

# HRS 343 Draft Environmental Assessment and Application for Special Management Area Permit

prepared in support of a *halau wa'a*  
(canoe house) located at

## Malama Cultural Park

TMK (2) 5-3-001:005  
Kaunakakai, Molokai, Hawaii

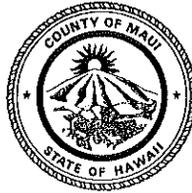
December, 2009  
[Revised August, 2010]

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**DEPARTMENT OF PARKS & RECREATION**

700 Hali'a Nako'a Street, Unit 2, Wailuku, Hawaii 96793

November 9, 2009

Mr. Michael J. Summers  
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115 North Market Street  
Wailuku, HI 96793-1717

**SUBJECT: ENVIRONMENTAL ASSESSMENT  
MALAMA CULTURAL PARK CANOE HALE  
TMK: 5-3-001:005**

Dear Mr. Summers:

Our department has reviewed your request and has determined to be the accepting agency for this project.

Should you have any questions or concerns, please feel free to contact me or Steve Grogan, Project Coordinator, at 270-6158.

Sincerely,

TAMARA HORCAJO  
Director of Parks & Recreation

Patrick Matsui, Chief of Planning and Development Division

TH:PTM:sg

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CHRIS HART & PARTNERS, INC.  
Landscape Architects

CC: Mike & Jason

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# I. PROJECT INFORMATION

## A. PURPOSE OF THE REQUEST

This HRS 343 Draft Environmental Assessment and Application for Special Management Area Use Permit has been prepared in order to assess the short and long-term impacts associated with the development of a structure consisting of two (2) *halau wa'a* (canoe houses) and a meeting facility, in addition to associated improvements including landscape planting, on-site parking, and related infrastructure on a 2.97-acre site located situated at Malama Cultural Park, TMK Parcel No. (2) 5-3-001:005, Kaunakakai, Molokai, Hawaii.

## B. PROJECT PROFILE

Proposed Project:	Canoe house
Existing Land Use:	Malama Cultural Park
Project Area:	2.97 acres
Access:	Hio Place; Kaunakakai Place

## C. REQUIRED LAND USE AND DEVELOPMENT PERMITS

The following land use, development permits and approvals are required for the project, and all, except building permits, are in the process of being obtained:

- Special Management Area (SMA) Permit
- Special Flood Hazard Area Development Permit
- Grading Permit
- Building Permits



**D. ACCEPTING AUTHORITY**

**HRA 343 Draft Environmental Assessment (EA)**

Agency: County of Maui  
Department of Parks and Recreation  
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Wailuku, Hawaii 96793  
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Contact: Mr. Patrick Matsui, Parks Planning  
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**Special Management Area (SMA) Use Permit**

Agency: Molokai Planning Commission  
c/o County of Maui,  
Department of Planning  
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**E. LAND OWNER**

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**F. APPLICANT**

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Mr. Bob Spear, Ph.D.



## **H. PRE-CONSULTED AGENCIES AND COMMUNITY GROUPS**

### **A. COUNTY OF MAUI**

1. Department of Planning
2. Department of Public Works
3. Department of Parks and Recreation



## II. DESCRIPTION OF THE PROPERTY AND PROPOSED ACTION

### A. PROPERTY LOCATION

The site of the proposed project is a 2.97 acre parcel that comprises a portion of Malama Cultural Park, TMK Parcel No. (2) 5-3-001:005, Kaunakakai, Molokai, Hawaii. Malama Cultural Park occupies a total of 11.727 acres of land situated west of Kaunakakai Place, adjacent to the State commercial harbor, TMK Parcel Nos. (2) 5-3-001:002, 3, 5, 97, 99, and 100, Kaunakakai, Molokai, Hawaii. (See: Figures No. 1, 2, and 3 “Regional Location”, “Aerial Location”, and “Tax Map Key”).

### B. EXISTING LAND USE

The project site is mostly vacant, with a small unused structure, concrete slab, concrete walkways, restroom building, and outdoor shower. The area of the site abutting the shoreline is used for landing, launching and storage of canoes. The larger Malama Cultural Park site has been previously altered by grubbing and grading activities, along with limited development including a restroom building. The Park is located in an area of existing business, industrial and residential development. Land uses immediately to the east of the site are primarily business-oriented, while the Molokai Yacht Club is situated on the adjacent parcel to the west. Kamehameha V Highway is situated north (*mauka*) of the Park site. The Kaunakakai Wharf lies adjacent and *makai* of the project site, to the southeast.

### C. LAND USE DESIGNATIONS

State Land Use Classification:	Urban ( <u>See</u> : Figure 4, “State Land Use Map”)
Molokai Community Plan:	Park ( <u>See</u> : Figure No. 5, “Community Plan Map”)



County Zoning:	Interim ( <u>See:</u> Figure No. 6, “Zoning Confirmation”)
Flood Zone Designation:	Zone C and A4 - Elevation 3’ ( <u>See:</u> Figure No. 7, “Flood Zone Map”)
Special Designations:	Special Management Area (SMA) ( <u>See:</u> Figure No. 8, “SMA Map”)

#### **D. PURPOSE AND NEED**

Malama Cultural Park was the subject of a Master Plan prepared by the Department of Economic Development and Tourism in the mid-1990s (See: Appendix A). The purpose of the original Master Plan was to develop a public park which would provide a focal point for Molokai’s history and culture. The cultural themes of the park would be focused on native Hawaiian antiquities as well as modern recreational activities popular on Moloka’i, including canoeing, hula, the *makahiki*, arts and crafts.

As of the present time, the Master Plan for the park has not been implemented to a significant degree. The Applicant therefore proposes to undertake construction of the proposed project to better accommodate ongoing canoeing activities at the park. The proposed *halau* will provide covered space for storage and repair of canoes that are currently stored along the shoreline, as well as meeting space for gatherings associated with paddling activities. The proposed action is consistent with the original Master Plan for the Malama Cultural Park, which calls for a canoe *halau* as part of the Park program. Further, it is hoped the proposed action may serve as a catalyst for future development consistent with the full vision of the Malama Cultural Park Master Plan.

#### **E. ALTERNATIVES**

The following alternatives were considered in planning the proposed project:

1. No Action: This alternative would forego development of the project.



*Positive Impacts:* By leaving the property in its existing undeveloped state, the short term impacts associated with construction would be avoided.

*Negative Impacts:* The community would forego any of the benefits associated with development of the property as proposed. Businesses and services in the Kaunakakai area and on the island would not benefit from any increased revenue that may accrue from future paddling events. No progress would be made toward furthering the original Master Plan vision of the Cultural Park.

2. Deferred Action: This alternative would delay development to a later time.

*Positive Impacts:* There would be no immediate construction-related impacts associated with development.

*Negative Impacts:* A delay in commencing development would result in uncertainties related to economic conditions and construction costs. In addition, the Applicant as a nonprofit organization is at risk of losing funding for the project with further delays in construction. Deferral of the proposed action would be financially burdensome; therefore, this alternative was dropped from consideration.

3. Alternative Site: This option would require that the applicant find and develop another parcel.

*Positive Impacts:* The short term and peripheral impacts associated with construction would be avoided.

*Negative Impacts:* The applicant does not currently have access to another suitable site. The time and financial costs involved in acquiring another suitable site could be prohibitive.

## **F. PROPOSED ACTION**

The subject development will consist of two (2) *halau wa'a* of approximately 2,210 square feet – one for storage of canoes, and one for canoe repairs – along with a meeting hall facility approximately 3,162 square feet in area. The development plans also call for associated improvements including grass-paved parking, access roadway, underground utilities, drainage system, and landscape planting (See: Figure No. 9 a-e, “Architectural Drawings”).



The proposed project will be developed in accordance with the County of Maui zoning performance standards for the Interim Zoning District and Molokai Community Plan standards for the Park District. Building height will be 25 feet at the apex of the roof. Total building floor area is projected at 7582 square feet, inclusive of both *halau* and the meeting facility. The dimensions of the *halau* buildings will be roughly 34 feet by 65 feet. The dimensions of the meeting facility will be approximately 34 feet by 93 feet (See: Figure No. 9 a-e, “Architectural Drawings”).

The Applicant has designed the project program to align generally with preliminary plans for the park outlined in the 1995 Malama Cultural Park Master Plan, including the following (See: Appendix A):

1. Consistency with the intent and concept of the 1995 Malama Cultural Park Master Plan Architectural Program.
2. Compliance with Chapter 36 of the Maui Building Code “Indigenous Hawaiian Architecture” (IHA) section.
3. Design of the *halau* and meeting hall to use materials locally available on Molokai.

The major structure for both the canoe house and meeting hall will consist of the following materials.

Foundation and Frame: Concrete pylons along both sides of the perimeter will support 14-inch diameter ‘ohia logs.

Floor slab: The interior floor will be a 5 ½-inch concrete slab with an epoxy sealant finish.

Exterior Walls: The perimeter walls will be made up of built up lava rocks, approximately 42 inches wide at the base and 18 inches wide at the top. They will be approximately 4 to 5 feet high, pending the location on the structure.

Interior Walls: The interior walls will be made of 6-inch concrete masonry (CMU). This was done for security reasons. Any CMU wall facing the exterior of the structure will have a veneer that falls within the IHA guidelines.



Roof Material: The roofing material is a composite material made to look and feel like pili grass. It has a Class A fire rating with a hurricane wind resistance of up to 200 mph.

Based on Maui County Code, Chapter 19.36.010, "Designated number of spaces," the total parking required is 38 stalls (1 stall per 200 sf.). Total parking provided will be 44 stalls (41 regular plus 3 accessible). There are 41 parking spaces located at the front of the property along Hio Place. Three (3) accessible parking stalls will be located directly adjacent to the meeting hall. Up to 27 additional spaces are available on adjoining portions of the Park site.

A retention basin will be designed and sized at a minimum to accommodate the increase in surface runoff volume generated from a 50-year, 1-hour storm, in accordance with Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui.

#### **G. SHORELINE SETBACK DETERMINATION.**

A survey of the shoreline fronting the subject parcel was certified by the Department of Land and Natural Resources (DLNR) on January 2, 2009. (See: Appendix B, "Certified Shoreline Survey Map").

Section §12-4-6 of the Shoreline Rules for the Molokai Planning Commission, pertaining to the establishment of Shoreline Setback lines, states:

*"(a). All lots which abut the shoreline shall have a shoreline setback line forty feet from the shoreline, except as further provided by this section:*

*(3). A lot with an average lot depth which is one hundred sixty feet or more shall have a shoreline setback line either at one hundred fifty feet from the shoreline or at the distance from the shoreline calculated by multiplying the average lot depth of the lot by .25, whichever is the least distance from the shoreline;"*

The average depth of the subject parcel exceeds 160 feet. Using the Average Lot Depth (ALD) method, the shoreline setback for the parcel is calculated as follows:

Average Lot Depth:  $673.19 + 678.54 + 676.0 / 3 = 675.91$  feet

Shoreline Setback:  $675.91 \times 0.25 = 25.15 = 168.97$  feet



The shoreline setback as computed based on the average lot depth exceeds 150 feet; therefore, the proposed shoreline setback for the subject property is 150 feet. All building construction associated with the proposed project will take place at a minimum of 150 feet from the shoreline, outside of the Shoreline Setback Area.



### III. DESCRIPTION OF THE EXISTING ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES

#### A. PHYSICAL ENVIRONMENT

##### 1. Land Use

*Existing Conditions.*

The subject property is located in Kaunakakai, midway along the south coast of the Island of Molokai. Kaunakakai is the island’s major population and commercial center, situated primarily *mauka* of Kamehameha V Highway, a two-lane State Highway providing service along the southern shoreline of the Island. Zoning and Community Plan designations throughout Kaunakakai are in support of business/commercial, industrial, multi-family and single-family residential, and open space uses.

The subject parcel is situated along the shoreline adjacent to the Kaunakakai Wharf, *makai* of central Kaunakakai Town in an area of existing business, park, and industrial development. Parcels immediately to the east and north of the Park site are designated Interim and M-2 Heavy industrial, respectively. The Molokai Yacht Club is located on the County-owned parcel immediately to the west of the site; south of the site is the Pacific Ocean. Within the context of the existing park use on the property and the developed urban landscape that currently surrounds the property, the proposed project is in character with the established regional land use pattern in the area.

The Community Plan map presents an illustration of the range of potential future land uses planned within the immediate area (**See:** Figure No. 5, “Community Plan Map”). The following is a description of zoning, community plan designations, and existing land uses neighboring the subject property:

<b>North:</b>	<u>Zoning:</u>	M-2 Heavy Industrial
	<u>Community Plan:</u>	B (Business)
	<u>State Land Use:</u>	Urban
	<b>Existing uses:</b>	vacant



<b>South:</b>	<u>Zoning:</u>	NA
	<u>Community Plan:</u>	NA
	<u>State Land Use:</u>	Conservation
	<b>Existing uses:</b>	Pacific Ocean
<b>East:</b>	<u>Zoning:</u>	Interim
	<u>Community Plan:</u>	Light industrial; Single- family
	<u>State Land Use:</u>	Urban
	<b>Existing uses:</b>	Gas company; businesses; residential neighborhood
<b>West:</b>	<u>Zoning:</u>	Interim
	<u>Community Plan:</u>	Park
	<u>State Land Use:</u>	Urban
	<b>Existing uses:</b>	Molokai Yacht Club

***Potential Impacts and Mitigation Measures.***

The site of the proposed project is located within a developed urban area in the vicinity of existing industrial, commercial, and single-family residential development, and adjacent to existing Park uses.

In the context of the Molokai Community Plan, which was adopted in order to guide future development in the area, there will be no conflict with existing or future land use patterns. The proposed development will be within walking distance of nearby commercial, retail and residential properties.

**2. Shoreline Conditions and Processes**

*Existing Conditions.* The subject property is located along the south shore of Molokai. The shoreline fronting the subject property consists of a sandy beach. To the south of the project site, the beach ends abruptly at the wharf. To the north of the adjacent Yacht Club site, the beach ends at a wetland and stream outlet.



*Potential Impacts and Mitigation Measures.* Construction of the proposed project will not artificially fix the shoreline, will be designed to accommodate existing natural coastal flood patterns, and will take place entirely outside of the shoreline setback area. As such, there should be no significant negative impact on shoreline conditions and processes as a result of this project.

### **3. Marine Resources**

*Existing Conditions.* The nearshore seafloor fronting the project site consists primarily of sand. Offshore, an extremely well developed fringing reef exists along the entire south coast. The south coast of Molokai is protected from severe south swell by the presence of Maui and Lānaʻi, which block waves from the south, contributing to the development of the fringing reef.

Nearshore waters adjacent to the project site are classified as Class “A,” according to the Water Quality Standards map prepared by the State Office of Environmental Planning and Hawaii Department of Health (See: Figure No. 10, “Water Quality Standards Map”).

*Potential Impacts and Mitigation Measures.* The construction of the proposed *halau* will take place at approximately 3 feet AMSL and at a distance of 150 feet from the shoreline. Best Management Practices (BMPs) will be implemented as part of the construction phase of the project, in order to prevent erosion and runoff into nearshore waters. The *halau* will be elevated above the base flood elevation, and its design will incorporate breakaway construction and other measures to withstand coastal storm events and to avoid impeding the natural flow of coastal flood waters. As such, the proposed project is not expected to adversely impact marine resources.

### **4. Topography, Soils and Geographic Features**

*Existing Conditions.*

Topography in the region surrounding Kaunakakai ranges from a flat coastal plain to moderately steep slopes and gulches in the mountains behind Kaunakakai Town. The site of the proposed project is nearly level, sloping downward in a southerly direction from an elevation of 5.6 feet above mean sea level (AMSL) at the southeast corner along Hio Place to approximately 5 feet AMSL at the certified shoreline. The site has been previously altered by grubbing and grading activities, and is largely free of vegetation.



According to the “Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (August, 1972),” prepared by the United States Department of Agriculture Soil Conservation Service, the predominant soil type within the project area is Kealia Silt Loam. This soil is a low-lying coastal soil characterized as having moderately rapid permeability, slow to very slow runoff, and no more than slight water erosion hazard; however, wind erosion hazard is severe when the soil is dry and the surface layer becomes loose and fluffy.

A wetlands determination was prepared for the site by Robert Hobdy, Environmental Consultant, in October of 2008 (**See:** Appendix C, “Wetlands Determination”). The determination concluded that the filling of portions of the Park property for the past 100 years or more has concentrated a wetland effect on a naturally lower spot which appears to have been a wetland for many years. This roughly 1-acre wetland area straddles the boundary between TMK Parcel (2) 5-3-001:005 and adjacent Parcel 003. The western boundary of the wetland is separated from the project site by approximately 40 feet.

*Potential Impacts and Mitigation Measures.* The topography and soil types suggest that the proposed land use is suitable for the site. Appropriate Best Management Practices (BMPs) will be implemented during and after the construction of the project to ensure that non-point source pollution and stormwater runoff do not impact the adjacent existing wetland. When viewed in this context, the proposed action is not expected to have an adverse effect upon the wetland and surrounding environment.

## **5. Terrestrial Biota (Flora and Fauna)**

### *Existing Conditions.*

The project site has been previously disturbed. Vegetation on the site is typical of the areas surrounding Kaunakakai Town and is characterized by introduced species of grasses, shrubs and trees including monkeypod, milo and kamani. There are no rare, threatened, or endangered plant species or habitats within the project area.

Avifauna and mammals common to the surrounding area include introduced birds (common myna) and feral mammals (deer, goat, mongoose, pig).

### *Potential Impacts and Mitigation Measures.*

There are no known or identified habitats of rare or endangered species of flora, fauna or avifauna at the project site. Proposed landscape planting will be



consistent with the surrounding area and include native coastal plants that are tolerant to salt air, low annual rainfall and wind. The proposed project is not anticipated to have an adverse effect on the biological environment.

## **6. Flood and Tsunami Hazard**

### *Existing Conditions.*

The elevation of the Park site ranges from 10 feet above mean sea level at the northern side of the property abutting Hio Place to sea level at the southern boundary. According to Panels Number 150003 0080C and 150003 0085C of the Flood Insurance Rate Map, September 6, 1989, prepared by the United States Federal Emergency Management Agency, the majority of the project site is situated in Flood Zone C and a portion of the site at the shoreline is situated in Flood Zone A4, Base Flood Elevation 3 feet (**See:** Figure No. 7, "Flood Zone Map"). Flood Zone C represents areas of minimal flooding. Zone A4 is an area of 100-year flooding, with base flood elevations and flood hazard factors determined.

### *Potential Impacts and Mitigation Measures.*

The subject development is located within an area prone to flooding and could potentially be impacted by flood and tsunami related hazards. To mitigate flood hazard, the proposed buildings will be raised above the base flood elevation and will be constructed in such a way as not to impede the natural flow of flood waters across the site in the event of coastal flooding.

## **7. Air Quality**

### *Existing Conditions.*

Air quality refers to the presence or absence of pollutants in the atmosphere. It is the combined result of the natural background and emissions from many pollution sources. The impact of land development activities on air quality in a proposed development's locale differs by project phase (site preparation, construction, occupancy) and project type. In general, air quality on all of Molokai is considered good. Non-point source emissions (automobile) are not significant to generate a high concentration of pollutants. The relatively high quality of air can also be attributed to the region's exposure to wind, which quickly disperses concentrations of emissions. The Kaunakakai area is currently in attainment of all criteria for pollutants established by the Clean Air Act, as well as the State of Hawaii Air Quality Standards.



*Potential Impacts and Mitigation Measures.*

Air quality impacts attributed to the proposed project could include dust generated by short-term construction related activities. Site work such as grading and building construction, for example, will generate airborne particulate. Dust control measures that comply with the provisions of Hawaii Administrative Rules, Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33, Fugitive Dust, will be implemented during all phases of construction. Examples of such measures include:

- Planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing material transfer points and on-site vehicular routes, and locating potentially dusty equipment in areas of least impact.
- Providing an adequate water source on site prior to start-up of construction activities so that the project site can be regularly sprinkled to keep dust down.
- Onsite dirt piles or other stockpiled particulate matter will be covered, and/or wind breaks installed, and water and/or soil stabilizers employed to reduce wind blown dust emissions.
- Traffic speeds will be limited to 15 miles per hour or less on all unpaved surfaces and access will be restricted to reduce unnecessary vehicle traffic.
- Landscaping and rapid covering of bare areas, including slopes, beginning with the initial grading phase.
- Installation of temporary silt screens and an 8- to 12-foot high geo-textile dust fence around the perimeter of the project site.
- Controlling of dust from shoulders, project entrances, and access roads.
- Providing adequate dust control during weekends, after hours, and prior to daily start-up of construction activities. Controlling of dust from debris hauled away from project site.



## 8. Noise Characteristics

### *Existing Conditions.*

The noise level is an important indicator of environmental quality. In an urban environment, noise is due primarily to vehicular traffic, air traffic, heavy machinery, and heating, ventilation, and air-conditioning equipment. Ramifications of various sound levels and types may impact health conditions and an area's aesthetic appeal. Noise levels in the vicinity of the project area are generally low. Traffic noise from Kamehameha V Highway and commercial activity associated with the adjacent wharf are the predominant sources of background noise in the vicinity of the subject property.

### *Potential Impacts and Mitigation Measures.*

In the short-term, the proposed project could generate some adverse impacts during construction. Noise from heavy construction equipment, such as bulldozers, front-end loaders, and material-carrying trucks and trailers, would be the dominant source of noise during the construction period. To minimize construction-related impacts to the surrounding neighbors, the contractor will limit construction activities to normal daylight hours and activities associated with the construction phase of the project will comply with the Department of Health's Administrative Rules, Chapter 11-46, "Community Noise Control". In the longer-term, the proposed project should not significantly impact existing noise conditions in the area due to the relatively small increase in traffic generated by the project.

## 9. Archaeological/Historical/Cultural Resources

### *Existing Conditions.*

The project site has been the subject of several prior archaeological investigations, which have identified three archaeological sites as significant. These include an extensive subsurface cultural deposit underlying a large portion of the project area *mauka* of the location of the proposed *halau*; a remnant of an old pier built prior to 1900; and the Malama Platform, a remnant of a former residence of Kamehameha V.

A Cultural Impact Assessment Report (CIA) prepared by Maunakai & Associates in April, 2009, concluded that the proposed action will not have any adverse impact on known native Hawaiian cultural resources or practices. The CIA determined that ongoing Hawaiian cultural practices at the site are limited to fishing and canoeing. The findings of the CIA suggest that the proposed project



may serve as a catalyst for improved stewardship of the Park site as a focal point for Hawaiian cultural activities on Molokai, and therefore the proposed project will generate a net positive impact from a cultural standpoint (**See:** Appendix D, “Cultural Impact Assessment”).

***Potential Impacts and Mitigation Measures.***

Prior investigations have not identified any archaeological sites or subsurface cultural deposits at the specific location where construction is proposed; however, the site is archaeologically significant as evidenced by the presence of the three previously identified sites. Based upon review of prior archaeological investigations conducted at the project site, Scientific Consultant Services (SCS) recommended archaeological monitoring during all ground disturbing activities. An archaeological monitoring plan was prepared by SCS in February, 2009 to guide monitoring activities at the site during construction. The plan was reviewed and approved by the Department of Land and Natural Resources, State Historic Preservation Division (SHPD) in February, 2009 (**See:** Appendix E, Archaeological Monitoring Documents). With proper implementation of the Archaeological Monitoring Plan, the proposed project is not anticipated to adversely impact archaeological resources.

**10. Visual Resources**

***Existing Conditions.***

Numerous scenic resources have been identified in Molokai. The site lies generally within an area of existing and ongoing business growth and development. *Makai* views are available from within the park, and, to a limited degree, through the park from Kamehameha V Highway.

***Potential Impacts and Mitigation Measures.***

Scenic resources are not expected to be impacted by the proposed project. While the project will alter the existing visual character of the site upon completion, the design and profile of the buildings, coupled with the effective use of landscape plantings, will provide a project that is in consonance with the surrounding properties in the neighborhood and coherent with the concept of a Cultural Park. The height of the new buildings will be limited to 25 feet and the buildings will be constructed in accordance with the Urban Design Standards promulgated by the Molokai Community Plan. Site landscaping will also help integrate the project with its surroundings.



## **B. SOCIO-ECONOMIC ENVIRONMENT**

The proposed project will not cause a significant increase in the population of Molokai. On a short-term basis, the project will support construction and construction-related employment. On a long-term basis, no additional jobs are expected to be created during the operating phase of the *halau*. Potential indirect, long-term positive impacts may accrue from the proposed project, due to an influx of visitors to Kaunakakai Town associated with paddling events made possible by the improved facilities that the *halau* will provide.

*Potential Impacts and Mitigation Measures.* Because of the limited scope of this project, impacts on the socio-economic environment will be minimal.

## **C. PUBLIC SERVICES**

*Existing Conditions.* Public health, educational, recreational, police and fire protection, and solid waste disposal services are available in and around Kaunakakai Town. Located in Kaunakakai, Molokai General Hospital provides centralized medical services for the Island. Various private medical and dental offices are located in Kaunakakai to serve area residents.

The State Department of Education operates two (2) elementary schools in Kaunakakai, Kaunakakai Elementary and Kilohana Elementary. In addition, Kaunakakai students attend Molokai Intermediate School and Molokai High School in Hoolehua.

Outdoor recreational opportunities on Molokai abound, including boating, camping, diving, fishing, hunting and surfing. Park facilities in the vicinity of Kaunakakai are provided and maintained by the Maui County Department of Parks and Recreation (DPR) and include ballparks, beach parks, playfields, a swimming pool, community center and sport courts, in addition to the Cultural Park that is the site of the proposed project.

The Kaunakakai Fire Station is located at 130 Ailoa Street, approximately 0.5 miles east-northeast of the subject site. Police services for the Molokai district operate from the neighboring Police Station located at 110 Ailoa Street in Kaunakakai, adjacent to Mitchell Pauole Center.



The County Department of Environmental Management provides residential solid waste collection and disposal service. One public landfill currently operates on Molokai. Residential solid waste collection on Molokai is provided by the County and taken to the Molokai Landfill.

*Potential Impacts and Mitigation Measures.* The proposed project is not expected to have a significant impact upon public services in the Kaunakakai area. Given its relatively small size and scope, and considering that it will not generate an increase in population, the project is not expected to have an adverse effect on health care services and school enrollments or facilities.

The project site is located within the existing service area limits for police and fire protection. To discourage criminal activity and alleviate any potential impact on police services, the applicant will incorporate Crime Prevention Through Environmental Design (CPTED) principles into the project where possible, to facilitate natural surveillance, natural access control, and territorial reinforcement.

Cleared and grubbed material will be used onsite as fill or disposed of at the Molokai Landfill. After completion of the project, solid waste disposal will be handled by the County of Maui.

Based on the above, the proposed project is not expected to result in any long-term adverse impacts to existing public services or facilities.

#### **D. INFRASTRUCTURE**

A Preliminary Engineering Report was prepared by Otomo Engineering, Inc. in October, 2009, which analyzes existing infrastructure systems in the project area and recommends improvements to accommodate the proposed development. The report addresses water, sewer, drainage, roadway, and electrical and telephone systems (**See:** Appendix F, Preliminary Engineering and Drainage Report).

##### **1. Water**

*Existing Conditions.* Domestic water and fire flow will be provided by the County's water system. There are existing 2-inch and 8-inch water lines along Hio Place which presently provide domestic water and fire protection to the site.



There is an existing fire hydrant located at the northeast corner of the project site along Hio place and an existing standpipe located at the northwest corner of the project site along Hio Place. There is an existing water meter currently serving the property.

A 1-million gallon concrete water tank at an elevation of 232 feet AMSL provides storage for the Kaunakakai area. It is located approximately 3,700 feet to the northeast of the project site. The source for the water system is the Kualapuu wells.

*Potential Impacts and Mitigation Measures.* In accordance with the Department of Water Supply's domestic consumption guidelines for commercial development, the average daily demand for the project is estimated to be 5,695 gallons based on a use of 1,700 gallons per acre for parks. Fire flow demand will be computed for the proposed structures during the building permit phase. A detailed analysis of the existing water demand and fire protection will be required when the building permit plan is submitted for review.

## **2. Sewer**

*Existing Conditions.* There is an existing 18-inch sewerline along Kaunakakai Place which connects to the 18-inch sewerline on Kamehameha V Highway. An 8-inch sewerline connects to the existing restroom at the park site.

Wastewater collected from Kaunakakai Town is transported to the Kaunakakai Wastewater Reclamation Facility located to the west of the project site by a pump station and force main located at the intersection of Kamehameha V Highway and Kaunakakai Place.

*Potential Impacts and Mitigation Measures.* The proposed development is expected to generate approximately 1,500 gallons of wastewater daily. The proposed project will tie in to the existing 8-inch sewer line currently servicing the nearby restroom building at the Park site. At the present time, the existing collection and transmission systems, pumping facilities and treatment plant have the capacity to handle the anticipated wastewater generated by the proposed project. Therefore, the proposed project is not expected to create any negative impacts to sewer infrastructure.



### 3. Drainage

*Existing Conditions.* It is estimated that the existing 50-year, 1-hour storm runoff from the project site is 2.92 cubic feet per second (cfs). The resultant runoff volume is 5,773 cubic feet. Presently, onsite runoff sheet flows across the project site from Hio Place in a southerly direction toward the low point of the parcel. The runoff then sheet flows into the wetland area near the southeast corner of the project site.

*Potential Impacts and Mitigation Measures.* After development of the proposed project, it is estimated that the 50-year, 1-hour storm runoff will generate 3.50 cfs, a net increase of 0.58 cfs. The resultant runoff volume is 6,281 cubic feet. An onsite detention basin will be constructed within the landscaped areas to mitigate at least the increase in runoff generated from the proposed project for a 50-year, 1-hour storm. The project's drainage system will, at a minimum, have sufficient capacity to accommodate the increase in runoff of 0.58 cfs and a runoff volume of 1,045 cubic feet. Excess runoff will continue to sheet flow into the wetland.

The drainage design criteria will be to minimize any alterations to the natural pattern of the existing onsite surface runoff. The proposed drainage system will be designed in accordance with Chapter 4, "Rules for the Design of Storm Drainage Facilities in the County of Maui."

### 4. Roadways and Traffic

*Existing Conditions.* Maunakai and Associates prepared a Traffic Impact Assessment (TIAR) for the project, included as Appendix G. The study methodology for the TIAR included measurement of existing traffic generated by the project, background traffic levels, and extrapolating of future traffic conditions without and with the project, with the future design year of 2020.

Existing levels of service at the study intersections are summarized in Tables 1 through 3 of the TIAR. The results of the level-of-service analysis indicate that all intersections within the project vicinity currently operate at Level-of-Service A, which implies good operating conditions at these intersections.

*Potential Impacts and Mitigation Measures.* The proposed project will have a single driveway from Hio Place. Hio Place is improved with pavement, but has no concrete curbs, gutters or sidewalks. No additional improvements are



anticipated for roadways in the project vicinity, with the exception of a new concrete driveway for the project.

Based on the findings of the level-of-service analysis in the TIAR, field observations during the traffic surveys and input during the review process, the amount of traffic generated by the proposed project will be negligible. The TIAR concludes that during the morning peak hour, the project is expected to generate approximately 9 vehicle trips. During the afternoon peak hour, the project is expected to generate approximately 16 trips.

It is anticipated that all intersections in the project vicinity will continue operate at Level-of-Service A.

In light of future background traffic growth in the project vicinity, the proposed project will have no effect on existing or projected Levels of Service; therefore, no mitigation measures are recommended for the proposed project.

## **5. Electrical and Telephone**

*Existing Conditions.* There is an existing overhead electrical distribution system in the vicinity of the project site along the south side of Hio Place.

### *Potential Impacts and Mitigation Measures.*

All electrical and telephone utilities serving the project will be placed underground from Hio Place to the halau. Undergrounding of other utilities along Hio Place or within the larger Park site is outside the scope of the proposed project. Based upon its limited scope, the proposed project is not expected to have any adverse impacts upon existing electrical or telephone systems serving the subject property or the project vicinity.



## **IV. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES AND CONTROLS**

### **A. CHAPTER 343, HAWAII REVISED STATUTES (HRS)**

Construction of the proposed project involves the use of land owned by the County of Maui, Department of Parks and recreation. Use of State or County Lands or Funds triggers the requirement for an Environmental Assessment as set forth by Chapter 343, Hawaii Revised Statutes (HRS). The relationship of the proposed project to the Environmental Assessment Significance Criteria set forth in Chapter 343, HRS, is discussed in Section VI of this document, below.

### **B. STATE LAND USE LAW**

Hawaii Revised Statutes Chapter 205 relating to the Land Use Commission establishes the designation of all lands within the State of Hawaii into one (1) of four (4) districts: Urban, Agricultural, Rural and Conservation.

The subject property is located within the State Urban District. Lands within this district are characterized by city-like concentrations of people and include those lands that are currently in urban use, as well as a sufficient reserve area for foreseeable urban growth.

The use of the subject property for the proposed project is permissible and in consonance with the uses allowed in the State Urban District.

### **C. GENERAL PLAN OF THE COUNTY**

The General Plan of the County of Maui (1990 Update) provides long-term themes, objectives, and policies directed toward improving living conditions in the County. As stated in the Maui County Charter:

*"The purpose of the General Plan is to recognize and state major problems and opportunities concerning the needs and the development of the County and the social, economic and environmental effects of such development and set forth the desired sequence, patterns and characteristics of future development."*



The proposed project is consistent with the following General Plan objectives and policies:

**I. B. Land Use**

Objective(s)

1. To preserve for present and future generations existing geographic, cultural, and traditional community lifestyles by limiting and managing growth through environmentally sensitive and effective use of land in accordance with the individual character of the various communities and regions of the County.
2. To use the land within the County for the social and economic benefit of all the County's residents.

Policies

- 1c. Identify and preserve significant historic and cultural sites.
- 2a. Mitigate environmental conflicts and enhance social amenities, without having a negative impact on natural resources.

**I. C. Environment**

Objective

2. To use the County's land-based physical and ocean-related coastal resources in a manner consistent with sound environmental practice.

Policy

- 2a. Preserve, enhance, and establish traditional and new environmentally sensitive access opportunities for mountain and ocean resources.

**I. D. Cultural Resources**

Objective

1. To preserve for present and future generations the opportunity to know and experience the arts, culture and history of Maui County.



Policy

- 1c. Establish programs to restore, maintain and interpret significant cultural and historic districts, sites, and artifacts, in both natural and museum settings.

**D. MOLOKAI COMMUNITY PLAN**

Maui County has adopted nine (9) community plans. Each community plan examines the conditions and needs of the planning region and outlines objectives, policies, planning standards and implementing actions to guide future growth and development in accordance with the Maui County General Plan. Each community plan serves as a relatively detailed agenda for implementing the broad General Plan themes, objectives and policies.

The locations and land use categories shown on the Molokai Community Plan map serve to guide growth and future development on Molokai. As depicted by the map, the subject property is designated for **Park** use and surrounding properties are designated for park, business, light industrial and single-family use. (See: Figure No. 5, “Community Plan Map”). The Molokai Community Plan, which was first adopted by Ordinance No. 1357 in 1984, was most recently updated in 2001 as part of the County’s decennial review of the various community plans. The updated Molokai Community Plan was adopted by Ordinance No. 3022 and went into effect on December 19, 2001.

The proposed project is in consonance with the following community plan goals, objectives, and policies:

**LAND USE**

Goal

Enhance the unique qualities of the island of Molokai to provide future generations the opportunity to experience rural and traditional lifestyles.

Objectives and Policies

1. Require all zoning, discretionary land uses, and development approvals to be consistent with the Community Plan and subject to public review.



*Analysis:* Prior to the public hearing, pre-consultation will have been conducted with adjacent property owners, members of the Kaunakakai community, and governmental agencies as part of the SMA application process.

## ENVIRONMENT

### Goal

Preserve, protect, and manage Molokai's exceptional natural land and water resources to ensure that future generations may continue to enjoy and protect the island environment.

### Objectives and Policies

5. Protect and manage coastal water quality through Best Management land treatment practices.

*Analysis:* Best Management Practices (BMPs) will be implemented as part of the grading and construction for the project, in order to prevent impacts to nearshore waters from point and non-point sources of pollution.

## CULTURAL RESOURCES

### Goal

Preservation, enhancement, and appropriate use of cultural resources, cultural practices, and historic sites that provide a sense of history and define a sense of place for the island of Moloka'i.

### Objectives and Policies

3. Encourage and protect the use of ancient Hawaiian trails, cultural practices, and rural lifestyles.

*Analysis:* A central goal of the proposed project is to heighten awareness of the canoe's importance in Native Hawaiian culture, and to promote participation in paddling as a cultural activity.



## **E. MAUI COUNTY ZONING**

The project site is situated within the Interim District as designated by Maui County Zoning. Land uses permitted in this district include (but are not limited to) the following:

*“The expansion of existing parks, playgrounds, or community centers consisting of such open spaces developed with no buildings or minimum buildings, owned, or operated by either private or governmental agencies;”*

The proposed project represents a use that is permitted and in consonance with the zoning standards of the Interim District.



## V. SPECIAL MANAGEMENT AREA OBJECTIVES AND POLICIES

The subject project is located within the Special Management Area (SMA). As such, the proposed improvements will require an SMA Use Permit. Pursuant to Chapter 205A, Hawaii Revised Statutes, and the Rules and Regulations of the Molokai Planning Commission, projects located within the SMA are evaluated with respect to SMA objectives, policies, and guidelines. This section addresses the project's relationship to applicable coastal zone management considerations, as set forth in Chapter 205A and the Rules and Regulations of the Molokai Planning Commission.

### 1. Recreational Resources

Objective: Provide coastal recreational resources accessible to the public.

Policies:

(A) Improve coordination and funding of coastal recreation planning and management; and

(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

(i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;

(ii) Requiring placement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or require reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;

(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;

(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;

(v) Ensuring public recreational use of county, state, and federally owned or controlled shoreline lands and waters having standards and conservation of natural resources;

(vi) Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;



(vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing;

(viii) Encourage reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, county planning commissions; and crediting such dedication against the requirements of Section 46-6, HRS.

*Analysis.* The proposed development is not expected to increase the population of the surrounding area, and therefore will not significantly increase demand for shoreline recreation. Rather, the project will function to better serve an existing recreational and cultural activity currently taking place on the site. The project is also designed to maintain the existing level of public access to the shoreline.

In order to protect the recreational value of nearshore resources, Best Management Practices will be employed during the construction phase to minimize the potential of erosion and silt movement into coastal waters.

## **2. Historical/Cultural Resources**

Objective: Protect, preserve and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:

(A) Identify and analyze significant archaeological resources;  
(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and

(C) Support state goals for protection, restoration, interpretation, and display of historic structures.

*Analysis.* As detailed in Section III above, prior archaeological research has identified areas of subsurface cultural deposits elsewhere within the Park. Therefore, archaeological monitoring will be conducted during ground-disturbing activities. With the proper application of an approved Archaeological Monitoring Plan, the proposed project is not anticipated to impact historical or cultural resources.



### 3. Scenic and Open Space Resources

Objective: Protect, preserve and, where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies:

- (A) Identify valued scenic resources in the coastal zone management area;
- (B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;
- (C) Preserve, maintain, and where desirable, improve and restore shoreline open space and scenic resources; and
- (D) Encourage those developments that are not coastal dependent to locate in inland areas.

*Analysis.* As discussed in Section III.A.10, “Visual Resources,” and shown in Figure No. 11 a-c, “Site Photographs,” the project is not anticipated to have negative impacts on makai or open space views.

### 4. Coastal Ecosystems

Objective: Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policies:

- (A) Improve the technical basis for natural resource management;
- (B) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;
- (C) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and



(D) Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards.

*Analysis.* The project will not have a significant impact on the region's coastal ecosystem, and with the incorporation of appropriate measures during construction, there should be no significant adverse impacts to nearshore waters from point and non-point sources of pollution.

## 5. Economic Uses

Objective: Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policies:

- (A) Concentrate coastal dependent development in appropriate areas;
- (B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area;
- (C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such development and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:
  - (i) Use of presently designated locations is not feasible;
  - (ii) Adverse environmental impacts are minimized; and
  - (iii) The development is important to the State's economy.

*Analysis.* The proposed project is consistent with current zoning, and will be developed in accordance with the County of Maui zoning performance standards for the Interim District and Molokai Community Plan standards for the Park District.

As discussed above in Section III.B, due to the limited scope of this project, impacts on the socio-economic environment will be minimal.

The proposed development is located away from the shoreline, and furthermore will incorporate appropriate measures during construction to mitigate impacts to



nearshore waters from point and non-point sources of pollution. Thus, development of the proposed project will not have adverse effects on important local marine-based economic activities such as subsistence fishing.

## **6. Coastal Hazards**

Objective: Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence and pollution.

Policies:

- (A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and non-point source pollution hazards;
- (B) Control development in areas subject to storm wave, tsunami, flood, erosion, subsidence, and point and non-point pollution hazards;
- (C) Ensure that developments comply with the requirements of the Federal Flood Insurance Program;
- (D) Prevent coastal flooding from inland projects; and
- (E) Develop a coastal point and nonpoint source pollution control program.

*Analysis.* According to Panel Number 150003 0265 C of the Flood Insurance Rate Map, September 6, 1989, prepared by the United States Federal Emergency Management Agency, the project site is situated in Flood Zone C and AH (See: Figure No. 7, "Flood Zone Map"). Flood Zone C represents areas of minimal flooding. Zone AH is an area of 100-year shallow flooding where depths are between one (1) and three (3) feet and base flood elevations are shown, but no flood hazard factors are determined. To mitigate flood hazard, any buildings located within the A4 flood zone will be raised above the base flood elevation.

## **7. Managing Development**

Objective: Improve the development review process, communication, and public participation in the management of coastal resources hazards.



Policies:

- (A) Use, implement, and enforce existing laws effectively to the maximum extent possible in managing present and future coastal zone development;
- (B) Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and
- (C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life-cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

*Analysis.* The proposed project complies with the existing community plan and zoning. The community plan and zoning are consistent with one another, as required in the Special Management Area (SMA). The SMA also requires consultation with the affected community and agencies. Prior to the public hearing, consultation will be conducted with adjacent property owners, the Kaunakakai community at large, and governmental agencies. A public meeting to include, but not be limited to, residents and business owners within 500 feet of the proposed project will take place as part of the public outreach and consultation phase of the proposed project.

## **8. Public Participation**

Objective: Stimulate public awareness, education, and participation in coastal management.

Policies:

- (A) Maintain a public advisory body to identify coastal management problems and to provide policy advice and assistance to the coastal zone management program.
- (B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal-related issues, developments, and government activities; and
- (C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.



