of between roughly 600 and 2,600 feet above mean sea level. A *pu`u*, commonly referred

to as “cut mountain”, is located between Olowalu and Launiupoko and presently is a former quarry or “borrow pit”. Immediately west of the *pu`u* is an old landfill site formerly operated by the County of Maui.

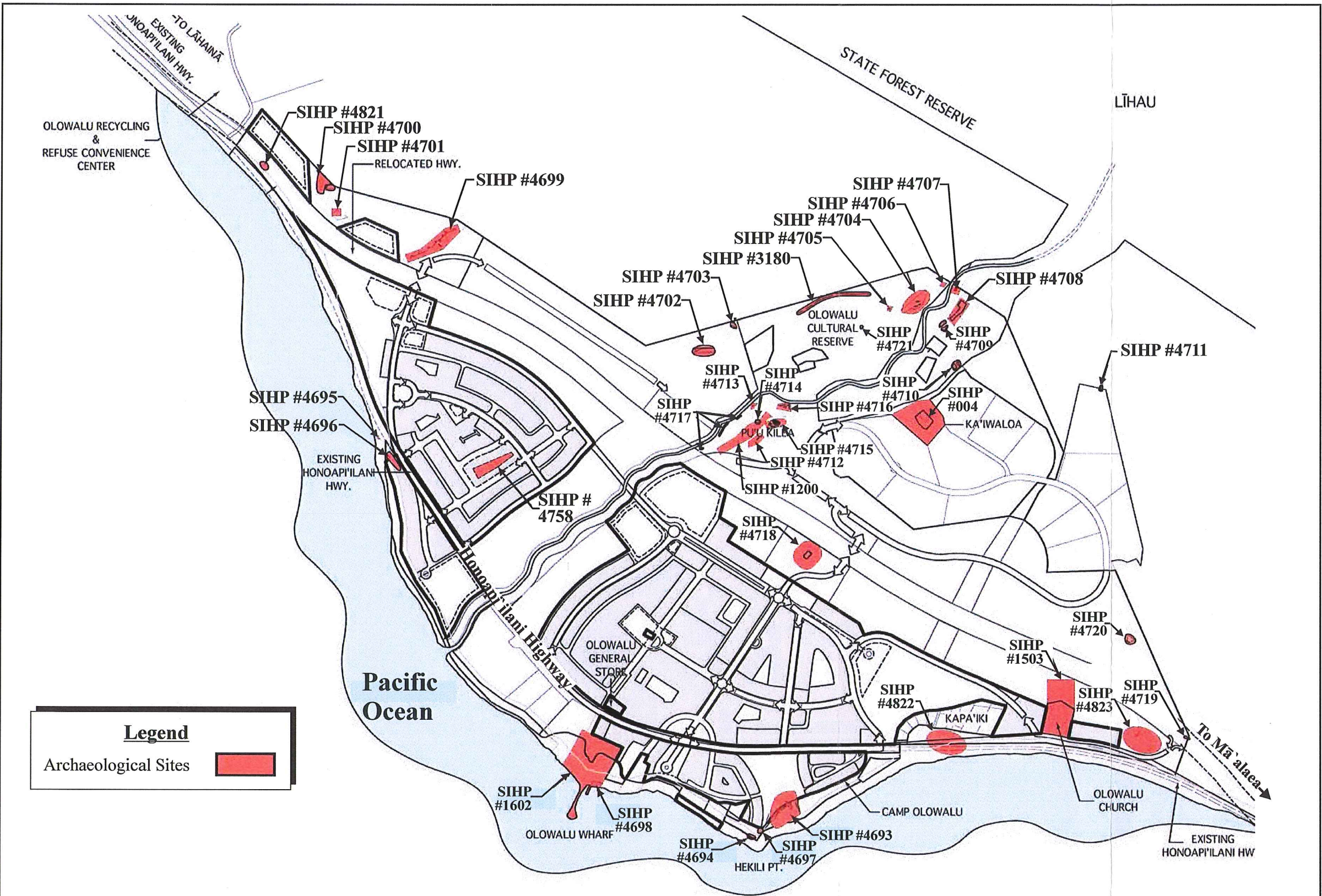
With the closure of Pioneer Mill in 1999, lands that were formerly cultivated in sugarcane were either left fallow, in pasturage, or have been subdivided out of larger landholdings for development of agricultural subdivisions in Launiupoko and Ukumehame.

b. Archaeological Investigation

An archaeological literature review and field inspection was conducted by Cultural Surveys Hawai`i, Inc. (CSH) onfor the ~~Master Plan area~~OTMP. Requisite archaeological inventory studies and the review and acceptance of subsequent historic preservation mitigation plans for the project area were carried out between October 1998 and July 2002 culminating in seven (7) separate documents and related State Historic Preservation Division (SHPD) correspondence. See **Appendix “F-1G-1”**.

A total of 41 historic properties, some consisting of multiple features, were identified and recorded during previous archaeological studies within the project area. See **Figure 1423**. The historic properties were evaluated in accordance with the following SHPD criteria:

- Criterion A. Be associated with events that have made a significant contribution to broad patterns of our history;
- Criterion B. Be associated with the lives of persons significant in our past;
- Criterion C. Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possesses high artistic values;
- Criterion D. Have yielded, or is likely to yield, information important for research on prehistory or history; or



Criterion E. Have an important value to the native Hawaiian people or to another ethnic group of the State due to associations with cultural practices, once carried out, or still carried out, at the property or due to associations with traditional beliefs, events, or oral accounts-these associations being important to the groups' history and cultural identity.

Appendix "F-1G-1", Table 2 (pp. 16-20) summarizes all known historic properties, its probable function, significance and brief description by the recording archaeologists.

The final mitigation and preservation recommendations for the historic properties documented within the project area were initially presented in the archaeological inventory studies conducted by Xamanek Researches (D.L. Fredericksen and Fredericksen 2000a, b). Continued archaeological monitoring was recommended in the eastern near shore areas of the makai portion of the project area (D.L. Fredericksen and Fredericksen 2000b:57), as well as, at the former location State Inventory of Historic Property (SIHP) 50-50-08-04820 and -04821 where human skeletal remains were identified. The skeletal remains were moved to 'Awalua Cemetery. Refer to **Figure 1423**.

c. Potential Impacts and Mitigation Measures

Preservation recommendations were followed up with preservation plans for historic properties that did not include features associated with human burials for the project area and burial treatment and preservation plans for historic properties containing both known and possible human burials (E. M. Fredericksen and Fredericksen 1999, 2001).

Monitoring Requirements:

Monitoring plans for future work within a designated near shore area along the eastern shoreline from Camp Olowalu to Olowalu Wharf and SIHP -04820 and -04821 were approved by SHPD on July 25, 2002. Refer to **Figure 1423**. According to the accepted monitoring plan for the eastern shoreline area, the following activities would require on-site archaeological monitoring:

1. Subdivision development and improvements: Trenching, roadwork, grading and landscape work;
2. Development and improvements for private residence: Trenching for footings, foundations and utilities below two (2) feet from existing grade, and grading below two (2) feet from existing grade.