*Analysis.* Prior to the public hearing, pre-consultation will have been conducted with adjacent property owners, members of the Kaunakakai community, and governmental agencies. These activities will include personnel meetings, mailouts, and informational meetings in order to describe the proposed project and solicit issues to be addressed through the SMA application process. During the scheduled public hearings, the public will have the opportunity to review and comment on the proposed project. Landowners located within 500 feet of the project will be notified of scheduled public hearing dates. Public hearing dates and location maps will also be published in the **Maui News** and **Molokai Dispatch** on two separate occasions. The public will be allowed to participate in the public hearing portion of the Molokai Planning Commission's review process.

## **9. Beach Protection**

Objective: Protect beaches for public use and recreation.

Policies:

- (A) Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion;
- (B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and
- (C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

*Analysis.* The project will not involve construction of any structures within the shoreline area, and is not expected to have any direct physical impacts upon any public beaches.

## **10. Marine Resources**

Objective: Implement the State's ocean resources management plan.

Policies:

- (A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;



- (B) Assure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;
- (C) Coordinate the management of marine and coastal resources and activities management to improve effectiveness and efficiency;
- (D) Assert and articulate the interest of the state as a partner with federal agencies in the sound management of the ocean resources within the United States exclusive economic zone;
- (E) Promote research, study, and understanding of ocean processes, marine life, and other ocean development activities relative to impact upon the ocean and coastal resources; and
- (F) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

*Analysis.* The proposed project does not involve the direct development of marine resources. The project will produce no direct impact on the region's coastal or marine resources, and with the incorporation of erosion and drainage control measures during construction and after construction as identified in this report, there should not be significant adverse impacts to nearshore waters from point and non-point sources of pollution. Therefore, the subject project will not produce significant impacts on any coastal or marine resources. Best management practices (BMPs) will be incorporated into the grading and construction plans to mitigate impacts to the wetland which exists adjacent to the site.



## **VI. CHAPTER 343, HRS ENVIRONMENTAL ASSESSMENT SIGNIFICANCE CRITERIA**

In accordance with Title 11, Department of Health, Chapter 200 and Subchapter 6, Section 11-200-12, Environmental Impact Statement Rules, and based on the detailed analysis contained within this document, the following conclusions are supported.

- 1. The proposed action will *not* result in an irrevocable commitment to loss or destruction of natural or cultural resources.**

*Analysis.* As documented in this report, the proposed project will not involve the loss or destruction of any natural or cultural resource (See: Sections III.A and III.B).

- 2. The proposed action will *not* curtail the range of beneficial uses of the environment.**

*Analysis.* The subject property is within the State's Urban District and is zoned and community planned to allow for park-related uses and facilities. There are no unique or important environmental or natural resources on the property, the use of which would be negatively impacted by the project. Thus, the proposed action will not curtail the range of beneficial uses of the environment.

- 3. The proposed action will *not* conflict with State or County long-term environmental policies and goals as expressed in Chapter 344, HRS, and those which are more specifically outlined in the Conservation District Rules.**

*Analysis.* The project is being developed in compliance with the State's long-term environmental goals. As documented in this report, appropriate mitigation measures will be implemented to minimize the potential for negative impacts to the environment, including near and off-shore coastal waters. The project will not have any impact on flora and fauna, and is not expected to have a negative impact on archeological or cultural resources.

- 4. The proposed action will *not* substantially affect the economic or social welfare and activities of the community, county or state.**

*Analysis.* Short-term economic impacts may result from the increase in activity associated with the construction of the project.



Based on the above, the proposed action will not substantially affect the economic or social welfare and activities of the community, County or State.

**5. The proposed action will *not* substantially affect public health.**

*Analysis.* There are no special or unique aspects of the project that will have a direct impact on public health.

**6. The proposed action will *not* result in substantial secondary impacts.**

*Analysis.* The proposed project is not a population generator nor does it trigger any Maui County residential workforce housing requirements. Increased activity at the site during special events may result in a marginal increase in traffic and associated impacts. However, as analyzed in Section III of this report, the increase in the level of these impacts is minimal and with the incorporation of mitigation measures will not substantially impact the environment.

**7. The proposed action will *not* involve substantial degradation of environmental quality.**

*Analysis.* Mitigation measures will be implemented during the construction phase in order to minimize negative impacts on the environment, especially with regards to construction runoff. Also, the design of the project has incorporated mitigation measures to minimize impacts to nearshore water quality that could arise from an increase in runoff generated on the site as a result of the project (See: Section III.D.3 for a discussion of drainage). Other environmental resources such as endangered species of flora and fauna, air and water quality, and archeological resources will not be significantly impacted by the subject project.

**8. The proposed project will not produce cumulative impacts and does *not* have considerable effect upon the environment or involve a commitment for larger actions.**

*Analysis.* The proposed project does not involve a commitment for larger action on behalf of the applicant or any public agency. The subject property is State and County zoned and community planned for urban development, and as such, is part of the planned future growth of the region. As described in this report, the project will not significantly impact public infrastructure and services including roadways, drainage facilities, water systems, sewers and educational facilities. In addition, the project is not anticipated to induce an increase in population



growth and will therefore not produce considerable effect on the environment nor require a commitment for larger actions by governmental agencies.

- 9. The proposed project will *not* affect a rare, threatened, or endangered species, or its habitat.**

*Analysis.* As described in Section III.A.3 of this report, there are no rare, threatened, or endangered species of flora and fauna at the project site.

- 10. The proposed action will *not* substantially or adversely affect air and water quality or ambient noise levels.**

*Analysis.* As described in Sections III.A.7 and III.A.8 of this report, there is a potential for negative impacts to air or water quality and ambient noise levels related to short-term construction activities. Air, noise and dust impacts will be mitigated through implementation of standard mitigation measures as identified previously in this report. It is not anticipated that there will be significant long-term impacts to air or water quality and ambient noise levels due to the operation phase of the development.

- 11. The proposed action will *not* substantially affect or be subject to damage by being located in an environmentally sensitive area, such as flood plain, shoreline, tsunami zone, erosion-prone areas, estuary, fresh waters, geologically hazardous land or coastal waters.**

*Analysis.* As discussed in Section III.A.6 of this report, according to panels Number 150003 0080C and 150003 0085C of the Flood Insurance Rate Map, September 6, 1989, prepared by the United States Federal Emergency Management Agency, the project site is situated in Flood Zones C and A4 (**See:** Figure No. 7, "Flood Zone Map"). Flood Zone C represents areas of minimal flooding. Zone A4 is an area of 100-year flooding, with base flood elevations and flood hazard factors determined. The elevation of the Park site ranges from 10 feet above mean sea level at the northern side of the property abutting Hio Place to sea level at the southern boundary.

The subject development is not expected to be impacted by flood, tsunami, or other coastal-related hazards.



**12. The proposed action will *not* substantially affect scenic vistas or view planes identified in county or state plans or studies.**

*Analysis.* As described in Section III.A.10 of this report, there will be no significant change in the project's effect on *mauka* or *makai* views. Therefore, the proposed project is not expected to have any adverse effects on visual resources. Figures No. 11 a-c, "Site Photographs," document the project's potential impacts on visual resources.

**13. The proposed action will not require substantial energy consumption**

*Analysis.* Upon build-out of the project, energy consumption will increase marginally. However, given existing levels of usage in the area, the increase is considered insignificant. The majority of automobile usage is envisioned to include paddlers who already drive to the site. Thus, it is not anticipated that the resultant increase in energy consumption will be significant in the context of existing levels of vehicular energy usage in the region, and on Molokai



## VI. FINDINGS AND CONCLUSIONS

This HRS Chapter 343 Draft Environmental Assessment and application for Special Management Area (SMA) Use Permit has examined the environmental and socio-economic impacts associated with 'Aha Kukui o Molokai's proposal to develop a building consisting of two (2) *halau wa'a* and a meeting hall facility on 2.97 acres of property situated at Malama Cultural Park, TMK Parcel No. (2) 5-3-001:005, Kaunakakai, Molokai, Hawaii.

The analysis concludes that the project should not result in significant impacts to surrounding properties, nearshore waters, natural resources, or archaeological and historic resources on the site or in the immediate area. With the incorporation of the mitigation measures identified in this document, public infrastructure and services including roadways, sewer and water systems will not be significantly impacted by the project.

The subject property is situated within the State's Urban District and is in the Maui Interim Zoning District. The proposed uses are permitted within these districts. Based upon the findings of this report, the proposed project is in conformance with State and County land use plans and policies including Chapter 205A, HRS, as well as the Molokai Community Plan Land Use Map.

In light of the foregoing, the proposed project should not result in significant impacts to the environment and a Finding of No Significant Impact is anticipated.



## VII. REFERENCES

*Atlas of Hawaii, Second Edition*

University of Hawaii, Department of Geography, 1983.

Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel No. 150003 0080C and 150003 0085C, September 6, 1989 (revised).

*General Plan of the County of Maui, 1990 Update*

County of Maui, Department of Planning, 1991.

*Molokai Community Plan*

County of Maui, Department of Planning, March 6, 1998.

*Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*

U.S. Department of Agriculture, Soil Conservation Service in Cooperation with the University of Hawaii, Agricultural Experiment Station, 1972.

Coral Reef Assessment and Monitoring Program (CRAMP)

Hawai'i Institute of Marine Biology, University of Hawai'i at Mānoa  
P.O. Box 1346 Kāne'ohe, HI 96744 USA





Project Site



Figure 2

Aha Kukui o Molokai

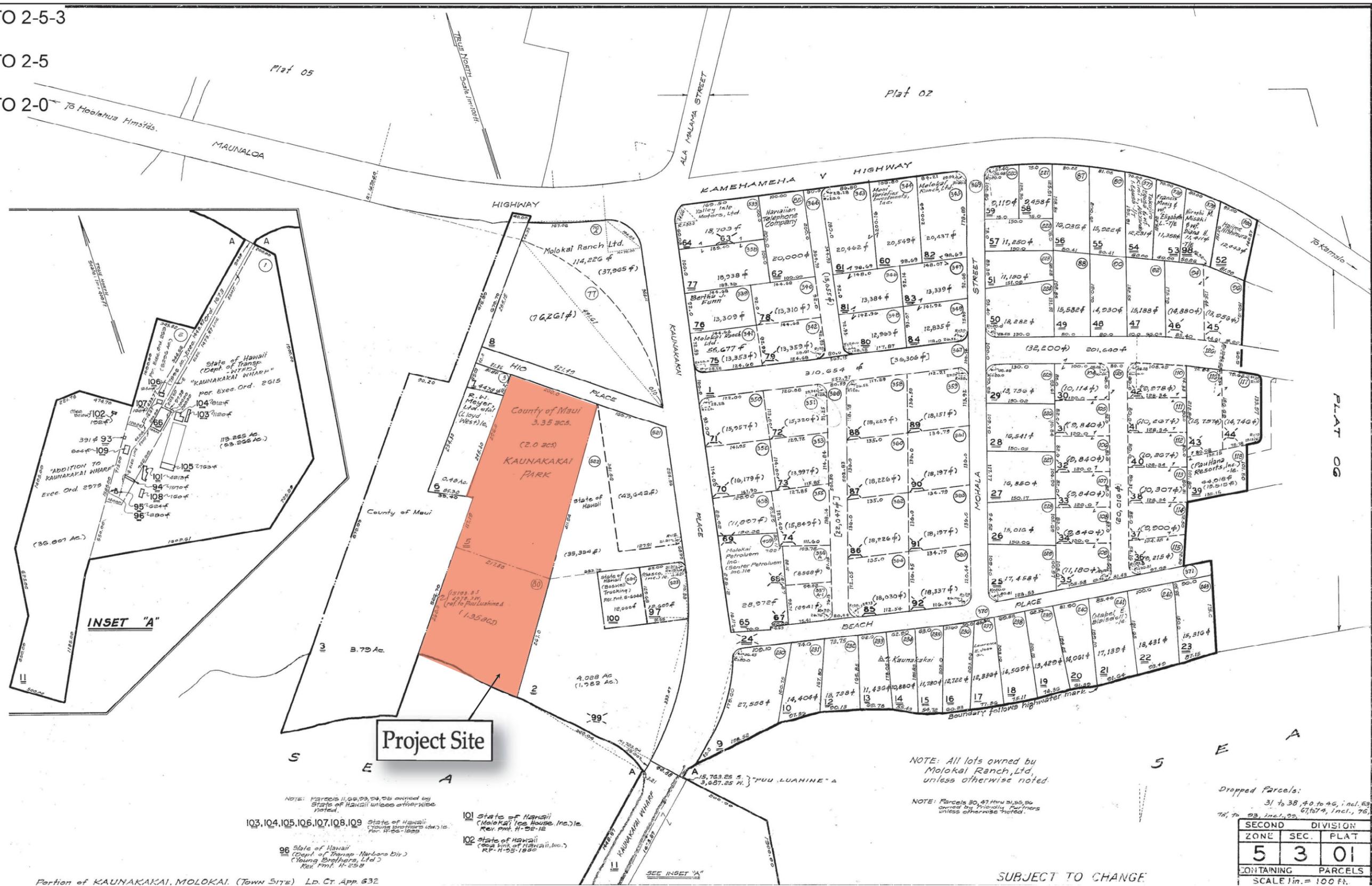
Aerial Location Map



BACK TO 2-5-3

BACK TO 2-5

BACK TO 2-0



**Project Site**

NOTE: Parcels 11, 100, 23, 24, 25 owned by State of Hawaii unless otherwise noted.

103, 104, 105, 106, 107, 108, 109 State of Hawaii (Tourist Development Act) 15, Rev. P.M.L. H-22-1999

96 State of Hawaii (Dept. of Transp. - Harbors Div.) (Young Brothers, Ltd.) Rev. P.M.L. H-25-1999

101 State of Hawaii (Molokai Ice House Inc.) 1c, Rev. P.M.L. H-22-12

102 State of Hawaii (Sea Link of Hawaii, Inc.) R.P. H-22-1999

NOTE: All lots owned by Molokai Ranch, Ltd. unless otherwise noted.

NOTE: Parcels 30, 47 thru 51, 55, 56 owned by Priority Partners unless otherwise noted.

Dropped Parcels: 31 to 38, 40 to 46, incl. 69, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Portion of KAUNAKAKAI, MOLOKAI. (TOWN SITE) L.D. CT. App. 632

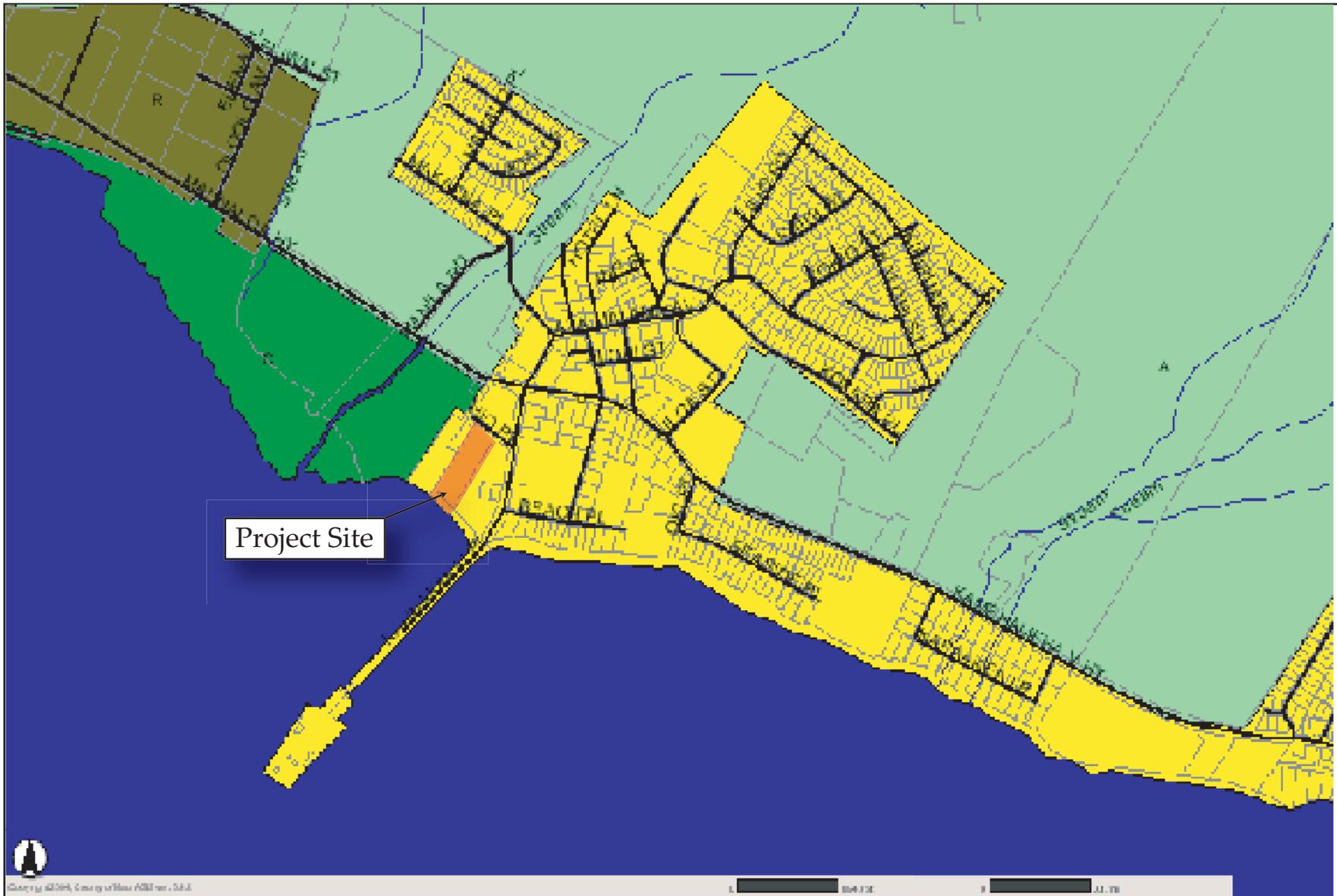
SUBJECT TO CHANGE

SECOND DIVISION		
ZONE	SEC.	PLAT
5	3	01
CONTAINING PARCELS		
SCALE 1 in. = 100 ft.		

Figure 3

Aha Kukui o Molokai

TMK Map



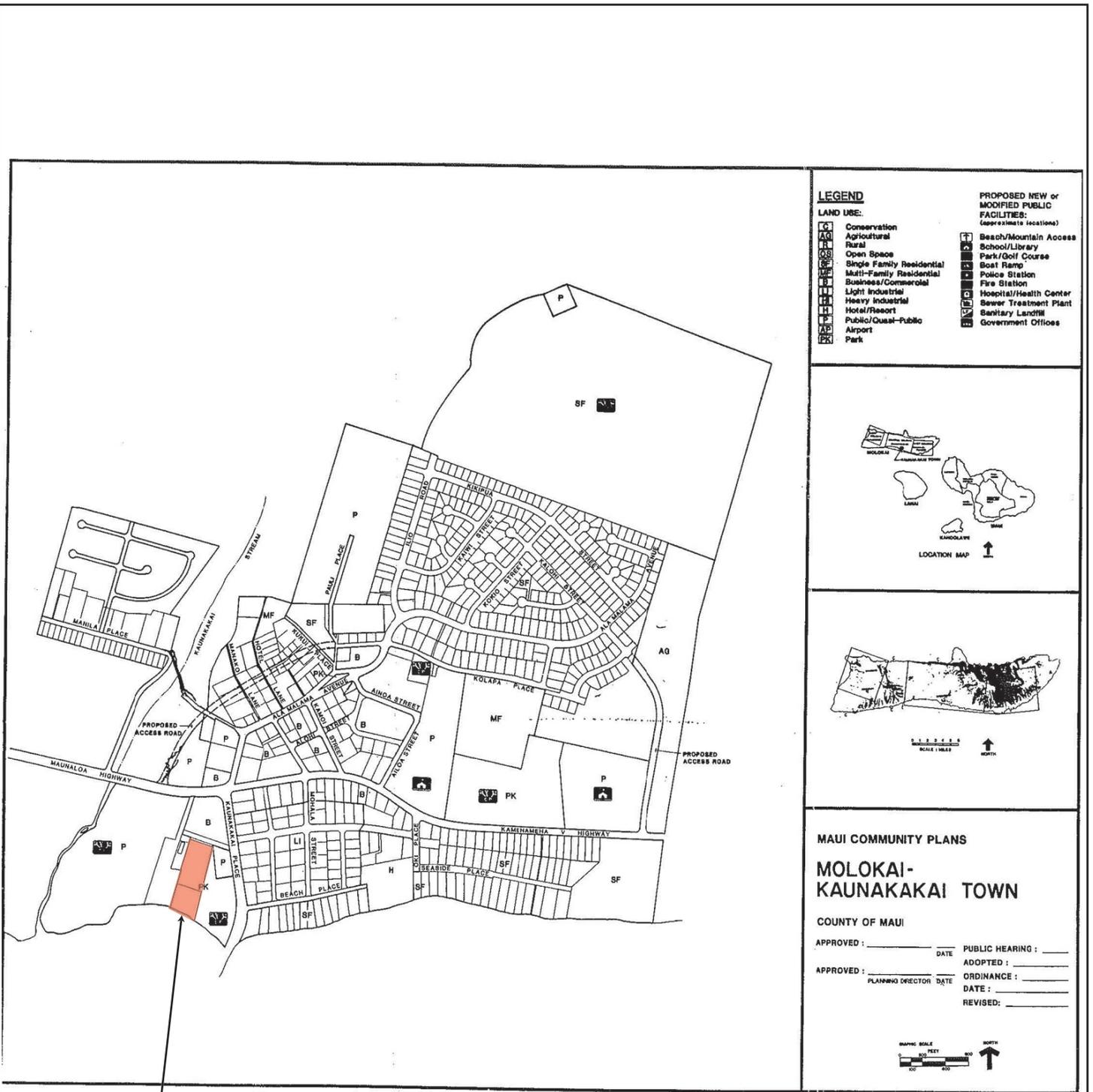
Project Site

Figure 4

- Agricultural
- Conservation
- Rural
- Urban

Aha Kukui o Molokai
State Land Use Districts





Project Site

Figure 5

Aha Kukui o Molokai	
Community Plan Map	

COUNTY OF MAUI  
DEPARTMENT OF PLANNING  
Kalana Paku'i Building  
250 South High Street  
Wailuku, Hawaii 96793



Zoning Administration  
and Enforcement Division  
Telephone: (808) 270-7253  
Facsimile: (808) 270-7634  
E-mail: [planning@mauicounty.gov](mailto:planning@mauicounty.gov)

### ZONING AND FLOOD CONFIRMATION FORM

<b>APPLICANT INFORMATION</b> <i>(To be completed by Applicant)</i>			
APPLICANT	Chris Hart & Partners, Inc. FOR Aha Kukui O Molokai		
TELEPHONE	242-1955	E-MAIL	jmedema@chpmaui.com
PROJECT NAME	Malama Cultural Park Canoe Hale		
ADDRESS/LOCATION	25 Hio Place, Kaunakakai, Molokai, HI 96748		
TAX MAP KEY NO(S)	(2) 5-3-001:005		
<b>ZONING INFORMATION</b> <i>(To be completed by ZAED)</i>			
COMMUNITY PLAN DESIGNATION(S)	PARK		
COUNTY ZONING(S)	Interim		
STATE LAND USE DISTRICT(S)	Urban		
SPECIAL DISTRICT(S)	SMA		
<b>FLOOD INFORMATION</b> <i>(To be completed by ZAED)</i>			
FLOOD HAZARD AREA ZONE(S)	A4 (DFE 3') + C		
BASE FLOOD ELEVATION(S)	mean sea level, 1929 National Geodetic Vertical Datum; or		
For Flood Zone AO, FLOOD DEPTH			
FLOODWAY	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
FLOOD DEVELOPMENT PERMIT REQUIRED	<input checked="" type="checkbox"/> Yes + <input checked="" type="checkbox"/> No		
*For flood hazard area zones B or C; a flood development permit would be required if any work is done in any drainage facility or stream area that would reduce the capacity of the drainage facility, river, or stream, or adversely affect downstream property.			
<b>FOR COUNTY USE ONLY</b>			
REMARKS/COMMENTS:			
<input type="checkbox"/> Additional information required		<input checked="" type="checkbox"/> Information submitted is correct	
<input type="checkbox"/> Required for Agricultural Subdivisions Agricultural Assessment RFS No:		<input type="checkbox"/> Correction has been made and initialed	
Reviewed and Confirmed by:			
<i>[Signature]</i>		7/21/09	
(Signature)		(Date)	
For: AARON SHINMOTO, Planning Program Administrator Zoning Administration and Enforcement Division			

S:\ALL\FORMS\ZAED\ZoneFldConf\ZonFldConf.doc

(Rev. 02.09)

Figure 6

Aha Kukui o Molokai	
Maui County Zoning Confirmation	

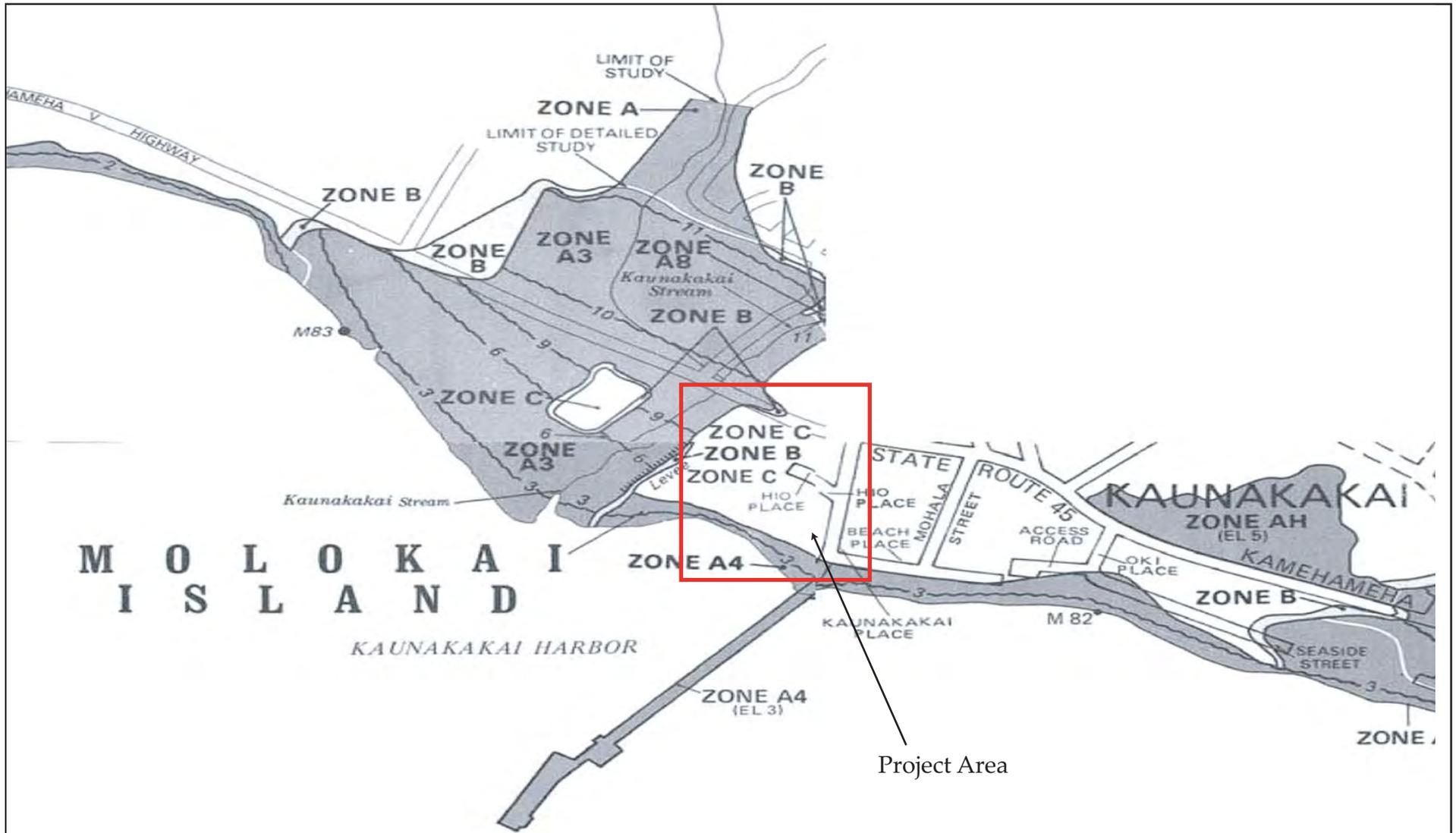
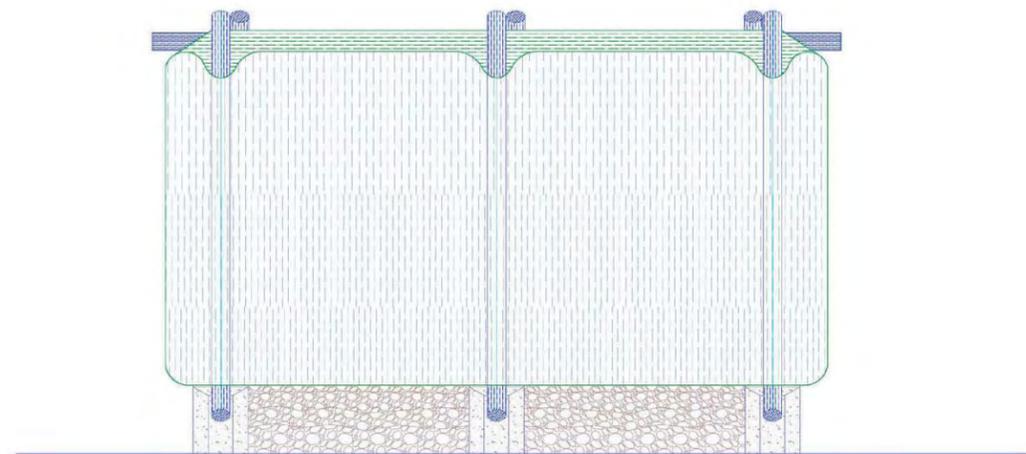


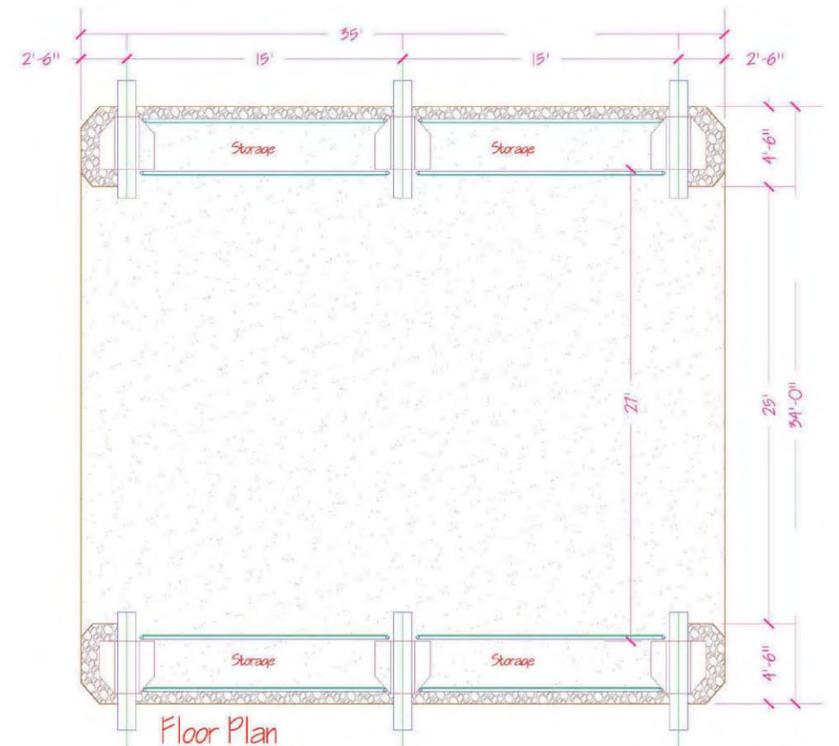
Figure 7

Aha Kukui o Molokai	
Flood Zone Map	

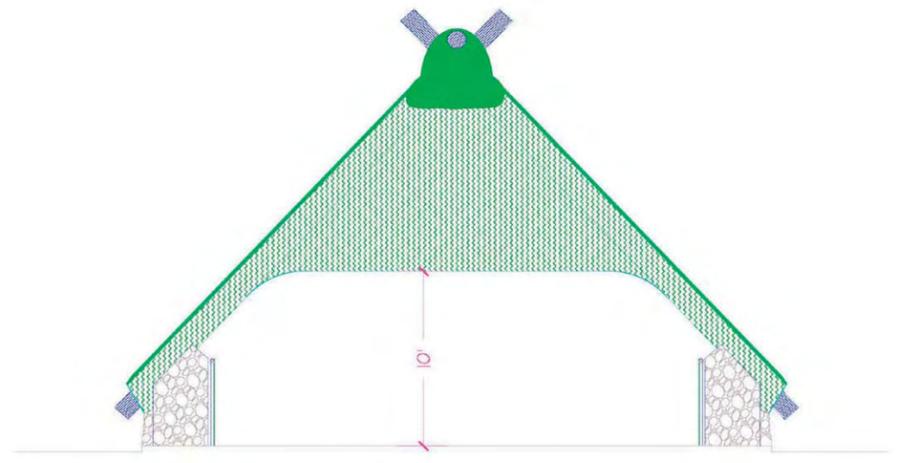




Front Elevation



Floor Plan



Side Elevation

No.	Date:	Description



**Maunakai & Assoc.**  
 Planning & Historic Preservation  
 Honolulu, Hawaii  
 808-341-8881  
 palama@hawaii.edu

Proposed Hale for  
 Aha Kukui o Molokai  
 Mounaloa Highway,  
 Molokai Park,  
 Molokai, Hawaii  
 T.M.K. : 5-3-01:02

**Carl Priska, MA & Assoc.**  
 Architects - Planners - Developers  
 2751 Kapiolani Blvd. #603, Honolulu, Hawaii 96826  
 808 - 783 - 2588  
 priska@hawaii.edu

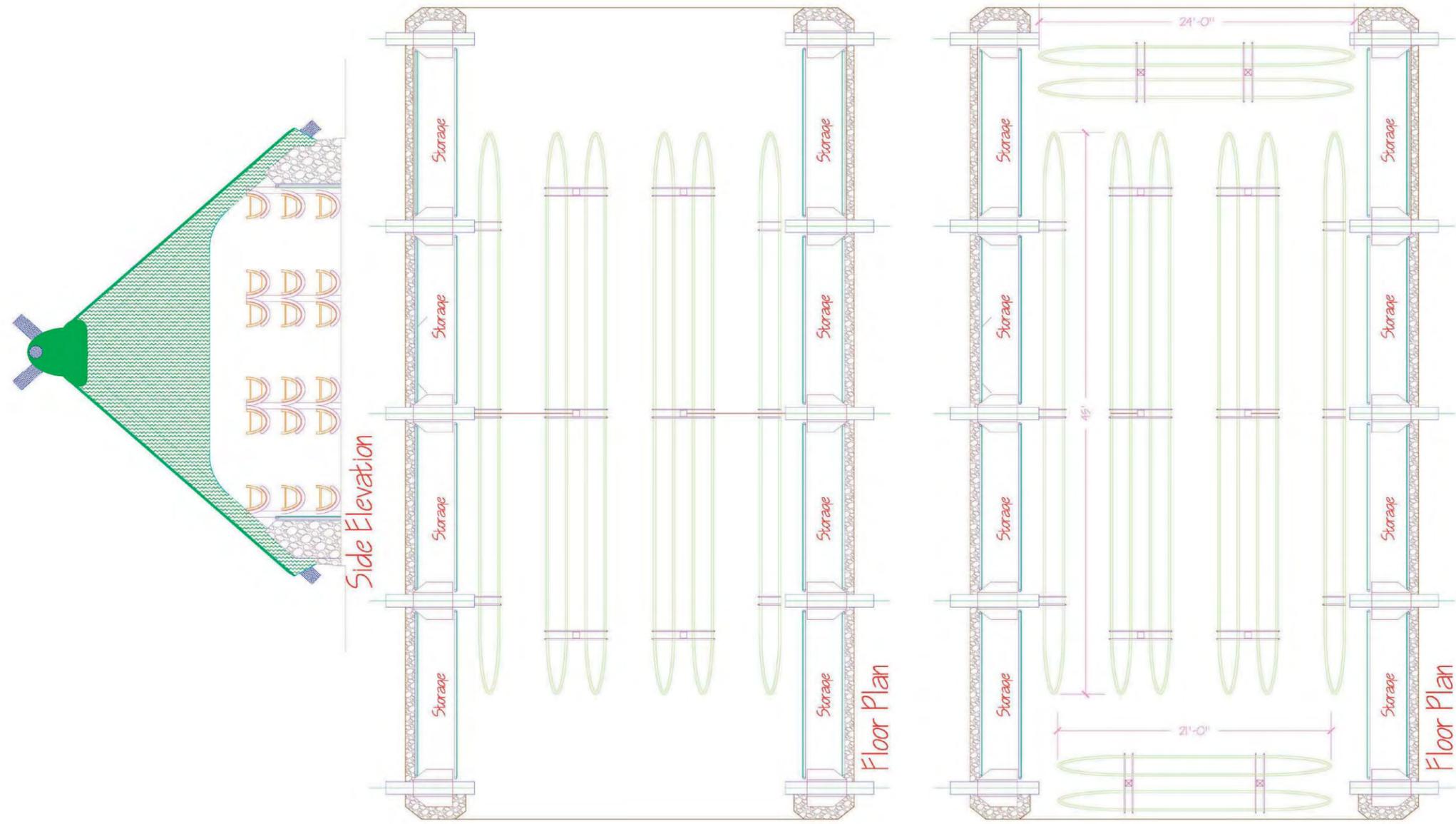


Name:  
 Date: 09-24-09  
 Scale: NOTED  
 Sheet:  
 of Sheets  
 Proj. No:

Basic Canoe Hale Plan

Figure 9a

Aha Kukui o Molokai	
Architectural Drawings	



Name: \_\_\_\_\_  
 Date: 09-24-09  
 Scale: NOTED  
 Sheet: \_\_\_\_\_  
 of \_\_\_\_\_ Sheets  
 Proj. No: \_\_\_\_\_

**Proposed Hale for 'Aha Kukui o Molokai'**  
 Maunaloa Highway,  
 Molokai Park,  
 Molokai, Hawaii  
 T.M.K. : 5-3-01:02

**Maunaloa & Assoc.**  
 Planning & Historic Preservation  
 Honolulu, Hawaii  
 808-341-5881  
 paloma@hawaii.edu

**Chris Preka, MA & Assoc.**  
 Architects-Planners-Developers  
 2751 Kapiolani Blvd. #603, Honolulu, Hawaii 96826  
 808 - 783 - 2588  
 prisika@hawaii.edu

**Professional Engineer Seal:**  
 STATE OF HAWAII  
 PROFESSIONAL ENGINEER  
 No. 785  
 EXPIRES 12/31/10  
 EXPANDED PRACTICE: OAHU, HI

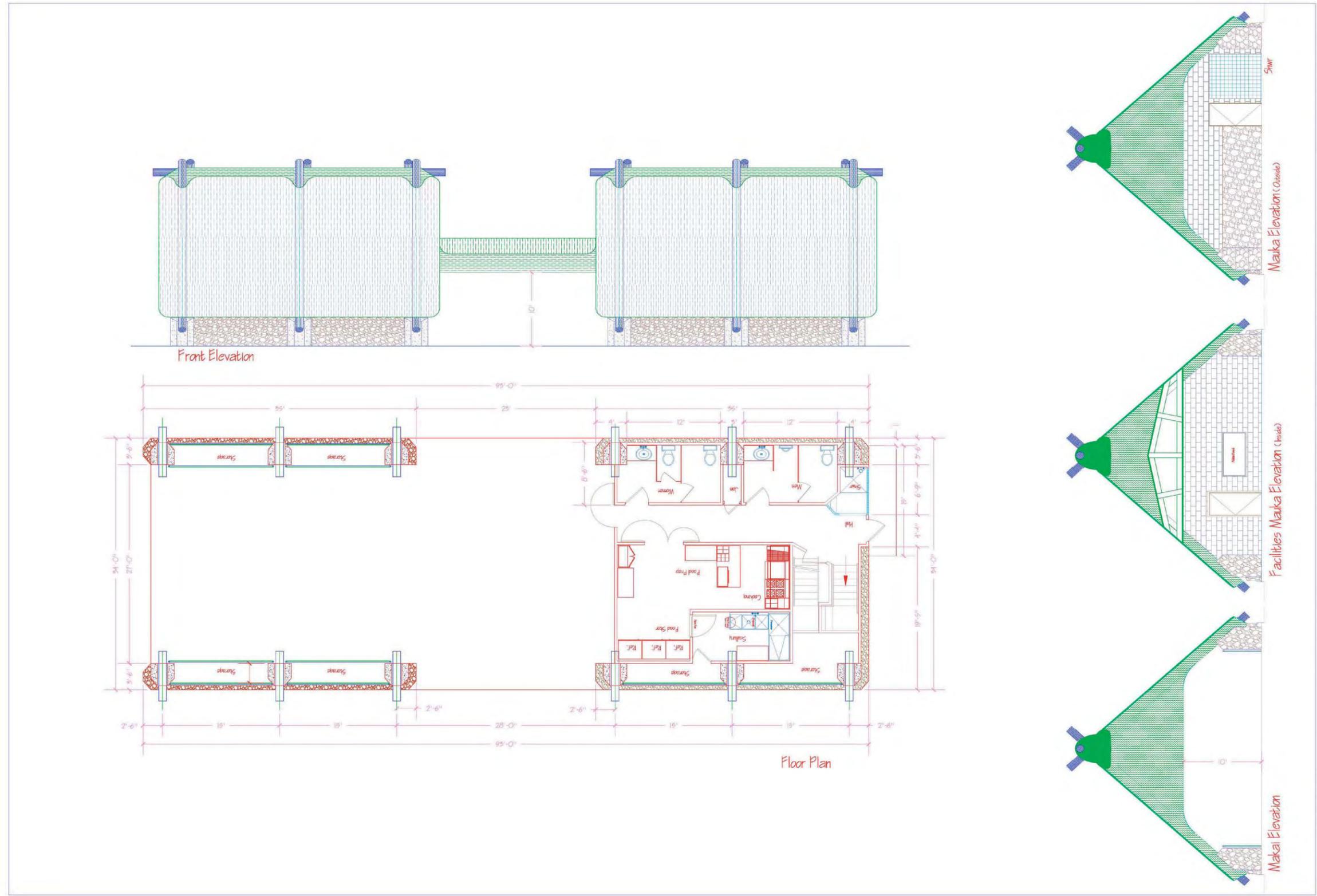
No.	Date:	Description

Alternate Canoe Hale Plan

Figure 9b

Aha Kukui o Molokai  
 Architectural Drawings

**CHRIS HART**  
 & PARTNERS, INC.



No.	Date:	Description

	THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF HAWAII.
<b>Chris Hart</b> ENGINEER	EXP. DATE: 04-10-2026