With respect to former location of SIHP -04820 and -04821, the skeletal remains were moved to `Awalua Cemetery, however, any sub-surface activity would require on-site archaeological monitoring.

Historic Properties with No Further Work Recommended:

Ten (10) of the historic properties within the project area were determined to be “no longer significant” with a recommendation of “no further work” while two (2) were relocated from their recorded location to Awalua Cemetery. Refer to **Appendix “F-1G-1”**, Table 3 (p. 26-27).

Historic Properties with Preservation Commitments:

Twenty-nine (29) of the historic properties are under preservation commitments, 10 are intended for preservation through avoidance and protection (conservation) and 17 are intended for interpretative preservation. **Table H-23** summarizes the interpretative preservation measures for these 17 properties:

Table 1123. Summary of Historic Properties and Associated Preservation Measures

SIHP No.	Formal Type	Probable Function	Buffer (ft.)	Buffer Markers	Signage	Preservation Type	Comment	Within Petition Area
4	Heiau (Ka'iwaloa/Kawaialoa Heiau)	Ceremonial	100	Yes	Yes	Interpretive	Viewing platform overlooking the <i>heiau</i> for the general public, pedestrian access to the <i>heiau</i> interior restricted to Native Hawaiian traditional cultural practices; Buffer markers to consist of a native hedge and boulders	No
1200	Olowalu Petroglyph Complex	Habitation	30	No	Yes	Undetermined	Site extent makes permanent buffer markers difficult	No
1201	Rock Shelter	Temporary Habitation				Undetermined	To be preserved within SIHP -01200 buffer area	No
1602	Olowalu Mill	Habitation/ Mill/Wharf	30	No	Yes	Interpretive	Site extent makes permanent buffer markers difficult; Signage will include a plot map of the preservation area	No
1603	Lanakila Hawaiian Protestant Church Site	Church/ Cemetery	0	Yes	Yes	Conservation	Buffer is the original church boundary; native hedge, boulder alignment or other appropriate buffer marker	Yes (portion)
3172	Concrete Irrigation Ditch	Agriculture	0	No	No	Conservation	Preservation as an operating water system; appears to be located outside the boundaries	No
4693	Burial Complex	Burial	*See comment	Yes	Yes	Conservation	Buffer: vertical buffer of 10-15 cm of clean sand followed by 10 cm of cinder or permeable gravel. Boundary will be marked with a hedge. Landscaping of the preservation area to ensure long-term integrity utilizing drip irrigation and shallow irrigation lines.	Yes
4694	L-Shape	Habitation	10	Yes	Yes	Interpretive	Preservation within the beach reserve; Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags (Horcajo 2002) (SHPD DOC NO: 0204MK20)	No
<p>* Fredericksen, Erik M. and Demaris L. Fredericksen 1999 <i>Archaeological Preservation Plan for Burial Ground on the Makai Project Area, Site 50-50-08-4693, Olowalu Ahupua`a, Lāhainā District, Island of Maui (TMK: 4-8-3:Por. 5)</i>. Prepared for Olowalu Elua Associates, LLC. Kahului, Maui. Xamanek Researches. Pukalani HI</p>								

Table 1123. Summary of Historic Properties and Associated Preservation Measures (Cont.)

SIHP No.	Formal Type	Probable Function	Buffer (ft.)	Buffer Markers	Signage	Preservation Type	Comment	Within Petition Area
4697	Subsurface Cultural Deposit	Habitation	10	Yes	Yes	Interpretive	Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags (Horcajo 2002) (SHPD DOC NO: 0204MK20)	No
4698	Subsurface Cultural Deposit	Habitation	0	No	Yes	Interpretive	Surface currently used as a beach access; Location to be included with interpretive signage for - 01602	No
4699	Habitation Complex	Habitation/ Burial/ Boundary?	30	Yes	Yes	Conservation	Recommended sealing Feature D; Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags	No
4700	Habitation Complex	Habitation	15	Yes	Yes	Interpretive	Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags	No
4701	Possible Ko'a	Ceremonial	15	Yes	Yes	Interpretive	Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags	No
4704	Habitation Complex w/Petroglyphs	Habitation	15	Yes	Yes	Interpretive	Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags	No
4705	Rock Shelters	Temporary Habitation	15	Yes	Yes	Interpretive	Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags	No
4706	Rock Shelter	Temporary Habitation	15	Yes	Yes	Interpretive	Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags	No
4707	Wall and Mound	Marker/Burial	15	Yes	Yes	Conservation	Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags	No
4708	Platform and Terrace Complex	Agriculture / Ceremonial	15	Yes	Yes	Interpretive	Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags	No

Table 1123. Summary of Historic Properties and Associated Preservation Measures (Cont.)

SIHP No.	Formal Type	Probable Function	Buffer (ft.)	Buffer Markers	Signage	Preservation Type	Comment	Within Petition Area
4709	Historic Hydro-Electric Plant	Historic Agriculture	0	No	No	Conservation	Preservation as an operating water system	No
4710	Habitation Complex	Agriculture / Burial	30	Yes	Yes	Interpretive	Trail leading to a viewing platform overlooking the site complex for the general public	No
4712	Terrace and Mound	Agriculture / Burial	30	Yes	Yes	Conservation	Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags	No
4713	Rock Shelter	Temporary Habitation	15	Yes	Yes	Interpretive	Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags	No
4714	Rock Shelter	Temporary Habitation	15	Yes	Yes	Interpretive	Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags	No
4715	Cemetery	Burial	30	Yes	Yes	Conservation	Landscape buffer; improved gate at the base of the old access road	No
4716	Terrace and Wall	Boundary/Habitation	15	Yes	Yes	Interpretive	Boundary to be marked with pre-cased concrete blocks and hard plastic identification tags	No
4718	Heiau Complex	Ceremonial	100	Yes	Yes	Interpretive	Cinder path leading to a viewing platform overlooking the <i>heiau</i> for the general public; interior restricted to Native Hawaiian traditional cultural practices; Buffer markers to consist of a native hedge and/or boulders; design and implement drainage measures to divert runoff	Yes
4758	Historic Cemetery	Burial	60	Yes	Yes	Conservation	Buffer markers to consist of a native hedge and/or boulders or other form of demarcation as approved by SHPD and the MLIBC; design and implement drainage measures to diver runoff	Yes

Table 1123. Summary of Historic Properties and Associated Preservation Measures (Cont.)