<b>Maunakai &amp; Assocs.</b> Planning & Historic Preservation Honolulu, Hawaii 808-341-8881 palomahawaii@hawaii.net
--

Proposed Haai for 'Aha Kukui o Molokai' Maunaloa Highway, Malama Park Molokai, Hawaii T.M.K. : 5-3-01-02
---

	<b>Carl Priska, AA &amp; Assoc.</b> Architects - Planners - Developers 2751 Kapiolani Blvd. #603, Honolulu, Hawaii 96826 808 - 783 - 2588 priska@hawaii.edu
--	---

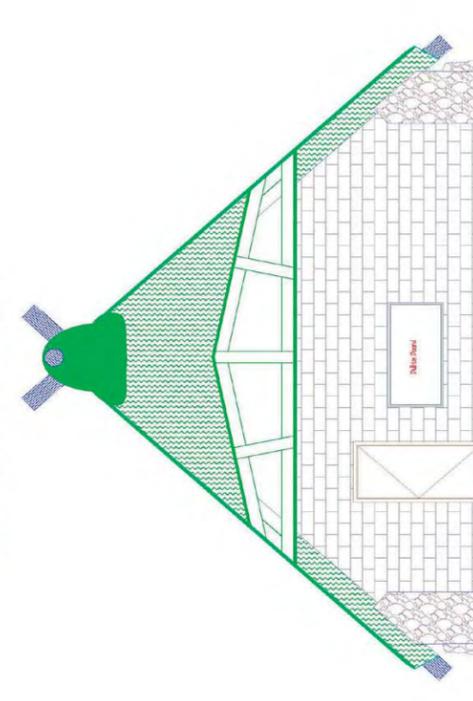
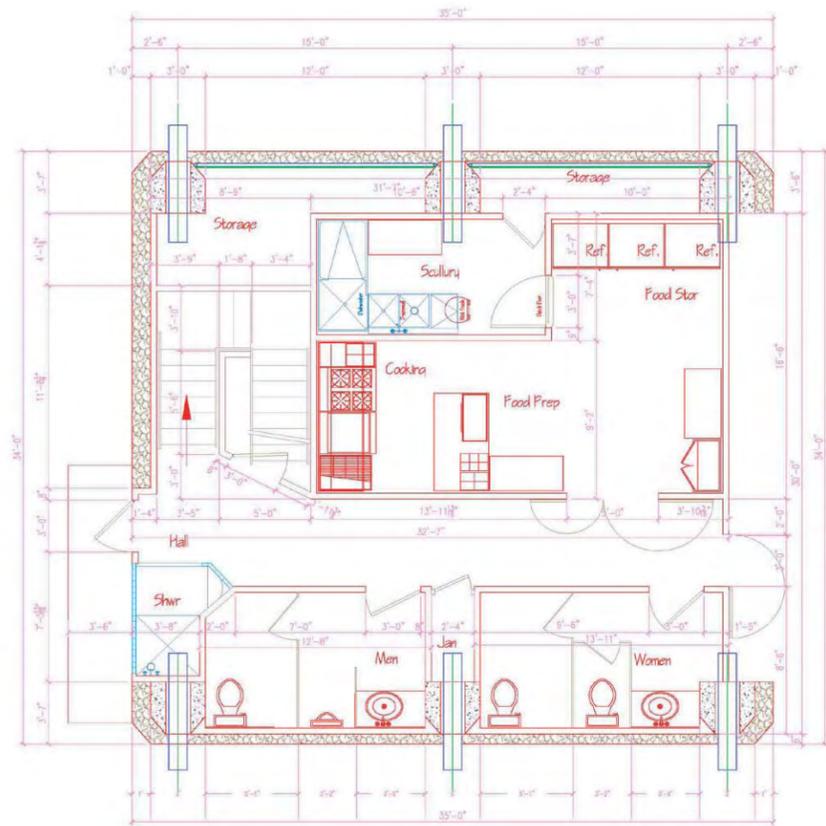
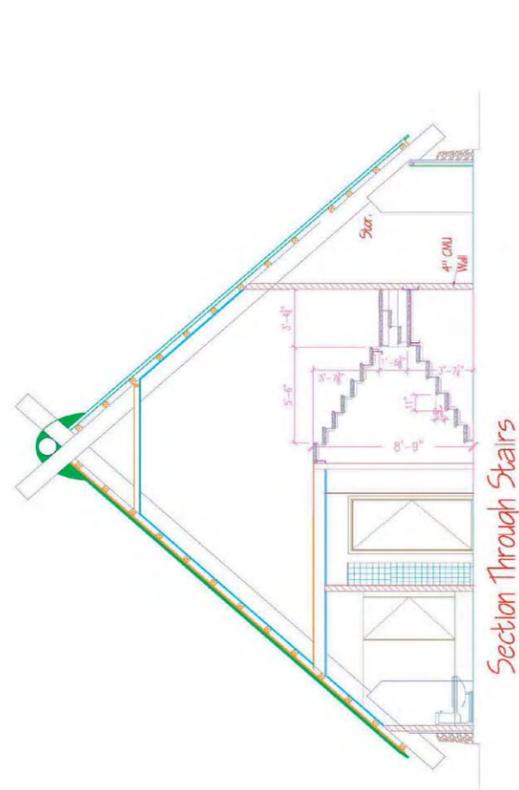
  

Name:	
Date:	09-24-09
Scale:	NOTED
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of Sheets	
Proj. No:	

Meeting Hall Plan

Figure 9c

Aha Kukui o Molokai	
Architectural Drawings	



Name:  
Date: 09-24-09  
Scale: NOTED  
Sheet:  
of Sheets  
Proj. No:



**Calo Priska, MA & Assoc.**  
Architects-Planners-Developers  
2751 Kapiolani Blvd. #603, Honolulu, Hawaii 96826  
808 - 783 - 2588  
prisko@hawaii.edu

Proposed Haiu for  
'Aha Kukui o Molokai'  
Maunaloa Highway,  
Maunaloa Park  
Molokai, Hawaii  
T.M.K. : 5-3-01:02

**Maunaloa & Assoc.**  
Planning & Historic Preservation  
**Honolulu, Hawaii**  
808-341-8881  
paloma@hawaii.edu



No.	Date:	Description

Kitchen Plan

Figure 9d

Aha Kukui o Molokai  
Architectural Drawings



# CONCEPT LANDSCAPE PLAN

MALAMA CULTURAL PARK  
MOLOKAI, HAWAII



0 20 40 80 120  
SCALE: 1"=40'-0"  
PROJECT: 08-026  
DATE: 4/30/10



Concept Site and Landscape Plan

Aha Kukui o Molokai  
Architectural Drawings

Figure 9e

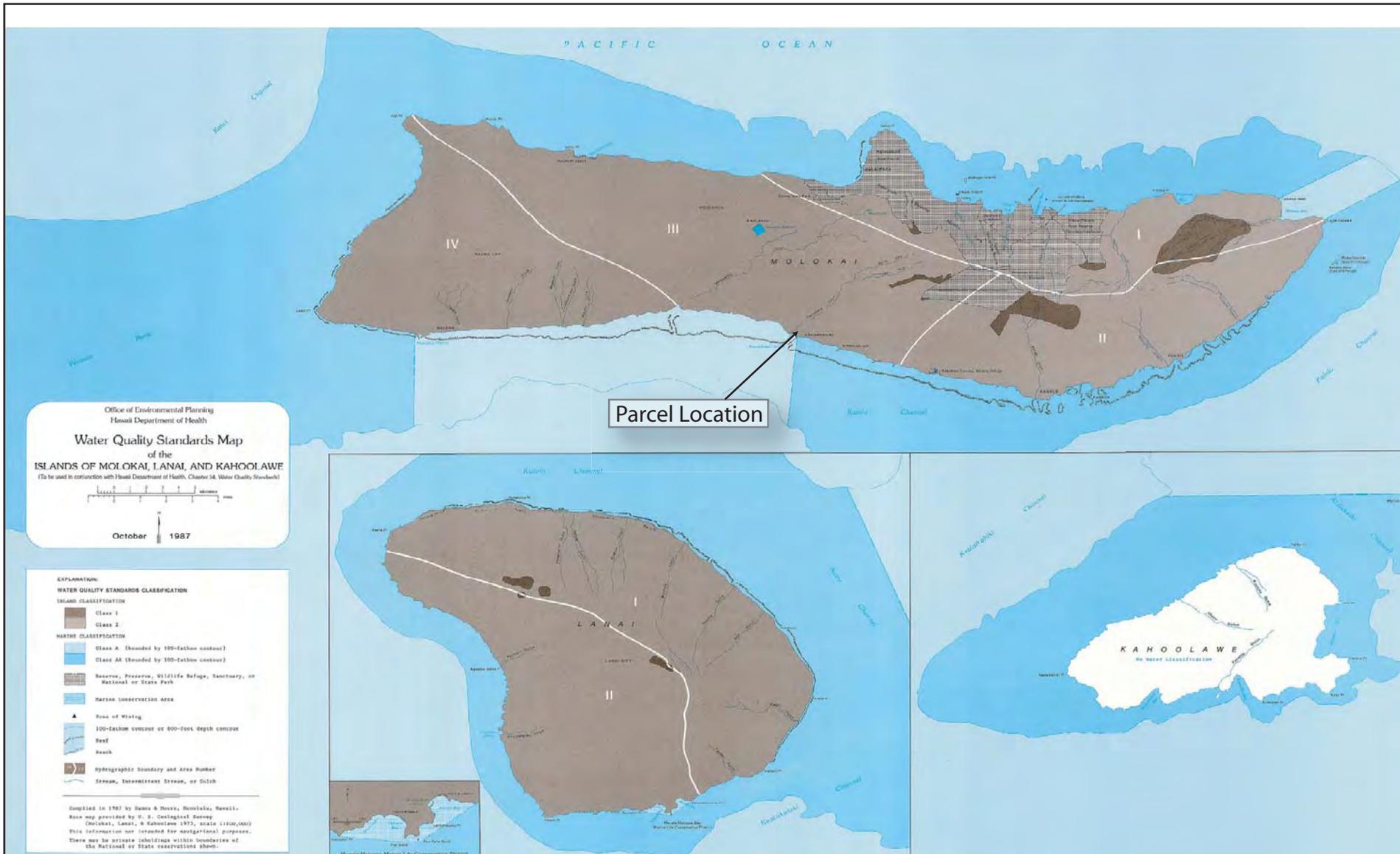


Figure 10

Aha Kukui o Molokai

Molokai Water Quality  
Standards Map





Mauka view of subject parcel from shoreline fronting the project area.



View of shoreline fronting the Park, from Kaunakakai wharf.

Figure 11a

Aha Kukui o Molokai

Site Photographs





Facing Kaunakakai wharf from southeast corner of subject property, along Kaunakakai Place



Facing north along Kaunakakai Place from southeast corner of subject property



Facing north along Kaunakakai Place from southeast corner of subject property



Canoe Storage at Southeast Corner of Park Site

Figure 11b

Aha Kukui o Molokai

Site Photographs



Panning S-SW across project site from center-*mauka* area of Park site.



Panning SE-SW across Park site, facing *makai* from near northern boundary of Park.

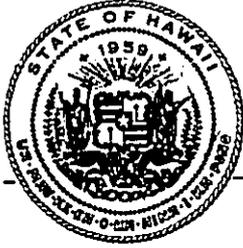
Figure 11c

Aha Kukui o Molokai

Site Photographs



**Appendix A:**  
**Malama Cultural Park**  
**1995 Environmental Assessment**



**DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM**

BENJAMIN J. CAYETANO  
GOVERNOR  
SEIJI F. NAYA  
DIRECTOR  
RICK EGGED  
DEPUTY DIRECTOR

Central Pacific Plaza, 220 South King Street, 11th Floor, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 586-2355  
Fax: (808) 586-2377

RECEIVED  
'95 AUG 28 A9:22

August 25, 1995. OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

**MEMORANDUM**

**TO:** Mr. Gary Gill, Director  
Office of Environmental Quality Control

**FROM:** Rick Egged, Deputy Director *Rick Egged*

**SUBJECT:** Negative Declaration for the Malama Cultural Park, TMK 5-3-01: 2, 3, 5,  
97, 99, 100, Kaunakakai, Moloka'i, Hawaii

The Department of Business, Economic Development and Tourism (DBEDT) has reviewed the comments received during the 30-day public comment period which began on May 23, 1995. The agency has determined that this project will not have a significant environmental effect and has issued a negative declaration. Please publish this notice in the September 8, 1995 Office of Environmental Quality Control (OEQC) Bulletin.

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the Final Environmental Assessment (EA). If you should have any questions, please contact Chris Chung, Project Manager, at 586-2534.

(((

1995-09-08-HO-FAA - Malama Cultural Park

SEP 8 1995

**FILE COPY**

ENVIRONMENTAL ASSESSMENT

**MALAMA  
CULTURAL  
PARK**

Maui County  
Kaunakakai, Moloka'i

Department of Business, Economic  
Development and Tourism

State of Hawaii

August 31, 1995

**FINAL**

# Environmental Assessment

## Malama Cultural Park, Kaunakakai, Moloka'i

### Summary Sheet

**PROJECT:** Malama Cultural Park

**Proposing Agency:** State of Hawaii  
Department of Business, Economic Development  
and Tourism

**Accepting Agency:** State of Hawaii  
Department of Business, Economic Development  
and Tourism

**Location:** Kaunakakai, Moloka'i  
County of Maui

**Tax Map Key:** 5-3-01:2, 3, 5, 97, 99, 100

**Land Area:** 11.734 acres

**Landowner:** State of Hawaii  
County of Maui

**Existing Uses:** Vacant; three areas currently under lease for construction equipment storage, LPG operations, and yacht club activities

**Proposed Uses:** Development of a 11.734 acre passive as well as active park to support and enhance the socio-cultural, recreational, and potential economic activities envisioned for the island of Moloka'i. Improvements to include a grassed amphitheater and stage area, arts and crafts center, hula halau pavilion, visitor center, canoe storage facility, immersion school, comfort station, and related infrastructure

# Environmental Assessment

## Malama Cultural Park, Kaunakakai, Moloka'i

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<b>Contents</b>	<b>Page</b>
1 Description of the proposed action	1
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# Environmental Assessment

## Malama Cultural Park, Kaunakakai, Moloka'i

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# 1 Description of the proposed action

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## 1.1 Technical characteristics.

This section describes the purpose of the project and how it would be accomplished.

### 1.1.1 Purpose of the project.

The purpose of the project is to develop a public park which would have as its focus natural and cultural themes expressed through certain physical facilities, plans, operation and management of the park. These themes would be based on the history and prehistory of the site as well as the existing uses of today. The park would provide a focal point for Moloka'i's history and culture. The physical theme of the park would be focused on the natural features of the site which include a wetland, a shoreline, native trees, and historic and prehistoric sites. The cultural theme of the park would be focused on native Hawaiian antiquities, culture, and modern recreational activities popular on Moloka'i including, canoeing, the makahiki, hula, arts and crafts.

### 1.1.2 How the project will be accomplished.

The project could be accomplished through possible community based management by a Community Development Corporation (CDC). Public funds would be used to develop the basic park infrastructure including clearing, grading, landscaping, utilities and main structures. An initial annual funding stream is proposed for operations, maintenance and as start-up expenses for the CDC. This initial annual funding stream would be reduced annually to zero after four years of operation. It is assumed that after four years, the CDC would be able to shift its funding base from public to other sources which could include grants and income from community activities.

### 1.1.3 Dimensions of the project.

The overall site consists of 11.734 acres.

### 1.1.4 Description of the project.

The project would support cultural, recreational and social activities such as makahiki and canoeing events, hula performances, a language immersion school, arts and crafts, Moloka'i history center, learning about endemic plants and endangered native fauna, camping, picnicking, community and family gatherings, fishing, volleyball, horseshoes, walking and beachcombing. The project would include the following facilities to support these activities (see Exhibit I, Site Development Plan and Appendices A, B and C):

- Facilities: Parking, multi-purpose center, restrooms, canoe sheds, picnic tables, arts and crafts workshop and center, administration facilities, hula mound and change area, Moloka'i story center, language immersion campus, wetland natural area.
- Activity areas: Shoreline fishing, canoe storage and launching, makahiki field, camping, picnicking, and recreation.

Landscaping with native Hawaiian trees and shrubs is intended to enhance the theme of the proposed project and is crucial to screening the roads and wetland habitat from the park itself, as well as to provide comforting shade. However, existing kiawe or other non-native trees would remain where practical.

## 1.2 Socio-economic characteristics.

This section discusses the impacts of the proposed project on the community in terms of both social and economic effects.

#### 1.2.1 Economic impacts.

The proposed project would provide generalized economic impacts to the island of Moloka'i through (1) short term benefits 1.2.3 during construction and (2) long-term benefits through the addition of a facility which would provide a gathering place for cultural activities and potential visitor attraction. For example, the annual Moloka'i to Oahu outrigger canoe races and the Makahiki are two typical events which integrate well with the themes for the proposed facility and which would create a cultural synergy should the park be developed. This could have a beneficial effect on Moloka'i's hotel occupancy rate which was 35 percent in June 1992 compared to 58 percent for Maui County and 71 percent for the State. In 1991 there were 8,000 visitors to Kalaupapa which is Moloka'i's major visitor attraction. Many of these visitors do not travel to Kalaupapa via Kaunakakai, but rather arrive directly from (and return directly to) Oahu or Maui.

The project may potentially create between 33 and 100 jobs by the year 2000.

#### 1.2.2 Economic opportunities.

The proposed project would provide several jobs associated with the development and operation of the various facilities while functioning as an economic development project through the synergy of providing a gathering place for work and practice of cultural activities and the arts. In 1991 (according to the State Department of Labor) Moloka'i had an average of about 1,950 jobs during the year. These included the following major categories: (1) nonagricultural and wage and salary jobs, 1,650 (including Hotels, 250 and Government, 550); (2) nonagricultural, self-employed, unpaid family and domestics, 250; and (3) agriculture, 50. In June 1992, Moloka'i's unemployment rate was 11.5 percent of the workforce as compared to 6.4 percent for Maui County and 5 percent for the State.

#### 1.2.3 Targeted segment of the population.

No specific segment of the population is targeted because this would be a public park open to the entire community and island visitors alike.

#### 1.2.4 Population density.

Moloka'i is relatively rural with a low density of population. The 1990 U.S. census for Moloka'i totaled 6,587 persons. The proposed project would have little if any affect on this situation because it would serve existing residents and visitors and does not serve to generate population growth.

#### 1.2.5 Recreational facilities.

The proposed project would benefit existing recreation at the site and on Moloka'i by enhancing public access and opportunities for fishing, canoeing, and other public land and water-side recreational activities.

#### 1.2.6 Child care provisions.

No special child care provisions are proposed at this time however, the park facility may in the future accommodate this use as demanded.

#### 1.2.7 Relocation of residences.

No relocation of residences will occur.

#### 1.2.8 Costs of the proposed project and economic analysis.

The estimated cost of construction and operation is about \$3,369,500. This includes initial annual funding of a non-profit Community Development Corporation to operate the park. This amount would initially be \$100,000 and would decline to zero funding by the year 2000 based on the assumption that the CDC would supplement public funding with other sources such as grants or other income. Also an estimated \$80,000 annually is required to fund operation and maintenance of the park which

includes the salary of a resident care-taker.

After construction of the project, about 15 full-time jobs would be generated. Initially some of these positions would be publicly funded up until the year 2000 when the CDC would assume all operation and maintenance costs (CDC funding for year 1 = \$100,000, year 2 = \$75,000, year 3 = \$50,000, year 4 = \$25,000, year 5 = 0). These jobs would then be funded by other sources generated by the CDC. Additional jobs may be created through the activities of the CDC, but these would depend on the policies and programs which are ultimately developed. Between 33 to 100 jobs could be created by the year 2000 depending on strategies chosen by the CDC. The project would have an overall economic benefit to Kaunakakai and the island of Moloka'i since it would provide a focal point or gateway to Kaunakakai. It would also provide an attractive public park in Kaunakakai overlooking the harbor and promote cultural tourism elements.

The proposed cultural features to be included in this park are intended to serve and benefit island residents as well as visitors. By making the town (and Moloka'i) more attractive to island visitors, economic stimulation will occur as a result of increased visitor spending and the creation of new service industries to meet island visitor market demands.

### 1.3 Environmental characteristics.

This section discusses the potential effects of the proposed project on the physical environment. (see Appendix D, Photographs of Site)

#### 1.3.1 Aesthetics.

The proposed project would enhance the existing site and surrounding environment by providing a landscaped park. A degraded wetland area would be enhanced and restored. The area would be more attractive and inviting to the public. Preservation and restoration of historic and archeological

features on the site would emphasize the importance of the "mauka-makai" relationship to the Hawaiian people and restore unique cultural features as focal points along the shorefront.

#### 1.3.2 Air.

There would be some effects during construction from on-site heavy equipment but it would be mitigated per county and state rules. There would be no long term effects since the proposed project includes no air pollution sources and would not generate significant differences in traffic from the existing conditions.

#### 1.3.3 Traffic.

There would be some change and possible minor improvement in traffic patterns because the proposed park would not include the commercial truck traffic which is now generated on the site. However, this may be offset by a marginal increase in private vehicle traffic over the existing levels now occurring at the site.

#### 1.3.4 Noise.

There would be a reduction in noise levels due the displacement of existing commercial trucks and heavy equipment operations from the site. Noise levels during normal park operation would not be significantly different than existing conditions.

#### 1.3.5 Water quality.

Water quality may improve slightly because of the displacement of commercial activities from the site so that any drainage into the groundwater, wetlands or coastal waters would cease. The proposed park would have no adverse effects on water quality and would include hook-ups to the existing Kaunakakai sewer system. The proposed landscaping would aid in retaining surface runoff.

### 1.3.6 Other environmental effects.

Within the proposed project area, an existing permanent pool wetland (a feeding area for native Hawaiian Stilts) at the site would be enhanced and preserved while an existing degraded wetland, with no permanent standing water, will be filled. These actions would be accomplished in accordance with existing federal, state and county regulations regarding wetlands.

## 2 Description of the affected environment

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### 2.1 Project location.

The proposed project is located on Moloka'i's south shore (Exhibit 2, Location Map), in Kaunakakai, near the State's commercial harbor. It is accessed by Kaunakakai Place (which leads to the State Harbor from the intersection of the Maunaloa Kamehameha V Highway and Ala Malama Avenue), and from Hio Place off Kaunakakai Place (Exhibit 3, Site Map).

### 2.2 Land ownership and tenancy.

Land ownership of the Malama Cultural Park site is shared between the County of Maui (7.14 acres, under the jurisdiction of the Department of Parks and Recreation) and the State of Hawaii (4.594 acres, under jurisdiction of the Harbors Division) (see Appendix E - Land Ownership, for the tax map and additional ownership information). The portions of the site now owned by Maui County were previously owned by the U.S. Coast Guard which left a building on the site (3.79 acres, leased by the Department of Parks and Recreation to the Moloka'i Yacht Club) (see Appendix F - TMK 5-3-01:3 Deed, for a copy of the deed and its performance provisions). The County also leases a portion of their property to Goodfellow Construction Company (0.35 acres, estimated). The State leases small portions of their land to Gasco,

Incorporated (0.289 acres); Boswell Trucking (0.289 acres); and Moloka'i Canoe Club (0.227 acres). The acreage figures above, and in Appendix E, next page, are from property tax records and may not reflect present-day shoreline areas, beaches, eroded or accreted lands. Within one year prior to application for construction permits, a survey should be made to obtain a certification of the shoreline. Based on the review of historic maps and aerial photographs, the shoreline has accreted.

It should be noted that when parcel TMK 5-3-01:3 was transferred to the County of Maui by the U.S. Department of the Interior, the deed retained non-exclusive easements so that the U.S. Coast Guard could operate and maintain the navigational range lights on the site. Other provisions of the deed include the following:

- The property must be used for park and recreational purposes by the general public.
- Maui County must submit reports every two years to the Department of Interior describing the use of the property during the previous two years. These uses must comply with all regulations of the Department of Interior and the U.S. Civil Rights Act of 1964.

### 2.3 Land use.

At present about 6.796 acres are open to public use and the remaining 4.938 acres are in private use. Activities in the public areas include canoe launching, canoe practice and racing (offshore), shoreline fishing and some small craft mooring (offshore) and launching. Approximately three dilapidated and illegal structures (two are on county land and one is on state land) are used by fishermen. Over the years, efforts have been made by the community to clean the site and to protect the significant Malama platform structure. In general, the area is in a state of disrepair and poses

health and safety issues as a result of illegal dumping.

In the areas currently under lease, the three commercial operators operate and maintain trucks and equipment, and store materials and supplies including petroleum products.

The Moloka'i Yacht Club is a membership club and one of its activities includes an annual fishing tournament. The Moloka'i Canoe Club is the largest on Moloka'i and as one of three clubs on Moloka'i, enjoys the only lease and a permanent launching area within the project site.

#### 2.4 Land and related water use plans.

##### Maui County.

- The *Moloka'i Community Plan of the County of Maui* (January 1984) indicates that the majority of land area at the proposed project site is in use as Park (PK), and that the minority portions of the site are in use as Public/Quasi Public (P). The entire site is proposed to be used in the future for Park/Golf Course uses. This plan was completed on June 14, 1995 and has been forwarded to the Maui County Council for their review and acceptance.
- In the *Drainage Master Plan for Kaunakakai, Moloka'i, Hawaii* (August 1992) a portion of the proposed improvements termed "System B2" (a 5-foot wide, 2-foot deep concrete box culvert) is aligned to the north of Hio Place. The proposed system does not directly affect the proposed park or its uses, and could even improve drainage conditions in the proposed park. The master plan has been completed by a contractor for the Department of Public Works.
- The State Harbors Division (March 1988, *2010 Plan for Kaunakakai Harbor*) is planning improvements to Kaunakakai

Harbor. Improvements include the expansion of the turning basin, expansion of commercial land area and the extension of the pier. None of these directly affect the proposed project, although discussions have been held with the Department of Transportation, Harbors Division to consider minor dredging of the canoe launching areas across the reef from the park to open water along with the dredging of the proposed turning basin. This effort is not scheduled at present, but would benefit the Park and canoe paddlers in the long-term.

#### 2.5 Flora.

The majority of the site is bare earth and unvegetated. Portions of the site are covered with pickleweed and kiawe, and there is a strand of milo trees along the eastern edge of the site, bordering Kaunakakai Place.

#### 2.6 Fauna.

Native Hawaiian Stilts were observed in the permanent pool wetland area (see Section 2.7) located within the project site. Feral cats, mice, rats, mongoose and other introduced species of avifauna were also observed.

#### 2.7 Wetlands.

There are two areas of wetland plants on the site (see Appendix G - Wetland Survey, for description of the wetland areas and a listing of botanical species). One area is located near the Moloka'i Yacht Club at the western edge of the site. It consists of a permanent pool (brackish) bordered by wetland vegetation. The pool appears to be a remnant stream that is narrow and elongated with a slight curve. It adjoins County and private property and native Hawaiian Stilts have been observed feeding in the pool. This permanent pool area is threatened by the frequent dumping of trash, but is restorable and could be protected as a habitat for native species.

The second area is approximately located at the center of the site. Its vegetation consists of pickleweed which is not native to Hawaii and it has no permanent pool. This area is adjacent to the Malama House platform (see Section 2.8) and has been severely degraded as a result of ongoing illegal dumping and filling activities.

#### 2.8 Historic, archaeological and cultural sites.

The proposed project includes the Malama House platform which is known to have been the residence of Kamehameha V. The proposed project has been closely coordinated with the Historic Preservation Division (HPD) of the State Department of Land and Natural Resources (DLNR) and both surface surveys and two exploratory test excavations have been carried out by a professional archaeologist working in coordination with the HPD. This work has resulted in detailed recommendations [Tuggle, H. David Ph.D., Malama Platform Archaeology: 1992 Excavations for Cultural Park Planning (Draft), January 1993] for historic preservation of the sites' features and these recommendations have been incorporated in the overall plan for the Malama Cultural Park.

#### 2.9 Natural resources.

The site is surrounded by lands in an unnatural state including residential, commercial, paved major and ancillary roadways, and unvegetated filled areas.

#### 2.10 Adjacent sensitive habitats or bodies of water.

The proposed project is adjacent to the shoreline and includes a beach which is used for fishing and the launching of canoes and small craft. Although the beach and ocean front are key features of the proposed Malama Cultural Park, no construction is proposed for these sensitive areas.

### 3 Major Impacts and Alternatives Considered

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#### 3.1 Positive significant impacts.

The project provides the following positive impacts which are considered to be beneficial to Moloka'i, but which are not considered adverse in terms of its impacts on the environment.

- Construction of a public park would provide additional recreational and cultural opportunities to the community.
- The proposed project will aid in improving the overall attractiveness of the area to island visitors and as a result provide economic growth and benefits.
- The proposed project, with its landscaping, would improve the visual character of this shoreline area while increasing public access.
- The proposed project is expected to create 15 jobs by 1998 and between 33 to 100 jobs by the year 2000.

#### 3.2 Negative significant impacts.

There are no anticipated adverse impacts as a result of the proposed project which could not be mitigated.

#### 3.3 Alternatives considered, if applicable.

Alternative uses for this site have been considered over the years because of the phasing out of pineapple production on Moloka'i and the demise of pineapple shipping operations which occurred predominantly at the project site. This, coupled with the release of the U.S. Coast Guard facility, presents an opportunity for public use of this shoreline area in

Kaunakakai. Previously, community planning efforts during evaluation of alternative uses arrived at a consensus that a public park was the most appropriate use for these public lands. This effort resulted in the preparation of the Moloka'i Community Plan (January 1984) which designated the site for park development. This plan was subsequently followed-up by the preparation of a proposed Master Plan for a Beach Park at Kaunakakai, Moloka'i (November 21, 1988, Department of Parks and Recreation, County of Maui, prepared by David W. Curtis, AIA).

The present proposal (see Appendices A, B, and C) has evolved from these earlier planning activities and continued to envision the site to be used as a public park with a more cultural perspective. In this sense, the present planning efforts did not examine other alternate uses of the land, but rather at uses within the context of a public park as well as the physical location and cultural context of the site. For example, it is the present effort which identified the existence of the wetlands which has led to its proposed preservation and restoration as a potential park feature as well as the interpretation of significant historic sites.

## 4 Proposed mitigation measures

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### 4.1 Potential problems and appropriate mitigation including best management practices.

The proposed plan includes filling and landscaping of the degraded wetland in the center of the park, adjacent to the Malama House Platform. However, the plan proposes to preserve and enhance the permanent pool wetland at the western boundary of the site. The proposed project would clean the permanent pool of debris and foreign material and establish landscaping along the banks, and inland, to form a buffer between the

wetland on one side and the park and its human activities on the other. The intent of these actions is to enhance the permanent pool wetland habitat for use by the endangered Hawaiian Stilts or other native avifauna. A public viewing overlook has been included in the conceptual plan as has additional and significant landscaping with shrubs to screen the wetland habitat from the proposed Malama Cultural Park in order to provide a more inviting location for water birds and to minimize human intrusion.

### 4.2 Mitigation or preservation plan prepared for the Department of Land and Natural Resources State Historic Preservation Division.

A detailed archaeological site report providing recommendations for preservation and enhancement has been compiled as part of the Malama Cultural Park main report (Tuggle, H. David, Ph.D., *Malama Platform Archeology: 1992 excavations for cultural park planning (draft)*, January, 1993). The Malama Cultural Park architectural program (see Appendix A). These recommendations are incorporated in the design of the structures proposed for the park as well as in the layout and landscaping. The main Malama Cultural Park report presents the synthesis of these two reports, and of environmental and planning recommendations made during the planning process by the community and by all consultants on the planning team.

### 4.3 DLNR, Historic Preservation Division correspondence and agreements

As a result of the current State fiscal situation, inadequate funds are available at this time to prepare and implement a historic sites preservation plan. As such, a meeting was held with the DLNR, Historic Preservation Division to examine the possible phasing of preservation requirements while at the same time allowing design and construction of certain aspects of the Malama Cultural Park project to move forward. The

meeting resulted in the following agreements (see Appendix J):

- Detailed design work for Phase I construction (civil/site work, landscaping, paving, and parking) will provide interim measures to protect the three archaeological sites -- (a) a subsurface cultural deposit (60-03-630); and old pier (60-03-890); and the Malama platform (60-03-1030). Prior to beginning Phase I work, the contractor shall have a qualified archaeologist establish buffer zones for the three archaeological sites. Temporary construction fencing shall be erected to signify the location of buffer zones. During the execution of Phase I work, the contractor's archaeological monitor may make modifications to the buffer zones, if needed.
- Archaeological monitoring for Phase I construction will be stated as a required service of the selected contractor within the final bid drawings and specifications for the project.
- Design plans and drawings for interim archaeological site protective measures will be coordinated with the DLNR, Historic Preservation Division.
- Additional funds will be sought from the legislature to undertake an archaeological interpretive plan which will be coordinated with the DLNR, Historic Preservation Division and implemented during the Malama Cultural Park Phase II design and construction.

#### 4.4 Harbor Navigational Range Lights

The forward and rear harbor navigational range lights are crucial to the safety of vessels entering the harbor. As such, detailed

design work for the park will insure that the navigational range lights are not obscured in order to avoid potential navigational hazards for vessels entering the harbor.

## 5 Determination

### 5.1 Determination

The proposed Malama Cultural Park project is not anticipated to cause significant negative impacts to the environment. It has therefore, been determined that a negative declaration will be issued.

### 5.2 Findings and reasons supporting determination

The following findings are based on the information provided above:

- The proposed project will not involve an irrevocable commitment to the loss or destruction to any natural or cultural resource. Measures have been coordinated with the DLNR, Historic Preservation Division to phase the preparation and implementation of a "preservation plan" for the three significant archaeological sites;
- The proposed project will not curtail the range of beneficial uses of the environment;
- The proposed project will not conflict with the State's long-term environmental policies;
- The proposed project will not substantially affect the economic or social welfare of the community or State. Development of this project will ultimately promote social and cultural aspects of the community while at the same time enhancing the economy through the creation of jobs and as a potential visitor attraction and destination;

• The proposed project will not involve substantial secondary impacts, such as population changes or effects on public facilities;

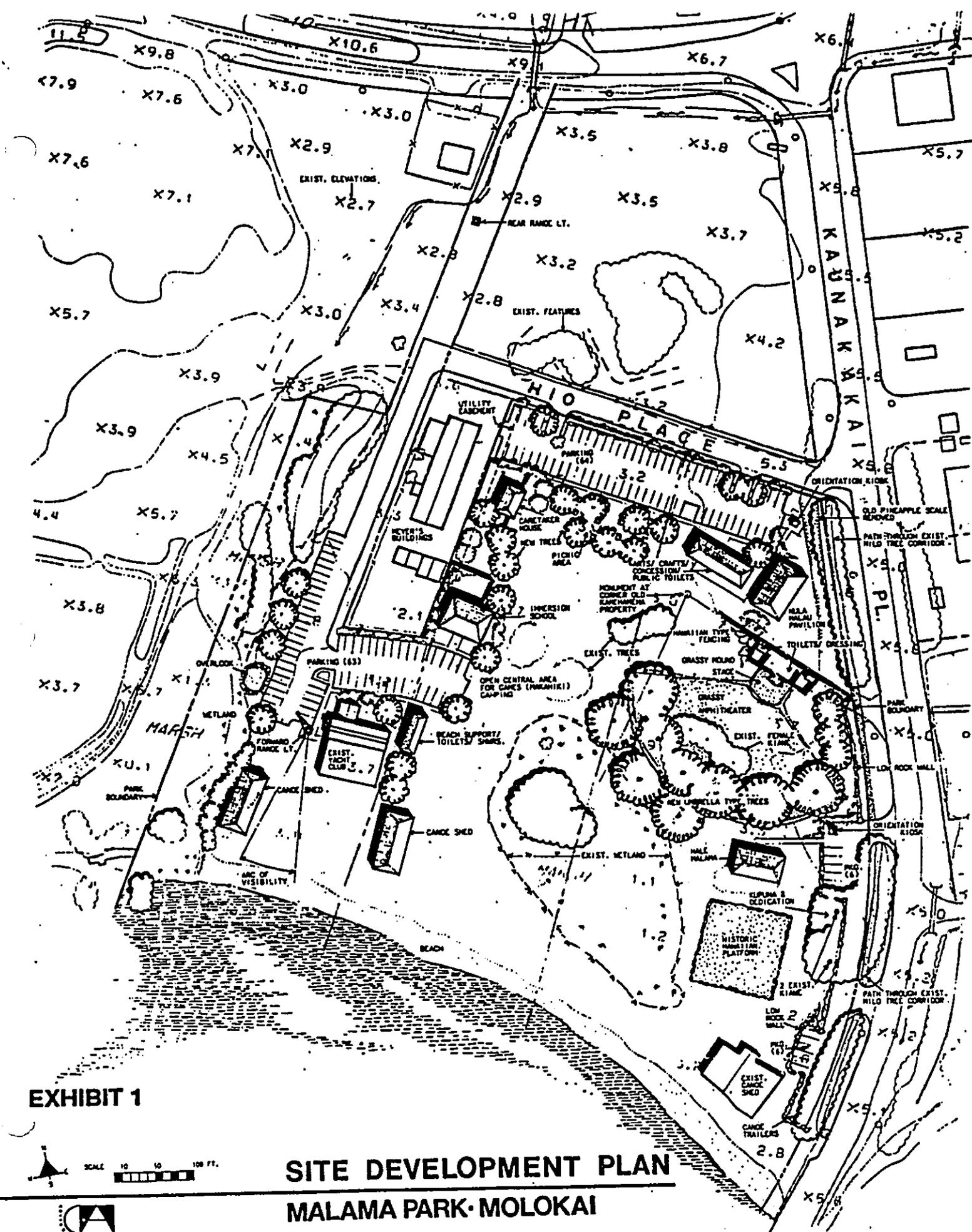
• The proposed project will not involve a substantial degradation of environmental quality;

• The proposed project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat. Measures have been coordinated with the Corps of Engineers to enhance an existing wetland to perpetuate the use of the area as a Hawaiian Stilt feeding and potential nesting site.

• The proposed project will not detrimentally affect air or water quality or ambient noise levels; and

For the reasons above, the proposed project will not have any significant effect in the context of Chapter 343, Hawaii Revised Statutes and §11-200-12, Hawaii Administrative Rules.