SIHP No.	Formal Type	Probable Function	Buffer (ft.)	Buffer Markers	Signage	Preservation Type	Comment	Within Petition Area
4822	Kaloko o Kapa'iki	Pond	0	No	Yes	Interpretive	Bound by existing roads and maintained as a drainage basin by the State of Hawai'i	No
4823	Marsh/ Lagoon, Olowalu	Lagoon	15	No	No	Conservation	Originally intended for data recovery (D.L. Fredericksen and Fredericksen 2000b: Table 4); Olowalu Elua Associates, LLC opted to preserve the site with the caveat that data recovery was to be the responsibility of the landowner	Yes

It is undetermined what the intended form of preservation for SIHP -01200 (Olowalu Petroglyph Complex) and -01201 (Rock Shelter) will be, due to the site extent of the Olowalu Petroglyph Complex makes permanent buffer markers difficult.

Interim Protection Measures:

During construction the following interim protection measures will be implemented:

- Temporary fencing demarcating the edge of the buffer;
- Flush cutting of non-native trees within the preservation areas should vegetation clearing be required;
- Notification to SHPD in writing that interim protection measures are in place; and
- Notification to construction crews, both written and verbal, of the following items concerning nearby historic properties:
 1. The location of the site;
 2. A description of the designated buffer zone; and

3. Avoidance instruction with an emphasis on the caution needed when working near these sites.

Long-Term Preservation Measures:

Long-term preservation measures shall follow the appropriate Secretary of the Interior's Standards for Historic Preservation Projects and include the following:

1. Maintenance measures to be followed;
2. Methods for clearing vegetation;
3. The manner in which litter is controlled;
4. Access to the site and possible use of the site for cultural practices, if appropriate;
5. Approaches to interpret and inform the public about the site, if appropriate;
6. Permanent marked markers, if appropriate;
7. If appropriate, provisions to address potential future impacts and site stability; and
8. Provisions for reasonable monitoring of site integrity by the person or agency, and SHPD inspection to assure compliance.

For details on the long-term preservation measures, refer to **Table 1123**, Summary of Historic Property Properties and Associated Preservation Measures.

Field Inspection and Recommendations:

The study by CSH included a field inspection of the previously recorded historic properties within the Master Plan area (encompassing both mauka and makai lands) that may be directly or indirectly affected by ground altering activities associated with construction and development. Historic properties located in the OCR as it encompasses Olowalu Valley were not examined.

Appendix “F-1G-1”, Table 5 (p. 33) summarizes the historic properties revisited.

Efforts have been made toward protection of historic properties designated for preservation. Results of the field inspection show that long-term preservation measures have been partially implemented. **Table 1224** summarizes the findings of the field inspections.

Table 1224. Summary of Field Inspection Findings

SIHP No.	Current Condition	Interim Preservation Measures	Long Term Preservation Measures	In Petition Area
4	Fair to Good	Partial	None	No
1602	Remnant to Fair	Not Applicable	Implemented	No
1603	Remnant to Fair	Not Applicable	Partially Implemented	Yes (portion)
4693	Overgrown	Not Applicable	Partially Implemented	No
4694	Remnant to Fair	Not Applicable	Partially Implemented	No
4695	Good	Not Applicable	Partially Implemented	No
4700	Fair to Good	None	None	No
4701	Fair to Good	None	None	No
4712	Fair to Good	None	None	No
4715	Fair	None	None	No
4718	Remnant	None	None	Yes
4822	Overgrown	In Place	None	No

During the field inspection, four (4) previously unrecorded historic properties were found consisting of one (1) possible retaining wall (CSH-1), two (2) areas of branch coral surface scatters (CSH-2 and CSH-3) observed atop exposed bedrock west and northwest of SIHP -4699 (Habitation Complex), and one (1) plantation-era reservoir (CSH-4). CSH made recommendations on three (3) of the sites.

Inspection of the immediate surrounding area did not identify a clear source for the scatter material and the information nature of these features make an interpretation of possible function difficult at this time. CSH recommended the following:

Sites CSH-2 and CSH-3

- Continued consultation with lineal and cultural descendants of Olowalu Ahupua`a to aid in understanding the traditional land use and possible relationship between the presence of these scatters in the context of the surrounding landmarks and adjacent properties.
- Archaeological Inventory Survey level documentation of the newly identified cultural material scatters.

Further, during field inspection of SIHP -4718 (Heiau Complex), a previously undocumented historic plantation-era reservoir was identified south-southwest of the site. Construction of the reservoir consists of cut basalt brick and mortar on the interior and large subrounded basalt boulders, both drystacked and mortared, on the downslope face of the reservoir. According to CSH, the historic reservoir is located in an area that is conceptually planned for a traffic intersection managed by a round about. As a conceptual plan, it can be revised to accommodate recommendations from SHPD.

Prior to development, CSH recommended the following:

- Consultation with SHPD, Architectural Branch regarding the documentation requirements of the reservoir.
- Consultation with the lineal descendants and community of Olowalu Ahupua`a with regard to potential preservation commitments related to historic plantation infrastructure.
- Continued consultation with the Architectural Branch of SHPD regarding other previously unrecorded historic plantation infrastructure features within the project area.

As the Master Plan for Alternatives 1 and 2 progresses through the land entitlement process, additional archaeological work is anticipated to ensure all historic and cultural resources are documented and appropriate mitigations implemented.

112. Cultural Assessment

a. Existing Conditions

The OCR was established and incorporated in the State of Hawai'i in January 2000. The objective of the non-profit OCR is the preservation and protection of the historical, cultural, and spiritual resources within the Olowalu Ahupua'a. Further the mission statement of OCR is:

To perpetuate the traditional and customary practices of "Kanaka Maoli" of these Hawaiian Islands, and promote opportunities to regain the spiritual connection of "malama aina" of our ancestors by insuring these beliefs and customs are passed down to future generations.

The cultural beliefs, customs and practices are being protected and perpetuated in the OCR in accordance with their mission statement.

A Consultation Plan for Assessing Potential Cultural Impacts (CI) was prepared by Cultural Surveys Hawai'i, Inc. CSH. See **Appendix "GH"**. After filing the Draft EIS, CSH implemented the Consultation Plan and prepared a Cultural Impact Assessment (CIA). See **Appendix "H-1"**. According to the CI and CIA the oldest place names held meaning and told the story of an area prior to European contact. A study of the place names of the Olowalu Ahupua'a may lead an insight into the stories, patterns of life and land use. **Table 1325** identifies some of the significant places within the Olowalu Ahupua'a.

Table 1325. Place Names

Place Name	Translation
Lāhainā	<i>Haina</i> literally translated as “cruelty” and <i>la</i> as “day” or, alternatively <i>haina</i> as “merciless” and <i>la</i> as “sun”
`Awalua	Literally is translated as “double harbor”
Halepohaku	Literally, “stone house”
Hawaiiikeke (‘ili)	<i>keke`e</i> : a redup of <i>ke`e</i> (Pukui and Elbert 1986:143) which means crookedness (Pukui and Elbert 1986:141), possibly a reference to the distinctive bend in the ‘ili boundary (see also x), an ‘ili name associated with LCA 5829E: Apana 1 and 2 to Kawehena located within Olowalu Valley;
Hekili Point	<i>Hekili</i> is literally translated as “thunder”
Kaluaaha (‘ili)	Literally, “the gathering pit”; an ‘ili of LCA 1742: Apana 2 to Z. Kaauwai and LCA 5829H: Apana 1 to Nahue located in the area of the former Olowalu Mill Site.
Kaluakanaka	<i>Kalua</i> is translated as “the pit” and <i>kanaka</i> is translated as “human being” (Pukui and Elbert 1986:127). Place name of where John Clark resided (LCA 240) and potentially the location of the burial ground of those slain during the Metcalf Massacre (Mr. Hinano Rodrigues, personal communication, September 24, 2012; see also Section 4.1.2.3 Politics and Warfare)
Kamani (‘ili)	A large tree (<i>Calophyllum inophyllum</i>) which produced a hard wood that was formerly made into calabashes (Pukui and Elbert 1986:125); An ‘ili name associated with LCA 6728: Apana 1 to Mahulu, LCA 1742 Apana 1 to A Kaauwai, LCA 5829E: Apana 3 to Kawehena, LCA 8573: Apana 1 to Kailiula, LCA 8817: Apana 1 to Kanakaole, LCA 6058: Apana 3 to Peekauai, LCA 5829: Apana 3 to Haole
Kapa`iki	Translated as “the small enclosure” a section or <i>mo`o</i> of <i>ali`i</i> lands at Olowalu Ahupua`a (Mr. Hinano Rodrigues in Lee-Greig and Hammatt 2006)
Kaunukukahi (‘ili)	An ‘ili name associated with LCA 8817: Apana 2 and 3 to Kanakaole, LCA 5952: Apana 1 and 2 to Minamina, LCA 6728: Apana 2 to Mahulu, LCA 6058: Apana 4 to Peekauai
Kuekue (‘ili)	An ‘ili name associated with LCA 8573: Apana 2 to Kailiula
Līhau	Literally, “a gentle cool rain”, a gentle rain considered favorable for the work of fishermen (Emerson 1909:241)
Maomao (‘ili)	Literally a type of fish, a variation of <i>mamao</i> or far, calm, clear (Pukui and Elbert 1986:241); An ‘ili name associated with LCA 7719: Apana 1 to Haia
Mōpua	A traditional village of Olowalu and translates literally as “melodious”, currently a popular snorkeling spot
`Ōhi`a (‘ili)	Two kinds of trees, ‘ōhi`a`ai (<i>Eugenia malaccensis</i> mountain apple) (Pukui and Elbert 1986:277) and ‘ōhi`a`lehua (<i>Metrosideros macropus</i> , <i>M. collina polymorpha</i>) (Pukui and Elbert 1986: 199). Found in the forested regions, the fruit of the ‘ōhi`a`ai was prepared by splitting and drying it in the sun (Pukui, and Elbert 1986:277). The wood of the ‘ōhi`a`lehua is hard and once used for images, spears, and mallets (Pukui and Elbert 1986:199). An ‘ili name associated with LCA 6058: Apana 1 to Peekauai and claim 10127 by Makaniahloha.
Olowalu (<i>ahupua`a</i>)	Literally, “many hills”
Pākalā	Literally translates as the “sun shines”, a place located just after Mōpua and before Kapa`iki
Pa`apa (‘ili)	An ‘ili and stream name associated with LCA 9906: Apana 2 to Pikao
Paumaumau (‘ili)	An ‘ili name associated with LCA 9906: Apana 1 to Pikao and LCA 8546: Apana 1 to Kaawili
Pu`u Kilea	Literally, “small but conspicuous hill”, cemetery
Ulaula	Literally, “red”
Wailoa (‘ili)	Literally, “long water”; An ‘ili name associated with LCA 5829: Apana 4 to Haole

He Mo`olelo no Olowalu

At Olowalu the *mo`olelo* (traditions) revolve around the surrounding mountains and the elemental characteristics of this *`aina* (land) which has been known as a *pu`uhonua* or refuge of Maui since ancient times. (Ladana 1858) The strong wind of Olowalu is mentioned in several proverbs of the area and is a significant element for the *kama`aina* of this land and by others who did not reside in the area.

At Olowalu, Līhau is a prominent and picturesque mountain peak located toward the back of the valley. According to the CI, so prominent were the *`ōhi`a* lehua blossoms of Līhau that it was said the rich color of the blossoms would reflect onto the waters of Ka Lae Hekili and turn the water red.

Līhau and Eeke

Prior to her incarnation as a mountain peak, Līhau was a woman who had a child with Eeke (the summit crater of the West Maui Mountains) named Pu`ulaina, a prominent landform in Wahikuli Ahupua`a. Fornander (1919) recounted the following story of the birth of Pu`ulaina and the transformation of Līhau.

Eeke and Līhau were man and wife. After Līhau gave birth to Pu`ulaina, Eeke committed adultery with Puuwaiohina of Kaua`ula who was the younger sister of Līhau. Because of this, Līhau thought to choke the child to death, so the two (2) of them could go on and commit mischief. This led to Eeke and Līhau arguing. Eeke took the child to his mother, Maunahoomaha, and left him with her. After that their god, Hinaikauluau, placed a restriction over them; they were not to live together, nor were they to have any relationship with others. But after his order Eeke again committed adultery with Puuwaiohina. Because of this their god punished them by making Eeke a mountain and Puuwaiohina a mountain ridge prominent at Kaua`ula.

Subsequently, Līhau was possessed with love for their child and asked Maunahoomaha permission to meet her son. When she met her child she realized what a handsome man her son had become and gave him as husband to Molokini, one of the noted beauties of that time.

One of Pele's younger sisters saw how handsome Pu'ulaina was, so she asked Molokini to let her have him as her husband. Molokini refused and Pele changed her into a little island. When Līhau heard of this, she grieved for her daughter-in-law and went to consult Pele on the matter. But Pele replied gruffly: "If that is the case, then I say to you that you will die; also your son." Līhau was changed into a hill where Pele resided for some time and her son also died. Later, her son was changed to a hill and has remained such until this day.

Traditional Cultural Practices:

Ahupua`a

Settlement and land use within the Olowalu Ahupua`a functioned in the traditional sense of the *makai* to *mauka* configuration which took advantage of the variety of resources within the land division. Such resources and rights include marine resources and fishing rights in the coastal area, arable lands for crop cultivation, as well as, water and timber rights in the planting and upland zones, and valuable bird catching privileges at the higher elevations (Handy, et al.1991:48).

The general pattern was to maintain two (2) residences, a *makai* residence that could take advantage of the marine resources and a *mauka* residence to maintain the staple taro crops and other agricultural pursuits. The primary activities within the area would have centered on marine resource gathering, domestic activities during the hottest times of the day, and agricultural pursuits associated with maintaining a home garden and the *mauka lo`i* and *kula* agricultural lands.