**Exhibit 1**  
**Site Development Plan**



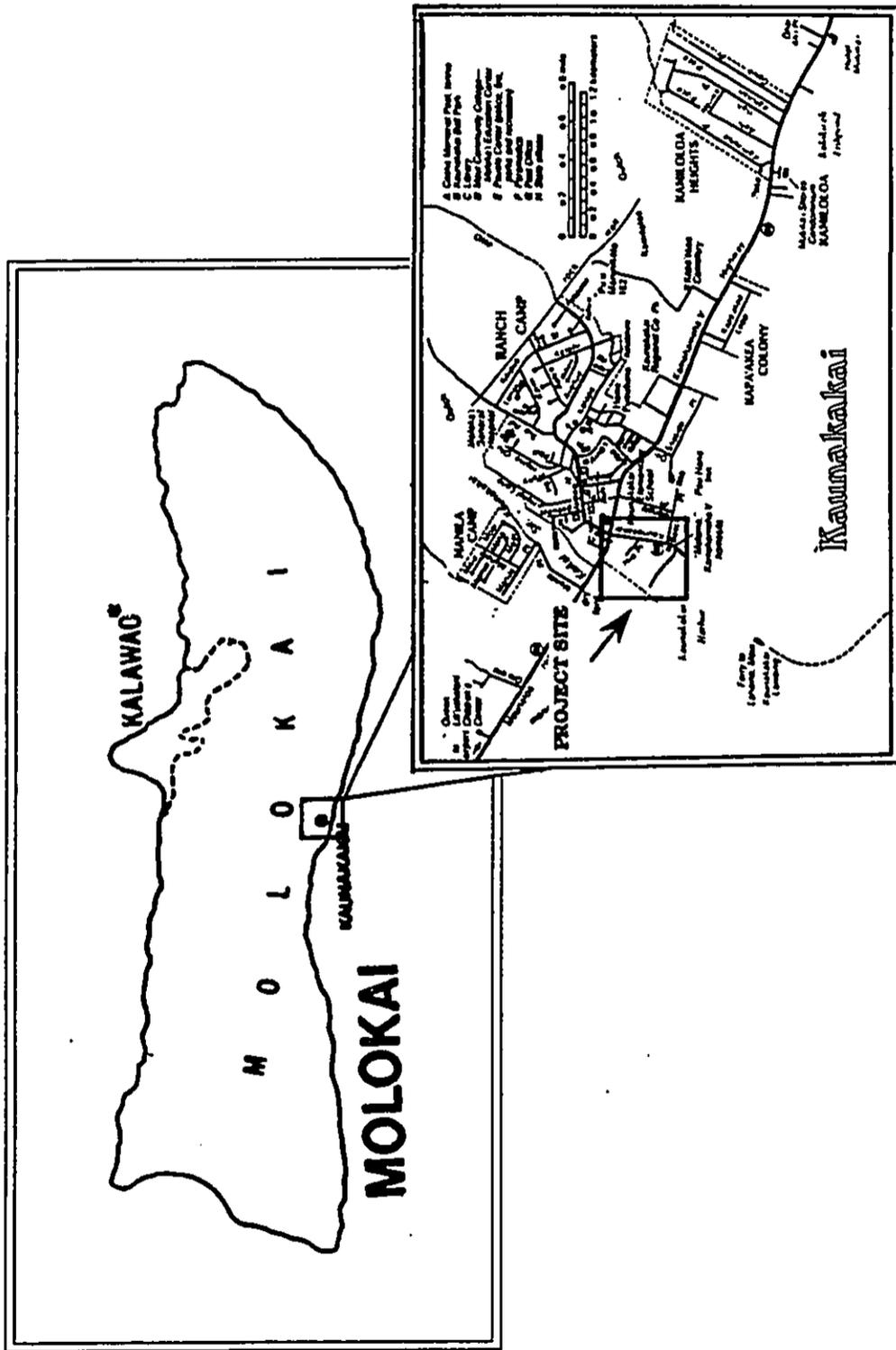
**EXHIBIT 1**



**SITE DEVELOPMENT PLAN  
MALAMA PARK · MOLOKAI**



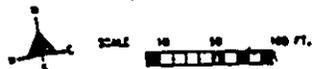
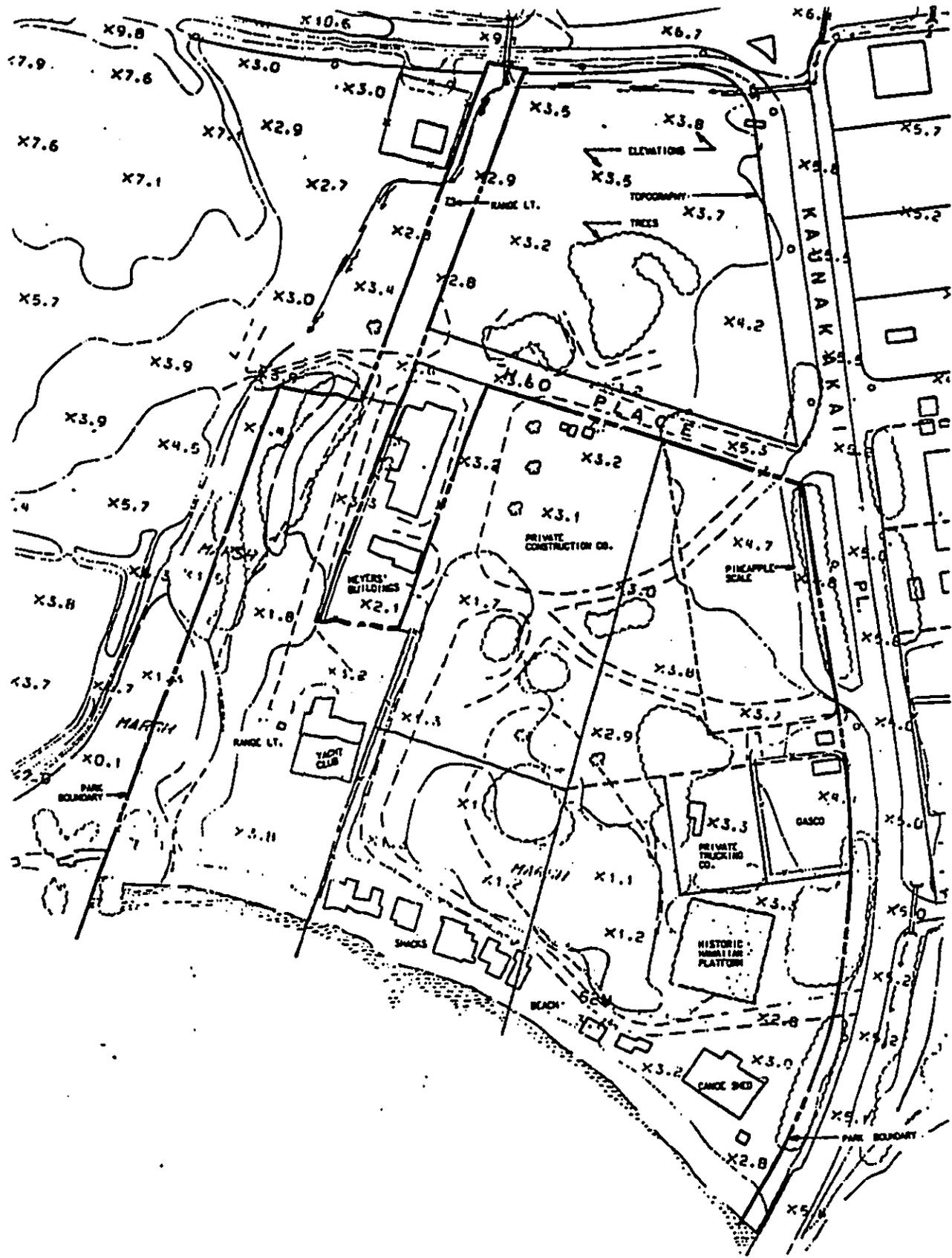
**Exhibit 2**  
**Location Map**



**LOCATION MAP  
MALAMA CULTURAL PARK • MOLOKAI**

EXHIBIT 2

**Exhibit 3**  
**Site Map**



**SITE MAP**  
**MALAMA CULTURAL PARK • MOLOKAI**

**EXHIBIT 3**

**Appendix A**  
**Malama Cultural Park -- Architectural Program**



**MALAMA  
CULTURAL PARK**

**CULTURAL  
PLANS**

A Community-Based Plan  
Developed for the Moloka'i Community  
By COATES ASSOCIATES  
For Tom Coffman Multimedia  
Under a contract with the State of Hawai'i  
Department of Business, Economic Development & Tourism

**ARCHITECTURAL PROGRAM**  
**MALAMA PARK** **KAUNAKAKAI, MOLOKAI**

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## **1 INTENT**

**This Architectural Program serves as a guide for the physical design of Malama Park. It locates the determined uses of the Park and proposes design criteria for each use and for the Park as a whole. The overall and the interrelated physical development of the Park has been considered, the proposed uses considered, and the purpose of Malama Park considered in order to propose the design criteria. These criteria will:**

- a. help to insure cohesion,**
- b. help to insure the physical recognition of theme, and**
- c. provide a receptive setting for future community uses contributing to the purposes of the Park.**

**The uses and the criteria presented here are the basic guidelines for development. They are meant as minimal physical controls for current and future physical development. Some are dictated by laws, ordinances, or by workable construction practices, but for the most part they are guidelines just sufficient to create a park with the function and the look of its purpose. Future elaboration of the criteria is predicted according on the requirements of the people of Molokai and the organization responsible for park development.**

**It is recommended that the organization responsible for park development set up a reviewing body (board, committee, consultant, or other) to review design proposals against the Architectural Program. Expert opinion should be utilized by the reviewing body when altering or adding to the Architectural Program.**

## 2 SITE PLANS

Three site plans are included:

2.1 Existing Site Plan. This plan was prepared from a map titled "Aerial Topographic Mapping of Kaunakakai, Island of Molokai" provided by the Maui County Department of Public Works. It is the basic map of all the site plans. It does not represent an on-the-ground engineering survey. By means of informal on site recognizance we added the Hawaiian platform and made a few adjustments to types and locations of other features. We checked the map against the Tax Map (5-3-01) to verify property boundaries.

2.2 Site Development Plan. This plan shows the proposed park layout, locating proposed structures, parking, general planting, and the major physical features. It proposes the removal of the shacks along the beach, the pineapple scale and some lesser trees.

2.3 Utility Extension Plan. This plan indicates likely extensions necessary from the existing utilities. No engineering studies have been done to determine the exact sizing and routing of the utilities.

Preliminary discussions with Maui County engineers indicated that there is a provision to connect the sewer extension to an existing 8-inch diameter stub nearly 10 feet below the surface at a manhole along Kaunakakai Place. High ground water in the Park area will necessitate dewatering during sewer construction.

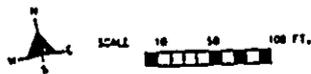
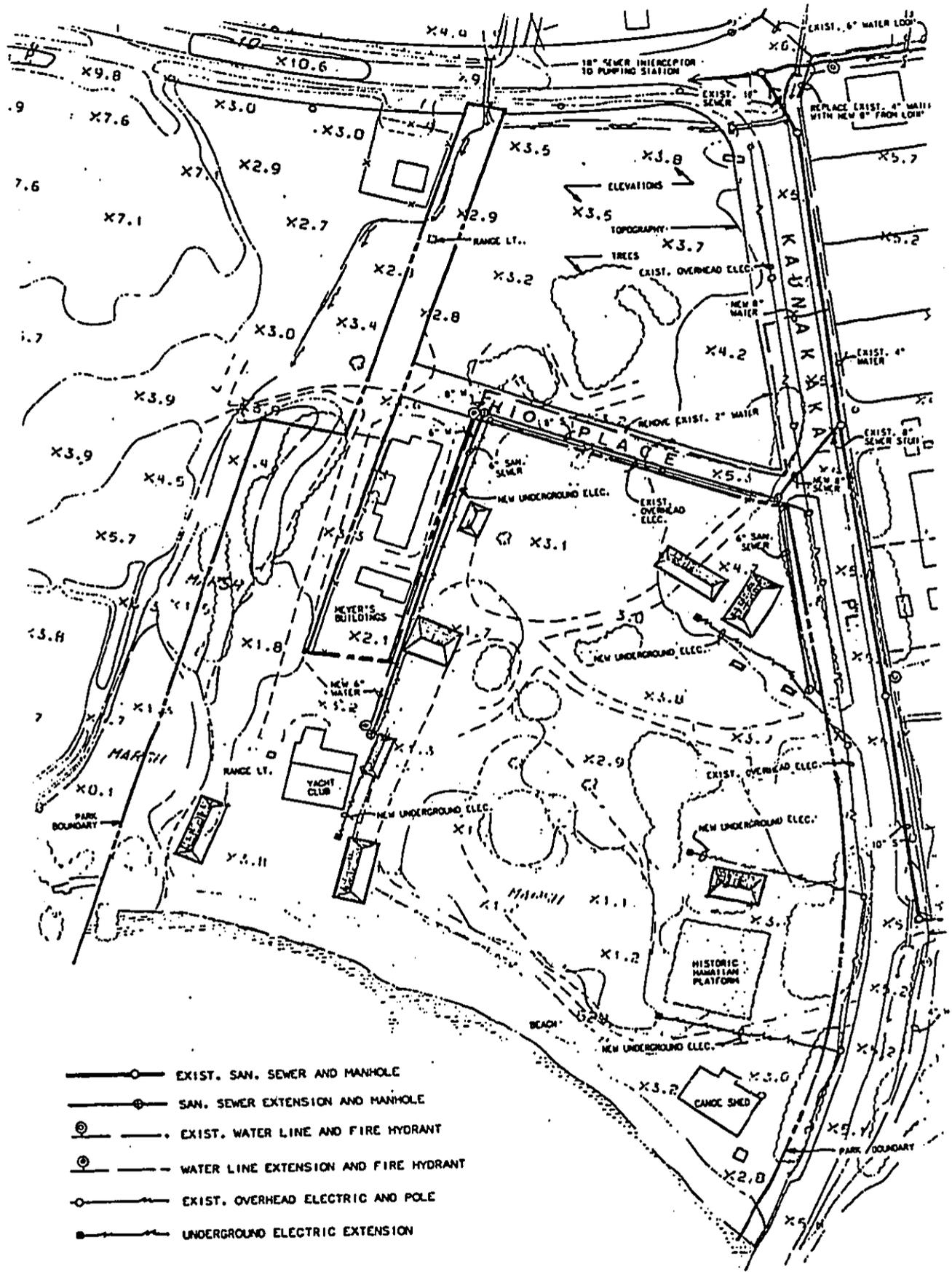
The current 2-inch diameter water line to the site is inadequate for fire protection and must be replaced with a larger line. A portion of the 4-inch diameter line along Kaunakakai Place will also have to be replaced so that a new 8-inch diameter line can extend from the water loop at the highway all the way to the site. Fire hydrants will likely be required—the exact number to be determined later.

According to Maui Electric Company, the existing overhead service along Kaunakakai Place is 12.47 kv, 3-phase primary service. The existing overhead along Hio Place is 1.2 kv, single-phase primary service.

A utility easement should be provided and maintained on the Park property adjacent to the Meyer's property.







## UTILITY EXTENSION PLAN MALAMA PARK, MOLOKAI



### 3 GENERAL PARK DESIGN CRITERIA



HOUSES ON MOLOKAI - photograph from the Robert E. Van Dyke collection as included in *Six Months in the Sandwich Islands*.



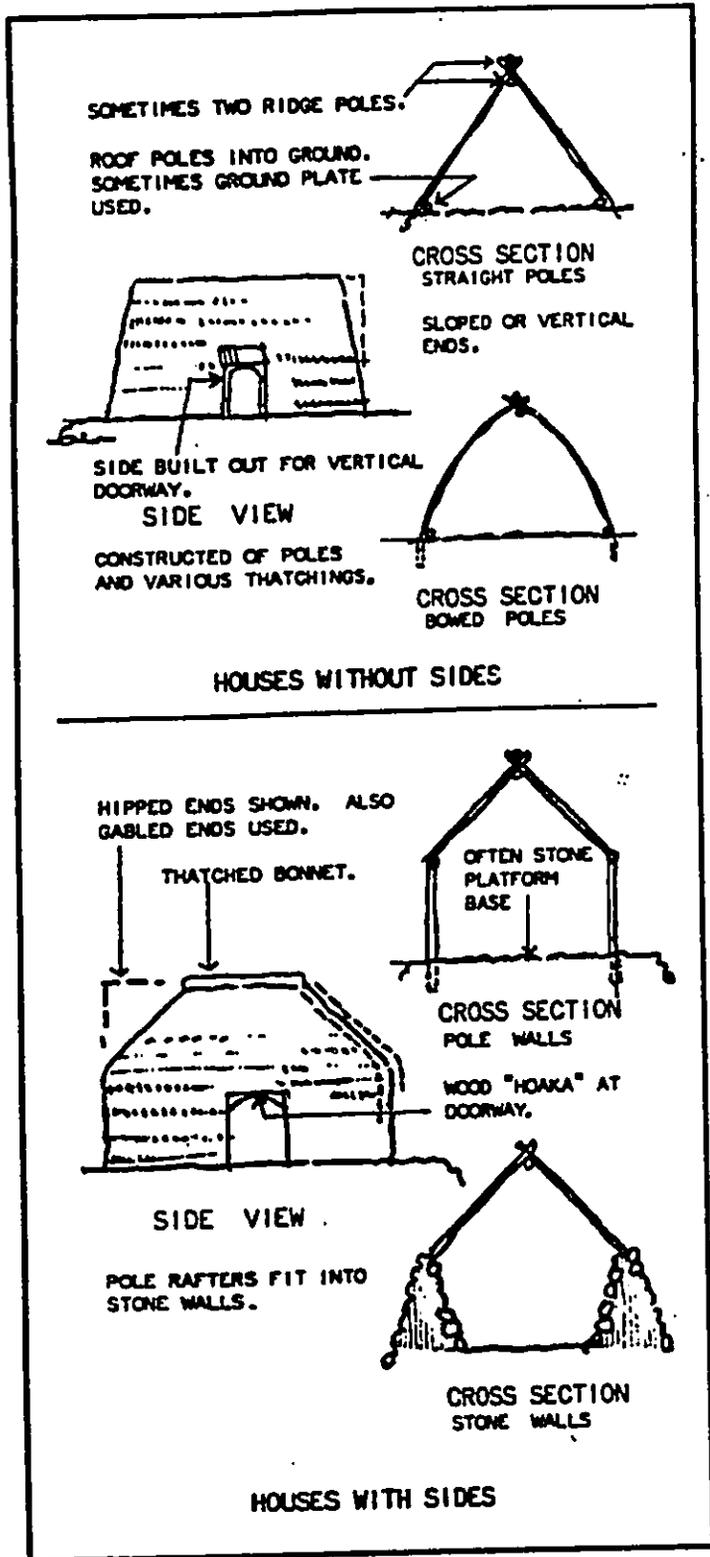
HONOLULU, 1816 - drawing by Louis Choris, Hawaii State Archives.



HAWAIIAN HOUSE, 1925 - Bishop Museum photo.

**3.1 Building Form.** The story of Molokai begins with the first inhabitants and continues with the present citizens of that island. It has been suggested that Malama Park should remind us of this past while supporting contemporary activities linked to this past: that is, conscious of the Hawaiian beginning, yet alive for today and for the future. In Malama Park the old platform, the occasional artifact, and the old stories remind us that the past of Molokai is an Hawaiian past. It is intended that the Park retain these Hawaiian things, add discoveries, and be constructed to remind us of this past. The design criteria have been created to support these ideas.

Duplication or re-creation of old Hawaiian construction could remind us of the past, but the old construction practices would not suffice as infrastructure for many contemporary uses or for today's planning demands. Many of the proposed park uses did not exist in precontact times and so there has been no Hawaiian construction developed to accommodate them (uses such as the Immersion School, concessions, toilets). Pure Hawaiian building construction



HAWAIIAN HOUSE FORMS

using lashed poles and pili or other thatch is maintenance intensive, not suitable for today's management and funding constraints. But the forms (simple rectangular plans with steep roofs) are distinctive. The form alone is a reminder of the Hawaiian nature of Malama Park, and in this instance it can be adapted for the uses required.

We suggest that the designer use one or more of the Hawaiian house forms illustrated here for all buildings except the canoe sheds, which should be of similar but separate Traditional Form. The resources for building form are:

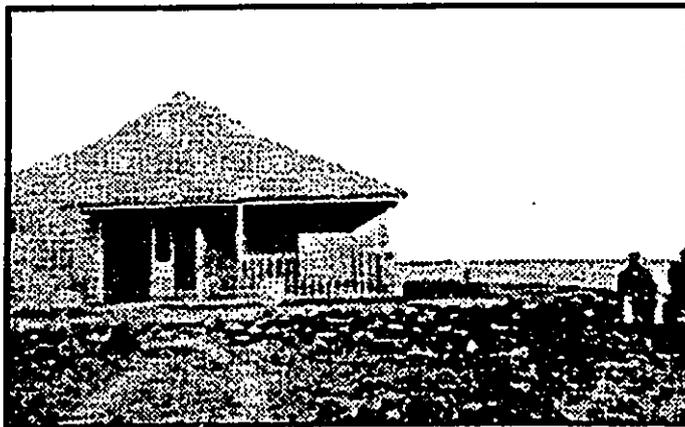
- a. Hawaiian House Forms: Arts and Crafts of Hawaii, II Houses by Te Rangi Hiroa (Peter H. Buck), Bernice P. Bishop Museum Special Publication 45, 1964.
- b. Hawaiian Canoe Shed Forms: Photograph by Mabel Putnam Chilson, Bishop Museum negative number CN 75104.

The Hawaiian Canoe by Tommy Holmes.

Besides consideration of form it will be very important to minimize the use of materials not original to Hawaii. It is practically impossible to use only the old materials, but

when substitutions are made, the character and manner of use of the old material should be considered. For the building design criteria we have selected the use of wood shingles or shakes in lieu of pili or other thatching. Thatching is not excluded from use in the Park, but pili is difficult to gather nowadays and maintenance is constant. Wood shingles and shakes are at least of a natural fibrous material lending themselves to application on the Hawaiian building forms. With age, they will turn a color and texture somewhat reminiscent of thatch.

- 3.2 Site Features. Aside from the constraints of property boundaries, boundary streets, and the ocean, the Park site has certain interior features to be preserved and brought to the attention of the users:



HOUSE OF KAMEHAMEHA V ON THE PLATFORM

- a. Historic Hawaiian Platform. Archeological information to date has not determined the original use of the platform. It is known that Kamehameha V had a house built on it. Later a church was built on the site. Currently nothing stands on the platform.

- b. Wetland: Current laws dictate that this area be preserved unless replacement by an equal or more extensive wetland can be accomplished.
- c. Coast Guard Range Lights: These marine navigational aids are on the site by legal agreement with the U.S. Coast Guard. The area within the 20° "Arc of Visibility" must be kept clear of structures interfering with the sighting of the front light (Range Light No. 28605) from the sea.
- d. Kamehameha Property Line: A portion of the old Royal property is included on the site. Although not apparent today, the property corner should be located and enhanced by the reconstruction of a fence section on the line. The fence should be Hawaiian in character.

- 3.3 Engineering Investigations: Prior to the detailed design of structures, utilities, landscaping, and all physical features of the Park, these engineering studies will be

needed:

- a. Engineering land survey. This should be an on-the-ground survey to locate all existing physical features of the site including topography, extent of wetlands, location of on and off site utilities, the Hawaiian platform location, high tide line, flood zone line, buildings, fences, trees, poles, etc. The survey should be performed after relocation of existing site uses scheduled for relocation has occurred.
- b. Soils investigation. The site is nearly at sea level with high ground water. The investigation should determine the types and depths of soils to a depth necessary for one or two story construction. It should recommend building foundation types, methods to mitigate the effects of groundwater on utilities and other construction, and provide information useful to determine planting varieties.

3.4 Codes and Ordinances: Construction design and use will need to satisfy the requirements of certain Maui County and State Agencies. The following list may not be inclusive of all agencies tasked with reviewing and permitting public construction on Molokai:

- a. Maui County Department of Public Works (building permits building codes administration, land use, wastewater, roads)
- b. Maui County Department of Water Supply (water use and connections)
- c. Maui County Fire Department (fire protection reviews)
- d. Maui County Department of Parks and Recreation (park administration)
- e. Maui County Planning Department (zoning, land use)
- f. State of Hawaii Department of Transportation (use and maintenance of Kaunakakai Place)
- g. State of Hawaii Department of Health (wastewater disposal, public toilets, food concessions)
- h. Maui Electric Company (electrical supply and extensions)
- i. Hawaiian Telephone (telephone connections)

Each of these agencies (and additional agencies as may be included as sources of funding) will apply certain codes, ordinances and standards to the design and construction of the Park and its structures.

The land to become Malama Park is currently zoned "Interim" as defined in the Maui County zoning ordinances. This zoning may need to be changed prior to design and construction of the Park. If so, the designated zoning (likely to be one of the "Park District Zones") will be reviewed by the appropriate planning commission for conformance to the Molokai Community Plan, the State Land Use Plan, the Maui General Plan, and other public considerations. Currently, there are three Park Zones

in the Maui County Zoning Ordinance:

- a. PK-1 for Neighborhood Park Districts,
- b. PK-2 for Community Park Districts,
- c. PK-3 for Regional Park Districts.

Further study and consultation is recommended to determine which of (and if) these zones apply. It seems likely that PK-2 for community parks should apply except that there is a minimum land area requirement of 25 acres for such a park. Malama Park will be about 12 acres in area.

Maui County, as of January 1993, has adopted these building codes with amendments added:

- a. The Uniform Building Code, 1985 edition.
- b. The National Electric Code, 1987 edition.
- c. The Uniform Plumbing Code, 1979 edition.

The U.S. Americans with Disabilities Act-Title III contains design requirements (applicable as of January 26, 1993) for new public buildings.

#### 4 BUILDING DESIGN CRITERIA

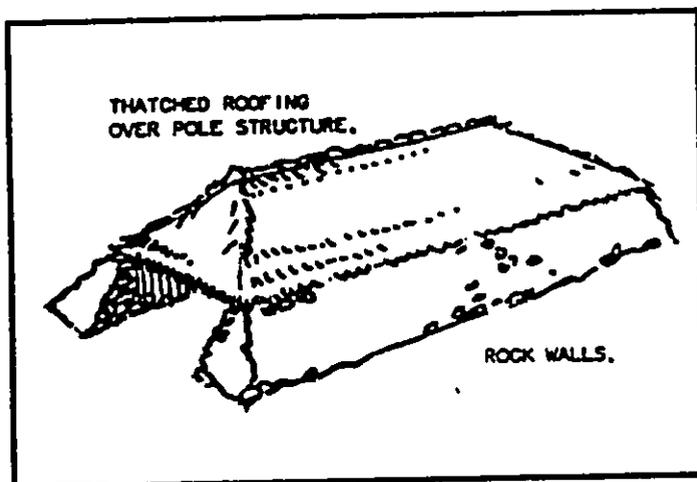
- 4.1 General. The rectangular plan, Hawaiian building form, and shingled exterior are design requirements discussed above. This plan and form should not be compromised by windows, roof overhangs, gutters, or any other feature inconsiderate of the original forms. There are two design approaches to achieving the use requirements while retaining the form:
- The form may be constructed as a shell to shade and surround a contemporary inner structure, or:
  - The form may itself be the exterior walls and roof of the structure. In this case the use would be one very compatible with the form such as a canoe shed or hula halau structure. Glazed openings or other exterior wall inconsistencies are not needed in such structures.

General building design requirements for this "Traditional Form" are shown on the following page.

Each building connected to the water system must also be connected to the public sewer system. Adequate fire protection acceptable to the Maui County Fire Marshall must be afforded each building.

Each proposed park use with its associated structure is discussed in the following sub-sections.

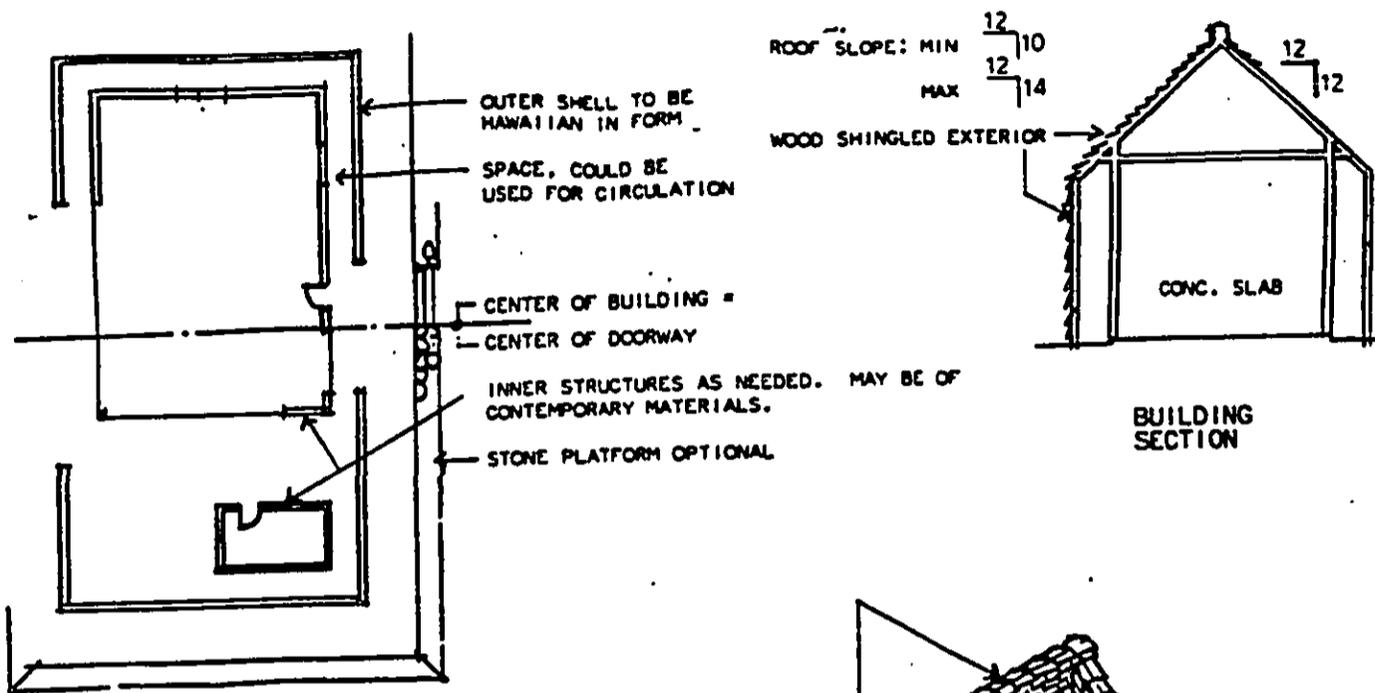
- 4.2 Canoe Sheds-(Hale Wa'a). Two common types of Hawaiian canoe sheds are mentioned in The Hawaiian Canoe by Holmes are:



CANOE SHED WITH ROCK WALLS

- Pitched thatched roof with stone side walls, and
- Pitched thatched roof with open walls, roof supported on poles.

The proposed new canoe sheds should be modeled after these forms. The sheds should be about 30 feet wide and 70 feet long to accommodate 4 to 6



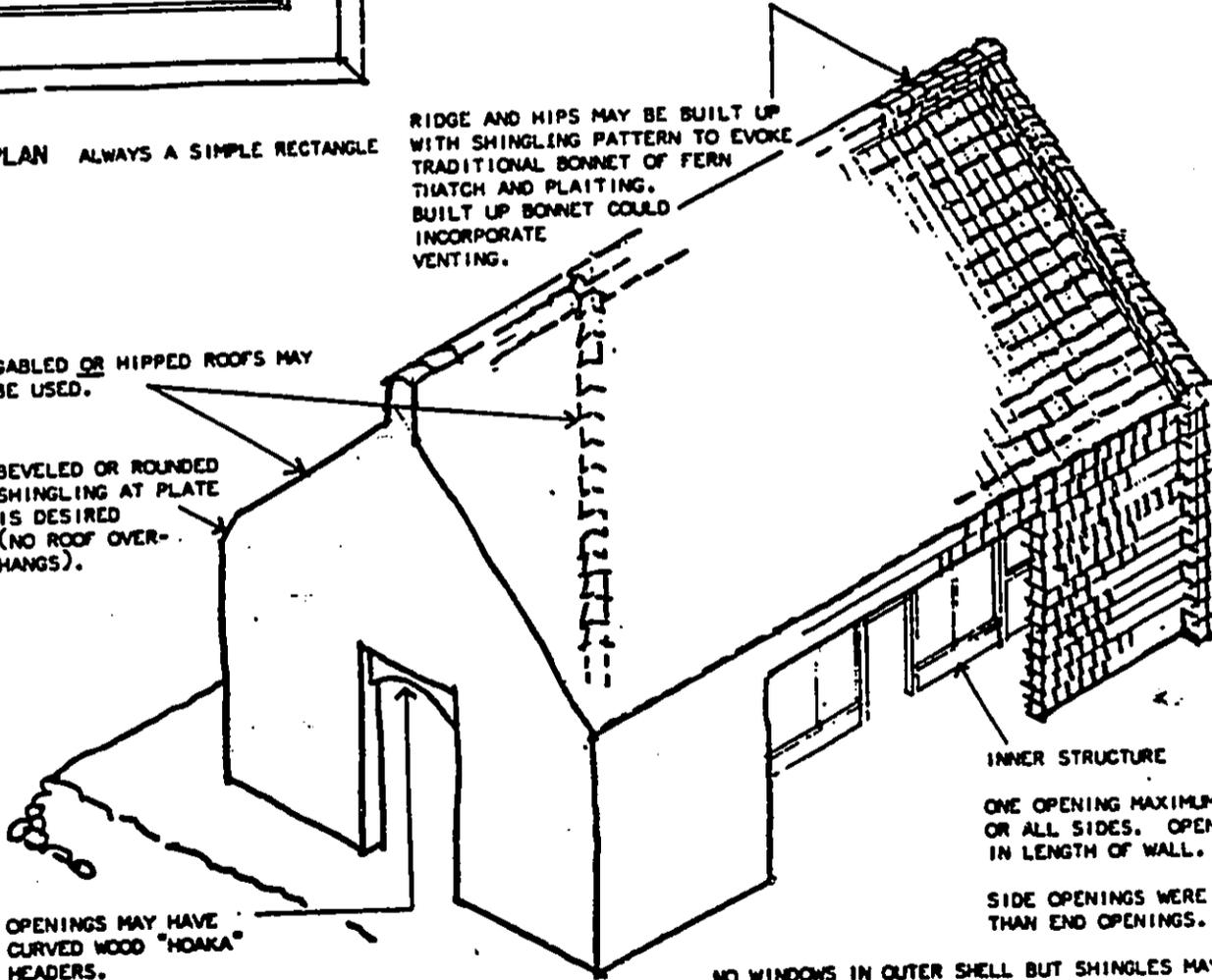
PLAN ALWAYS A SIMPLE RECTANGLE

RIDGE AND HIPS MAY BE BUILT UP WITH SHINGLING PATTERN TO EVOKE TRADITIONAL BONNET OF FERN TATCH AND PLAITING. BUILT UP BONNET COULD INCORPORATE VENTING.

GABLED OR HIPPED ROOFS MAY BE USED.

BEVELED OR ROUNDED SHINGLING AT PLATE IS DESIRED (NO ROOF OVERHANGS).

OPENINGS MAY HAVE CURVED WOOD "HOAKA" HEADERS.



ISOMETRIC VIEW

BUILDING DESIGN CRITERIA - Traditional Form



*CANOE SHED WITH OPEN WALLS - photograph by Mabel Putnam Chilson, Moanalua gardens. Bishop Museum collection.*

canoes on the ground, with an isle down the middle. The existing canoe shed may remain as an open sided structure with a flat, palm fronded roof, but should never be altered to include plywood, metal, cement block or any material not conforming with the General Design Criteria.

- 4.3 Beach Support Building. This building is associated with canoeing, fishing and the beach area activities. The building should be of Traditional Form as discussed above. It is to be about 700 sq. ft. in floor area and include:
- a. Showers and toilets for men and for women.
  - b. Covered space containing a fixed counter with a laundry type sink complete with a garbage intercept. This space is to be used for luau preparations, fish cleaning, etc.
- 4.4 Hale Malama. This building is associated with the Historic Hawaiian Platform and will be used to introduce the Park and its purpose to the public. The building should be of Traditional Form with an inner structure. It is to be about 1600 sq. ft. in floor area and include:
- a. Space for projection of film or for video displays—seating for 20 people.
  - b. Walk through display area of about 700 sq. ft.
  - c. One-person booth or sales desk area to monitor activity.
  - d. Circulation and storage space.
  - e. Toilets for men and women.
  - f. Janitor's sink and supply storage.
- 4.5 Immersion School. This building will function as a pre-school for 19-25 children learning the Hawaiian Language. It must conform to the State of Hawaii Department of Human Services planning requirements for such a facility. It should be of the Traditional Form discussed with an inner structure. It has been located away from most of the site traffic so as not to be frequented by visitors. Yet it is close to vehicle

access and parking. It will require about 2000 sq. ft. of floor area and will include:

- a. Two study areas or class areas.
- b. Office for one person.
- c. Light-duty kitchen or lunch area with two sinks, doubling as a meeting area.
- d. Waiting area for visitor control.
- e. Covered lanai.
- f. Male and female toilets
- g. Janitor sink and storage.

The school will have a fenced yard (Hawaiian fencing - see discussion under Site Design Criteria) for children's play area of about 2000 sq. ft. (size of fenced area specified by DHS).

4.6 Caretaker House. This is to be a one bedroom, one bath house for the Park caretaker and supervisor. It should be in the Traditional Form, possibly with the inner structure for all or part of the building. It would be about 800 sq. ft. in floor area. It should be near automobile parking and should have an outside fenced storage area for park servicing equipment.

4.7 Arts and Crafts Building. This building would be located adjacent to public parking for easy and intensive public use. It too should be of the Traditional Form, utilizing the inner structure for some of the uses inside. The total floor area would be about 1800 sq. ft. to serve these functions:

- a. Concession area for pre-prepared food service during events: 150 sq. ft. room with work counters, sinks, sales window. No cooking to be done in the building, no refrigeration. The concessionaire will bring in the chilled food and iced drinks. Electrical outlets should be available for coffee making, microwave, and other portable equipment supplied by the concessionaires.
- b. Public toilets, men and women, totalling 300 sq. ft.
- c. Covered area, open air, for circulation and customer stand-by: 400 sq. ft.
- d. Arts and crafts workshop/ demonstration room for 15 people, include sink area: 400 sq. ft.
- e. Arts and crafts display/ sales room with display area and sales/ control desk area: 350 sq. ft.
- f. Janitor sink and storage.

4.8 Hula Halau Pavilion. This building will be a place for use by various hula halaus for hula instruction and rehearsal. It is located near the Amphitheater for occasional use

of the Amphitheater in conjunction with the Hula Halau Pavilion. It is close enough to the parking area for the transfer of light-weight equipment. The public toilets in the adjacent Arts and Crafts Building and those toilets with dressing areas in the Amphitheater would be available to the Hula Halau Pavilion. The building should be of Traditional Form with large openings on the sides. The openings could have roll down doors or shutter-type doors to secure the building when not in use and to control the wind. An inner structure may not be necessary for this building. The Pavilion should be 2000 sq.ft. in floor area, open plan with perhaps two areas for rehearsal:

- a. Main floor perhaps 1600 sq.ft. in area, of concrete or the more traditional gravel floor. Mats would be spread for practices.
- b. Raised wood or concrete floor area to serve as a stage - an area for demonstration. A portion of the wall area should be mirrored for self-observation of technique.

4.9 Amphitheater. This facility is to be provided for out-of-doors performances. Though the construction should evoke Hawaiianness (grassy audience area, mound stage, use of the Hawaiian fence), the theater is intended for any out door staged performance - not just Hawaiian cultural performances. A grassy, gently sloped lawn area would be provided for about 1000 people with mats and back rests. Large umbrella type trees are to be planted along the south and west sides for shade. A few trees may be planted within the grassy area itself, though too many trees here would interfere with view of the stage. The stage should be traditional in appearance. It would be a grassy mound (similar to the Hula mound at Moanalua Gardens on Oahu) with an Hawaiian fence back drop to separate the stage from the backstage areas (see discussion of Hawaiian fencing to follow under "Site Design Criteria"). The mound stage is to be 1000 sq. ft. in area. Behind the mound and fence would be:

- a. Backstage assembly area, 1000 sq. ft.



SECTIONAL VIEW OF AMPHITHEATER

- b. Men and women changing areas with toilets, 425 sq. ft. for each. The backstage assembly, dressing and toilet areas should be surrounded by the Hawaiian fence to match and to incorporate the Hawaiian fence along the old Kamehameha property line. The toilet area should be roofed (flat roof no higher than the top of the fence) but the dressing and assembly areas could be open to the sky. There should be access to the Hula Halau Pavilion from the backstage area. An outdoor speaker system should be incorporated.

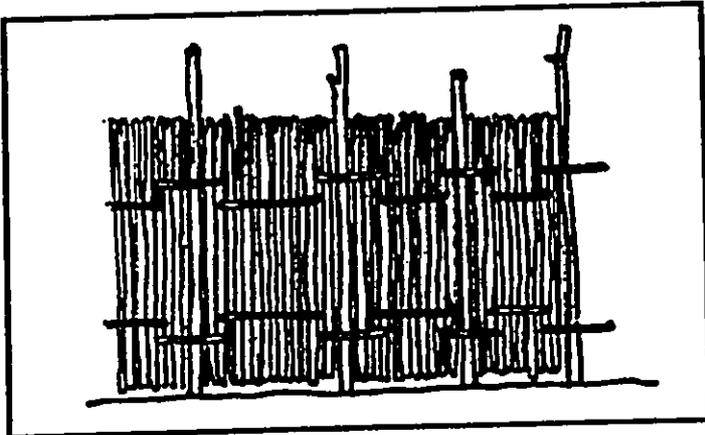
## 5 SITE DESIGN CRITERIA

5.1 General. Materials used in the design of site features should be used so as to recall the history of the site. As much as is possible, the materials should be of stone and wood. Stonework should not show mortar or grout. Wood should not be surfaced to today's dimensioned standards unless unavoidable - poles and unsurfaced material should be favored. Metal fastenings should be concealed. Bricks, dimensioned pavers, hollow tiles, exposed concrete, etc. should not be used, or at least not exposed outside of the buildings. Plant materials should be of "pre-contact" varieties.

5.2 Utilities. All utility extensions should be buried. Water valve controls should be recessed in ground boxes. Utility box covers should have simulated rock covers if possible. Any lighting or sprinkler controls required to be above ground should be concealed in plantings or within the buildings.

See also Section 2.3.

5.3 Fencing. Fencing, especially at the old Royal Property Line should be designed to resemble the Hawaiian fencing shown here.



FENCE ELEVATION - WOVEN CONSTRUCTION

This fencing is illustrated in Early Hawaiian Prints by R.J. Baker and shown in several sources including Hawaii: A Pictorial History by Joseph Feher. Such fencing was constructed of vertical sticks and poles with horizontal lashings and sticks to "weave" the assembly together.

5.4 Historic Hawaiian Platform. This should be kept clear of shrubbery and plants likely to cause further deterioration. It should be kept in a preserved state and be available for further archeological research.

5.5 Kupuna Area. This area adjacent to the platform and beneath two large existing kiawe trees should be made comfortable for local kupuna (Hawaiian elders) to sit

and converse with people interested in learning about Hawaiian Molokai. Benches should be provided in a conversational arrangement and the area should allow for seating on mats as well. A small monument with the dedication for the Park would be included under these trees.

- 5.6 Rock Barrier Wall. This barrier should be about three feet high, constructed of stone and shall run along the parking areas off Kaunakakai Place. Its purpose is to prevent vehicle access on to the site, especially in the beach area where current vehicle use is damaging both the beach and the wetland, and is threatening to the Hawaiian platform. This rock wall could have a reinforced concrete core, but the exterior appearance should be mortarless.
- 5.7 Overlook. The overlook is located between the western wetland and the west parking area. It is to be in the form of a grassy mound (similar to the amphitheater stage) about 300 sq.ft. in area on top. It should be five feet high with stone steps leading to the top or with a spiral ramp to the top for access by the disabled. The purpose of the overlook is to provide a spot for viewing the wetland and its bird life without intruding into the preserved area.
- 5.8 Orientation Kiosks and Signage. Orientation kiosks should be located at the main points of entry to the park. These as well as all park signage should be constructed of wood and/or stone. Lettering should be carved into the wood or rock. Consideration and study should be given to the use of a petroglyph motif for all signage. All signage should be kept low, well below a standing person's view across the Park (exception might be given to traffic signs exiting the parking areas and small signs less than 3 sq.ft. attached directly to the wall of a building). Wood signs should be used on wood building walls, wood or stone signs on rock building walls.
- 5.9 Picnic Area. This area is adjacent to parking, near public toilets, and shaded by trees. Permanent tables constructed of rock and wood should be provided. A few stone barbeque pits and a ground oven (imu) area should be provided. Trash cans should slip into rock or wood enclosures.
- 5.10 Parking Areas. Asphalt pavement should be used with log or stone wheel stops (not concrete). Minimal striping should be applied, perhaps only to designate the required parking spaces for the disabled. Buffer planting should be used between Hio Place and the large parking lot and between the west parking access and the wetland.

The total on site parking shown is for 139 automobiles. While this is ample for all the daily users anticipated, it may be shy the required parking associated with Makahiki games or an Amphitheater event attracting more than 800 people. However, with the permission of the County, additional parking can be provided along Kaunakakai Place to meet the total parking required for larger infrequent events.

- 5.11 Open Space. The central portion of the Park is left open for general enjoyment and for special events such as the Makahiki or perhaps camping for organized groups. There is room to set up volley ball games, horse shoes, kite flying, and other such activities. Views from this central area will emphasize the ocean-beach in the southerly direction and the sky - mountains to the north. Adjacent non-theme structures (such as the Molokai Yacht Club, Meyer's Buildings, etc.) should be "planted out" from the views.
- 5.12 Plantings and Walkways. Major existing trees are to be preserved. The two kiawe trees adjacent to the Hawaiian platform should be preserved as umbrellas for conversations with the Kupuna and other small gatherings of people. New trees should be added where shade needs to be developed (i.e., Amphitheater, Picnic Area) and where screening is desired (i.e., Immersion School, Molokai Yacht Club, Meyer's buildings). The central area of the site should be left open. The double row of milo trees along Kaunakakai Place should be preserved and the walkway between them developed by cleaning up and lighting. The walkway is just outside of the Park boundary (it is within the road right-of-way) but should be maintained and improved from the highway to the beach as a pedestrian connection from Kaunakakai town to the wharf.
- 5.13 Site Lighting. Overhead street-type lights may be needed in the major parking areas for night use. Such lighting should be kept minimal and be on wood poles, not metal or concrete standards. Throughout the park, low bollard lighting along trails, walkways, and a portion of the beach area is recommended. "Up lighting" from recessed ground fixtures is recommended to accent the Hawaiian fence along the old royal property line. Lighting on and around the various buildings should be shielded for glare - designed to light surfaces such as walks and walls without spreading across the park.