Traditional Trails

Trails served to connect the various settlements within and between the ahupua`a and districts. Although the *Alaloa*, or foot trail, likely existed and encircled the island along the coastline, the preferred mode of inter-ahupua`a travel for leeward environs of West Maui was through an upland route and/or major valleys of the West Maui Mountains. Traditional trails along the coastline were more frequently used for intra-ahupua`a travel between the coastal reaches and permanent habitation locations to the upland agricultural

area. These trails generally followed the course of each major stream and were more often than not marked by petroglyphs along the trails as evidenced along the bedrock exposures of Olowalu Gulch.

Traditional Habitation and Agriculture

The *ali`i* and *maka`āinana* were attracted to the Lāhainā District by its natural resources and geographic position. Olowalu, along with the three (3) other major waterways of the Lāhainā District (Ukumehame, Launiupoko, Kaua`ula), provided a productive leeward environment for the cultivation of a wide range of agricultural goods.

Within Olowalu Valley and along the original stream route, traditional Hawaiian agricultural practices were fairly intensive and based primarily on *lo`i* agriculture followed by dry land cultivation. There were *kuleana* claims for a minimum of 1,124 *lo`i kalo* (pond field taro patches), 28 *`uala* (potato) patches, 27 *kula* (open field or pasture), and 31 plots of land with unspecified land uses (e.g. *mo`o*, *pā*, *mala*, *mahina*). Other resources that appear to have been maintained and cultivated in addition to those listed above include *kalo malo`o* (dry land taro), *mai`a* (banana), *wauke* (paper mulberry, *Broussonetia papyrifera*), and *`ulu* (breadfruit, *Artocarpus spp.*) as well as explicit claims for *hala* or *pūhala* (Screwpine, *Pandanus tectorius*), *hau* (*Hibiscus tiliaceaus*), *niu* (coconut, *Cocos nucifera*), *kou* (*Cordia subcordata*), and *kukui* (*Aleurites molucanna*). The cultivation and maintenance of plant resources such as *wauke*, *pūhala*, *hau*, *kou*, and *kukui*, along with certain parts of the *niu* would have provided a more utilitarian purpose rather than dietary.

Wauke was used to make *kapa* (cloth). *Hala* or *pūhala* was a versatile plant whose parts were useful in a variety of ways, from making household items (i.e. cordage mats, baskets, and sleeping pillows), for use in personal adornment (i.e. paint brushes for *kapa* and *lei* making), and as thatch finish.

The cultural participants noted that use of the *hau* plant is associated with Olowalu as a traditional practice and sustainable conservation effort. The *hau* plant was useful for encouraging shoreline retention and creating shade in an environment where the sun is notably fierce. Though not water resistant or very durable, cordage produced from *hau* was a simple type of cordage that could be made with little training and likely put into service on a daily basis,

from *lei* making to hauling dugout *koa* logs from the mountain to the shoreline. *Hau* was also useful for floats and used in the manufacture of the outrigger for the canoe (Abbott, 1992).

Cultural participant Al Lagunero pointed out the *kūkui*, *māmaki*, *ko`oko`olau*, *`uhaloa*, and *ti* would also have been present in the valley of Olowalu. Though *`uhaloa* is often dismissed as a weed, this plant has important medicinal value when ingested as a tea. With regard to native plant habitat, *tī* would have been found along the stream course, *māmaki* would have been found where the water collected, and *ko`oko`olau* would have been found along the ledges. The presence of *kūkui*, was not only important for the commonly known domestic uses but for the *mahi`ai* aspect of traditional culture as well. The plant was purposefully planted on the slope above the valley floor so that the nuts would run downhill and then become compost for the *`uala*. Mr. Lagunero also points out that the *kūkui* also played a role in not only keeping the water cool but also as mechanism for creating a fish habitat *makai* and further illustrating the link between *iluna* (up), *ilalo* (down), *mauka* (inland), and *makai* (sea).

Land commission awards for the coastal zone of Olowalu Ahupua`a indicate scattered lots and small agricultural lots along the former stream and larger plots for *lo`i kalo* or taro cultivation within the valley. The smaller agricultural plots were presumably used for home gardens while *kula* agriculture or dryland crop cultivation occurred at *kuleana* lots situated further away from the primary streams. *Lo`i* agriculture occurred at *kuleana* lots situated closer to the stream outlet. Traditional agriculture is being re-established in the OCR along with the re-establishment of native habitat.

Gathering Resources

According to the CIA, most plant gathering occurred at the upper elevations and within the gulches. Such as noted previously, plants include *wauke* (paper mulberry, *Broussonetia papyrifera*), *hala* (*Pandanus tectorius*) and *`ohia* (likely *`ohi`a lehua*, *metrosideros polymorpha*). Plant gathering along the coast was primarily for the different *limu* (seaweed) species such as *limu līpoa* (*Dictyopteris plagiogrammas*), *limu kohu*, *līpe`ep`e* (*Lawrenciella succisa*), *māne`one`o*, and *manauea*. Cultural participant Adeline Rodrigues noted *wawae`ole* (*Huperzia mannii*) once grew along the shoreline fronting Kapa`iki

but this type of *limu* is no longer present. She also remembered *lipe`epe`e* near the wharf. Cultural participants felt the *limu* resources were negatively affected by sunscreen lotions and residues from recreational ocean users. *Limu* gathering for subsistence purposes is still a common occurrence at Olowalu.

The coastal reaches, were rich in marine resources. Most of the fishing grounds lying between Lāna`i, Kaho`olawe, Ukumehame, and Lāhainā were only one (1) to two (2) miles apart (Daniel Kahā`ulelio in Maly and Maly, 2003). Notable for an accessible low coastline and well developed reef system, besides *limu* gathering Olowalu would have provided excellent opportunities for fishing.

With regard to traditional fishing practices, such methods included *paea ea*, *kukui hele pō*, and *ho`omoemoe*. *Paea ea* fishing, or bambooning, is generally a low-impact fishing method that was carried out from the shoreline using a straight pole or bamboo. Commonly practiced in Olowalu, during traditional times up until the present, this type of fishing was only conducted on nights of the new moon, a phase of the moon that is referred to as “dark night” or “pitch dark night”. *Paea ea* fishing would be for *ū`ū* (menpachi) or *papio* (*Caranx spp.*) along the fishing grounds between Olowalu and the Pali. *Kukui hele pō*, also called *lamalama*, is a fishing method that was conducted at night by torch light and spear.

Olowalu was well known for the abundance of *manini* (convict tang, *Acanthurus triostegus*) and *akole* (*kole*, yellow-eyed surgeon, *Ctenochaetus strigosus*). It was noted that the schools were so thick that only a single pronged spear was necessary to catch what you needed. Other reef resources noted included *loli* (sea cucumber, *Holothuroidea*), *wana* (black sea urchin, *Echinothrix diadema*), and *he`e* (squid). The reef between Ukumehame and “Cut Mountain” (Olowalu Landfill) also provided one of the best *he`e* grounds on Maui.