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## 7 RESOURCES AND REFERENCES

### 7.1 Published Books

- a. Bird, Isabella. Six Months in the Sandwich Islands. University of Hawaii Press, 1966.
- b. Feher, Joseph. Hawaii: A Pictorial History. Bishop Museum Press, 1969.
- c. Hiroo, Te Rangi (Peter H. Buck). Arts and Crafts of Hawaii - II Houses. Bishop Museum Press, 1964.
- d. Holmes, Tommy. The Hawaiian Canoe.
- e. Judd, Walter F. Palaces and Forts of the Hawaiian Kingdom. Pacific Books, 1975.
- f. Summers, Catherine C. The Hawaiian Grass House. Bishop Museum Press, 1988.

### 7.2 Reports

- a. Athens, Stephen J. Archaeological and Historical Investigations at a Property Near Kaunakakai Wharf, Island of Molokai. Prepared for Alu Like, Inc., 1983.
- b. Curtis, David W., A.I.A. Proposed Master Plan for a Beach Park at Kaunakakai - Molokai. 1988.
- c. Molokai Chamber of Commerce. Malama Beach Park Resolution.
- d. Molokai Community Plan, January, 1984.

### 7.3 Maps

- a. Aerial Topographic Mapping of Kaunakakai, Island of Molokai from Maui County Dept. of Public Works.

### 7.4 Photographs

- a. Aerial photograph of project site. From Air Survey Hawaii.
- b. Photograph of Hawaiian homes on Maui, 1925. Bishop Museum Archives.
- c. Photograph of Canoe Shed at Moanalua Gardens by Mabel Putnam Chilson. Bishop Museum Archives negative no. CN75104.

**Appendix B**  
**Malama Cultural Park -- Economics & Finance**

# MAIAMA CULTURAL PARK



A Community-Based Plan  
Developed for the Moloka'i Community  
By Tom Coffman Multimedia  
Under a contract with the State of Hawai'i  
Department of Business, Economic Development & Tourism

## **ECONOMIC CONCERN & IMPETUS**

Planning for this project was contracted by the State Department of Planning, Economic Development and Tourism in 1992 with a concern for the economy of Moloka'i. Moloka'i has a high rate of unemployment and an uncertain economic base. The closing down of the last elements of the pineapple industry compounded Moloka'i's problems. The Moloka'i travel market is weak and the hotel occupancy rate is low.

An earlier plan for a park on this site was developed by Maui County, but was met by community desire for a cultural park. The tone for the appropriation leading to the plan was set by the Moloka'i Chamber of Commerce. In a resolution, the Chamber called for a park which would encompass a wide range of cultural activities on Moloka'i while also stimulating activities which had a potential for improving the economic health of Moloka'i.

Accordingly the planning team became responsible for exploring the economic possibilities tied to the concept of a cultural park.

Four persons were brought into the team to help develop programs of culturally-based economic activity:

<b>Robert Van Dorpe</b>	<b>Cultural Attractions Consultant</b>
<b>Herbert Kawainui Kane</b>	<b>Artist/Historian</b>
<b>Jim Dannemiller</b>	<b>President, Survey Marketing Services (SMS) - Market Development</b>
<b>Dr. Bruce Plasc</b>	<b>Economist</b>

As the importance of community-based action became increasingly apparent, a fifth person was involved as a workshop participant:

<b>Robert Agres</b>	<b>Community-Based Economic Development Officer - State Department of Business, Economic Development &amp; Tourism, State of Hawaii</b>
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Together these individuals represent expertise in cultural attractions, culturally-related projects, feasibility, marketing strategies and analysis of economic impacts. For example, Mr. Van Dorpe was the developer of the Fiji Culture Center and the concept developer for the now-defunct Hawaiian Sea Village program. These were projects in which Mr. Kane played key roles as well.

Mr. Dannemiller has developed numerous marketing strategies in the field of tourism, and his firm recently completed a study of community cultural attractions. Dr. Plasch specializes in analyzing Island economies on a sector by sector basis, and has conducted two extensive studies for Moloka'i. Mr. Agres is perhaps the most conversant person in Hawaii on the concept of community-based economic development. He is in charge of the State's community-based economic development program and recently completed a master's degree on that area.

***ECONOMIC AND CULTURAL ACTIVITY,  
CONVERGENT AND DIVERGENT INTERESTS***

The Culture Plan of the Office of Hawaiian Affairs, adopted in 1982, described the creation of halaus for accumulating knowledge and celebrating culture. The OHA plan talked about places for Hawaiians "to be Hawaiian." It said nothing about economics, nor about tourism.

The Cultural Tourism Report of the State of Hawaii, written seven years later, described how culture should be strengthened as a way of encouraging and sustaining tourism, since many visitors want to connect with native culture. The Cultural Tourism Report was about economics and tourism.

The OHA plan had to do with native Hawaiians seeking to strengthen themselves culturally as a desirable end in itself. The Cultural Tourism report had to do with culture being strengthened in order to benefit the entire State of Hawaii.

The first approach is the most readily acceptable to practitioners of Hawaiian culture, but it has no economic base. The second approach is probably the most readily acceptable to the wider society, precisely because it has an economic base.

The challenge is to resolve these two approaches to the extent possible in the context of Moloka'i, which can be accurately thought of as the most Hawaiian of communities which is readily accessible to the outside world.

The potential resolution lies in what Herb Kane defines as mutually respectful host/guest relationship

## **THE PEOPLE OF MOLOKA'I**

Several factors need to be kept in mind regarding Moloka'i's residents:

- (1) They have earned a reputation for staunchly and effectively opposing the development of more destination resorts
- (2) Paradoxically, Moloka'i residents were found to be the most eager of any island community for more tourist development in the State's 1988 survey of the tourism impact on 23 communities.
- (3) A variety of proposals for new destination resort are periodically circulated in Moloka'i, but in point of fact the occupancy of the existing hotel room inventory is low.
- (4) Interest in Hawaiian culture is intense.

Examples of interest in the culture abound. A hula teacher started classes and quickly found she had 200 students. An archaeologist came to dig and found he had a staff of trained helpers, a second tier of volunteer laborers, and several dozens of onlookers and advisers. Punana Leo opened one language immersion school and soon had a waiting list for a second.

The sheer number of people engaged in cultural activities needs to be underscored. Over half the population is of Hawaiian and part-Hawaiian ancestry. The makahiki sports have taken their place alongside Western sports, with all schools and all grade levels participating in enthusiastic and unself-conscious competition. Older people of Hawaiian ancestry are actively honored as kupuna. Older people are sometimes called kupuna regardless of their ethnic background. People of all backgrounds participate in such activities as hula, canoeing, makahiki and crafts. Thus, to a remarkable extent, Hawaiian people contribute to defining what it is to be a member of the community and to be culturally active.

## ***AN EXPLORATORY PROCESS***

The keen attention paid to our cultural consultants in the Malama Plan workshops strongly reinforced our belief there is a strong interest among people on Moloka'i for a clearer, more integrated understanding of the ancient past.

Prof. Rubellite Kawena Johnson, of the University of Hawaii, retrieved and extensively revised her research on Moloka'i (see History and Culture report) and shared this in workshops. Her comments spanned the 17 century-long story of human settlement on the island. Her work was extremely well received.

Dr. David H. Tuggle was the project archaeologist. He was sought out and contracted not only for the high quality of his archaeological work but for his interest in interpretation and community involvement. He, too, gave an extensive presentation which was well received. In the process of his digs around the Malama royal platform, many people came forward to do volunteer labor and more came to observe and talk about the process.

## **THE HOST/GUEST RELATIONSHIP**

In a community workshop, Herb Kane described a scenario for a cultural park in which resident people become so immersed in cultural events that others came to watch, or be part of, those events. He cited examples of such events in out-of-the-way places around the globe. He noted that to some extent this is already happening in the annual celebration of the Makahiki. Hence the emphasis suggested in this scenario would be on authenticity, and on non-commercial pursuit of culture by the community, with positive economic spin-offs.

The tenor of Herb Kane's remarks followed papers he has authored on improving the relationship between visitors and community residents, e.g.: *In visiting someone's home, the visitor is entering the territory of his hosts. An instinctive social contract is established. It is assumed that the hosts have full knowledge of the home and everything in it, and would enjoy showing it. It is also assumed that the hosts will serve the visitors, but without being servile.*

*Once this host-guest relationship is established in the travel-resort industry, the mood is set for pleasant guest experiences, and difficulties are less likely to develop.*

The host becomes secure by being a respected, knowledgeable host: *Upon meeting such a host, almost all visitors will instinctively adopt the manners that would be expected of a guest in someone's home.*

In this vein, consultant Robert Van Dorpe described the processes of research, retrieval of precontact skills, and replication in arts, crafts, performance, rituals, etc., which he has orchestrated in other projects. His emphasis, like Herb Kane's, was on authenticity and gaining security from the pursuit of excellence in the arts, crafts and performance, with economic benefit occurring as a by-product.

These presentations, like Prof. Johnson's, were extremely well-received.

**THE POTENTIAL GUEST:  
THE "ALLOCENTRIC" TRAVELER**

There is a research base for believing that there are a substantial number of visitors who want to learn more about Hawaiian culture in an authentic setting.

In his book, "Leisure Travel: Making it a Growth Market...Again!" researcher/author Stanley Plog provided an empirical profile of the conventional versus the adventure or "eco" traveler:

**Psychocentric** - "self-inhibited, non-adventuresome"  
**Allocentric** - "venturesome and exploring"

"Allo" is Latin for "varied in form," hence the word allocentric suggests the person interested in "a broad diversity of pursuits and challenges."

Plog explains: "Allocentrics seek out the unique and the novel in their travel experiences. They search for destinations where they will feel like they are among the first to discover a location's charms and the culture of its people, long before the destination becomes 'spoiled' from heavy tourism development. Psychocentrics are the last to visit. Heavy commercial development provides evidence that the destination must be a good place for a vacation or else so many people wouldn't go there."

Plog concludes from his research that about four per cent of the travel market is made up of true allocentrics, and their close kin add another 12%.

As to marketing, he also concludes that "almost no message can appeal effectively to both" the allocentric and the sedentary psychocentric.

Interviews suggest that people involved with Moloka'i visitor issues have grasped much of this. Within Destination Moloka'i, there is a debate over whether the budget should be spent on conventional advertising or highly specialized presentations, such as to the Sierra Club convention. The

Moloka'i Chamber of Commerce has sought to use marketing dollars to attracting in-state visitors, in contrast to the view of the State Department of Business, Economic Development and Tourism, which has favored marketing to higher-spending visitors from overseas.

Exploration of the idea of "allocentric" visitors leads rapidly to a reminder of how thoroughly tourism in Hawaii has been planned and developed around the destination resort model. When tourism is discussed in Hawaii, most people have a singular concept of tourism organized in destination resorts. At a community level in Moloka'i, most people understandably do not have mental pictures of other possibilities.

## **SCENARIOS FOR A NEW TOURISM**

Planners, marketers and educators could readily envision many ways in which Malama could be used to stimulate a new form of tourism while strengthening the Hawaiian culture which visitors hope to see. These ideas revolved around Malama serving as:

- (1) A passageway dedicated to sensitizing visitors and creating a host/guest relationship**
- (2) Providing community-based educational and cultural experiences**
- (3) Acting as a dispersal center for island-wide explorations in which Moloka'i would be experienced as a 17-century story**

However, we concluded that to be successful, activity needs to be carefully worked out and agreed upon by a wide spectrum of people in the community.

This may seem like a complex undertaking. However, it can be worth the effort. Even at its simplest level, a Malama Park dedicated to cultural activity, learning and discovery will have its own rewards. It will help Moloka'i integrate its past and its present. It will strengthen interisland exchange. It will help bolster the real practice by everyday people of Hawaiian culture. It will provide a significant number of jobs. It will inevitably enhance the reputation of Moloka'i as a unique place to visit and learn.

If Malama evolves as a community-based economic development proposition, it promises a different and better relationship between residents and visitors. It bears the potential of generating a new definition of tourism which will broadly benefit the economies of Hawaii's communities.

## **COMMUNITY INPUT**

Moloka'i has a reputation as a fiercely proud community which opposes development, even though unemployment is high and incomes are often low. There is, as well, a deep sense of being remote from the center of State government and also of being a stepchild of the Maui County government, which is the only multi-island county government.

Given Moloka'i's reputation for stopping development projects, and given the fact that the conventional park plan had not been implemented for lack of support, an extensive program of eliciting community feedback was pursued (the combination of meetings, presentations, workshops, informal interviews, etc. are elaborated in the summary).

The community input process served as a reminder that there is no science which provides answers to a complex question of culture and economic activity.

Just as elsewhere, there are communities within communities on Moloka'i. The fact that the State tourism impact study found Moloka'i's people wanting "more tourism" does not square with existing stereotypes. Neither does it square with much of the sentiment that emerged in the planning process for Malama.

While the door to planning meetings was always open, the concept of Malama Park resulted in talking with people who are actively interested in culturally-related activities. Inherently, then, community input was weighted on the side of those with a more primary interest in culture.

- (1) Community-based management is seen by virtually everyone as the best approach to the park's development.
- (2) The tone of the relationship between community residents and any and all visitors to the park should be set by a conscious community design.
- (3) The physical space should allow for resident people to go about their

**activities without visitors impinging; and a range of niches should be created to accommodate those who wish to interact with visitors as against those who do not.**

For example, artists and craftspersons tended to welcome the idea of access. The managers of the language immersion school were most urgent in wanting to be sheltered from any and all intrusions. Their concerns ranged from the safety of small children to protecting children from "being in anything resembling a human zoo."

Other salient points emerged from the community process:

- (1) Many of the people most actively interested in cultural pursuits are most vigorous in their objections to "more tourism."**
- (2) These views are either softened or transformed when alternatives are discussed in a context of community-based management or host/guest relationships.**
- (3) Visitors from other islands are usually not seen as "more tourism" but in fact are more often thought of as participants in cultural events, sports events, learning excursions, etc.**

In sum, the ways in which tourists and tourism are thought of positively are substantially different from how tourists and tourism are generally thought of in the context of the mass tourism so widely practiced in Hawaii.

## **THE COMMUNITY DEVELOPMENT CORPORATION**

While "everyone" wants the Malama Culture Park, many people are wary that it will be the excuse for commercializing and selling the Hawaiian culture.

It is in this context that empowerment of the Molokai community becomes the most important feature of the Malama Park effort. Molokai's people have skillfully acquired a veto power in a certain context -- as a community of people who have made huge commitments to perpetuating and enhancing what they can learn about Hawaiian culture; as people who live remote from the economic mainstream and remote from the centers of government; as people who are often wary of, and untrained in, commercial transactions.

It is only by acquiring power over the Cultural Park that they can effectively determine what the cultural park will be, and the extent to which it will be a dynamic economic force.

## **BUSINESS PLAN**

For all the reasons above, the CDC must be the entity which writes a business plan for Malama Park.

As the consulting team, we looked repeatedly at the issues of economics. We concluded as follows:

- (1) Given a healthy CDC, the Park can support itself.
- (2) Its operation could have an extensive economic impact on Molokai by treating the Park as an orientation center and by treating the island as an educational experience

Business interests with a stake in Moloka'i seem to readily grasp the importance of Malama Park. For example, Malama Park is enthusiastically supported by:

- (1) Moloka'i Ranch (see letter, Jim Mozley)
- (2) Alpha USA (see letter, Henry Ayau)
- (3) Bank of Hawaii (letter, branch manager)

Mr. Van Dorpe and Mr. Kane, as persons who have carefully nurtured the economics of arts and craft on behalf of artisans, are convinced of the potential economic benefit, as is Dr. Plasch (see additional letters, attached).

It is believed the impact will be substantial even if Malama evolves minimally, as a low-maintenance center for cultural activities, since even at the simplest level the Park will help anchor Moloka'i's identity in the travel market. If a plan for community-based economic development evolves and is widely agreed upon, Malama Park could be the answer to many of Moloka'i's long-standing problems.

Despite our optimism, we have declined to write a pro forma for the Park in the belief that it would be presumptuous. It would be counterproductive, in

that it would be preempting a role which should be "owned" by the Molokai community.

Accordingly, our projections on jobs are based on scenarios which flow from an underlying optimism that Malama Park will have an important impact in the economic arena.

## **JOBS**

**Malama Park will have an immediate economic impact which is expected to expand over time.**

**Assumptions regarding the development of jobs were based on successful formation of the Community Development Corporation.**

**The tasks of the CDC will be to:**

- (1) Acquire a community stake hold in Malama**
- (2) Involve activity groups in directing the detailed design of the buildings and the overall features of the park, such as the interpretive program, fence, kupuna seating area and rock walls.**
- (3) Attract seed money to accelerate cultural training and programming :**

**The resulting jobs are projected to be:**

**1993-95: Community Development Corporation Startup - 2 jobs**

**1994-95: Cultural Program Development as a result of CDC action & grants in the areas of:**

**Makahiki**

**Canoeing**

**Hula**

**Arts & Crafts**

**Research & Archaeology - equivalent total 5 jobs**

**To mid-1995 - total 7 jobs**

**The park is programmed to open in mid-1995. This will set in motion a new phase of economic activity.**

**1995-96: Park Startup**

**Community Development Corporation - 1**

**Marketing - 1**

**Cultural Programming - 2**

**Maintenance of buildings and grounds - 3**

**Language Immersion School - 3**

**Arts/Crafts/Concessions - 1.5**

**Hula Instruction - 1.5**

**Sports Promotion & Coordination (Makahiki/Canoeing) - 2**

**To Mid-1996 - 15 jobs**

**Projected Impacts 1996-2000**

**Once the Park is operating, it is expected to directly generate off-site jobs.**

**Art & Craft sales - Equivalent 5**

**Cultural Craft Materials Production - (e.g., Sennit, Wauke, Hardwoods, Stone gathering) - Equivalent 5**

**Archaeology/Research/Storytelling - Equivalent 3**

**Guides, Excursions around Molokai - Equivalent 5**

**To Year 2000 - Direct off-site jobs - 18**

**To Year 2000 - Total direct jobs (18 + previous 15) - 33**

**If, through the CDC, the community reaches a working consensus on tourism, resulting in a focused promotion and market development program, then the impact is likely to be much greater.**

**Dr. Bruce Plasch has estimated that if the existing hotel inventory were brought up to the statewide occupancy levels, then unemployment on Moloka'i would be reduced to the statewide average.**

Through such logic, we believe that the net impact -- direct and indirect -- on the economy of Molokai is the creation of perhaps as many as 100 jobs.

### **LAND TENURE**

The land is owned by the State and County, with the County parcels being largest (7.14 acres owned by the County, 4.6 acres owned by the State).

State and County officials have been supportive, and the success of the plan will rest on their pooling their interests, as often discussed, into a single parcel, leased to the CDC.

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**MALAMA PARK PLAN - A 12-POINT ACTION PROGRAM  
RECOMMENDATIONS FOR COMMUNITY-BASED ECONOMIC  
DEVELOPMENT:**

1. Support formation of a community-based corporation and assign management of Malama Park to it.
2. Fund development of cultural programming to occur simultaneously with physical development of Malama Park.
3. Define a mix of support for cultural programming by government and Hawaiian agencies.
4. Organize an interagency task force to support the work of the community development corporation, both for purposes of detailed design of the park and cultural program development.
5. Assign a high priority to cultural programming in arts and crafts which will nurture the Moloka'i economy and stimulate the growing art and replication market.
6. Assign a high priority to cultural programming of hula as a stimulus to the annual Hula Kahiko festival, reinforcing Molokai's identity as the birthplace of hula.
7. Assign a high priority to cultural programming of canoeing in order to attract canoe races and regattas to Malama, reinforcing Malama's precontact role as an interisland canoe landing.
8. Assign a high priority to archaeological and historical investigations which advance the compilation of Moloka'i's story into a 17-century timeline, relating the material to development of a Hale Malama (house of enlightenment).
9. Support enhancement of the existing makahiki program.

10. **As conflicts arise between cultural concerns and economic concerns, treat the cultural concerns of the Moloka'i community as the most important.**
11. **Pursue design guidelines which respect the privacy and sensitivities of those who do not wish to interact with visitors while facilitating a host/guest relationship for those who wish to interact with visitors.**
12. **Constantly keep in focus the starting point of the Malama project, which is the development of a community-based cultural activities park.**



MOLOKAI RANCH, LIMITED

February 10, 1993

The Honorable Milton A. I. Holt  
Senator-14th District  
State Office Tower, Room 502  
Honolulu, Hawaii 96813

Dear Senator Holt:

I am writing to you in support of the Malama Park plan for Kaunakakai. Molokai Ranch, Limited agrees with the goals of the visionaries that have been working diligently to create the program and plans for this project. Malama Park will help Molokai develop a reputation as a learning and teaching center of the ancient Hawaiian culture. The park will create meaningful employment through the archaeology and history program as well as through its support of active Hawaiian arts and crafts.

Malama Park we believe will be a real asset to Kaunakakai by connecting it to the waterfront and creating a central place for activities which will draw people from east and west Molokai. By increasing the knowledge of both visitors and island residents alike regarding ancient Hawaiian culture, Malama Park promises to be a significant source of pride for the community.

We truly appreciate any support that you can lend to this project through your leadership in the state.

Respectfully,

Jim Mozley  
Executive Director

JM/la

cc: Walter Ritte, Jr.  
Richard H. Egged, Jr.

bcc: Tom Coffman

## Alpha U.S.A., Inc.

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March 15, 1993

Representative Rosalyn Baker  
Majority Leader  
House of Representatives  
Fax #586-6071

Re: MALAMA CULTURAL PARK

Aloha Representative Baker:

On behalf of Alpha U.S.A., Inc. and also as a Moloka'i resident concerned about the future, I have closely followed the development ideas for Malama Cultural Park.

In the past year I have attended meetings and workshops on three occasions and I stay in touch with the idea through the DBEDT office in Kaunakakai. Most recently I reviewed the summary of the plan.

Let me share some reasons why I think this idea is important for the future health of the community:

Malama will greatly enhance Moloka'i's deserved, natural role as the island for a learning center about the ancient culture and lifestyle.

Malama will educate people to the idea that Hawaii's history began 17 centuries ago, not two centuries ago.

Malama will strengthen many Hawaiian cultural activities in Moloka'i by extending throughout all of Hawai'i - by giving them a proper setting. This applies to the annual Makahiki, in which they bring out such amazing participation from all elements of the community.

With the Hula halau, Malama will bring more recognition of Moloka'i as the birthplace of the hula.

Malama will join the town of Kaunakakai to the ocean. It will provide a central place to bring everyone together - and remind everyone that Kaunakakai was a big inter-island canoe landing in the old days, perhaps the Moloka'i Hoe could begin here someday.

Malama will stimulate arts and crafts which have the potential to strengthen the culture and bring in a lot of money as well. It will create meaningful employment through the archaeology and history program.

City Financial Tower  
201 Merchant Street, Suite 2100  
Honolulu, Hawaii 96813  
Phone: (808) 532-2121 Fax Phone: (808) 532-2130

Representative Rosalyn Baker  
March 15, 1993  
Page 2

By building pride, and strengthening the concept of taking care of the island (Malama Moloka'i), Malama will create a better environment as well as recreational and social activities for the visitor industry. I personally think Malama can be instrumental in creating a better relationship with visitors based on Moloka'i people's knowledge of the culture and pride in community.

Mahalo & Aloha,



Henry Keawe Ayau, Jr.

**DECISION ANALYSTS HAWAII, INC.**  
BRUCE STEVEN PLASCH, *President*

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QUANTITATIVE CONSULTING SERVICES: Economic • Financial • Demographic • Statistical

March 1, 1993

Mr. Tom Coffman  
TOM COFFMAN MULTIMEDIA, INC.  
45-955 Kamehameha Highway, Suite 305  
Kaneohe, HI 96744

Re: Benefits Provided by Malama Cultural Park

Dear Tom:

I have reviewed the summary, with drawings, of the plan for the *Malama Cultural Park*.

From the information provided in the summary, it is clear that the Malama Cultural Park will provide a number of benefits to Moloka'i residents, as well as to residents of other islands and to visitors. First, the Park will help perpetuate and provide an opportunity for both Hawaii residents and visitors to discover and learn more about the rich Hawaiian cultural heritage of Moloka'i. This will occur through the planned storyline covering 17 centuries of the island's history, and through the annual Makahiki games, hula classes and exhibitions, the on-site making and display of arts and crafts, Hawaiian language classes, archaeological digs, etc. Second, this ocean-front park will provide a number of recreational benefits: canoeing, camping, picnicking, fishing, volleyball, horseshoes, beachcombing, a place for family and community gatherings, etc. The Park will also help beautify Moloka'i by providing attractive greenery in a central part of the island. Malama Cultural Park will also contribute to the success of Moloka'i's visitor industry and, in turn, to the needed improvement of the island's economy. The Park, with its emphasis on displaying Hawaiian culture in a living environment rather than in a museum, will attract visitors to view the exhibits, to watch and participate in various activities, and to purchase locally-made arts and crafts. In addition, the Park will introduce visitors to other attractions on the island. The overall effect will be that Moloka'i's reputation as "The Most Hawaiian Island" will be further enhanced, helping to draw visitors to the island who are interested in discovering and learning about *authentic* Hawaiian culture. These visitors will include Hawaii residents from other islands, as well as visitors from overseas. For those who arrive by ferry from Maui, the Park will offer a most attractive gateway to Moloka'i.

Mr. Tom Coffman  
March 1, 1993  
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The additional visitors drawn to Moloka'i will support a number of jobs through their purchases of tours, souvenirs, meals, and other goods and services while on the island. In addition, the purchase of arts and crafts, and payment of fees for various classes will contribute to the economic success of Malama Cultural Park.

Thank you for the opportunity to review the summary, and I look forward to being one of the first visitors to Malama Cultural Park!

Sincerely,



Bruce S. Plasch  
President

BSP:sc

**Appendix C**  
**Malama Cultural Park -- History & Mythology**

# MALAMA CULTURAL PARK



A Community-Based Plan  
Developed for the Moloka'i Community  
By Prof. R. Kawena Johnson, Ph.D.  
University of Hawaii  
For Tom Coffman Multimedia  
Under a contract with the State of Hawai'i  
Department of Business, Economic Development & Tourism

1993

## **Introduction**

The concept of developing a strong cultural and history component was nurtured throughout the project.

Prof. Rubellite Kawena Johnson of the University of Hawaii led this process. Herb Kawainui Kane made important contributions. Dr. David H. Tuggle, the project archaeologist, focused his investigation in the light of their comments.

This process sparked a lively exploration on Dr. Tuggle's part of the question of whether the Malama platform is also the Mahinahina heiau described by the archaeologist Stokes in 1909 (see archaeology report).

Prof. Johnson presented research to two public workshops, and her notes and papers for the two presentations are attached and forwarded to those who will work on Malama in the future.

Tom Coffman

Report: **Malama Culture Park**  
By: Prof. R. Kawena Johnson, University of Hawaii  
Presented: Workshop #2, September 24, 1992

In reviewing the documented history of Moloka'i with particular reference to the site in focus, the most productive work is that of George Paul Cooke, *Moololo o Moloka'i*.

The site is (apparently) on the border of two *ahupua'a*, Kalama'ula and Kaunakakai. Kalama'ula was reserved (along with Ualapu'e) to Kamehameha III in the 1848 Great Mahele; Kaunakakai was in the category of "unassigned lands" which were considered property of the crown under Kalakaua and exchanged with the Bishop Estate after the death of Bernice Pauahi Bishop for other lands..

The old wooden wharf at Kaunakakai has existed since 1898 [acc. Cooke, Chap. 8 "Kaunakai Wharf & Harbor Development"] with the mole for the pier completed by 1898. Cooke notes that the rocks used for the mole came from the heiau Ooloo.

Re: Heiau Ooloo: Summers/Sterling [Sites of Moloka'i:85] refer to 'Olo'olo as a "pool" in Kalama'ula, but tradition speaks of water from this pool covering the land in Kaunakakai:

"This pool is located in land of the coconut grove. An article in a Hawaiian newspaper stated:

"In the days prior to annexation, this pool was well cared for and used for bathing by the natives who lived on the beach. It was famous as a favorite bathing pool of the chiefs down to Kamehameha V...

"In the year 1888 there was a heavy downpour of rain which made a flood lasting for days and the water from the pool covered the whole land of Kaunakakai. **This great pool of half an acre** was fed by five springs. When the water subsided the pool was filled with mud. As it rained each time, the pool filled up some more until 1898, ten years later, there wasn't a trace of it left. From that time to this time, kiawe trees grew up erasing all traces of the pool (Ka Nupepa Ku'oko'a, 1922b).

"When water was needed for the homesteaders at Kalama'ula, the old-timers looked for and found 'Olo'olo; it was covered with 4 ft. of silt. For a while, until the salt content became too high, the water from this spring was used by the homesteaders (see p.25).

"A legend about 'Olo'olo is recounted in the same Hawaiian newspaper.

"It is said that since that long ago time when the gods communed with men, a beautiful woman was often seen beside the pool combing her tresses. Perhaps no one had ever conversed with her but she was often seen on a mound of earth just mauka of the pool. Her breasts hung down and that may have been why the pool was name 'Olo'olo (hanging down)" (Ka Nupepa Ku'oko'a, 1922b).

Cooke called 'Olo'olo a "heiau", while Sterling/Summers call it a "pool," but what is important for the site is the connection of the 'Olo'olo site with the Kaunakakai mole, the rocks of which were used 1898-99 to create/extend the wharf.

Unfortunately, the locus of the pool is not given, but should exist somewhere between Site 122 [Sterling/Summers: 85] Kamaloko Pond, Kalama'ula, and Site 123 [Sterling/Summers: 85] Pu'upapai Heiau, Kalama'ula.

Given the description of Site 122, Kamaloko Pond, since the sea could be seen from Kamaloko, and that the pond was also stocked with fish and crab, that the water was deep and "bubbled up from the earth," that the pond responded to tides, that the fish in the pond were taboo to the konohiki (i.e., of Kalama'ula)...

In addition to the description of Site 123, Pu'upapai Heiau, Kalama'ula as:

"located near the crest of the plateau...about 1500 ft. from the sea...bearing 51°28' from Kakalahale...dedicated to Kane and Kanaloa...a platform for human sacrifice, and that the drums were not heard at night...confirmed by Stokes as of sacrificial class and

"torn down [1899] and the stones used to build a pier about 300 yards long, 20 feet wide and 19 feet high...natives say only the stones of this heiau were used..." [Sterling/Summers: 85];

It would appear that the heiau referenced by George Paul Cooke in *Mo'olelo o Moloka'i* was probably the Heiau Pu'upapai, and the proximity of Site 122 and 123 would have placed 'Olo'olo, the bathing pool of the ali'i, somewhere in between Kamaloko fishpond near the sea and the plateau 1500 ft. from the sea, in Kalama'ula.

Yet with regard to yet another site [121], 'Opae'ula, a heiau in Kalama'ula, Sterling/Summers report that this heiau also "was destroyed in 1899 to build the pier

at Kaunakakai [Sterling/Summers:84-85]."

According to George P. Cooke [Moloka'i o Moloka'i], the Kaunakakai harbor was used by small coasting schooners, and cargo was drawn by ox-cart over the shoals.

There is an interesting account about a spring by Cooke:

"In Kalama'ula near the boundary of Kaunakakai, there is a spring which the Hawaiian Homes Commission has developed for irrigation purposes. This spring originally flowed into the ocean, but when it was relocated it was covered over with six feet of silt. The spring bubbled up through an eight inch vent. On clearing the silt away, one could see 'opae (fresh water shrimp) in the spring. John Pua'a, who located the spring for me, told me that sugar cane, bananas and taro were grown on its banks as it flowed towards the ocean. He related also a tale of women catching 'opae with nets in the mountains. One of the women left her net to dry while she went to gather plants. A freshet washing down the valley and on her return the net was gone. The net was found later in the spring at Kalama'ula, which was at least six miles away from the mountains."

Sterling/Summers used the George P. Cooke quote above to describe another spring (other than 'Olo'olo) as Kalama'ula Spring [Sterling/Summers:86] "located near the boundary of Kalama'ula and Kaunakakai."

The question arises as to how 'Olo'olo could have flooded the "whole land of Kaunakakai" during heavy rain?

As to Malama itself, Summers/Sterling quote practically verbatim from the George Paul Cooke book [p. 110; in Summers/Sterling, see p. 87]:

"West of the approach to the Kaunakakai wharf is a built-up platform, the name of which is Ka Lae o ka Manu, the point of the birds. On this site King Kamehameha V had a home\* [See Appendix F. 11 "Malama."] which was still standing in 1908. It has since been removed to the village and is on a lot belonging to William Kamakana and his wife. The Reverend Isaac D. laea told me that there was a spit of sand beyond this platform where the plover used to settle in the evenings, hence the name, Ka Lae o ka Manu."

The platform is in the ahupua'a of Kaunakakai:

[Sterling/Summers:87ff] "The old name for Kaunakakai was Kaunakahakai, 'Resting-

(on-the beach.' It was a place for the canoes to come, for here there was plenty of fish (Pukui, personal communication). The Hauialia is the wind of Kaunakakai.

"West of the approach to Kaunakakai wharf is a platform that was part of Kamehameha V's home, Malama (see p. 23). The beach in front of this site was used exclusively by the ali'i for sun bathing. There formerly was a spit of sand in front of here called Ka Lae o Ka Manu, so named because the plover used to settle here. At the site of the County Park was a canoe shed (Cooke, 1949:110, 151/Summers/Sterling:87).

[Sterling/Summers:23]: "Kamehameha V's home, Malama, was on the beach at Kaunakakai, just west of the beginning of the present mole. The foundation can still be seen. An early description read:

"The king's own vacation house is called Malama. It is close to the edge of the sand and if the tide is very high, the murmuring wavelets wash up and whisper to the grains of earth which were rubbed off the royal feet at the threshold of the entrance to the lanai.

"It is a grass hut, skillfully thatched, having a lanai all around, with floors covered with real Hawaiian mats. The house has two big rooms. The parlor is well furnished, with glass cases containing books in the English language... This is a very good vacation house for the king, in spite of that sun baked area.

"On the northwest side of the house is a large grass house, and it seems to be the largest one seen to this time. The house is divided into rooms and appears to be a place in which to receive the king's guests. There are four other fine, big houses, mostly thatched. These are surrounded by the houses of those who wait on him and some are houses used for storage.

"The royal residence is set apart from the rest by a wooden fence that encloses it on all sides except the sea side. The king's yard covers about three acres and is planted with trees, mostly coconuts, that are thriving nicely. Another reason why we admire it so is that we saw no faucets since we left Honolulu, but when we got there we saw 'the water that sleeps in the houses of men' (Holoholopinaau, 1870)."

This reporter has not begun to assemble the land transference documentation research that would determine to whom this land was conveyed after Lot Kamehameha V died, but one must assume that he left it to Ruth Ke'elikolani, his half-sister, and that Ruth left it to Bernice Pauahi, from whose estate ASCO

purchased its property in Kaunakakai. Until this data is acquired to confirm that Bernice inherited the Kamehameha V vacation home, Malama, we may continue to surmise from Charles Warren Stoddard that she may have had guests at the same home in Kaunakakai:

"Tuesday 7 October 1854 Kaunakakai, Molokai. We are in Mrs. Bishops house, a country cottage very sparsely furnished...We are close to the sea; the moon is shining upon it and sifting through the mesquite [i.e. kiawe] trees upon the white sand under them. Natives are hanging about... [Stoddard,1933, Diary of a Visit to Molokai in 1884]...

[p. 41]: "...natives were fishing in the lagoon, children sporting near the shore.

Stoddard had visited Moloka'i earlier, in the year 1868.

According to George Paul Cooke [1949:21], a stand of 500 kiawe trees were blown down in a wind storm in Kaunakakai on April 4, 1939.

[George P. Cooke, *Moololo o Molokai*, Appendix F, p. 151: note 11 re "Malama"]:

"'Malama,' Home of Kamehameha V--On the Beach at Kaunakakai (but at present moved to the village, and the property of Wm. Kamakana) where the square rock foundation is, near the beginning of the mole. In front of the King's house was the Sacred sand used exclusively by the Alii (chiefs and Royalty) when they took their sun baths. About fifty feet to the west of this house the King built a residence for Governor Dominis and Colonel Charles Judd. Retainers' houses, before burned, stood where the Standard Oil Company's fuel tanks now stand. Canoe house on beach stood where the present County Park is. This beach was formerly of white sand. Small boats from steamers, later, would come in to get the Meyers' sugar and molasses. There was a shed used to store this sugar."

The importance of Kaunakakai, historically, includes:

- (a) principal city of Moloka'i
- (b) main street of Kaunakakai, Ala Malama, repeats the name of the Kamehameha V residence "Malama"
- (c) Kamehameha held his councils at Kaunakakai [Sterling/Summers:20].
- (d) it belonged within the *kalana* of Kala'e, belonging to the chief/priest Kaiakea, and this *kalana* included:

- (1) from Pu'u Ka'eo, in the mauka portion of Kaunakakai on the East to Kipu on the West;
- (2) the mauka portions of Kaunakakai, Kalama'ula, Kahanui (2) and Na'iwa, Kahanui 3, 'Iloli 2, Pala'au 3, Manowainui, Kipu, and Naiwa 2.

After Kaiakea's death, his lands went to his son, Keku'elikenui, high chief of Kalama'ula.

Keku'elikenui: defined [Sterling/Summers:7] as "a staunch and personal friend of Kamehameha I...Keku'elike's house [i.e. Kalama'ula and the kalana of Kala'eloa, inclusive of Kaunakakai] was the only place where he [Kamehameha] could sleep undressed for fear of violence or treachery" (Fornander, 1880:73 in Sterling/Summers:7).

### **Discussion**

#### 1. The name "Malama:"

(a) *mālama* - to care for, nurture; protect, preserve

(b) *malama* - from *lama* 'torch', as of kukui nut for night reef fishing/ night stone lamp; light of the moon, moonlight; i.e., the nature of the moon goddess, Hina-hanai-a-kamalama and her connection to reef life and tides, abundance of the reef; mother of reef life as Hina-'opu-hala-ko'a 'Stomach-passing-coral; i.e., the mother of Moloka'i-nui-a-Hina, with Sky Father Wakea, as a *punalua* of Papa-hanau-moku, Earth Mother; i.e., enlightenment, light of the moon connected with growth/planting, as by moonlight; and supply, as by fishing; Hina-puku-'ai, -Hina-of-the-abundance of vegetable food, of the *ko'a uka* shrine, and Hina-puku-i'a, of the abundance of fish, of the ko'a kai shrine are all the supply and nurturing facet of enlightenment under Hina.

#### 2. The name *Ka Lae o ka Manu*:

The "Cape" (lae) of the birds (manu) is related to the sacred sand area set aside for the ali'i to use, but which took its name from the plover birds settling down there before sunset, in the evening. Yet, in the history of this area it is said that the area outside was a place where the "natives were hanging out" [Stoddard], that it was a place where the natives did a lot of fishing, and where the children played. *Manu* 'bird' as of *nui manu* refers to "people", i.e., many people; but *manu* 'bird', refers also

to the quality of those wreathed in bird feathers, i.e., chiefly rank. Whereupon, it may be reflected for the present that the *nui manu* who still settle down on the sand toward evening, the plover birds, are on the one hand in the sanctuary of chiefs, whose "children" are the people (*nui manu*) who go there to fish, to enjoy the place also as Moloka'i's children.

3. Other important qualities of the site:

(a) Canoe place; canoe landing; chief area for visiting chiefs to land their canoes

(b) Old name of Kaunakakai, Kau-na-kaha-kai, "Resting-place on the beach"; i.e., rest/recreation

(c) Kaunakakai wind: Hualialia

(d) Within the *kalana* of Kala'e-loa

(e) place (Kaunakakai) where Kamehameha held his councils in 1794-95

(f) Kamehameha V's yard covered five areas adjacent to the house; planted in coconut trees.

(g) early commerce: sugar/molasses, coastal schooners

(h) nearby springs on the border between Kalama'ula and Kaunakakai were 'Olo'olo and Kalama'ula spring; 'Olo'olo when it overflowed from storms would send water over the whole of Kaunakakai; Kaunakakai is built up on the silt from 'Olo'olo and Kalama'ula springs.

## APPENDIX F

### PLACES OF LEGENDARY AND HISTORIC INTEREST ON ISLAND OF MOLOKAI

(Gathered by the Hui Lokahi o Molokai)

11. "Malama," Home of Kamehameha V — On the Kaunakakai (but at present moved to the village, and the property of Wm. Kamakana) where the square rock foundation is, near the beginning of the mole. In front of the King's house was the Sacred sand used exclusively by the Alii (chiefs and Royalty) when they took their sun baths. About fifty feet to the west of this house the King built a residence for Governor Dominis and Colonel Charles Judd. Retainers' houses, before burned, stood where the Standard Oil Company's fuel tanks now stand. Canoe house on beach stood where the present County park is. This beach was formerly of white sand. Small boats from steamers, later, would come in to get the Meyers' sugar and molasses. There was a shed used to store this sugar.

Briefing: **Malama Culture Park**  
Prof. R. Kawena Johnson  
University of Hawaii  
September 24, 1992

A. Names associated with the location and platform:

1. **Malama** - A name given by Lot Kapuaiwa Kamehameha V to his house in Kaunakakai.

According to Harriet Ne's *Legends of Moloka'i*, Kamehameha called it **Malama** for 'light' and that his home had been built over a structure that had previously already existed there.

Later, the same platform served as the foundation of Kalaiakamanu Church which, when it no longer occupied that site, was rebuilt as Kalaiakamanu Hou Church resituated opposite Kapuaiwa (coconut grove which once held 1000 coconut trees planted by Kamehameha V) in Kalama'ula.

2. **Kalaiakamanu**, probably from *Ka-lae-a-ka-manu*, meaning 'Cape of the Birds' (according to *Mooolelo o Moloka'i* by George Cooke) for the plover birds which came to rest on the sandy beach area directly in front of the site; cp. *Ka-la'i-a-Ka-manu*, intro. p. 5.

3. **Ke one ali'i o Moloka'i** - Royal Sands of Moloka'i is another name for the sandy beach area directly in front of the Malama platform and according to Harriet Ne of Moloka'i took that name because of its association with Kamehameha V and the dignitaries who came to visit and to use the area set aside for the ali'i.

Traditions also ascribe this beach front area as a place which was an old canoe landing. Many famous chiefs stopped there en route to and from other islands in the group, i.e., Peleioholani when he raided Moloka'i, Paka'a when his traveling party was en route to Waipi'o Valley, Hawaii from Kaua'i, and many others.

But, history ascribes to Kaunakakai during the time of Kaiakea, a ruling chief and priest of Moloka'i, also mentioned by historian Joseph Poepoe in his Biography of Kamehameha I as an "uncle" of Kamehameha I, and Kaiakea's

son, chief of Kalama'ula, as a place where he received Kamehameha I and where Kamehameha stayed. [also at Mapulehu/Ualapu'e] before he went on to conduct the invasion of O'ahu in 1795. Poepoe says that Kaiakea was Kamehameha I's chief councilor for Kamehameha in his battle campaigns, since Kaiakea was a close relative of the Hawaii king on the 'I-Mahi clan side [Hamakua/Kohala].

According to Sites of Moloka'i [Summers, 1971, Pacific Anthropological Records, 14, p. 7]:

"...Keku'elike's *house* was the only place where he [Kamehameha] could sleep with his malo off...that he could sleep undressed without fear of violence or treachery' (Fornander, 1880:73).

[\*Note: Summers quotes Fornander's reference; Abraham Fornander's wife was a descendant of Keku'elikenui, son of Kaiakea].

[\*Note: this consultant is a descendant of Keku'elikenui's sister, 'Akaupalahaha (w), from whom Kamehameha I had Naho-a-o-Kamehameha (w), who married 'Ohulenui (k), priest of 'Ili'iliopoe Heiau in Mapulehu.

These relationships indicate why Kamehameha III set aside, in agreement with the Moloka'i *konohiki*, the ahupua'a of Kalama'ula, Kaunakakai, and Ualapu'e as his private lands and from which Lot Kamehameha V received ownership of Moloka'i lands issued to him during the Great Mahele of 1848, and also should explain why Kalakaua, shortly before his death, arranged to convey the unassigned category of lands on Moloka'i to the Bishop Estate in exchange for other properties in the kingdom. The basis of title recognition is a result of Kamehameha's strong consanguineal and close affinal ties to the family of Kaiakea, through Keku'elikenui and 'Akaupalahaha (w)).

"[p. 19 of Summers, 1971]...Kalola, the widow of Kalani'opu'u, had taken refuge on Maui after her son, Kiwala'o, was killed on Hawaii in a battle with Kamehameha [\*actually, Kiwala'o was killed by Ke'eaumoku in the Battle of Mokuohai] and his allies. Keopuolani had fled to Molokai'i, where they then lived with Keku'elikenui...at Kalama'ula. Kamehameha wished to have charge of Keopuolani, a chiefess of nearly the highest possible rank, considerably higher than Kamehameha's." [Summers references Poepoe, 1906a, i.e., Moololelo no Kamehameha (Biography of Kamehameha, or History of Kamehameha)]...

[\*Note: Keopuolani was Kamehameha I's niece, as her mother was Kamehameha's half-sister; marrying her as uncle/niece would produce a *nia'upi'o* rank child, and would also continue the line of his cousin, Kiwala'o].

[p. 19 of Summers, 1971, continuing]... 'In order to fulfill his wishes, he had to effect a reconciliation with Kalola. 'When the canoes [of Kamehameha] *landed at Kaunakakai* (italics mine), Kamehameha heard what Kalola was seriously ill. Therefore Kamehameha with his chiefs went up and inland to Kalama'ula where Kalola was staying with Keku'elike. When Kamehameha and

"chiefs arrived there, they were welcomed by Kekuelike; Kalama'ula was truly densely populated in those days ' ( Poepoe, 1906a) . . . "Kamehameha and Kalola met, and at this meeting Kalola promised Kamehameha that after her death he could have Liliha and Keopuolani" [Summers, 1971:19 ].

Kamehameha's relationship to Kalola: Kalola (w), grandmother of Keopuolani, was a sister of Kahekili, and also a granddaughter of Kekaulike. Kalola's mother, Keku' iapoiva Nui (w) was a daughter of Kaulahea (King of Maui, and father of Kekaulike) by Kalanikauleleiaiwi (w) . That made Keku' iapoiva Nui of Maui a half-sister of Kekela (w), the grandmother of Kamehameha I, whose mother Keku' iapoiva II, was a daughter of Kekela (w). Keouakupuapaikalaninui (k), father of Kamehameha I married both Keku' iapoiva II (mother of Kamehameha I) and Kalola (w) [mother of Keku' iapoiva Liliha (w), half-sister of Kamehameha I . [See Charts: from Judd, Walter, *Let Us Go*, 1976] .

#### B. Mahinahina Heiau/Kaunakakai

The suggestion that the raised platform in question could have been within an earlier heiau site may be justified considering the history [acc. Summers, 1971], but the house site of Kamehameha V is referred to as "west" of the Kaunakakai Pier and Mahinahina Heiau as "northeast" of the pier, qualified by "on which a church stood."

The question to ask is: what church is referenced here, Kalaiakamanu? Further qualified by: "drums were heard at night ...human sacrifice heiau" [Summers, 1971:88 Site 131].

Cooke [1919 Chapter 8 "Kaunakakai Wharf Harbor Development] remarks that the

Kaunakakai Harbor (before the extension of the mole in 1899) was used by small coasting schooners and that ox-carts went over the shoals carrying cargo, and that the rocks to build the mole came from the *heiau Oloolo*.

Summers [1971:85] refers to 'Olo'olo as a pond in Kalama'ula, not a heiau .

Is there a discrepancy here?

### C. The Malama Platform

1. It is referred to as a "lanai" of the Kamehameha V house in Kaunakakai; and that the "lanai" went all around the house. Peter Buck's pamphlet on Hawaiian houses in *Arts and Crafts of Hawaii* remarks that the lanai of the ancient Hawaiian house as a extension of the doorway was, after contact times, modified by lifting the house so that the lanai was an extension of the roof along one side over a stone platform, that in general, most stone *lanai* in the Hawaiian houses that were yet grass houses did not surround the house.

Buck's study mentions that house types represented since the time of Captain Cook are of three types, one in which the main posts contact the ground and the roof also; another in which the floor of the house does not contact the ground at all, but is a raised floor off the ground or raised sides; one in which the house has walled sides in addition to a hipped or gabled roof.

There were, however, houses that were built on stone platforms and raised off the ground the full length, as in the Marquesas, where houses built on the sides of the valleys must be able to find level and at the same time be positioned on the slopes above river beds to avoid flooding from overflow. The same principle adheres to building houses along the shoreline where the incoming tide affects the house foundation, particularly where there are also seasonal floods that periodically flow through. This second contingency may explain the existence of a high platform which left in its residual state was modified or used as is to provide for the Kamehameha V residential lanai (see attachment).

The heiau possibility, however, cannot be discounted because platforms of the type seen at Malama are in character with platform-type heiau structures. I have seen a much higher platform type at Mahina'akaka Heiau in Puna but which has the raised rectangular feature characteristic of platform precincts.

If the Halawa stonework is any indication of the masonry skill found on Moloka'i,

where terraces up hillsides seem to have provided either agricultural terracing or house sites above the stream flow or irrigated areas, the Honokohau Valley sites on Maui which were likewise first walled and then filled in with earth are reminiscent of the characteristic practice in the building of Hawaiian houses to put up the Posts with some stones around the base of the floor outline, and before the wall panels were completely filled in, raise the inner floor by fill, either of pebbles or earth to a height that would allow the floor mats to remain dry, especially in rainy or wet area.

The question remains, did Kamehameha V raise the platform to his house? Tradition says it was already there. If so, platforms of this size usually suggest platform heiaus and something of a ritual function greater than *ko'a* shrine offerings.

As for oral history versus recorded antiquity of names and epithets or other poetic associations with places in chants, how do you account for this one?

Ula Kala'eloa i ka lepo a ka makani  
Ho'onu'anu'a na pua i Kalama'ula,  
He hoa i [ka la'i a ka manu]  
Manu ai ia i ka hoa laukona.  
I keke lauau'a ia e ka moe  
Ke kuhi ana ia he kanaka e  
O au no keia mai luna a lalo  
Huna ke aloha, pe'e maloko  
Ike 'a i ka uwe ana iho  
Pela ka hoa kamali'i  
He uwe wale ke kamali'i.

Nathaniel B. Emerson recorded this chant as that of the *kilu* game, but we are concerned here with the substance of the poetry rather than the occasion at which it was chanted. Emerson says it is Kala'e on Moloka'i, and the use of Kalama'ula in the same context assures us that it is, indeed, Moloka'i. Kala'e is the mauka portion of Kaunakakai and constituted a *kalana*, or land section of more than one ahupua'a.

Red glows Kala'e through the wind-blown dust  
Encrusted with dirt the blossoms at Kalama'ula,  
A companion is at *Ka-la'i-a-ka-manu*,  
Companion to quiet of birds  
Birds consumed by love-magic [of *laukona* cane]  
Exposing refusal to lie down to sleep

To be pointed out as a person  
That I am from top down  
To conceal love, hide it within  
Seen is the weeping  
Like a child friend  
It is a child who cries.

The context of the chant within the association of place names includes Kaunakakai and Kalama'ula within the *kalana* of Kala'e. Kaunaleheleha was said to have been the home of Kaiakea, and that Keku'elikenui succeeded to all of his lands. What does that do to *Ka-la'i-a-ka-manu* in the chant? Was Kaunakahakai, as Harriet Ne says, a name given to Kaunakakai after the salt panning was introduced in the time of Kamehameha V, or was it already there before Kamehameha named his home Malama? Perhaps the chant is saying that within the *kalana* of Kala'eloa the wind blows from mauka to makai, crusting the flowers at Kalama'ula with dust, that the person in the chant has a friend in the "calm silence of birds", punning on the name of the sandy stretch of beach that is Kalaiakamanu, and that is really that older association with the makai side of the *kalana*, *Kala'e-loa*.

**Appendix D**  
**Site Photographs**



**Malama House Platform.** The layer of stones in the foreground marks the edge of the platform.



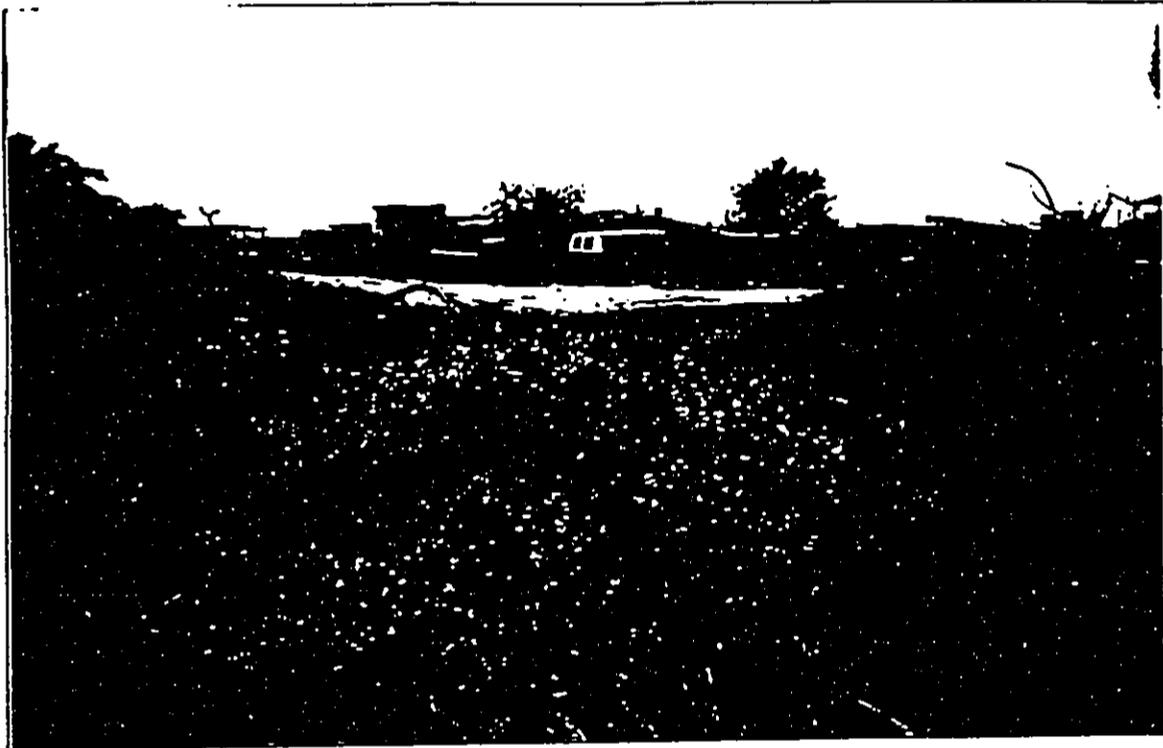
**Milo Trees Lining Kaunakakai Place.** These are a valuable feature of the site and part of the Kaunakakai Gateway.



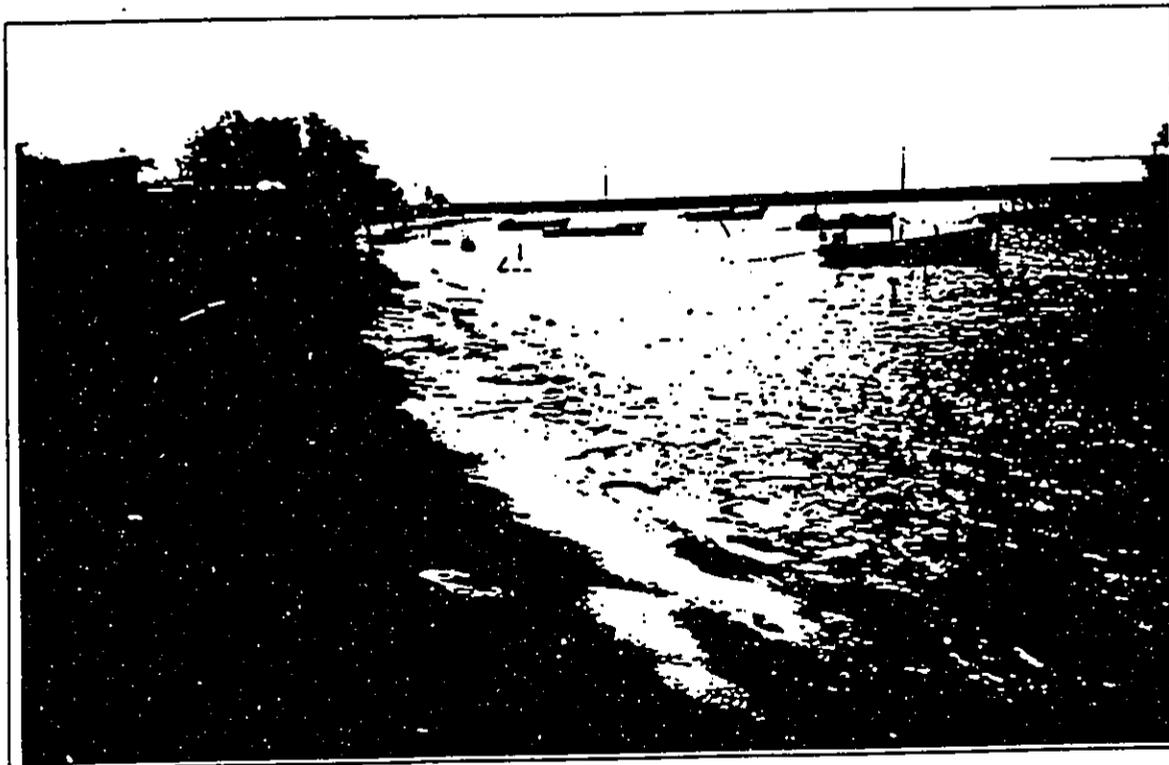
**Preservable Wetland.** This open pool has been seen with Hawaiian Stilts present in it. The vegetation on the banks is pickleweed. Note evidence of recent landfilling.



**Preservable Wetland.** Same as the above photo, but looking towards the ocean.

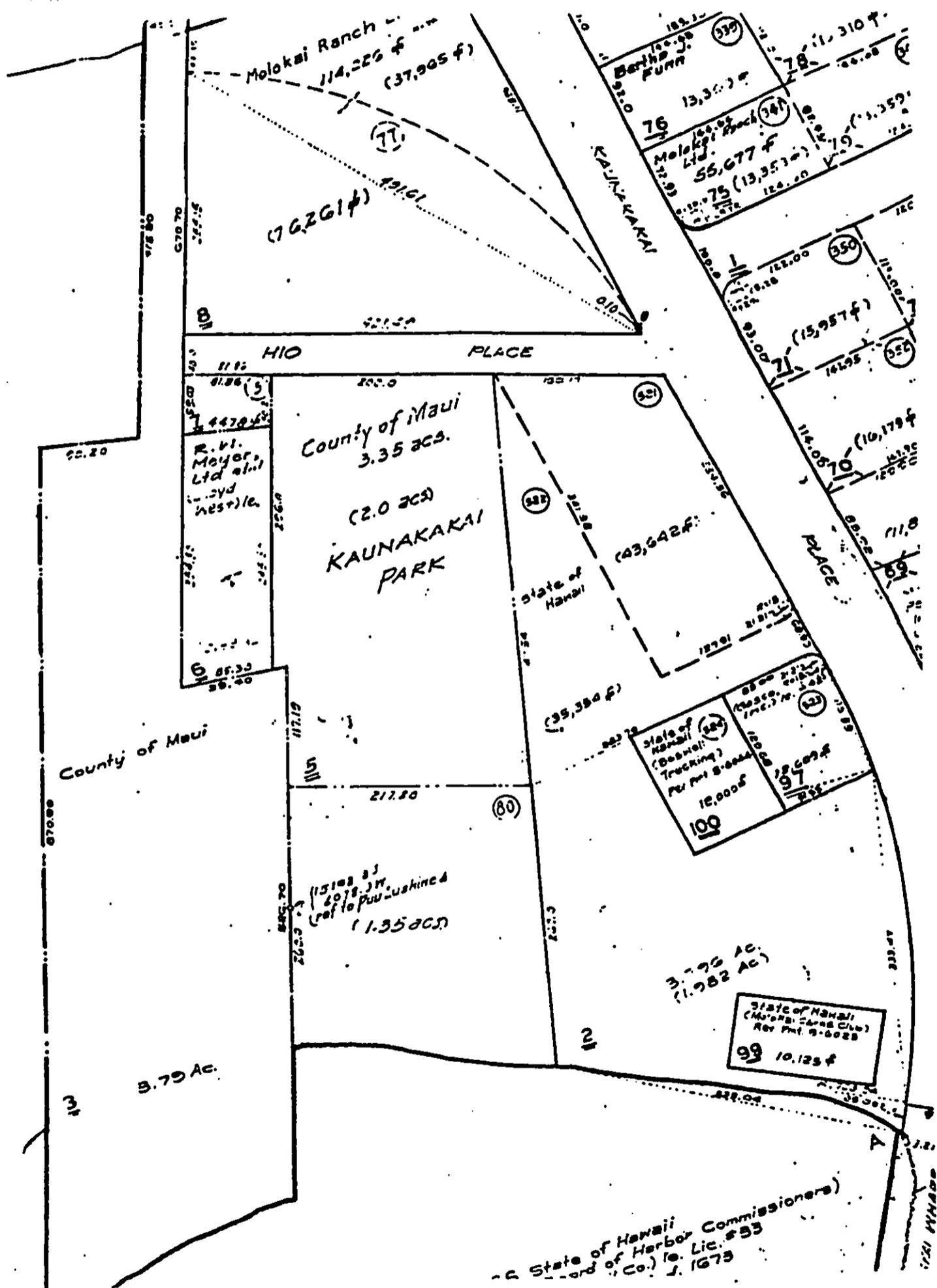


**Fillable Wetland.** The vegetation in the foreground is pickleweed. This area has no value as waterbird habitat.



**Beach Condition Fronting the Site.** This is the typical beach in front of the site. Long-term site planning would include the option of dredging an accessway for canoes across the reef flat to deeper water.

**Appendix E**  
**Land Ownership & Tenancy**



State of Hawaii  
 Board of Harbor Commissioners  
 (Co.) Lic. #53  
 J. 1975

TMK: 2 5 3 001 002 0000

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FOR ASSESSMENT YEAR 1990					
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-----SEE PARCEL SHEETS FOR MORE INFORMATION-----

MK: 2 5 3 001 003 0000

PAGE: 1

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REC-DATE: 11/18/87

AREA: 3.79000 ACRE STATE-CONV-TAX: \$.00  
FROM: THE UNITED STATES OF AMERICA, ACTING BY & THROUGH THE SECRETARY  
OF THE INTERIOR, ACTING BY & THROUGH THE DIRECTOR, NATIONAL PARK  
SERVICE

TO: COUNTY OF MAUI

QUITCLAIM:  
PORTION OF EXCEPTING 5 (KAUNAKAKAI LIGHTHOUSE LOT)

LCAPP 632, FOR GR 3533 AP 1 3.79 AC DES

F/D: AREA REVISED; BDRY

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F 0011 \*COUNTY OF MAUI

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MAILING ADDRESS: U S DEPT OF COMMERCE  
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L 0012 FORBES, YOLA M  
O 0011 \*STATE OF HAWAII  
CREATED FOR EXEMPTION PURPOSES ONLY

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MAILING ADDRESS: MEYER RW LTD  
P O BOX 1017  
KAUNAKAKAI, HI

96748

-----SEE PARCEL SHEETS FOR MORE INFORMATION-----

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 F 0031 MEYER, ALEXANDER F H TE 2/3 OF 41/216  
 L 0011 FORBES, DAVID G S  
 L 0012 FORBES, YOLA M

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MAILING ADDRESS: MEYER ALEXANDER F TRUST ETAL  
 P O BOX 8 96729  
 HOOLEHUA, HI

MAILING ADDRESS: FORBES, DAVID G/YOLA M  
 PO BOX 1017 96748  
 KAUNAKAKAI, HI

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PAGE: 1

10/07/87-----

OWNERSHIP: NAME  
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F TC %-OWNER

TITLE-DESC

FOR ASSESSMENT YEAR 1991  
-PITT: 100 AREA: 2.62200 A VALUE: 445500 EXEMPT:

FOR ASSESSMENT YEAR 1990  
-PITT: 300 AREA: 2.62200 A VALUE: 445500 EXEMPT:

FOR ASSESSMENT YEAR 1989  
-PITT: 300 AREA: 2.62200 A VALUE: 548300 EXEMPT:

FOR ASSESSMENT YEAR 1988  
-PITT: 300 AREA: 114226 F VALUE: 444727 EXEMPT:

MAILING ADDRESS: MOLOKAI 018  
PO BOX 1238  
LAHAINA HI

96761

-----SEE PARCEL SHEETS FOR MORE INFORMATION-----

TMK: 2 5 3 001 097 0000

PAGE: 1

05/10/88-----  
INSTR-DESC: DLNR L/O R/S (NEW LE S-6506)

TMB:R880000563  
INST-DATE: 05/10/88  
REC-DATE:

AREA: 12609 SQ.FT.  
TO: GASCO INC  
KAUNAKAKAI MOLOKAI 12609 SF TMK 5301-97  
PURP: INSTALLATION AND STORAGE OF FUEL GAS TANKS, WAREHOUSE OPERATION  
AND BASEYARD  
RENT: \$5152 2/1/87 TO 8/31/87; \$736/MON BEG 9/1/87  
EFFECTIVE DATE: 2/1/87  
TMB NOTE: LE TO GASCO INC EXPIRED 1/31/87  
OWNERSHIP: NAME F TC %-OWNER TITLE-DESC  
F 0011 \*STATE OF HAWAII R P S-6506  
L 0011 \*GASCO INC

FOR ASSESSMENT YEAR 1991  
-PITT: 400 AREA: 12609 F VALUE: 82000 EXEMPT: 82000  
-BLDG: 0001 CODE: 000 YB: VALUE: 13500 EXEMPT: 13500  
BLDG TOTALS--> VALUE: 13500 EXEMPT: 13500

FOR ASSESSMENT YEAR 1990  
-PITT: 400 AREA: 12609 F VALUE: 79400 EXEMPT: 79400  
-BLDG: 0001 CODE: 000 YB: VALUE: 13400 EXEMPT: 13400  
BLDG TOTALS--> VALUE: 13400 EXEMPT: 13400

FOR ASSESSMENT YEAR 1989  
-PITT: 400 AREA: 12609 F VALUE: 82000 EXEMPT: 82000  
-BLDG: 0001 CODE: 000 YB: VALUE: 12000 EXEMPT: 12000  
BLDG TOTALS--> VALUE: 12000 EXEMPT: 12000

MAILING ADDRESS: GASCO INC  
PO BOX 3379  
HONOLULU HI

96842

10/07/87-----  
OWNERSHIP: NAME F TC %-OWNER TITLE-DESC  
F 0011 \*STATE OF HAWAII  
L 0011 \*GASCO INC

FOR ASSESSMENT YEAR 1988  
-PITT: 400 AREA: 12609 F VALUE: 79081 EXEMPT: 79081  
-BLDG: 0001 CODE: 199 YB: 1982 VALUE: 7589 EXEMPT: 7589  
BLDG TOTALS--> VALUE: 7589 EXEMPT: 7589

MAILING ADDRESS: GASCO INC  
PO BOX 3379  
HONOLULU HI

96842

-----SEE PARCEL SHEETS FOR MORE INFORMATION-----

TMK: 2 5 3 001 099 0000

PAGE: 1

10/07/87-----

OWNERSHIP: NAME

F TC %-OWNER

TITLE-DESC

F 0011 \*STATE OF HAWAII  
L 0011 \*MOLOKAI CANOE CLUB

FOR ASSESSMENT YEAR 1991

-PITT: 100	AREA: 10125	F	VALUE:	50100	EXEMPT:
-BLDG: 0001	CODE: 000	YB:	VALUE:	1000	EXEMPT:
	BLDG TOTALS-->		VALUE:	1000	EXEMPT:

FOR ASSESSMENT YEAR 1990

-PITT: 400	AREA: 10125	F	VALUE:	57400	EXEMPT:
-BLDG: 0001	CODE: 000	YB:	VALUE:	1000	EXEMPT:
	BLDG TOTALS-->		VALUE:	1000	EXEMPT:

FOR ASSESSMENT YEAR 1989

-PITT: 400	AREA: 10125	F	VALUE:	59200	EXEMPT:
-BLDG: 0001	CODE: 000	YB:	VALUE:	1000	EXEMPT:
	BLDG TOTALS-->		VALUE:	1000	EXEMPT:

FOR ASSESSMENT YEAR 1988

-PITT: 402	AREA: 10125	F	VALUE:	56700	EXEMPT:
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MAILING ADDRESS: MOLOKAI CANOE CLUB  
PO BOX 767  
KAUNAKAKAI HI

96748

-----SEE PARCEL SHEETS FOR MORE INFORMATION-----

TMK: 2 5 3 001 100 0000

PAGE: 1

10/07/87-----

OWNERSHIP: NAME

F TC %-OWNER

TITLE-DESC

F 0011 \*STATE OF HAWAII  
L 0011 \*BOSWELL TRUCKING

RP S6044

FOR ASSESSMENT YEAR 1991  
-PITT: 400 AREA:

12000 F VALUE:

70200 EXEMPT:

FOR ASSESSMENT YEAR 1990  
-PITT: 400 AREA:

12000 F VALUE:

68000 EXEMPT:

FOR ASSESSMENT YEAR 1989  
-PITT: 400 AREA:

12000 F VALUE:

68000 EXEMPT:

FOR ASSESSMENT YEAR 1988  
-PITT: 400 AREA:

12000 F VALUE:

25000 EXEMPT:

MAILING ADDRESS: BOSWELL TRUCKING  
PO BOX 85  
HOOLEHUA HI

96729

-----SEE PARCEL SHEETS FOR MORE INFORMATION-----

**Appendix F**  
**Deed to TMK 5-3-01:3**

112

STATE  
2000

RECORDATION REQUESTED BY:

COUNTY OF MAUI

AFTER RECORDATION, RETURN TO: 87-174558

OFFICE OF THE COUNTY CLERK  
County of Maui  
200 South High Street  
Wailuku, Hawaii 96793

7 NOV 19 93 29

21343 553

RETURN BY: MAIL

SPACE ABOVE THIS LINE FOR  
REGISTRAR'S USE

In accordance with the provisions of Hawaii Revised Statutes, Section 502-31, this page is attached to that certain Quitclaim Deed, by and between the United States of America and the County of Maui.

0000

Kaunakakai Range Lights  
Kaunakakai, Molokai, Hawaii  
U-HI-563

21343 551

QUITCLAIM DEED

THE UNITED STATES OF AMERICA, acting by and through the Secretary of the Interior, acting by and through the Director, National Park Service, under and pursuant to the power and authority contained in the provisions of the Federal Property and Administrative Services Act of 1949 (63 Stat. 337), as amended, and particularly as amended by Public Law 485, 91st Congress, and regulations and orders promulgated thereunder (hereinafter designated "Grantor"), for and in consideration of the perpetual use of the hereinafter described premises as and for public park and public recreation area purposes, by the County of Maui (hereinafter designated "Grantee"), does hereby release and quitclaim to Grantee, and to its successors and assigns, all Grantor's right, title and interest in and to the following described property located on Molokai, Maui County, Hawaii and consisting of approximately 3.79 acres:

BEING A PORTION OF EXCEPTION 5 (KAUNAKAKAI LIGHTHOUSE LOT) OF LAND COURT APPLICATION 632, ON A PORTION OF THE LAND OF KAUNAKAKAI, GRANT 3533, APANA 1 TO TRUSTEES UNDER THE WILL OF BERNICE PAUHI BISHOP

Beginning at a point marked by a cross on a cement barrel sunk in the ground surrounded by four driven iron pipes, said point bearing the Kaunakakai Trig. Station  $115^{\circ} 42' 00''$  (true) and distant 980.3 feet; thence by true bearings and distances as follows:

1.  $215^{\circ} 51' 00''$  236.7 feet to a point, thence,
2.  $114^{\circ} 26' 50''$  99.4 feet to a point, thence,
3.  $216^{\circ} 47' 00''$  670.7 feet to a point, on government road, thence,
4.  $120^{\circ} 02' 00''$  40.0 feet to a point, thence,
5.  $36^{\circ} 47' 00''$  415.9 feet to a point, thence,
6.  $120^{\circ} 02' 00''$  90.2 feet to a point, thence,
7.  $35^{\circ} 51' 00''$  870.0 feet more or less to a point on the low water line, thence, easterly
8. Along the meanderings of the low water line to a point which bears  $35^{\circ} 51' 00''$  and is distant 290 feet more or less from the point of beginning, thence,
9.  $215^{\circ} 51' 00''$  290.0 feet more or less to the point of beginning.

Containing an area of 3.79 acres, more or less.

Together with all water, riparian, fishing and other rights, and rights of way, and other easements incidental or appurtenant to the aforesaid piece and parcel of land.

Reserving over, under, and through the described property for the benefit of the U.S. Government, Aids to Navigation, access, electric utility, and visual easements as outlined on U.S. Coast Guard drawing 14-209-001, Kaunakakai Range Lights Property Map (dated 2/14/85), sheet 1 of 1, Rev. (1), on file in the Office of Civil Engineering, 14th Coast Guard District, and further described as follows:

215 3 555

Description of Aids to Navigation and Access  
Easement (to be reserved):

A perpetual non-exclusive easement for the purpose of vehicular and pedestrian ingress and egress, construction, maintenance, repair, and inspection of new or existing aids to navigation and the electric utility lines to rear range light and between the range lights, or for other government purposes. Said easement is bounded and described as follows:

Beginning at the Northwest end of Hio Place, the coordinates of said point of beginning referred to Government Survey Triangulation Station "PUU LUAHINE" being 14,702.45 feet South and 3,833.26 feet West and running by azimuths measured clockwise from true South:

1. 36° 47' 328.83 feet along the Northwest boundary of Hio Place, Lot 5 of Ld. Ct. App. 632, and the R. W. Meyer, Ltd., et al (Lloyd West) Le Lot, on a portion of the Land of Kaunakakai, Grant 3533, Ap. 1 to Trustees under the Will of Bernice Pauahi Bishop;
2. 33° 50' 51" 122.688 feet;
3. 33° 43' 40" 20.00 feet;
4. 123° 43' 40" 20.00 feet;
5. 213° 43' 40" 20.00 feet;
6. 303° 43' 40" 5.00 feet;
7. 214° 10' 578.40 feet;
8. 126° 47' 5.00 feet;
9. 216° 47' 20.00 feet along the Southeast boundary of Lot 2-A-2 of Ld. Ct. App. 632;
10. 302° 02' 40.00 feet;
11. 36° 47' 150.3 feet along the Northwest boundary of Lot 77 and the Northwest end of Hio Place to the point of beginning and containing an area of 14,277 square feet or 0.3278 acre more or less.

The United States Government shall retain title to existing and future utility lines and poles for the benefit of the aids to navigation structures. The electrical line within the easement reserved herein is subject to relocation by the Grantee at the Grantee's expense, as substitution for the existing location; provided that, such relocation is approved by and accomplished in a manner satisfactory to the agency of the U.S. Government having control over the Aids to Navigation.

21343 556

3

Description of Visual Easement (to be reserved):

A perpetual visual easement to provide an unobstructed view from the sea to Kaunakakai Rear Range Light bounded and further described as follows:

Commencing from a POINT OF BEGINNING, the center of a light called Kaunakakai Rear Range Light, with said POINT OF BEGINNING being located 200 yards 034° from Front Range Light located at 15069.45S and 4112.00W of Government Survey Triangulation Station "PUU LUAHINE".

Thence an unknown distance and 30° 10' 00" azimuth to an unmarked point at the low water line;

Thence along the meanderings of the low water line in a westerly direction to another unmarked point at the low water line and which point is an unknown distance at 38° 10' 00" azimuth from the POINT OF BEGINNING. Contains 51,610 square feet (1.185 acre).

Objects over fifteen (15) feet above ground level shall not be built, grown or by any other means introduced within the areas bounded and described above. The visibility easement contained herein contains 8° 00' of arc.

To Have and to Hold the hereinbefore described property, subject to the reservations, exceptions, restrictions, conditions and covenants herein expressed and set forth unto the Grantee, its successors and assigns, forever.

The hereinbefore described property is granted by the Grantor to the Grantee subject to any and all outstanding easements for streets, utility systems, rights-of-way, railroads, pipelines, and/or covenants, restrictions, reservations, conditions, and agreements of record which now exist affecting the foregoing described premises.

The Grantor expressly excepts and reserves all oil, gas, and mineral rights and deposits in said land to the Grantor or to such person(s) as may be authorized by the Grantor to prospect, mine, and remove such deposits from the hereinbefore described property under applicable laws.

Pursuant to authority contained in the Federal Property and Administrative Services Act of 1949, as amended, and applicable rules, regulations, and orders promulgated thereunder, the General Services Administration determined the property to be surplus to the needs of the United States of America and assigned the property to the Department of the Interior for conveyance to the Grantee.

It is Agreed and Understood by and between the Grantor and Grantee, and the Grantee by its acceptance of this deed, does acknowledge its understanding of the agreement, and does covenant and agree for itself, and its successors and assigns, forever, as follows:

1. This property shall be used and maintained for the public purposes for which it was conveyed in perpetuity as set forth in the program of utilization and plan contained in the application, submitted by the Grantee on March 25, 1987, and amended on July 8, 1987, which program and plan may be amended from time to time at the written request of either the Grantor or Grantee, with the written concurrence of the other party, and such amendments will be added to and become a part of the original application.

2. The Grantee shall, within 6 months of the date of the deed of conveyance, erect and maintain a permanent sign or marker near the point of principal access to the conveyed area indicating that the property is a park or recreation area and has been acquired from the Federal Government for use by the general public.

3. The property shall not be sold, leased, assigned or otherwise disposed of except to another eligible governmental agency that the Secretary of the Interior agrees in writing can assure the continued use and maintenance of the property for public park or public recreational purposes subject to the same terms and conditions in the original instrument of conveyance. However, nothing in this provision shall preclude the Grantee from providing related recreational facilities and services compatible with the approved application, through concession agreements entered into with third parties, provided prior concurrence to such agreements is obtained in writing from the Secretary of the Interior.

4. From the date of this conveyance, the Grantee, its successors and assigns, shall submit biennial reports to the Secretary of the Interior, setting forth the use made of the property during the preceding two-year period, and other pertinent data establishing its continuous use for the purposes set forth above, for ten consecutive reports and as further determined by the Secretary of the Interior.

5. As part of the consideration for this Deed, the Grantee covenants and agrees for itself, its successors and assigns, that: (1) the program for or in connection with which this Deed is made will be conducted in compliance with, and the Grantee, its successors and assigns, will comply with all requirements imposed by or pursuant to the regulations of the Department of the Interior as in effect on the date of this Deed (43 C.F.R. Part 17) issued under the provisions of Title VI of the Civil Rights Act of 1964; (2) this covenant shall be subject in all respects to the provisions of said regulations; (3) the Grantee, its successors and assigns, will promptly take and continue to take such action as may be necessary to effectuate this covenant; (4) the United States shall have the right to seek judicial enforcement of this covenant; (5) the Grantee, its successors and assigns, will (a) obtain from each other person (any legal entity) who, through contractual or other arrangements with the Grantee, its successors or assigns, is authorized to provide services or benefits under said program, a written agreement pursuant to which such other person shall, with respect to the services or benefits which he is authorized to provide, undertake for himself the same obligations as those imposed upon the Grantee, its successors and assigns, by this covenant, and (b) furnish a copy of such agreement to the Secretary of the Interior or his successor; (6) this covenant shall run with the land hereby conveyed, and shall in any event, without regard to technical classification or designation, legal or otherwise, be binding to the fullest extent permitted by law and equity for the benefit of, and in favor of the Grantor and enforceable by the Grantor against the Grantee, its successors and assigns; and (7) the Grantor expressly reserves a right of access to, and entrance upon, the above described property in order to determine compliance with the terms of this conveyance.

6. The Grantee, by its acceptance of this property, agrees to have additional archaeological excavations and evaluations performed by a qualified archaeologist to determine the nature, extent and significance of all existing and any new historic sites prior to any development on the property. The Grantee agrees to take appropriate measures, as may be recommended by the State Historic Preservation Officer for the State of Hawaii, to protect and/or recover information from significant sites.

7. The Grantee agrees that, in the event that unknown cultural deposits are unearthed during any future site development or construction activities, the State Historic Preservation Officer will be notified immediately, and further agrees that construction in the "find" area will be suspended until an evaluation of the significance of the findings is made.

8. Should any historic site be determined eligible for inclusion on the Hawaii Register of Historic Places and/or the National Register of Historic Places, the Grantee agrees to nominate the site(s) to either or both registers.

9. The Grantee agrees to consult with, seek input and comments from the State Historic Preservation Officer during all aspects of park development.

10. The Grantee further agrees to comply with the requirements of Public Law 90-480 (82 Stat. 718) the Architectural Barriers Act of 1968 as amended by Public Law 91-205 of 1970 (84 Stat. 49) to assure that facilities developed on this property are accessible to the physically handicapped; and, further assure in accordance with Public Law 93-112, the Rehabilitation Act of 1973 (87 Stat. 394) that no otherwise qualified handicapped individual shall solely by reasons of his handicap be excluded from the participation in, be denied benefits of, or be subjected to discrimination under any program or activity in effect on this property.

11. The Grantee further agrees to comply, where applicable, with the provisions of the Flood Disaster Protection Act of 1973 (87 Stat. 975) and the National Flood Insurance Act of 1968 (42 U.S.C. 4102).

12. In the event that there is a breach of any of the conditions and covenants herein contained by the Grantee, its successors and assigns, whether caused by the legal or other inability of the Grantee, its successors and assigns, to perform said conditions and covenants, or otherwise, all right, title and interest in and to the said premises shall revert to and become the property of the Grantor at its option which in addition to all other remedies for such breach shall have the right of entry upon said premises, and the Grantee, its successors and assigns, shall forfeit all right, title and interest in said premises and in any and all of the tenements, hereditaments and appurtenances thereunto belonging; provided, however, that the failure of the Secretary of the Department of the Interior to require in any one or more instances complete performance of any of the conditions or covenants shall not be construed as a waiver or relinquishment of such future performance, but the obligation of the Grantee, its successors and assigns, with respect to such future performance shall continue in full force and effect.

21,43 559

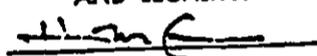
6

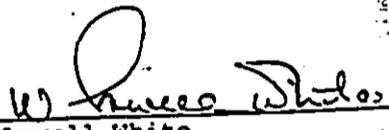
13. In the event of reversion of title, the Grantee shall be required to provide protection and maintenance for the property until such time as the title reverts to the Grantor, including the period of any notice of intent to revert.

IN WITNESS WHEREOF, the Grantor has caused these presents to be executed in its name and on its behalf this the 20<sup>th</sup> day of August 1987.

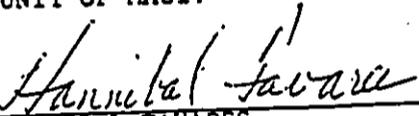
UNITED STATES OF AMERICA  
Acting by and through the  
Secretary of the Interior

APPROVED AS TO FORM  
AND LEGALITY:

  
Howard M. Fukushima  
Deputy Corporation Counsel  
County of Maui

By   
W. Lowell White  
Acting Regional Director  
Western Region  
National Park Service

COUNTY OF MAUI:

By   
HANNIBAL TAVARES  
Mayor

**Appendix G**  
**Wetland Survey**

## botanical consultants

p.o. box 90765 Honolulu, Hawaii 96835 (808) 923-4193 fax 923-4193

---

November 23, 1991

Mr. Eugene P. Dashiell-AICP  
c/o Eugene Dashiell Planning Services  
330 Coaral Street, Suite 202  
Honolulu, Hawaii 96813-5544

Dear Gene,

On Sunday, November 17, 1991, I was able to carry out a field inspection of the proposed park site in Kaunakakai, Molokai. In my opinion, at one time this entire property was a wetland, more especially, some sort of salt marsh. Today, and for a long time, much of the area has been covered with fill to create roadways and building sites.

The wetland vegetation which persists on the site is pickleweed or *Batis maritima* L. Pickleweed is an obligate wetland species (it grows only in wet places) and is regarded as a definite wetland indicator species. In addition there was standing water in at least two places on the site. And please be advised that in one of these ponds there were five Hawaiian stilts (*Himantopus mexicanus knudseni*), a listed endangered species (USFWS 1990).

It was not really clear as to how the small, off-shore islands figure into the study site, but here again, wetland vegetation in the form of mangrove trees (*Rhizophora mangle* L.) are flourishing. Mangrove is also an obligate wetland species.

On the proposal map which you sent me I have indicated, as well as I can, where I believe wetland conditions exist on the site. These boundaries will have to be surveyed and confirmed. I did not place any ribbons in the area because I did not know how you felt about flagging in such a public place.

Included is a list of plants found on the site and photographs to illustrate the two vegetation types (Wetland and Fill) presently found in the area.

In the following species list the plant families have been arranged alphabetically within two groups, Monocotyledons, and Dicotyledons. The genera and species have been arranged alphabetically within the families. The taxonomy and nomenclature follow that of Wagner, Herbst, and Sohmer (1990), St. John (1973), and Neal (1965). For each taxon the following information is provided:

1. An asterisk before the plant name indicates a plant introduced to the Hawaiian Islands since Captain Cook or by the aborigines.
2. The scientific name.
3. The Hawaiian name or the mostly widely used common name.
4. Species abundance. Abundance ratings are for this site only and they have the following meanings:

Uncommon = a plant that was found less than five times.