In addition to subsistence resources, the waters of Olowalu are also a well known *manō lālākea* (black tip reef shark, *carchartinus melanopterus*) nursery along Hekili Point and are often frequented by tiger sharks just off of the fringing reef. In addition to the shark nursery, the reef area is an important breeding ground and habitat for *hihimanu* (manta ray).

Beyond the reef, Daniel Kahā`ulelio writes of fishing for *akule* (bigeye scad, *Selar crumenophthalmus*) off of a place called Unahi at Olowalu (Kahā`ulelio 2006). *Akule* ran in large schools and catching this type of fish could only be accomplished through the combined efforts of the community. *Akule* fishing would require at least two (2) manned canoes and a *kilo* (spotter), who was either stationed on the prominent headland or in a canoe, to guide the fishermen toward the grounds where they would surround the fish with curtain nets and draw them toward the shore to those who waited to help with the catch (Kahā`ulelio, 2006).

Finally, the presence of Kalokoi`aokapāiki, the *ali`i* fishpond at Kapa`iki and an unnamed fishpond near Awalua also indicates that aquaculture, though reserved for the *ali`i*, was also a part of the traditional subsistence of Olowalu. It was explained that Kalokoi`aokapāiki (SIHP 50-50-08-4822), remnants in front of Adeline Rodrigues home, belonged to the Chiefess Kalola, sister to Kahekili and wife to both Kalaniopu`u and Ka`opuiki. Remnants of the former fishpond currently functions as a drainage basin between the present alignment of Honoapi`ilani Highway and the access road to Kapa`iki Village.

Cultural participants expressed concern that traditional fishing practices, such as *paea ea*, *kukui hele pō*, and *ho`omoemoe* would not be able to continue for the Olowalu families and there may be potential impacts to the marine resources and continuation of *lawai`a* (fisherman) traditions and maintenance of the integrity of the fishing grounds. Of major importance to participants was maintenance of water quality and the health of the fringing reefs.

Traditional Trails

Trails served to connect the various settlements within and between the ahupua`a and districts of the Hawaiian Islands in traditional times. While the Alaloa, or foot trail, that encircled the coastline likely existed along the coastline in Olowalu, the preferred mode of inter-ahupua`a travel for leeward environs of West Maui was through an upland route and/or major valleys of the West Maui Mountains, such as during the Battle of Kepaniwai and the escape of Keōpuōlani through Olowalu Valley.

Traditional trails along the coast were more frequently used for intra-ahupua`a travel between the coastal reaches and permanent habitation locations to the

upland agricultural area. Both Mr. Hinano Rodrigues (Lee-Greig and Hammatt, 2006) and Mr. Al Lagunero indicated that these trails generally followed the course of each major stream and were more often than not marked by petroglyphs along the trails as evidenced along the bedrock exposures of Olowalu Gulch. Mr. Lagunero further noted that there may be a possibility that the historic waterways, or plantation irrigation systems, that parallel the coastline may also share the same route as traditional trails that moved laterally. He points out that those who would have engineered and build these waterways may have followed routes that they were already familiar with. Concern was raised that if the road goes away, then to the detriment of the continuous traditional knowledge, the memories of walking the road would also fade. It should be noted although the highway is proposed to be realigned further mauka, the existing Honoapiʻilani Highway will be retained and connected to the new highway.

Traditional Hawaiian Sites

Past cultural resource management investigations have documented the rich archaeological resources of the area. The sites within Olowalu Valley remain, for the most part, intact and under preservation, while modern sugarcane cultivation have greatly modified the traditional landscape along the alluvial plain mauka of the highway and shoreline areas makai of the highway. Such activities have largely removed any surface remnants that may have represented traditional Hawaiian habitation or agricultural practices prior to Western contact which were likely present along the alluvial plains and historic route of Olowalu Stream within the current project area. However, subsurface deposits can be found in a disturbed context within the plow zone and an intact context below the plow zone. Therefore, the fact that there was extensive ground disturbance associated with sugarcane cultivation from the historic era up until modern times does not preclude the presence of historically significant cultural deposits nearer to the coastline at a subsurface level (Lee-Greig, 2012).

Traditional Burial Practices and Ceremony

Kaʻiwaloa Heiau and a smaller *heiau* complex, are located within the project area, both of which have been noted as having associated burial internments. There are several burials within the project area, the most prominent are the

preservation area adjacent to the campgrounds of Camp Olowalu and at, the summit of Pu'u Kilea, Awalua Cemetery, a historic plantation era cemetery, and Olowalu Church cemetery including the burials extending beyond the church and cemetery boundaries which are documented in the AIS.

There is some concern with regards to the boundaries of the Olowalu Church graveyard in that the graves extend beyond the recorded metes and bounds for the currently known boundaries of the cemetery. When the Territory of Hawai'i transferred the two (2) acres of land to the Olowalu Church, they drew the map to exclude the land behind the church sanctuary which contained the graves. The plantation planted sugarcane over the former cemetery. The AIS documented the burials in the former sugarcane land.

Traditional Hawaiian Spirituality and Ceremony

Ka'iwaloa Heiau is believed to have been a *heiau* of the *luakini*, or sacrificial type. When the king wished to worship under the ritual of Kū, the *luakini heiau*, a war temple, was built for this rite. The Kū ritual was *'o'ole'a* (very rigid or strict) and the priests of this order, also called the priests of the order of Kanalu (the first priest of the order of Kū), were distinct from the other priests who they outranked. It was an arduous task to make a *luakini*; a human sacrifice was necessary; and it must be an adult, a law-breaker (*lawe-hala*).

In the old days, the warriors would walk in the early morning to the ocean by torch light to *hi'uwai* (cleanse or purify) their weapons in the water and at the same time they would *hi'uwai* themselves. By carrying the torch light, the warriors would also let those at the *heiau* know that they are ready both physically and spiritually.

Today, the spirits of these warriors would manifest during the Rising of Kū and walk *mauka* to *makai*, between the *heiau* and the sea. Those nights that are sacred to Kū fall on the 3rd to 6th night of the lunar calendar. Participants also shared stories of how *akua lele* (fireballs) at Olowalu would shoot straight up from Ka'iwaloa Heiau, which was a tool of *'anā'anā* practices or black magic and was used during fighting between *kahuna* or families.