Occasional = a plant that was found between five to ten times.

Frequent = a plant that was found in widely scattered parts of the site in low numbers.

Common = a plant considered an important part of the vegetation

Locally abundant = plants found in large numbers over a limited area. For example the plants found in grassy patches.

This species list is the result of an extensive survey of this site completed at the beginning of the rainy season (November 1991) and it reflects the vegetative composition of the flora during a single season. Changes in the vegetation will occur due to introductions and losses and a slightly different species list would result from a survey conducted during a different growing season.

PLANTS FOUND ON THE PROPOSED PARK SITE, KAUNAKAKAI, MOLOKAI

SCIENTIFIC NAME	COMMON NAME	Abundance
Monocotyledons		
Agavaceae - Agavae Family		
<i>Cordyline fruticosa</i> (L.) A Chev.	Ti	Uncommon
Liliaceae - Lily Family		
* <i>Aloe vera</i> L.	Aloe	Uncommon
Palmae - Palm Family		
* <i>Cocos nucifera</i> L.	Coconut	Uncommon
<i>Prichardia</i> sp.	Lolou	Uncommon
Poaceae - Grass Family		
* <i>Cenchrus ciliaris</i> L.	Buffelgrass	Locally abundant
* <i>Cenchrus echinatus</i> L.	Common sandbur	Locally abundant
* <i>Chloris barbata</i> (L.) Sw.	Swollen fingergrass	Occasional
* <i>Chloris divaricata</i> R. Br.	Stargrass	Locally abundant
* <i>Cynodon dactylon</i> (L.) Pers.	Bermuda grass	Locally abundant
* <i>Rhynchelytrum repens</i> (Willd.) Hubb.	Natal redtop	Common
* <i>Sporobolus virginicus</i> (L.) Kunth	Seashore rush	Locally abundant
Dicotyledones		
Araliaceae - Ginseng Family		
* <i>Schefflera actinophylla</i> (Endl.) Jarms	Octopus tree	Uncommon
Aizoaceae - Fig-marigold Family		
<i>Sesuvium portulacastrum</i> (L.) L.	Akulikuli	Locally abundant
Asteraceae - Sunflower Family		
* <i>Lactuca serriola</i>	Prickly lettuce	Uncommon
* <i>Pluchea symphytifolia</i> (Mill.) Gillis	Sourbush	Uncommon
* <i>Tridax procumbens</i> L.	Coat buttons	Locally abundant
* <i>Verbesina encelioides</i> (Cav.) B & H ex Gray	Golden crown beard	Occasional

SCIENTIFIC NAME	COMMON NAME	1984-----1991
Bataceae - Saltwort Family		
* <i>Batis maritima</i> L.	Pickleweed	Common
Boraginaceae - Borage Family		
* <i>Heliotropium procumbens</i> Mill.		Occasional
Chenopodiaceae - Goosefoot Family		
* <i>Atriplex semibaccata</i> R. Br.	Australian saltbush	Occasional
Convolvulaceae - Morningglory Family		
<i>Ipomoea pes-caprae</i> (L.) R. Br.	Beach morningglory	Locally abundant
Euphorbiaceae - Spurge Family		
* <i>Chamaesyce hirta</i> (L.) Millsp.	Hairy spurge	Occasional
Fabaceae - Bean Family		
* <i>Cassia leschenaultiana</i>	Partridge pea	Uncommon
* <i>Desmanthus virgatus</i> (L.) Willd.	Slender mimosa	Occasional
* <i>Prosopis pallida</i> Kunth	Kiawe	Common
Malvaceae - Hibiscus Family		
<i>Hibiscus</i> sp.	Hibiscus	Uncommon
* <i>Malvastrum coromandelianum</i> (L.) Garke	False mallow	Uncommon
<i>Sida fallax</i> Walp.	'Ilima	Uncommon
* <i>Sida rhombifolia</i> L.		Occasional
* <i>Thespesia populnea</i> (L.) Sol ex. Correa	Milo	Occasional
Nyctaginaceae - Four o'clock Family		
* <i>Boerhavia coccinea</i> Mill.		Occasional
<i>Boerhavia repens</i> L.	Alena	Uncommon
Portulacaceae - Purslane Family		
* <i>Portulaca oleracea</i> L.	Pigweed	Occasional
Rhizophoraceae - Mangrove Family		
* <i>Rhizophora mangle</i> L.	Red mangrove	Locally abundant
Sterculiaceae - cacao Family		
<i>Waltheria indica</i> L.	'Uhaloa	Occasional

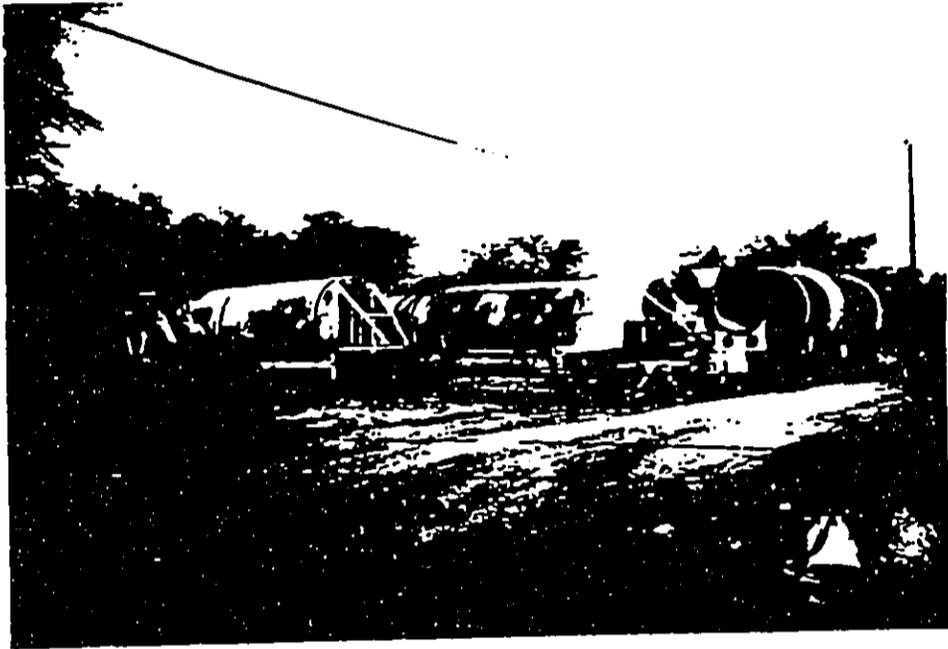


Figure 1. Parking Lot for Heavy Equipment



Figure 2. Parking lot for Canoes.



Figure 3. Batis Wetland.



Figure 4. Mangroves on Off-Shore Islands.

Sincerely yours,

Evangeline J. Funk, Ph.D.

A handwritten signature in cursive script, which appears to read "Evangeline J. Funk Ph.D.". The signature is written in dark ink and is positioned over the typed name.

Botanical \* Wetland \* Environmental

Studies

**Appendix H**  
**Correspondence with U.S. Army Corps of Engineers**



DEPARTMENT OF THE ARMY  
U. S. ARMY ENGINEER DISTRICT, HONOLULU  
FORT SHAFTER, HAWAII 96858-5440



March 9, 1992

REPLY TO  
ATTENTION OF

Operations Division

Mr. Walter Ritte, Jr., Coordinator  
Department of Business and  
Economic Development  
Molokai Office  
P.O. Box 1949  
Kaunakakai, Hawaii 96748

Dear Mr. Ritte:

This responds to your February 10, 1992 letter regarding the proposed Malama Park in Kaunakakai, Molokai, Hawaii.

Your description of the conditions at the property is basically the same description which was given to Mr. Warren Kanai of my staff when he met with you and others to discuss this project on January 22, 1992. At the meeting, you indicated that the portion of the small pickleweed area above the tsunami line would likely be filled.

As Mr. Kanai explained to you, this would require a Department of the Army permit, and could be authorized by nationwide permit. However, he added that the permit would be denied, without prejudice, until you first acquire a project-specific Coastal Zone Management Consistency Concurrence and a Water Quality Certification for the fill. In addition, the Corps would have to satisfy the requirements of Section 106 of the National Historic Preservation Act and Section 7 of the Endangered Species Act before the permit could be issued.

Your proposed enhancement of the permanent pool wetlands on the western side of the property, and possibly adding to the wetland area, would be considered excellent forms of mitigation to compensate for the fill in the pickleweed area.

Please call Mr. Warren Kanai or me at 438-9258 if you have any questions on the above.

Sincerely,

*Warren Kanai*  
for Michael T. Lee  
Acting Chief, Operations Division

3/11/92



DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM

CENTRAL PACIFIC PLAZA 300 SOUTH KING ST. SUITE 1100 HONOLULU HAWAII  
MAILING ADDRESS PO BOX 2359, HONOLULU HAWAII 96804 FAX (808) 526-2427  
KOA OFFICE PO BOX 1749 KAUNAKAKAI HAWAII 96748  
TELEPHONE 553-3668 OR 538-0367 FAX 553-2818

JOHN WAIHEE  
Governor  
MURRAY E. TOWILL  
Director  
BARBARA KIM STANTON  
Deputy Director  
RICK EGGED  
Deputy Director

10 February 1992

Mr. Michael T. Lee  
Acting Chief, Operations Branch  
U.S. Army Engineer District, Honolulu  
Building #230  
Fort Shafter, Hawaii 96858

Subject: Letter of Understanding -- Malama Park, Molokai  
Planning Coordination

Dear Mr. Lee:

I would appreciate a letter from you to confirm the following which is my understanding of the Corps' regulatory position with regards to wetland areas on the subject site. This position was expressed in a meeting with Mr. Warren Kanai of your staff, myself, Ms. M. Spero (Division of Land Management), and project consultants (Ms. E. Funk, botanist; Ms. L. Lee, Tom Coffman Multimedia; and Mr. E. Dashiell, planner). I have enclosed a map of the project site which identifies its key features.

1. Permanent pool wetlands. Permanent pool wetlands are located on the western boundary of the site. These wetlands have been degraded over the years and are filled with rubble and debris. E. Funk observed four Hawaiian Stilts in these pools during her inspection on November 17, 1991. We propose to preserve and enhance these pools and the surrounding area. This would take the form of increasing the area of the wetland, cleaning debris and rubble from it, providing a buffer of vegetation around it, and providing an observation site with interpretive information for park-goers. Preservation and enhancement of these permanent pool wetlands, possibly by an increase in area if required, is proposed to serve as mitigation for losses, if any, of other possible wetlands on the subject site. These permanent pool wetlands, apparently segments of a former stream or streams, appear to be isolated from the ocean at present. These pools appear to be remnants of a larger delta system of Kaunakakai stream which has been much filled, diked, channelized and altered.
2. Pickleweed area. E. Funk has identified an area of *batis maritima*, located more centrally to the park, adjacent to the historic Malama House site. This area of *batis* is somewhat less than one acre. In its center there is a

Mr. Michael T. Lee  
10 February 1992  
Page Two

small area (approximately 400 square feet) where rainfall collects. This area is very shallow and we believe it is the residue of recent rainfall. If the Corps' makes a determination that this area is a wetland, then we would propose to commensurately increase the area of the permanent pool wetland for mitigation. This area has no direct link to the ocean.

We will be discussing this project with the State Department of Health, Land and Natural Resources, and the U.S. Fish and Wildlife Service. It is our intent to include wetland and wildlife enhancement features in the park plan. We propose to do this by restoring the permanent pool wetland so that it would represent part of the natural history of this shoreline, and also provide habitat for Hawaiian stilts or other waterbirds. Overall, landscaping of the park is proposed to use native species appropriate to the site. We are presently coordinating with the State Office of Historic Preservation regarding historic features within the project boundary and preservation and interpretation of these are major themes of the overall planning effort.

The park itself is envisioned as an economic development activity which could hopefully be self-sustaining. It would provide a location for native Hawaiian activities, such as the Makahiki, and could include displays of historic events or features such as the Malama House. The park would provide a site for public gatherings and events, and perhaps also serve as a visitor and interpretive center. It would include preservation of existing Hawaiian canoe sheds for the canoe clubs on Molokai, and could also serve to host annual events.

Within the present year we will prepare a conceptual plan and an environmental assessment which will more specifically consider the planning alternatives and environmental impacts. These documents would be presented to the State legislature for their consideration. Only after their approval would detailed planning be carried out. This would probably include detailed design, preparation of plans and specifications and an environmental impact statement, and possibly application for appropriate permits prior to construction.

Your letter would be of great assistance to us during the present conceptual planning phase of this project because of our sensitivity to the environmental values of this site, and also our concern that we optimize the use of the site as best as possible.

Mr. Michael T. Lee  
10 February 1992  
Page Three

Please call me, or Tom Coffman (Oahu - 247-8181), who is the prime contractor for this project, if you have questions or comments.

Sincerely,

  
Walter Ritte, Jr.  
Coordinator

Enclosure

**Appendix I**  
**Correspondence with DLNR, Historic Preservation Division**



**DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM**

BENJAMIN J. CAYETANO  
GOVERNOR  
SELW F. NAYA  
DIRECTOR  
RICK EGGED  
DEPUTY DIRECTOR

Central Pacific Plaza, 220 South King Street, 11th Floor, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

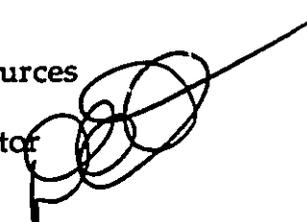
Telephone: (808) 586-2355  
Fax: (808) 586-2377

July 18, 1995

**MEMORANDUM**

**TO:** Mr. Don Hibbard, Administrator  
Historic Preservation Division  
Department of Land and Natural Resources

**ATTN:** Ms. Sara Collins, Archaeologist  
Historic Preservation Division  
Department of Land and Natural Resources

**FROM:** Mr. Daniel E. Orodener, Project Director  
Honolulu Waterfront Project 

**SUBJECT:** Malama Cultural Park Draft Environmental Assessment (EA)

Thank you for your comments regarding the Malama Cultural Park Draft Environmental Assessment (EA) which was published in the Office of Environmental Quality Control (OEQC) Bulletin on May 23, 1995.

The Department of Business, Economic Development and Tourism (DBEDT) acknowledges the need to prepare an interpretive plan for the three archaeological sites located within the project area. However, as you are aware, the State is currently experiencing severe financial constraints as well as restrictions. As such, funding to undertake an interpretive preservation plan is not available at this time.

Presently, DBEDT has advertised a request-for-proposals (RFP) to solicit a consultant to undertake detailed design work for the Malama Cultural Park. However, design and construction funds for the project are limited (Design - \$199,000; Construction - \$801,000). As such, phasing of the project (Phase I: civil work/landscaping; Phase II: Buildings) will be necessary. Based on proposals which have been received in response to the RFP, cost estimates for required services exceed the amount allotted design funds by over \$60,000.

Additional funds to undertake Phase II design and construction and the preparation of an archaeological interpretive preservation and wetlands management plans will need to be acquired from the next Legislative session.

However, it is our opinion that the significant investment made in Phase I, will aid us in our efforts to secure additional funding from the Legislature.

Prospective RFP offerors have been instructed that Phase I design work would need to include interim protective measures (i.e., setbacks and fencing) for the various archaeological sites until further legislative funding is appropriated to prepare an interpretive as well as management plan for these resources. At the same time, design work will need to remain sensitive with respect to accommodating the archaeological report recommendations. Furthermore, it is understood that archaeological monitoring services will need to be made a part of the bid documents for construction to mitigate potential impacts to surface as well as subsurface features.

As such, we ask that the State Historic Preservation Division waive the requirement of an interpretive plan at this time in order to allow DBEDT to proceed with the adoption of the Final EA provided the following:

1. Detailed design work for Phase I construction will provide interim measures to protect the three archaeological sites -- (a) a subsurface cultural deposit (60-03-630); an old pier (60-03-890); and the Malama platform (60-03-1030).
2. Archaeological monitoring for Phase I construction will be stated as a required service of the selected contractor within the final bid specifications and drawings for the project.
2. Design plans and drawings for interim archaeological site protective measures will be coordinated with the Historic Preservation Division.
3. Additional funds will be sought from the legislature to undertake an archaeological interpretive plan which will be coordinated with the State Historic Preservation Division and implemented for the remaining Phase II design and construction of the Malama Cultural Park.

If acceptable, these provisions will be incorporated into the Final EA document.

If you have any questions please call Mr. Christopher Chung, Project Manager, at 586-2534.

BENJAMIN J. CAYetano  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
33 SOUTH KING STREET, 6TH FLOOR  
HONOLULU, HAWAII 96813

MICHAEL D. WALSON, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY  
OLBERT COLOMA-AQARAN

AQUACULTURE DEVELOPMENT  
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DIVISION  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

RECEIVED  
MEMORANDUM  
AUG 9 8 30 AM '95  
BUSINESS DEVELOPMENT

August 7, 1995

LOG NO: 15156  
DOC NO: 9507SC42

TO: Mr. Daniel E. Orodener, Project Director  
Honolulu Waterfront Project  
Department of Business, Economic Development & Tourism

FROM: Don Hibbard, Administrator  
State Historic Preservation Division  
Department of Land and Natural Resources 

SUBJECT: Malama Cultural Park Draft Environmental Assessment  
Kaunakakai, Moloka'i, Hawai'i  
TMK: 5-3-01: 2, 3, 5, 97, 99, 100

Pursuant to the meeting between Mr. Christopher Chung, of your staff, and the Moloka'i archaeologist, Sara Collins, we provide the following response to your proposed revisions of the draft Environmental Assessment (EA).

In general, we concur with your suggested revisions to the draft EA, and recommend the following additional stipulations be added to Provision 1:

1) . . . Prior to beginning Phase I work, the contractor shall have a qualified archaeologist establish buffer zones for the three archaeological sites. Temporary construction fencing shall be erected to signify the location of buffer zones. During the execution of Phase I work, the contractor's archaeological monitor may make modifications to the buffer zones, if needed.

We concur with Provisions 2 - 4 as you have written them, and recommend their inclusion in the final EA.

Should you have any questions, please feel free to call Sara Collins at 587-0013.

SC:jen

**Appendix J**  
**Parties Consulted in Preparation of the**  
**Environmental Assessment**

In accordance with the State's EIS rules, a copy of the Draft Environmental Assessment was sent to various organizations and individuals with a request for comments on the proposed development. The following is a list of the parties consulted and copies of the correspondence.

**Federal Agencies**

Department of the Army  
U.S. Army Corps of Engineers

**State Agencies**

Department of Land and Natural Resources  
Land Management Division  
State Historic Preservation Division  
Department of Transportation  
Harbors Division  
Department of Business, Economic Development and Tourism

**County of Maui**

Office of the Managing Director  
Department of Parks and Recreation  
Department of Public Works  
Department of Water Supply  
Planning Department

**Public Utility Groups**

Maui Electric Light Company



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
33 SOUTH KING STREET, 4TH FLOOR  
HONOLULU, HAWAII 96813

HOWARD B. MALCOLM, CHAIRMAN  
BOARD OF LAND AND NATURAL RESOURCES

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SULLIVAN COLMAN-ANDERSON

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CONSERVATION AND  
RESTORATION

ENVIRONMENTAL AFFAIRS  
CONSERVATION AND  
RESTORATION

CONSTITUENCIES  
AFFAIRS

FOLKLORE AND WILDLIFE  
HISTORIC PRESERVATION

LAND MANAGEMENT  
STATE PARKS

WATER AND LAND DEVELOPMENT

June 19, 1995

Mr. Walter Ritte  
Department of Business, Economic Development, and Tourism  
P.O. Box 1949  
Kaunakakai, Molokai 96748

Dear Mr. Ritte:

SUBJECT: Historic Preservation Review of the Draft Environmental  
Assessment for the Malama Cultural Park at Kaunakakai,  
Kaunakakai, Molokai, Hawaii  
TKI 5-3-0112, 3, 5, 97, 99, 100

Thank you for the opportunity to comment on the draft environmental  
assessment (EA) for the Malama Cultural Park at Kaunakakai,  
Molokai. We provide the following comments.

The property contains three archaeological sites: a subsurface  
cultural deposit (60-03-630); an old pier (60-03-890); and the  
Malama platform (60-03-1030). We have previously determined that  
all three sites are significant under the criteria of the National  
Register of Historic Places. In particular, the Malama platform is  
significant under multiple criteria: B (association with a  
significant person, Kamehameha V); C (excellent example of its site  
type); and D (contains information).

We previously approved the archaeological inventory survey report  
documenting the historical background research and subsurface  
testing conducted on the subject property (Malama Platform  
Archaeology: 1992 Excavations for Cultural Park Planning, 1993.  
H.D. Tuggie).

In our letter of acceptance of the 1993 report, we also requested  
that an interpretive preservation plan be submitted to our office  
for review and approval before its implementation. Such a plan  
would also include protection measures for any of the historic  
sites not being interpreted. To date, we have not received such a  
plan for the Malama Cultural Park. While the current draft EA  
notes that the Malama Park architectural program "has implemented  
the recommendations of the archaeological report in the design of

Mr. Walter Ritte  
Page 2

the structures proposed for the park as well as in the layout and  
landscaping," these actions do not constitute an interpretative  
plan as such.

Therefore, we recommend that, prior to adopting a final EA for the  
Malama Cultural Park, that a preservation plan be submitted for  
review and approval to the State Historic Preservation Division.

Should you have any questions, please feel free to call our  
Molokai archaeologist, Sara Collins, at 587-0013.

Aloha,

DON HIBBARD, Administrator  
State Historic Preservation Division

SC:jen

cc: Mr. Tom Coffman, Tom Coffman Multimedia  
Mr. Richard Egged, Deputy Director, DBED



## DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

EDUARDO J. CASTELLANO  
DIRECTOR  
SHEILA MATA  
DEPUTY DIRECTOR  
DEPUTY DIRECTOR

Central Pacific Plaza, 220 South King Street, 11th Floor, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2159, Honolulu, Hawaii 96801

Telephone: (808) 546-2155  
Fax: (808) 546-2177

July 18, 1995

### MEMORANDUM

**TO:** Mr. Don Hibbard, Administrator  
Historic Preservation Division  
Department of Land and Natural Resources

**ATTN:** Ms. Sara Collins, Archaeologist  
Historic Preservation Division  
Department of Land and Natural Resources

**FROM:** Mr. Daniel E. Orodnenker, Project Director  
Honolulu Waterfront Project

**SUBJECT:** Malama Cultural Park Draft Environmental Assessment (EA)

Thank you for your comments regarding the Malama Cultural Park Draft Environmental Assessment (EA) which was published in the Office of Environmental Quality Control (OEQC) Bulletin on May 23, 1995.

The Department of Business, Economic Development and Tourism (DBEDT) acknowledges the need to prepare an interpretive plan for the three archaeological sites located within the project area. However, as you are aware, the State is currently experiencing severe financial constraints as well as restrictions. As such, funding to undertake an interpretive preservation plan is not available at this time.

Presently, DBEDT has advertised a request-for-proposals (RFP) to solicit a consultant to undertake detailed design work for the Malama Cultural Park. However, design and construction funds for the project are limited (Design - \$199,000; Construction - \$801,000). As such, phasing of the project (Phase I: civil work/landscaping; Phase II: Buildings) will be necessary. Based on proposals which have been received in response to the RFP, cost estimates for required services exceed the amount allotted design funds by over \$60,000.

Additional funds to undertake Phase II design and construction and the preparation of an archaeological interpretive preservation and wetlands management plans will need to be acquired from the next Legislative session.

However, it is our opinion that the significant investment made in Phase I, will aid us in our efforts to secure additional funding from the Legislature.

Prospective RFP offerors have been instructed that Phase I design work would need to include interim protective measures (i.e., setbacks and fencing) for the various archaeological sites until further legislative funding is appropriated to prepare an interpretive as well as management plan for these resources. At the same time, design work will need to remain sensitive with respect to accommodating the archaeological report recommendations. Furthermore, it is understood that archaeological monitoring services will need to be made a part of the bid documents for construction to mitigate potential impacts to surface as well as subsurface features.

As such, we ask that the State Historic Preservation Division waive the requirement of an interpretive plan at this time in order to allow DBEDT to proceed with the adoption of the Final EA provided the following:

1. Detailed design work for Phase I construction will provide interim measures to protect the three archaeological sites -- (a) a subsurface cultural deposit (60-03-630); an old pier (60-03-890); and the Malama platform (60-03-1030).
2. Archaeological monitoring for Phase I construction will be stated as a required service of the selected contractor within the final bid specifications and drawings for the project.
2. Design plans and drawings for interim archaeological site protective measures will be coordinated with the Historic Preservation Division.
3. Additional funds will be sought from the legislature to undertake an archaeological interpretive plan which will be coordinated with the State Historic Preservation Division and implemented for the remaining Phase II design and construction of the Malama Cultural Park.

If acceptable, these provisions will be incorporated into the Final EA document.

If you have any questions please call Mr. Christopher Chung, Project Manager, at 586-2534.

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
33 SOUTH KING STREET, 8TH FLOOR  
HONOLULU, HAWAII 96813

August 7, 1995

MICHAEL D. WILSON, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

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GILBERT COLOMA-AGARAN

AQUACULTURE DEVELOPMENT  
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CONSERVATION AND  
RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
DIVISION  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

RECEIVED  
WATERFRONT PROJECT  
MEMORANDUM  
AUG 9 8 30 AM '95  
BUSINESS CENTER  
LAWRENCE

LOG NO: 15156  
DOC NO: 9507SC42

TO: Mr. Daniel E. Orodener, Project Director  
Honolulu Waterfront Project  
Department of Business, Economic Development & Tourism

FROM: Don Hibbard, Administrator  
State Historic Preservation Division  
Department of Land and Natural Resources 

SUBJECT: Malama Cultural Park Draft Environmental Assessment  
Kaunakakai, Moloka'i, Hawai'i  
TMK: 5-3-01: 2, 3, 5, 97, 99, 100

Pursuant to the meeting between Mr. Christopher Chung, of your staff, and the Moloka'i archaeologist, Sara Collins, we provide the following response to your proposed revisions of the draft Environmental Assessment (EA).

In general, we concur with your suggested revisions to the draft EA, and recommend the following additional stipulations be added to Provision 1:

1) . . . Prior to beginning Phase I work, the contractor shall have a qualified archaeologist establish buffer zones for the three archaeological sites. Temporary construction fencing shall be erected to signify the location of buffer zones. During the execution of Phase I work, the contractor's archaeological monitor may make modifications to the buffer zones, if needed. ✓

We concur with Provisions 2 - 4 as you have written them, and recommend their inclusion in the final EA. ✓

Should you have any questions, please feel free to call Sara Collins at 587-0013.

SC:jen

LINDA CROCKETT-LINGOLE  
Mayor



GWEN Y. OHASHI  
Acting Director

COUNTY OF MAUI  
PLANNING DEPARTMENT  
350 S. HIGH STREET  
WAILUKU, MAUI, HAWAII 96793

June 22, 1995

Mr. Walter Ritte, Coordinator  
Department of Business, Economic  
Development, and Tourism  
P. O. Box 1949  
Kaunakakai, Hawaii 96748

Dear Mr. Ritte:

Re: Draft Environmental Assessment for the Malama  
Cultural Park, TRK: 5-3-01: 2, 3, 5, 97, 99,  
and 100, Kaunakakai, Molokai, Hawaii

Our office has reviewed the Draft Environmental Assessment  
(EA) for the subject project. The Department of Business, Economic  
Development, and Tourism plans to develop a public park on  
approximately 11.7 acres of land in Kaunakakai town. The park is  
intended to provide a focal point for Molokai's history and  
culture. The Property is currently owned by the County of Maui and  
State of Hawaii.

Our office has reviewed earlier versions of the Malama Park  
plan.

Conceptual plans for park were not enclosed with the Draft EA  
for us to determine the location, number, and size of structures  
contemplated. The subject properties are located in the Special  
Management Area (SMA) and will require an SMA Permit. The project  
may also require a Shoreline Setback Variance depending on the  
location of the structures.

Our office has the following comments on the draft EA:

1. It is stated on p. 6 of the draft EA that the 10-year  
update of the Molokai Community Plan should be completed  
in 1993. However, it should be noted that the Molokai  
Planning Commission completed their work on the Molokai  
Community Plan Update on June 14, 1995. This update  
next goes to the Maui County Council for their review  
and action. It is unknown at this time as to when the  
Council review will be completed since it has not  
started yet.

Mr. Walter Ritte, Jr.  
June 22, 1995  
Page 2

2. The Planning Department will have the opportunity to  
further review the environmental and infrastructural  
impacts of the Malama Park project in the context  
of the Special Management Area Use Permit review.

Thank you for providing with an opportunity to review the  
draft EA. Should you have any further questions, please contact  
Clayton Yoshida of this office.

Yours truly,

*Gwen Ohashi*

GWEN OHASHI  
Acting Director of Planning

CIV

cc: Colleen Suyama  
Clayton Yoshida, AICP  
Project File

6/22/95



**DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM**

Central Pacific Plaza, 220 South King Street, 11th Floor, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2158, Honolulu, Hawaii 96804

BENJAMIN J. CAVETIANG  
DEPUTY DIRECTOR  
RICH EGGED  
DEPUTY DIRECTOR

Telephone (808) 586-2353  
Fax (808) 586-2377

July 17, 1995

Ms. Gwen Ohashi  
Acting Director of Planning  
Planning Department  
County of Maui  
250 S. High Street  
Wailuku, Maui 96793

Subject: Draft Environmental Assessment for the Malama Cultural Park,  
Kaunakakai, Moloka'i, Hawaii

Dear Ms. Ohashi:

Thank you for your comment letter dated June 22, 1995 regarding the Draft Environmental Assessment (EA) for the Malama Cultural Park project located in the town of Kaunakakai on the island of Moloka'i.

With respect to your comments we offer the following responses:

1. Conceptual plans and technical studies prepared in 1993 for the Malama Cultural Park will be made a part of the Final EA in order to provide a sense of location, size and scope for the project. However, keep in mind that detailed design work will reexamine the 1993 planning documents in order to attain more efficient and cost effective designs for the various proposed park improvements in light of the State's current economic constraints. As such, the size and scope of specific project elements may be reduced.
2. The Department of Business, Economic Development and Tourism (DBEDT) intends to process and obtain approvals for all required governmental entitlements including a Special Management Area Use Permit (SMA) and a Shoreline Setback Variance (SSV) depending on the location of the structures. *See 2.4*
3. Revisions will be made to page 6 of the Draft EA with respect to the completion of the Moloka'i Community Plan Update on June 14, 1995 and that the updated plan will be forwarded to the Maui County Council for their review and action.

4. As part of the SMA permit approval process, detailed design plans for the park will be submitted to Maui County in order to provide further opportunity to review the environmental and infrastructure impacts of the project. ✓

Thank you again for your comments. If you have any questions please call me at 586-2534.

Sincerely,

*Christopher G. Chung*  
Christopher G. Chung  
Project Manager

DEPARTMENT OF TRANSPORTATION



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5067

June 22, 1995

TO: GARY GILL, DIRECTOR  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

FROM: KAZU HAYASHIDA  
DIRECTOR OF TRANSPORTATION

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR THE MALAMA CULTURAL PARK

With reference to the subject environmental assessment as listed on page 7 of your May 23, 1995 OEQC Bulletin, we have no objections to development of the Malama Cultural Park. However, we have the following comment to offer.

The forward and rear range lights for Keunakakai Harbor appear to be within the park boundary. Since the range lights are important to the safety of vessel navigation into the harbor, it is vital that no construction activity or any permanent feature of the park obscure or interfere with the visibility of both lights from the harbor entrance channel.

Please call Randal Leong at 587-1883, if you have questions.

KAZU HAYASHIDA  
DIRECTOR  
DEPARTMENT OF TRANSPORTATION  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5067

MAILING ADDRESS TO:

HAR-EP 5495.95



DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM

Central Pacific Plaza, 270 South King Street, 11th Floor, Honolulu, Hawaii 96811  
Mailing Address: P.O. Box 2158, Honolulu, Hawaii 96804

July 17, 1995

MEMORANDUM

TO: The Honorable Kazu Hayashida, Director  
Department of Transportation

FROM: Christopher G. Chung, Project Manager

SUBJECT: Draft Environmental Assessment for the Malama Cultural Park

Thank you for your comments with regard to the Draft Environmental Assessment (EA) for the Malama Cultural Park project.

With respect to your concern regarding any potential obscuring or interference with the range lights used for vessel navigation, detailed design for the park will take necessary precautions to insure the visibility of both lights from the harbor entrance channel.

If you have any questions please call me at 586-2534.

DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM

Telephone (808) 538-21  
Fax (808) 538-21

2/2/95

EDUARDO J. CAYETAN  
DIRECTOR



6 MAY 22 1995

STATE OF HAWAII

OFFICE OF ENVIRONMENTAL QUALITY CONTROL  
2ND SOUTH KING STREET  
FOURTH FLOOR  
HONOLULU, HAWAII 96804  
TELEPHONE: 586-2515  
FACSIMILE: 586-2516  
MAY 17, 1995

Mr. Rick Egged, Deputy Director  
Department of Business, Economic Development & Tourism  
PO Box 2359  
Honolulu, Hawaii 96804

Attn: Walter Ritte

Dear Mr. Egged:

RE: Malama Cultural Park Draft Environmental Assessment (EA), Molokai, TMK 5-3-1: 2, 3, 5,  
97, 99, 100

After a review of the draft EA, we recommend that you include the following in the Final EA:

1. Exhibits 1, 2 and 3 and Exhibit D were missing from the draft EA. Be sure they are included in the final EA.
2. Enclose documentation of your consultation with State Historic Preservation Division.
3. Include justification for the determination of this EA as an anticipated negative declaration.
4. Include a list of community groups and individuals contacted.
5. Consult with the Coast Guard regarding the building they left on site.
6. Please enclose maps showing the island of Molokai with the project site indicated and one showing the immediate region of the island in addition to the map provided showing the immediate neighborhood.

If you have any questions please call Nancy Heinrich at 586-4185.

Sincerely,

Gary Gill  
Director

GG/NH:kk

c: Tom Coffman Multimedia  
Eugene Dashiell Planning Services



DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM

Central Post Office Plaza, 220 South King Street, 11th Floor, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804  
Telephone: (808) 586-2333  
Fax: (808) 586-2337

July 17, 1995

MEMORANDUM

TO: Mr. Gary Gill, Director  
Office of Environmental Quality Control  
  
FROM: Christopher G. Chong, Project Manager

SUBJECT: Draft Environmental Assessment for the Malama Cultural Park,  
Kaunakakai, Molokai, Hawaii

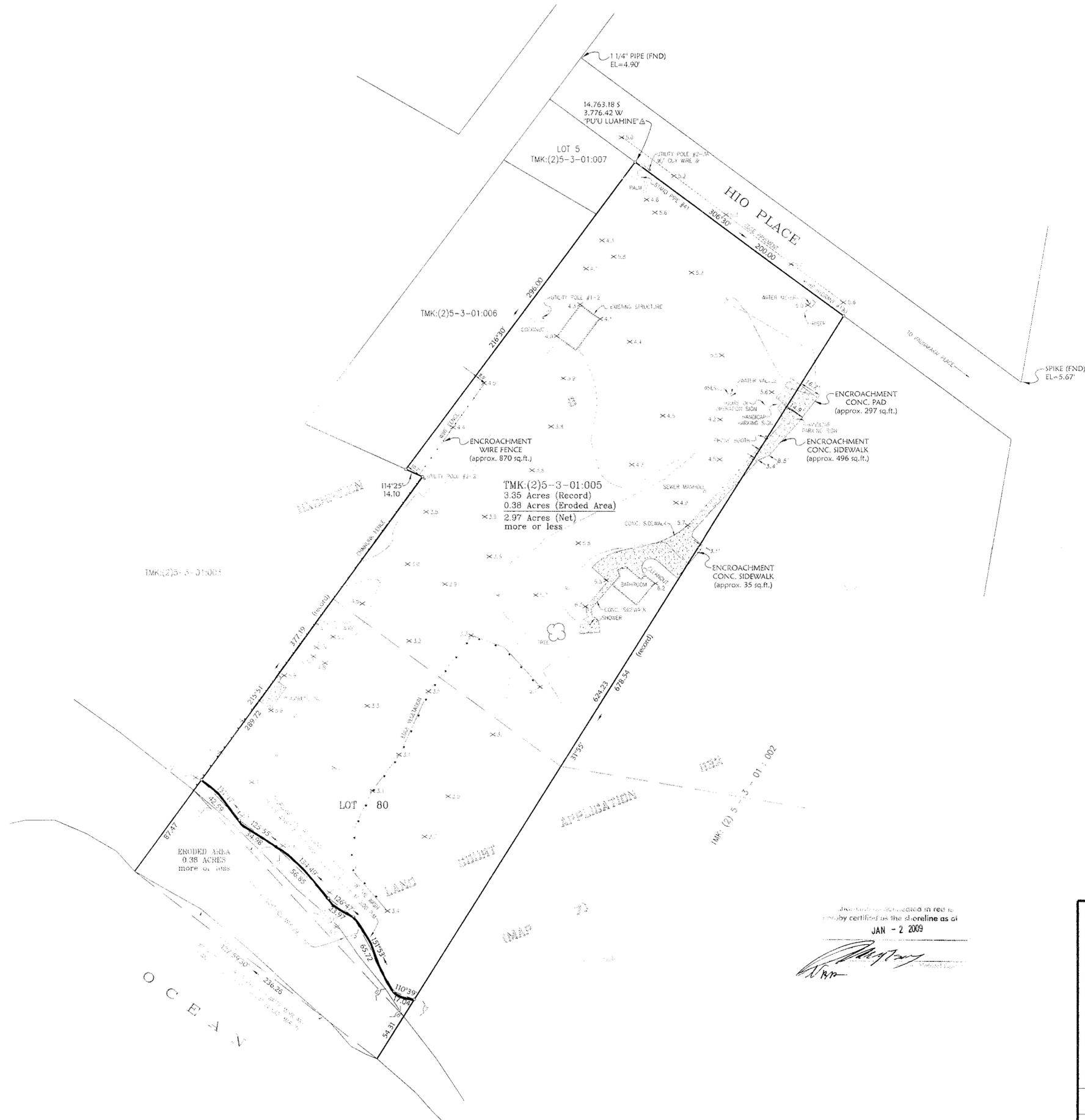
Thank you for your comment letter dated May 17, 1995 regarding the Draft Environmental Assessment (EA) for the Malama Cultural Park project located in the town of Kaunakakai on the island of Molokai.

We offer the following responses to your comments:

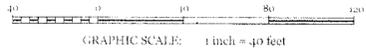
1. Exhibits 1, 2, 3 and "D" will be included in the Final EA.
2. Documentation of our consultation with the State Historic Preservation Division will be provided in the Final EA.
3. A justification for the determination of a negative declaration will be provided in the Final EA.
4. A list of community groups and individuals who were contacted will be provided as an appendix in the Final EA.
5. It is our opinion that consultation with the U. S. Coast Guard regarding the building left on the site is not necessary given that the property and facility was deeded to the County of Maui which now leases the structure to the Molokai Yacht Club.
6. Maps showing the island of Molokai with the project site indicated and the immediate region of the island will be provided in the Final EA.

Thank you again for your comments. If you have any questions please call me at 586-2534.

**Appendix B:**  
**Certified Shoreline Survey Map**



**Shoreline Certification Map Showing**  
**LOT 80 &**  
 a portion of  
**EXCEPTION 5**  
 of  
**LAND COURT APPLICATION 632**  
 (Map 7)  
 being also a portion of  
**GRANT 3533**  
 Apana 1  
 to the Trustees under the will of Bernice Pauahi Bishop  
  
 Situated at  
 Kaunakakai, Molokai, Hawaii



This map and the shorelines on this map  
 are hereby certified as the shoreline as of  
**JAN - 2 2009**  


<b>Prepared For:</b> "Aha Kukui O Molokai c/o Adolph Heia Chris Hart & Partners 115 N. Market Street Wailuku, Maui, HI 96793	<b>Owner:</b> County of Maui, Dep. of Parks & Rec. 700 Halia Nakaa Street, Unit 2 Wailuku, Maui, HI 96793	<b>NOTES:</b> 1. This map is based on an actual field survey performed on 31 MAR, 25 APR & 25 JUL, 2008. 2. Azimuths & coordinates are referred to Government Survey Triangulation Station "PU'U LUAHINE". 3. No pipes (found or set) at all boundary corners, unless otherwise noted above. 4. Elevations are based on USGS Benchmark M-1 EL=7.71'. 5. / Indicates location, direction number, and included angle of accompanying photographs.
This work was prepared by me or under my direct supervision.  <b>Randall Sherman</b> Licensed Professional Land Surveyor State of Hawaii Certificate Number LS4187 License Expiration Date: April 30, 2010 Land Court Certificate No. 1177		
		
Revised: 26 NOV 08		
Revised: 21 OCT 08		
Revised: 25 JUL 08		
Date: 5 MAY 08		

JOB NO: 8049	NAME: HELM-Canoe House Topo	TMK: (2) 5-3-01:005
<b>Valley Isle Surveyors, Inc.</b> P.O. Box 1001 Kihui, Maui, HI 96753 TEL: (808) 874-8066 FAX: (808) 874-8366		

**Appendix C:**  
**Wetlands Delineation**

WETLAND DETERMINATION

For the

MALAMA CULTURAL PARK

KAUNAKAKAI, MOLOKA'I

by

ROBERT W. HOBDY  
ENVIRONMENTAL CONSULTANT  
Kokomo, Maui  
October 2008

Prepared for:  
'Aha Kukui o Moloka'i

WETLANDS DETERMINATION  
FOR THE  
MALAMA CULTURAL PARK PROJECT  
KAUNAKAKAI, MOLOKA'I

**INTRODUCTION**

The Malama Cultrual Park Project lies on 11.727 acres of land (TMK (2) 5-3-01:005) adjacent to the shoreline in Kaunakakai, Moloka'i (Figures 1 & 2). The property is bounded on the east by Kaunakakai Place (the access road to Kaunakakai Harbor), on the north by Hio Place, on the west by undeveloped coastal land and on the south by the ocean immediately west of Kaunanakai Place. This project was initiated in response to environmental requirements of the planning process.

**SITE DESCRIPTION**

The terrain on the project site is nearly level. It is part of a coastal plain that lies along the leeward side of central Moloka'i. Elevations range from sea level to nearly 10 feet along Hio place. The soils on the property are identified entirely as Kealia Silt Loam (Foote et al, 1972). This soil is a low lying, coastal soil that has a high salt content and a brackish water table close to the surface. This soil is identified as a hydric soil in the Corps of Engineers Wetland Delineation Manual. These soils can become temporarily inundated following heavy rainfall events. Rainfall in this area averages 12-15 inches per year with the bulk falling between November and March (Armstrong, 1983).