The caretakers of Ka'iwaloa Heiau noted that they had started efforts to re-vegetate with *ti* plants and gourds; however, access to the water system was

cutoff and were no longer able to maintain the plants. During a field visit to Ka'iwaloa Heiau, the caretakers felt that it was time to bring the *heiau* back and *malama* (take care of) the *heiau*. They indicated that they would like to begin restoration of the *heiau*, first and foremost of which would be to expose the *niho* stones (original stone wall) by removing the boulders that had been pushed along the exterior portions of the enclosing walls by plantation field clearing activities. With regard to access, it was noted that a traditional access along the cliffside rather than through the residential area is desired, and a formal establishment of a community right-of-way to conduct yearly ceremonies at the *heiau* and for the families of the *ahupua`a*, who wish to go up to the *heiau*. The Season of Kū and Season of Kane are the two (2) times in the year in which traditional Hawaiian ceremonial practices and protocols are carried out at the *heiau*. The Season of Kū is longer so the ceremonies to be performed at Ka'iwaloa during that time would be longer. Caretaker Ke'eumoku Kapu noted that Ka'iwaloa is a living place and stressed the necessity that access between Ka'iwaloa Heiau and the ocean be un-impeded as ritual practices required clear pedestrian access.

Mr. Al Lagunero noted that within the OCR there is a *kahaleopapa* or Hale o Papa that has not been documented in previous studies. Where the *luakini heiau* was restricted to the rituals of men, the House of Papa, was the temple dedicated to Papa, or Haumea, and the place in which the rituals of women were received and observed. With regard to rank and the *kapu* of this *heiau*, only the highest ranking chiefess, whose *kapu* equaled that of god, was allowed to enter the Hale o Papa (Kamakau, 1992).

The rituals of the male through the *luakini* and the rituals of the female within the Hale o Papa are both represented within Olowalu Ahupua`a.

b. Potential Impacts and Mitigation Measures

According to the CHCIA, the cultural setting clearly indicates that the lands of Olowalu Ahupua`a are steeped in tradition and settled, and were cultivated intensively during pre-contact and early historic times. These lands offer abundant ocean resources, productive lands for traditional Hawaiian agriculture, and rich forest resources.

Traditional Hawaiian agricultural practices are noted and archaeological and ethnographic evidence reveal that wetland taro or *lo`i* and *kula* crops were cultivated in the stream valleys and flood plains of the project area. During the plantation era, agriculture in Olowalu was changed to large-scale sugarcane cultivation by the sugar plantations. The demise of Pioneer Mill ended large-scale sugarcane cultivation and left much of the land fallow. However, through the efforts in the OCR traditional, Hawaiian agriculture is being re-established, along with the restoration of native habitat, such as planting of native plants within the OCR.

There are traditional cultural practices in the Olowalu Ahupua`a that need to be preserved and safeguarded. Traditional access between the mountains to the ocean needs to be maintained and the abundant ocean resources and rich forest resources need to be preserved and protected to ensure that the quality of these resources are not degraded or over-used by the new residents and public. However, an increase in traditional Hawaiian fishing and gathering practices by modern Native Hawaiians are viewed as a good thing.

With regard to the perpetuation of traditional Hawaiian agriculture within the valley and access to the mauka resources, it should be noted that the establishment of the OCR consists of 74 acres of cultural lands and cultural sites from mauka to makai within Olowalu valley, and follows the (current) streambed to the ocean.

It is envisioned that the OCR will ensure that access between the mountains and ocean is maintained and preserved in perpetuity along the current course of Olowalu Stream. ~~and work within~~ Further, it is anticipated that the reopening of *lo`i kalo* within Olowalu Valley, restoration of native plants and historic properties, and educational and outreach programs developed by members of the OCR will perpetuate traditional Hawaiian agriculture and safeguard the natural resources in the Olowalu Ahupua`a for future generations. Within the OCR, efforts at protecting the archaeological sites, repairing and restoring the *lo`i*, and perpetuation of the traditional Hawaiian culture from mauka to makai, encompassing the heavens and land is ongoing.

With regard to Alternatives 1 and 2 in relation to the needs of the OCR and ahupua`a lands as a whole, the following recommendations were put forward regarding access to stream water:

- There should be an ample supply of fresh water from the stream for growing *kalo* and other sustainable foods.
- There should be an ample supply of water for native plants and reforestation.
- There should be an ample supply of fresh water in the stream from mauka to makai for sustainability of native flora and fauna within the stream and the ocean.

Cultural participants stated that the Olowalu stream flow is necessary for the sustainability of *limu* resources as well as enhancement of the quality of the reef. The participants recommended increased stream flow into the near shore waters. The proposed use of recycled water for irrigation purposes and the development of new ground water sources in the OTMP will help replace some of the water that is currently being diverted for such uses thus releasing additional water for increase in the stream flow from *mauka* to *makai*. Although it will not be to the level that were known prior to pre-western contact this increase in stream flow is expected to enhance the Olowalu Stream system along the stream margins and into the near shore ecosystem.

With regard to the nearshore and offshore resources, concerns regarding sediment-laden runoff, the potential development of injection wells to manage sewage and chemically treated water (e.g. swimming pool water), and intensified recreational and subsistence use were voiced by those concerned about the build-out and inherent population increase resulting from the OTMP.

In order to address concerns about sedimentation, precautionary measures to limit the amount of silt or dust resulting from construction activities need to be taken to prevent shoreline and off-shore fishing ground degradation and contamination due to increased sediment in the water. To this end, the OTMP will implement appropriate BMPs during construction activities. In addition to this, Polanui Hiu suggested the formation of an Olowalu Community Marine Management Group as a community group that could function as a shoreline monitoring check both during construction and periodically following construction. The Applicants are supportive of such a management group and propose to continue discussions with Polanui Hiu, cultural practitioners, the residents of Olowalu, as well as appropriate agencies such

as the Department of Land and Natural Resources (DLNR), throughout implementation of the OTMP.

In response to concerns expressed that injection wells would be utilized, it was clarified that the future wastewater treatment plant (WWTP) proposes to utilize a constructed wetland and soil aquifer treatment system to treat and dispose of excess wastewater and no injection wells would be utilized. Recycled water from the WWTP will be used for irrigation purposes.

Due to concerns regarding increased activities and recreational use of the coastline by future residents and potential escalating pressure on the already over-extended resources of the area, Polanui Hiu encouraged the implementation of shoreline restrictions, similar to traditional *kapu* seasons or periods, as a means to maintain the health of the environment and allow recovery. It was also suggested that an area be specifically set aside for traditional cultural fishing practices. Mr. Leslie Kuloloia advocated for the formation of a protected area that extended from the shoreline to 20 fathoms out. Also, cultural practitioner Michael Lee suggested that besides future scientific assessments there should be future assessments of *makai* resources by the Native Hawaiian cultural practitioners. The integration of these scientific and cultural assessments will provide a holistic view and understanding of the current state of the marine resources from both the Western scientific and traditional perspectives and provide the understanding necessary to move forward with resource management decisions based on research and generational knowledge. These recommendations can be further explored in conjunction with a proposed Olowalu Community Marine Management Group. As noted previously, the Applicants are supportive of such a management to group and propose to continue discussions throughout implementation of the OTMP.

As an overall statement, cultural participants John and Rose-Marie Duey provided the following comments:

- There should be a greater setback from the ocean, beyond the 100 ft. that is protected by State law. This setback would ensure protection from activities such as landscaping and associated chemical use and waste; in addition to stonewall and man-made pavements and structures.

- Swimming pools, as well as the dumping of chemically treated water of any sort into the ocean should not be allowed as chemical leaked or released in the ocean destroys sea life.
- Commercialized ocean activities from shore or ocean should be denied for preservation of these corals and reef life.

In response to the foregoing comments, an existing minimum 150 ft. shoreline setback will be maintained in the development of the Master Plan, which is in excess of the State law of 40 feet. Stonewalls, man-made pavements (except for public access walkways), and structures are not proposed within this setback area. Also, as noted previously, the use and disposal of chemicals and waste products from landscaping and water features, and commercialized ocean activities can be defined in greater specificity during the implementation of the OTMP.

Cultural participants also expressed concerns that residential lighting and noise from the proposed OTMP may impact the subsistence practices of those who have traditionally fished on certain nights, as well as observations of the night sky for ceremonial and astronomical purposes. In order to minimize light pollution of the night sky, the OTMP proposes to implement designs for outdoor lighting that will consider the need to respect the night sky and the placement of lighting fixtures in common and public areas will need to minimize light “spillage” across proposed project boundary lines and into the shoreline.

According to the CIA, concerns were raised regarding maintaining open space and visual connection mauka to makai and the potential impacts building heights associated with the Master Plan. The proposed built landscape will modify view conditions with the placement of infrastructure and structures where there are none. To the greatest extent possible, mitigation of visual impacts is proposed through the implementation of an architecturally integrated plan which incorporates the following:

- Establishing standards for building heights, as follows:
 - Multi-story buildings and structures will only be allowed in a limited area within the neighborhood town centers;

- Heights, sizing, and massing of the commercial/business buildings and multi-family residential structures within the neighborhood town centers will be restricted to two (2) stories;
- Exceptions to this height limit will be to allow for a few 3-story residential buildings to increase the number of affordable housing units which will be situated in areas that minimize any significant adverse impacts upon *mauka* and *makai* views;
- Landscaping, parks, open space corridors and street alignments will be oriented *mauka* to *makai* in order to preserve the scenic view from the mountains to the ocean;
- Orientation of the town centers will be maintained to preserve the view plane from Pu'u Kilea through the OCR and Ka'iwaloa Heiau in order to maintain a visual connection to Lāna'i and Kaho'olawe;
- Implementation of a Green Space Plan will relieve the massing and densities of the built environment, as well preserve open space resources such as the OCR, Olowalu Stream, and 150 ft. shoreline setback area;
- Relocation of Honoapi'ilani Highway along an alignment that will be built at an elevation higher than the existing alignment, at approximately 40 feet above mean sea level, which will also avoid impacting existing views in the area.

Development of the Master Plan for Alternatives 1 and 2 incorporates environmental systems that will not degrade the environment as well as practices to safeguard the environment from degradation from potential pollutants such as construction activities, stormwater runoff, etc.

It is also envisioned that the future educational facilities within the Master Plan for Alternatives 1 and 2 will incorporate lessons learned within the OCR as core components of its curriculum.

Also, cultural practitioners expressed concerns and recommendations relating to access, preservation and maintenance of Ka`iwaloa Heiau (SIHP 50-50-08-0004). The long-term preservation requirements for Ka`iwaloa Heiau include (1) a 100 ft. buffer, (2) markers, (3) signage, (4) interpretative preservation and (5) pathway or foot trail, viewing platform overlooking the heiau for the general public, pedestrian access to the heiau interior restricted to Native Hawaiian traditional cultural practices; buffer markers to consist of a native hedge and boulders.

Caretakers Ke`eumoku Kapu and Daniel Nahina of the Ka`iwaloa Heiau also requested consideration of the following additional preservation and access measures:

- Vehicular pullout below Pu`u Kilea as the focal point for signage and public education with access restricted to pedestrian access for cultural practices only. During the community field visit, a recommendation was made to have a docent present at this location to educate the public.
- In the event that some type of viewing platform is needed nearer to the location of the *heiau*, this platform could also be the foundation for the *lele* (altar) that is positioned at the southwest corner of the *heiau*.
- This location would be well away from the entrance and discourage public traffic within the *heiau*.
- Field boulders that were not a part of the original *heiau* construction but rather pushed into the area during former plantation field clearing activities would be appropriate for construction material.
- The location of the interpretive signage could be placed at either the viewing platform or pullout location below Pu`u Kilea and include a panoramic photo of the *makai* view shed from the *heiau* in its present condition. This panoramic shot would highlight prominent landmarks in the distance (e.g. Pu`u Ō La`i to the south, Molokini, Kaho`olawe, and Lāna`i along with an unimpeded view of `Alalākeiki Channel and Auau Channel) as such landmarks may have been important aspects of what was happening at the *heiau* prior to western contact.

- *A`ali`i* (*Dodonaea viscosa*) would be an appropriate plant species for the hedge that marks the permanent 100 ft. buffer as this particular plant is drought resistant and does well in leeward environments.
- Access along the cliffside, rather than through the residential area, is preferable. Formal establishment of this access as a “community right-of-way” is further recommended to conduct yearly ceremonies at the *heiau* and for the families of the *ahupua`a* who wish to go up to the *heiau*.
 - Pedestrian access to Ka`iwaloa Heiau must extend from the ocean and would like the access route to the *heiau* proper include the current alignment of the maintenance road.
 - The access route should be planted with tall palms along the Ukumehame side of the road to shield the practitioners and maintain the necessary privacy of the procession to the *heiau* from the landowners of the lots that are adjacent to Ka`iwaloa Heiau.
- Finally, Mr. Kapu has requested that in addition to the preservation buffer that is currently in place for Ka`iwaloa Heiau, an additional 20 ft. outside of the preservation buffer be designated a no-build area, similar to a construction setback so that encroachment into the preservation area is avoided.

Also, in connection with the cultural protocols of access and ceremony, Mr. Al Lagunero suggested the creation of a *mapele* within the 13 acres of the OCR that have been set aside as conservation lands, between the stream and the pali on the Ukumehame side of the valley. This area could be a place dedicated for prayer and *na koa* (warrior) practice under Mr. Kapu. Mr. Lagunero noted that the OCR has an alliance with and honors the Kupuna Council requests for *kahu* and *kuleana* for the Ka`iwaloa Heiau to be upon Ke`eumoku Kapu and Daniel Nahina. To increase the understanding of Loina Kane and *na koa* led by Ke`eumoku, Mr. Lagunero offered this area for the private use of the *na koa* and the *kahu* with *kuleana* for Ka`iwaloa. The OCR would maintain insurance as is.