Vegetation in the project area is a dense and nearly continuous mat of pickleweed (*Batis maritima*) with a fringe of sourbush (*Pluchea indica*) and scattered kiawe trees (*Prosopis pallida*). Much of the rest of the property is bare ground, mowed lawn or dry grass and brush. A shallow depression of approximately 1 acre is situated on the lower part of this parcel. This depression becomes inundated following rains and retains water long enough to demonstrate wetland characters. This depression is the subject of this wetland determination study.

## **HISTORY OF THE SITE**

The shoreline configuration fronting the project site has not changed appreciably in over 100 years. A 1900 map of the area (Figure 3) shows the Kaunakakai Pier and shoreline in essentially the same configuration that is in today. The project site itself has seen many alterations. In the 1800s there was a royal beach house built for Kamehameha V and a raised hula platform was constructed along the eastern side of the property. Since then other portions of the property have been raised with fill material. Test pits dug during the study revealed coral and sand deposits that were dredged from the reef when the harbor was developed. Other spots had red cinder deposits brought from nearby cinder pits.

The small wetland area received minimal amounts of fill material and is thus slightly lower than the surrounding areas. Thus water from rainfall events collects here and natural ground water is close to the surface.

## **SURVEY OBJECTIVES**

This report summarizes the findings of a wetland determination process in accordance with the Corps of Engineers Wetlands Delineation Manual. Work consisted of following set procedures, conducting tests and making observations in order to determine the presence or absence of indicators of hydrophytic vegetation, hydric soils and wetland hydrology with the goal of making a definitive determination as to whether a wetland exists on the property and to delineate the boundaries of any such wetland.

## SURVEY METHODS

Procedures required the assessment and characterization of vegetation, the excavation of soil pits for the analysis of soil types, and the documentation of indicators of wetland hydrology.

Equipment and tools used included:

- 3 inch diameter hand auger
- Sharpshooter shovel
- Machete
- Hand Level
- Tape measure
- Camera
- Munsell soil color charts
- Machete
- Corps of Engineers Wetlands Delineation Manual (U.S.A.C.E. 1987)
- National List of Plants that Occur in Wetlands: Hawaii (Region H) 2004
- Plastic flagging
- Spray marking paint

### Preliminary Data Gathering and Synthesis

The following sources of information were utilized in the preparation of this report:

- USGS topographic maps and other maps: 1899, 1924, 1952, 1983
- High elevation aerial photography: 1975, 2008
- SCS (NRCS) Soil Survey, 1972.
- Local individuals and experts with special knowledge of the history, conditions and environmental functioning of the subject area and surroundings.

These sources are referenced in this report or included in the appendix as appropriate.

## SUMMARY OF DATA AND CONCLUSIONS

The filling of portions of this property over the past 100+ years has concentrated a wetland effect on a naturally lower spot which appears to have been a wetland for many years. A central spot at the lowest point in this wetland is inundated for long enough periods that the pickleweed cannot get a permanent foothold and the spot remains bare.

The north and east sides of the wetland are flanked by filled terraces that clearly define the boundary. The west side of the wetland is partly defined by a manmade berm. The south side of the wetland is bounded by a low coastal dune of silty beach sand. The southeast corner of the wetland is the natural overflow and outflow area that has a significant accumulation of red silty soil, but with only a faintly defined channel to the ocean.

Five transects were established around the perimeter of the wetland perpendicular to the apparent boundary. Soil pits were dug along transects to analyze ground water hydrology and soil characteristic parameters. Characterization of the vegetation on each plot rounded off the three parameters used to determine if each plot was a wetland. Using the results along each transect a wetland boundary was determined. Once the boundary was determined along each transect, then a wetland boundary was interpreted between transects. In this way the entire wetland was delineated. This wetland boundary was then flagged and staked and this boundary configuration shared with a representative of 'Aha Kukui o Moloka'i. A map of this wetland delineation accompanies this report (Figure 5). This report will be submitted to the U.S. Army Corps of Engineers for certification.

## **WATERS OF THE U.S.**

A standard Waters of the U.S. analysis was applied to this project following joint Environmental Protection Agency and U.S. Army Corps of Engineers guidelines (USACE, 2006). The first known entity is that the Pacific Ocean is by definition a Traditional Navigable Waterway (TNW) and falls under federal jurisdiction under provisions of the Clean Water Act. The wetland delineated here is located only about 50 feet from the ocean and is connected to it by a faint overflow channel . By this connection this wetland is deemed to be adjacent to the Traditional Navigable Waterway and by definition the wetland thus also qualifies as a Water of the U.S. and becomes part of the federal inventory of Waters of the U.S.

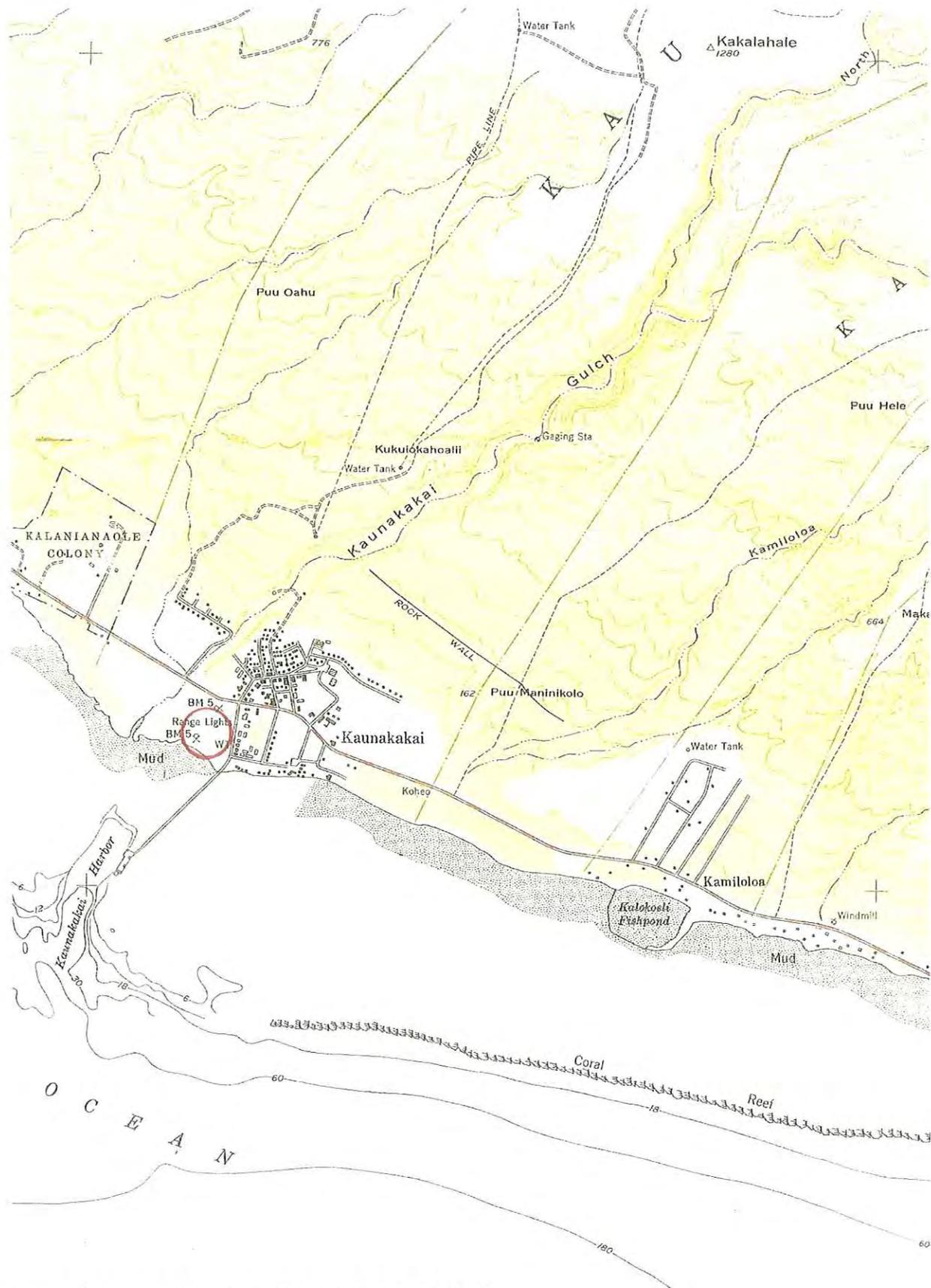


Figure 1 – Project Location Kaunakakai, Moloka'i

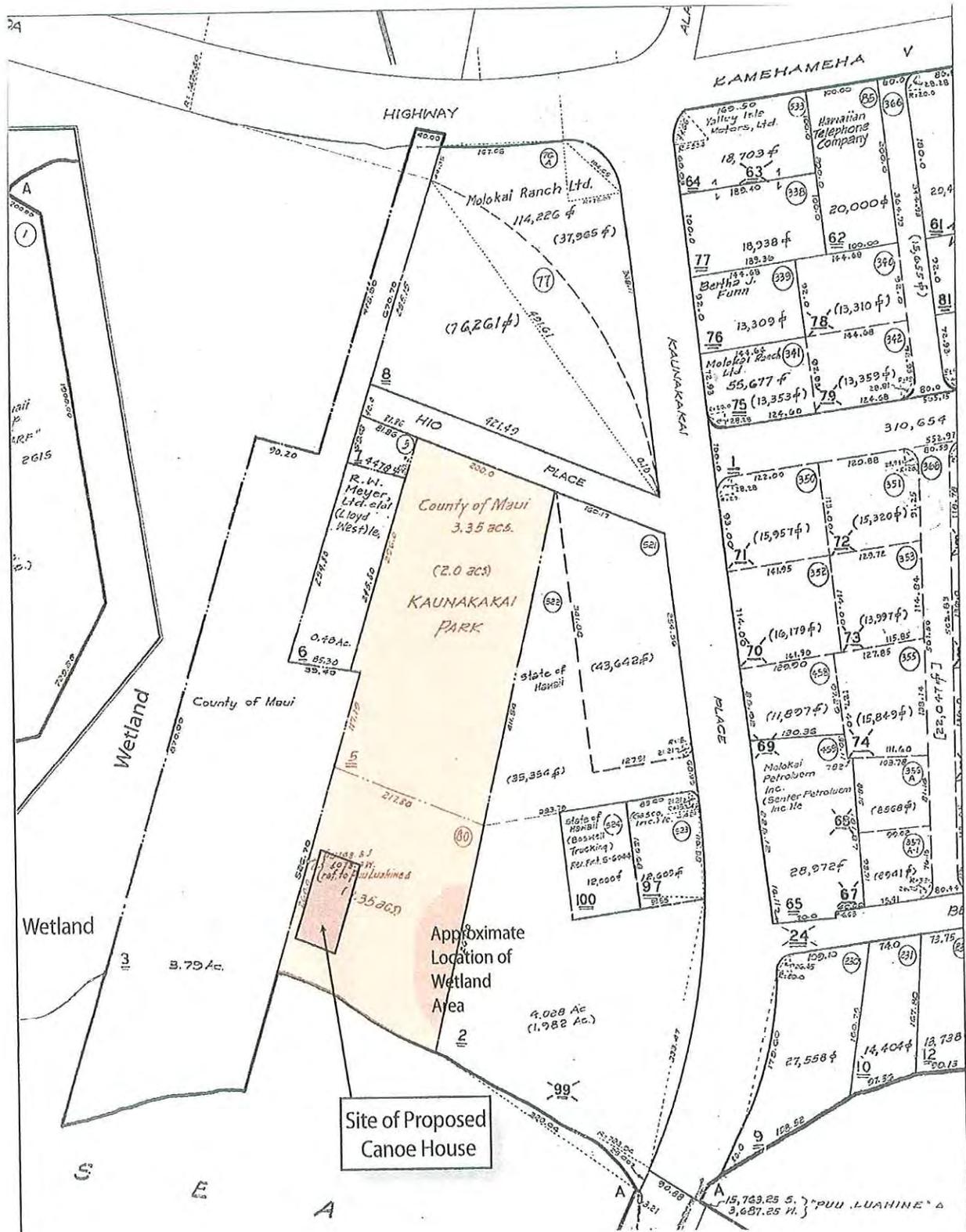


Figure 2 Project Location Kaunakakai, Moloka'i TMK (2) 5-3-01:005





Figure 4 Kaunakakai Shoreline Detail 2008 – Location of Wetland

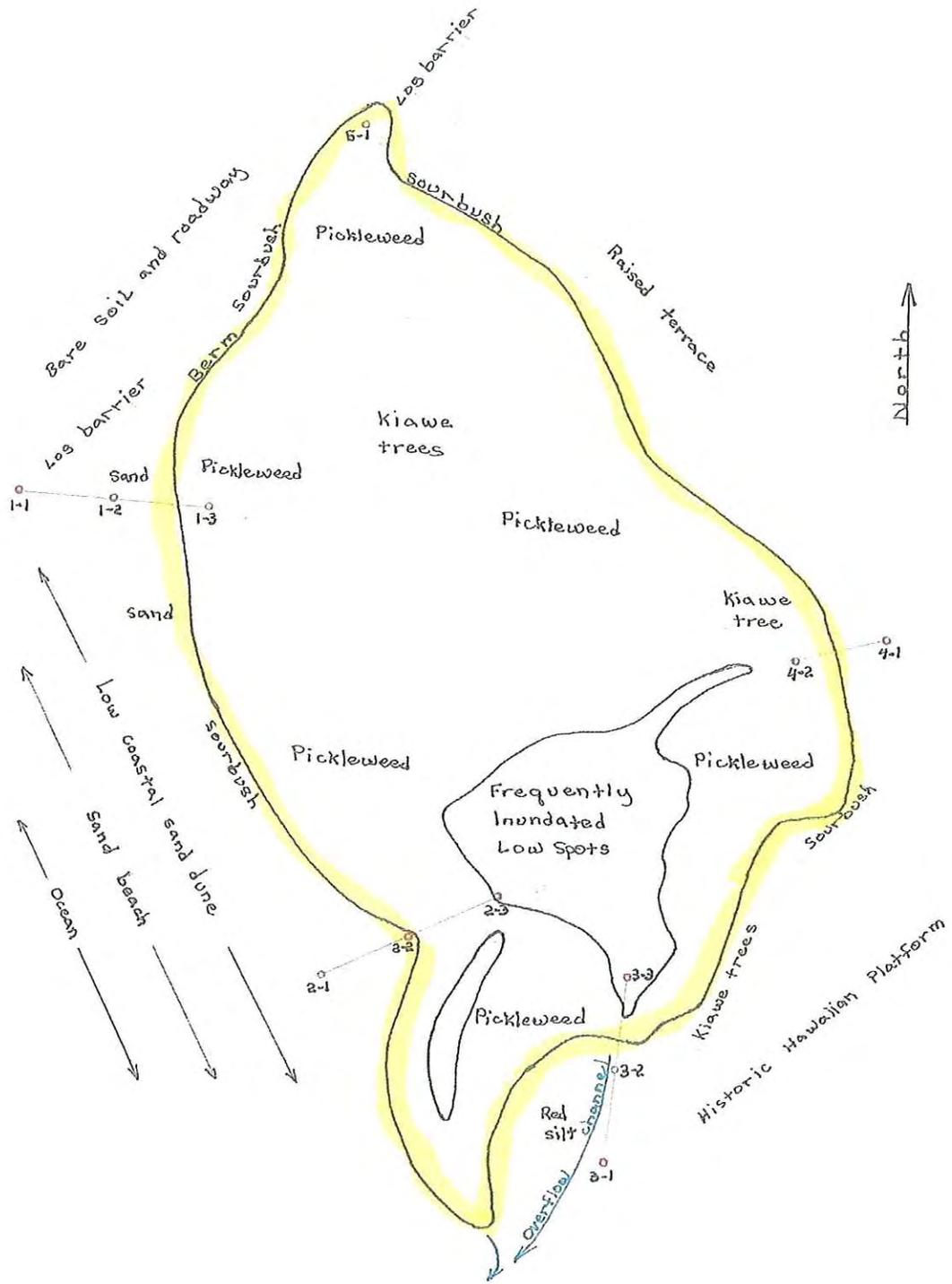


Figure 5 Wetland Delineation

- Wetland boundary
- Transect and plot location
- Frequently inundated low spots
- Overflow channel to sea during flooding



Project Area – looking southwest from raised terrace



Project area – looking west from raised terrace



Project area – frequently inundated low spot in center of wetland



Project area – looking southeast from north corner

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site: Malama Cultural Park / Kaunakakai, Molokai Date: Oct. 27, 2008  
 Application/Owner: Aha Kuisi o Molokai County: Mauai  
 Investigator: Robert Hddy State: Hawaii

	Yes	No	
Do normal circumstances exist on the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	T.M.K. (2) 5-3-01:02,05 Community ID: _____ Transect ID: <u>1</u> Plot ID: <u>1</u>
Is the site significantly disturbed (Atypical Situation)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the area a potential problem area? (If needed explain on reverse side)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**VEGETATION** 60% bare ground

%	r%	Dominant Plant Species	Stratum	Indicator	%	r%	Dominant Plant Species	Stratum	Indicator
40	100	Batis maritima	S	OBL/D					

Percent Dominant species that are OBL, FACW, FAC (excluding FAC-) 100%

Remarks: — This plot has hydrophytic vegetation.

**HYDROLOGY**

Recorded Data (Describe in Remarks):

- Stream, Lake, or Tide Gauge
- Aerial photographs
- Other maps

No recorded data available

Field Observations

Depth of Surface Water: — (inches)

Depth to Free Water in Pit: 24 (inches)

Depth to Saturated Soil: 20 (inches)

**Wetland Hydrology Indicators**

**Primary Indicators:**

- Inundated
- Saturated in upper 12 inches
- Water Marks
- Drift Lines
- Sediment Deposits

**Secondary Indicators (2 or more required):**

- Oxidized Root Channels in Upper 12 inches
- Water Stained Leaves
- Local Soil Survey Data
- FAC-Neutral Test

Other (Explain in Remarks):

Remarks: This plot does not have wetland hydrology.

Map Unit Name: Kealia Silt Loam (KMW)  
 (Series and Phase):

Drainage Class: poorly drained

Taxonomy (Subgroup): Typic Salorthid

Field Observations Yes No  
 Confirmed Mapped Type?

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
0-12	A1sa	5YR 5/2	—	—	Loose silty sand with bits of anthropogenic debris
12-18	C1sa	10R 3/4	—	—	Dusky red hard plastic clay loam
18-24	C2sa	5YR 4/1	—	—	Dark gray saturated loamy sand
24+	C3sa	10YR 3/1	—	—	Hard black slightly plastic silty loam

**Hydric Soil Indicators:**

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors

- Concretions
  - High Organic Content in Surface Layer in Sandy Soils
  - Organic Streaking in Sandy Soils
  - Listed on Local Hydric Soils List
  - Listed on National Hydric Soils List
- Other (Explain in Remarks):

Remarks: This plot lacks hydric soil indicators.

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soils Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Remarks: This plot lacks positive wetland indicators in two parameters.



Transect 1 Plot 1 a – Loose sandy soil



Transect 1 Plot 1 B - Loose sand over red clay loam,  
dark gray saturated sand at 18 inches

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site: Maunaloa Cultural Park / Konaakawai, Molokai Date: Oct. 27, 2008  
 Application/Owner: Aha Kuku, O Molokai County: MOA  
 Investigator: Robert Hebdy State: Hawaii

Do normal circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential problem area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed explain on reverse side)	TMK (2) <u>5-3-01-02,06</u> Community ID: _____ Transect ID: <u>1</u> Plot ID: <u>2</u>
---	--

**VEGETATION** 55% bare ground

%	r%	Dominant Plant Species	Stratum	Indicator	%	r%	Dominant Plant Species	Stratum	Indicator
45	100	<i>Batis maritima</i>	S	OBL/D					

Percent Dominant species that are OBL, FACW, FAC (excluding FAC-) 100%

Remarks: — This plot has hydrophytic vegetation.

**HYDROLOGY**

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial photographs <input checked="" type="checkbox"/> Other maps No recorded data available <b>Field Observations</b> Depth of Surface Water: <u>—</u> (inches) Depth to Free Water in Pit: <u>17</u> (inches) Depth to Saturated Soil: <u>14</u> (inches)	<b>Wetland Hydrology Indicators</b> <b>Primary Indicators:</b> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <b>Secondary Indicators (2 or more required):</b> <input type="checkbox"/> Oxidized Root Channels in Upper 12 inches <input type="checkbox"/> Water Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test Other (Explain in Remarks):
--	---

Remarks: This plot lacks indicators of wetland hydrology.

Map Unit Name: *Kealia Silty Loam (AMW)*  
(Series and Phase):

Drainage Class: *Poorly drained*

Taxonomy (Subgroup): *Typic Salorthid*

Field Observations Yes No  
Confirmed Mapped Type?

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
0-11	A1 sa	5YR 5/2	—	—	Loose silty sand
11-14	C1 sa	5YR 3/4	—	—	Dark reddish brown silty loam
14-17	C2 sa	5YR 3/2	—	—	Dark reddish brown clay loam, saturated
17+	C3 sa	5YR 5/2	—	—	Coarse reddish gray sand

**Hydric Soil Indicators:**

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors

- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks):

Remarks: *This plot lacks positive indicators of hydric soil.*

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	<input type="checkbox"/> <input checked="" type="checkbox"/>	
Hydric Soils Present?	<input type="checkbox"/> <input checked="" type="checkbox"/>	

Remarks: *This plot lacks wetland indicators in two parameters.*



Transect 1 Plot 2 a – Loose sandy soil



Transect 1 Plot 2 b – Loose sand over reddish brown silty loam,  
Saturated sand at 14 inches, free water at 17 inches.

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site: Malama Cultural Park / Kapaemohakalani, Molekai  
 Application/Owner: Aha Kuku'i o Molekai  
 Investigator: Robert Hobdy

Date: Oct 27, 2008  
 County: Mauai  
 State: Hawaii

Do normal circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential problem area? (If needed explain on reverse side)	Yes <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	No <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	TMC(2) S-3-01:02,05 Community ID: _____ Transect ID: <u>1</u> Plot ID: <u>3</u>
---	--	--	--

**VEGETATION** 80% bare ground

%	r%	Dominant Plant Species	Stratum	Indicator	%	r%	Dominant Plant Species	Stratum	Indicator
20	100	<i>Batis</i>	S	OBL/D					
		<i>maritima</i>							
3	100	<i>Eragrostis</i>	H	FACW/D					
		<i>pectinacea</i>							

Percent Dominant species that are OBL, FACW, FAC (excluding FAC-) 50%

Remarks: This plot has marginally hydrophytic vegetation.

**HYDROLOGY**

Recorded Data (Describe in Remarks):

Stream, Lake, or Tide Gauge  
 Aerial photographs  
 Other maps

No recorded data available

Field Observations

Depth of Surface Water:	<u>—</u> (inches)
Depth to Free Water in Pit:	<u>6</u> (inches)
Depth to Saturated Soil:	<u>3</u> (inches)

**Wetland Hydrology Indicators**

- Primary Indicators:**
- Inundated
  - Saturated in upper 12 inches
  - Water Marks
  - Drift Lines
  - Sediment Deposits
- Secondary Indicators (2 or more required):**
- Oxidized Root Channels in Upper 12 inches
  - Water Stained Leaves
  - Local Soil Survey Data
  - FAC-Neutral Test
- Other (Explain in Remarks):

Remarks: This plot has a positive indicator of wetland hydrology.

Map Unit Name: Kealia Silt Loam (KMU)  
(Series and Phase):

Drainage Class: Poorly drained

Taxonomy (Subgroup): Typic Salorthid

Field Observations Yes No  
Confirmed Mapped Type?

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
0-6		5YR 5/4	—	—	Dark reddish brown dry clay loam
6-8		5YR 3/1	—	—	very dark gray clay loam saturated
8+		5YR 2.5/1	—	—	very dark gray loamy sand saturated

Hydric Soil Indicators:

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors

- Concretions
  - High Organic Content in Surface Layer in Sandy Soils
  - Organic Streaking in Sandy Soils
  - Listed on Local Hydric Soils List
  - Listed on National Hydric Soils List
- Other (Explain in Remarks):

Remarks: this plot has 2 positive indicators of hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is this Sampling Point Within a Wetland?
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Hydric Soils Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Remarks: This plot has positive indicators in all three wetland parameters.



Transect 1 Plot 3 a – dry powdery clay loam



Transect 1 Plot 3 b – dark saturated sand and free water at 6 inches

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site: Malama Cultural Park / Muanakawai, Molokai  
 Application/Owner: Aha Kuku'i o Molokai  
 Investigator: Robert Hebdy

Date: Oct. 28, 2008  
 County: Mau'i  
 State: Hawaii

Do normal circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential problem area? (If needed explain on reverse side)	Yes <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	No <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	TMK (2) <u>5-3-01:02,05</u> Community ID: _____ Transect ID: <u>2</u> Plot ID: <u>1</u>
---	--	--	--

**VEGETATION** Bare ground 15%

%	r%	Dominant Plant Species	Stratum	Indicator	%	r%	Dominant Plant Species	Stratum	Indicator
30	45	<i>Pluchea indica</i>	S	FAC <del>P</del>					
25	38	<i>Batis maritima</i>	S	OBL <del>P</del>					
8	13	<i>Pluchea carolinensis</i>	S	FAC					
2	3	<i>Lourea leucocephala</i>	S	OPL					
2	50	<i>Chloris barbata</i>	H	FAC <del>P</del>					
2	50	<i>Spergularia marina</i>	H	FAC <del>P</del>					

Percent Dominant species that are OBL, FACW, FAC (excluding FAC-) 80%

Remarks: This plot has hydrophytic vegetation.

**HYDROLOGY**

Recorded Data (Describe in Remarks):

- Stream, Lake, or Tide Gauge
- Aerial photographs
- Other maps

No recorded data available

Field Observations

Depth of Surface Water: — (inches)  
 Depth to Free Water in Pit: 26 (inches)  
 Depth to Saturated Soil: 15 (inches)

**Wetland Hydrology Indicators**

**Primary Indicators:**

- Inundated
- Saturated in upper 12 inches
- Water Marks
- Drift Lines
- Sediment Deposits

**Secondary Indicators (2 or more required):**

- Oxidized Root Channels in Upper 12 inches
- Water Stained Leaves
- Local Soil Survey Data
- FAC-Neutral Test

Other (Explain in Remarks):

Remarks: This plot lacks positive indicators of wetland hydrology.

Map Unit Name: *Kealia Silt Loam (SMW)*  
 (Series and Phase):

Drainage Class: *poorly drained*

Taxonomy (Subgroup): *Typic Salorthid*

Field Observations  
 Confirmed Mapped Type?  Yes  No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
0-15	A1 sa	5YR 6/1	-	-	Loose dry silty sand
15-26	C1 sa	5YR 5/3	-	-	Saturated loamy sand

**Hydric Soil Indicators:**

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors

- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks):

Remarks: *This plot lacks positive indicators of hydric soil.*

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soils Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Remarks: *This plot lacks positive indicators in two wetland parameters.*



Transect 2 Plot 1 a – Loose sand along landward side of the coastal dune.



Transect 2 Plot 1 b – Saturated loamy sand at 15 inches, free water at 26 inches

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site: Malama Cultural Park / Kawaakahi, Molokai Date: Oct 28, 2008  
 Application/Owner: Aha Koaiki o Molokai County: Molokai  
 Investigator: Robert Hobdy State: Hawaii

Do normal circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential problem area? (If needed explain on reverse side)	Yes <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	No <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Community ID: _____ Transect ID: <u>2</u> Plot ID: <u>2</u>
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**VEGETATION**

%	r%	Dominant Plant Species	Stratum	Indicator	%	r%	Dominant Plant Species	Stratum	Indicator
100	100	<u>Batis maritima</u>	<u>S</u>	<u>OBL</u>					

Percent Dominant species that are OBL, FACW, FAC (excluding FAC-) 100%

Remarks: — This plot has hydrophytic vegetation

**HYDROLOGY**

Recorded Data (Describe in Remarks):

Stream, Lake, or Tide Gauge  
 Aerial photographs  
 Other maps

No recorded data available

Field Observations

Depth of Surface Water:	<u>—</u> (inches)
Depth to Free Water in Pit:	<u>26</u> (inches)
Depth to Saturated Soil:	<u>14</u> (inches)

**Wetland Hydrology Indicators**

**Primary Indicators:**

- Inundated
- Saturated in upper 12 inches
- Water Marks
- Drift Lines
- Sediment Deposits

**Secondary Indicators (2 or more required):**

- Oxidized Root Channels in Upper 12 inches
- Water Stained Leaves
- Local Soil Survey Data
- FAC-Neutral Test
- Other (Explain in Remarks):

Remarks: This plot lacks positive indicators of wetland hydrology.

Map Unit Name: *Keokuk Silt Loam (KRW)*  
 (Series and Phase):

Drainage Class: *Poorly drained*

Taxonomy (Subgroup): *Typic Suborder*

Field Observations Yes No  
 Confirmed Mapped Type?

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
0-14	A1 sq	5YR 5/2	—	—	<i>loose dry silty sand with coral fragments</i>
14-26	C1 sq	5YR 3/2	—	—	<i>Dark reddish brown silty sand with coral fragments</i>
26+	C2 sq	5YR 4/1	—	—	<i>Dark gray sand with coral fragments</i>

**Hydric Soil Indicators:**

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors

- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks):

Remarks: *This plot lacks indicators of hydric soil.*

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soils Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Remarks: *This plot lacks positive indicators in two wetland parameters.*



Transect 2 Plot 2 a – Picklweed shrubland over loose dry silty sand



Transect 2 Plot 2 b – Saturated soil at 4 inches, free water at 26 inches

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site: Malama Cultural Park / Kawaakakai, Molokai Date: Oct 28, 2008  
 Application/Owner: Aha Kuku o Molokai County: Molokai  
 Investigator: Robert Hobdy State: Hawaii

Do normal circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential problem area? (If needed explain on reverse side)	Yes <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	No <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	TMR (3) <u>5-3-01:02,05</u> Community ID: _____ Transect ID: <u>2</u> Plot ID: <u>3</u>
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**VEGETATION** 60% bare ground

%	r%	Dominant Plant Species	Stratum	Indicator	%	r%	Dominant Plant Species	Stratum	Indicator
40	100	<u>Batis</u> <u>maritima</u>	<u>S</u>	<u>OBL</u>					

Percent Dominant species that are OBL, FACW, FAC (excluding FAC-) 100%

Remarks: — This plot has hydrophytic vegetation

**HYDROLOGY**

Recorded Data (Describe in Remarks):

- Stream, Lake, or Tide Gauge
- Aerial photographs
- Other maps

No recorded data available

Field Observations

Depth of Surface Water: — (inches)  
 Depth to Free Water in Pit: 7 (inches)  
 Depth to Saturated Soil: 1 (inches)

**Wetland Hydrology Indicators**

**Primary Indicators:**

- Inundated
- Saturated in upper 12 inches
- Water Marks
- Drift Lines
- Sediment Deposits

**Secondary Indicators (2 or more required):**

- Oxidized Root Channels in Upper 12 inches
- Water Stained Leaves
- Local Soil Survey Data
- FAC-Neutral Test
- Other (Explain in Remarks):

Remarks: This plot has one primary indicator of wetland hydrology.

Map Unit Name: Kealia Silt Loam (KMLD)  
 (Series and Phase):

Drainage Class: Poorly drained

Taxonomy (Subgroup): Typic salorthid

Field Observations Yes  No   
 Confirmed Mapped Type?

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
0-4	A1 sa	5YR 7/2	—	—	Pinkish gray saturated sand with coral fragments
4-6	A2 sa	10R 3/3	—	—	dusky red cinder
6-8	C1 Gq	10YR 2/1	—	—	Black center slightly sticky clay loam
8+	C2 sa	5YR 5/1	—	—	Gray sand

**Hydric Soil Indicators:**

- |   |   |
|---|---|
| <input type="checkbox"/> Histosol                               | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon                        | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor                          | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input checked="" type="checkbox"/> Aquic Moisture Regime       | <input checked="" type="checkbox"/> Listed on Local Hydric Soils List         |
| <input type="checkbox"/> Reducing Conditions                    | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | Other (Explain in Remarks):   |

Remarks: This plot has three indicators of hydric soil.

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is this Sampling Point Within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present?	<input checked="" type="checkbox"/> <input type="checkbox"/>	
Hydric Soils Present?	<input checked="" type="checkbox"/> <input type="checkbox"/>	

Remarks: This plot has positive indicators in all three wetland parameters.



Transect 2 Plot 3 a – barren ground in frequently inundated center of wetland



Transect 2 Plot 3 b – saturated soil at 1 inch, free water at 7 inches

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site: Malama Cultural Park / Kaunakakai, Molokai Date: Oct. 28, 2008  
 Application/Owner: Ahekelewi o Molokai County: Maui  
 Investigator: Robert Healy State: Hawaii

Do normal circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential problem area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed explain on reverse side)	Yes <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	No <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Community ID: <u>TMK (2) 5-3-01 202, 05</u> Transect ID: <u>3</u> Plot ID: <u>1</u>
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**VEGETATION** Bare ground 40%

%	r%	Dominant Plant Species	Stratum	Indicator	%	r%	Dominant Plant Species	Stratum	Indicator
60	97	<i>Batis maritima</i>	S	OBL/D					
2	3	<i>Bassia hirsutifolia</i>	S	FACW					
1	100	<i>Prosopis pallida</i>	T	FACW/D					

Percent Dominant species that are OBL, FACW, FAC (excluding FAC-) 50%

Remarks: — This plot has marginal hydrophytic vegetation

**HYDROLOGY**

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial photographs <input checked="" type="checkbox"/> Other maps No recorded data available Field Observations Depth of Surface Water: <u>—</u> (inches) Depth to Free Water in Pit: <u>25</u> (inches) Depth to Saturated Soil: <u>22</u> (inches)	<b>Wetland Hydrology Indicators</b> <b>Primary Indicators:</b> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <b>Secondary Indicators (2 or more required):</b> <input type="checkbox"/> Oxidized Root Channels in Upper 12 inches <input type="checkbox"/> Water Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test Other (Explain in Remarks):
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Remarks: This plot lacks positive indicators of wetland hydrology.

Map Unit Name: Keatra Silt Loam (KMU)  
(Series and Phase):

Drainage Class: poorly drained

Taxonomy (Subgroup): Typic Salorthid

Field Observations  
Confirmed Mapped Type? Yes  No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
0-22	A1 Sa	10R 3/4	—	—	Dusky red silt loam
22-25+	C1 Sa	5YR 2.5/1	—	—	Black sand

**Hydric Soil Indicators:**

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors

- Concretions
  - High Organic Content in Surface Layer in Sandy Soils
  - Organic Streaking in Sandy Soils
  - Listed on Local Hydric Soils List
  - Listed on National Hydric Soils List
- Other (Explain in Remarks):

Remarks: This plot lacks indicators of hydric soil.

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hydric Soils Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Is this Sampling Point Within a Wetland?

Yes  No

Remarks: This plot lacks positive indicators in two wetland parameters.



Transect 3 Plot 1 a – dusky red silt loam in wetland overflow channel



Transect 3 Plot 1 b – saturated soil at 22 inches, free water at 25 inches

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site: Malama Cultural Park / Kaunalekai, Molokai Date: Oct. 28, 2008  
 Application/Owner: Aha Kuku'i o Molokai County: Molokai  
 Investigator: Robert Hobbie State: Hawaii

Do normal circumstances exist on the site? <input type="checkbox"/> Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Is the area a potential problem area? <input type="checkbox"/> (If needed explain on reverse side)	Yes <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	No <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	TMK (2) S-3-01: 08, 05 Community ID: _____ Transect ID: <u>3</u> Plot ID: <u>2</u>
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**VEGETATION**

%	r%	Dominant Plant Species	Stratum	Indicator	%	r%	Dominant Plant Species	Stratum	Indicator
80	94	<i>Batis</i> <i>maritima</i>	S	OBL <sup>D</sup>					
20	100	<i>Prosopis</i> <i>pallida</i>	T	FACU					
5	6	<i>Rochea</i> <i>indica</i>	S	FAC <sup>D</sup>					

Percent Dominant species that are OBL, FACW, FAC (excluding FAC-) 100%

Remarks: This plot has hydrophytic vegetation.

**HYDROLOGY**

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial photographs <input checked="" type="checkbox"/> Other maps No recorded data available Field Observations Depth of Surface Water: <u>—</u> (inches) Depth to Free Water in Pit: <u>27</u> (inches) Depth to Saturated Soil: <u>19</u> (inches)	<b>Wetland Hydrology Indicators</b> <b>Primary Indicators:</b> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <b>Secondary Indicators (2 or more required):</b> <input type="checkbox"/> Oxidized Root Channels in Upper 12 inches <input type="checkbox"/> Water Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test Other (Explain in Remarks):
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Remarks: This plot lacks positive indicators of wetland hydrology.

Map Unit Name: Kealia Silt Loam (KMU)  
 (Series and Phase):

Drainage Class: Poorly drained

Taxonomy (Subgroup): Typic Salorthid

Field Observations Yes No  
 Confirmed Mapped Type?

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
0-19	A1 sa	5YR 3/4	—	—	Dark reddish brown silty loam
19-27	C1 sa	5YR 3/2	—	—	Dark reddish brown clay loam, saturated
27+	C2 sa	5YR 7/1	—	—	Dark gray sand

**Hydric Soil Indicators:**

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol<br><input type="checkbox"/> Histic Epipedon<br><input type="checkbox"/> Sulfidic Odor<br><input type="checkbox"/> Aquic Moisture Regime<br><input type="checkbox"/> Reducing Conditions<br><input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions<br><input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils<br><input type="checkbox"/> Organic Streaking in Sandy Soils<br><input type="checkbox"/> Listed on Local Hydric Soils List<br><input type="checkbox"/> Listed on National Hydric Soils List<br>Other (Explain in Remarks): |
|---|--|

Remarks: This plot lacks positive indicators of hydric soil.

**WETLAND DETERMINATION**

<table border="0"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> </tr> <tr> <td>Hydrophytic Vegetation Present?</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td>Hydric Soils Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>		Yes	No	Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Hydric Soils Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Is this Sampling Point Within a Wetland?</p> <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
	Yes	No											
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>											
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
Hydric Soils Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>											

Remarks:

This plot lacks positive indicators in two of three wetland parameters.



Transect 3 Plot 2 a – pickleweed shrubland with kiawe



Transect 3 Plot 2 b – saturated soil at 19 inches, free water at 27 inches

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site: MALINA CULTURAL PARK / KAUNAKAKAI, MOLOKAI  
 Application/Owner: Aha Koku o Molokai  
 Investigator: Robert Heddy

Date: Oct 28, 2008  
 County: Mauai  
 State: Hawaii

Do normal circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential problem area? (If needed explain on reverse side)	Yes <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	No <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	DMS (2) 5-3-01:02,05 Community ID: _____ Transect ID: <u>3</u> Plot ID: <u>3</u>
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**VEGETATION** Bare ground 20%

%	i%	Dominant Plant Species	Stratum	Indicator	%	i%	Dominant Plant Species	Stratum	Indicator
80	100	<i>Batis</i>	S	OBL					
15	100	<i>maritima</i>							
		<i>Prosopis</i>	T	FACW					
		<i>pallida</i>							

Percent Dominant species that are OBL, FACW, FAC (excluding FAC-) 50%

Remarks: — This plot has hydrophytic vegetation.

**HYDROLOGY**

Recorded Data (Describe in Remarks):

- Stream, Lake, or Tide Gauge
- Aerial photographs
- Other maps

No recorded data available

**Field Observations**

Depth of Surface Water: — (inches)  
 Depth to Free Water in Pit: 6 (inches)  
 Depth to Saturated Soil: 0 (inches)

**Wetland Hydrology Indicators**

**Primary Indicators:**

- Inundated
- Saturated in upper 12 inches
- Water Marks
- Drift Lines
- Sediment Deposits

**Secondary Indicators (2 or more required):**

- Oxidized Root Channels in Upper 12 inches
- Water Stained Leaves
- Local Soil Survey Data
- FAC-Neutral Test
- Other (Explain in Remarks):

Remarks: This plot has wetland hydrology.

Map Unit Name: *Keating Silt Loam (KML)*  
(Series and Phase):

Drainage Class: *Poorly drained*

Taxonomy (Subgroup): *Typic santonhid*

Field Observations Yes No  
Confirmed Mapped Type?

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
0-1	A1 sa	5YR 3/2	—	—	Dark reddish brown silty loam, saturated
1-2	C1 sa	5YR 4/1	—	—	Gray saturated sand
2-6	C2 sa	5YR 3/3	—	—	Dark reddish brown clay loam
6-8	C3 sa	5YR 2.5/1	—	—	Black sand, slightly sulfidic
8+	C4 sa	5YR 4/1	—	—	Dark gray sands, slightly sulfidic

**Hydric Soil Indicators:**

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors

- Concretions
  - High Organic Content in Surface Layer in Sandy Soils
  - Organic Streaking in Sandy Soils
  - Listed on Local Hydric Soils List
  - Listed on National Hydric Soils List
- Other (Explain in Remarks):

Remarks: *This is a hydric soil.*

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is this Sampling Point Within a Wetland?
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Hydric Soils Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: *this plot has positive indicators in all three wetland parameters.*



Transect 3 Plot 3 a – frequently inundated low spot near wetland overflow outlet.



Transect 3 Plot 3 b – soil saturated at surface, free water at 6 inches.

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site: Molama Cultural Park / Kaunakakai, Molokai Date: Oct. 28, 2008  
 Application/Owner: Aha Ikuiki o Molokai County: Mol.  
 Investigator: Robert Hobdy State: Hawaii

Do normal circumstances exist on the site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the area a potential problem area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed explain on reverse side)	Yes <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> No <input type="checkbox"/> No <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	TMR (2) <u>5-3-01:02,05</u> Community ID: _____ Transect ID: <u>4</u> Plot ID: <u>1</u>
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**VEGETATION**

%	i%	Dominant Plant Species	Stratum	Indicator	%	i%	Dominant Plant Species	Stratum	Indicator
50	73	Batis maritima	S	OBL / D					
10	50	Cynodon dactylon	H	FAC / D					
15	20	Pluchea indica	S	FAC / D					
5	7	Pluchea x Fosbergii	S	FAC					
5	25	Chloris barbata	H	FAC / D					
5	25	Atriplex suberecta	H	FAC / D					

Percent Dominant species that are OBL, FACW, FAC (excluding FAC-) 80%

Remarks: This plot has hydrophytic vegetation.

**HYDROLOGY**

Recorded Data (Describe in Remarks):

Stream, Lake, or Tide Gauge  
 Aerial photographs  
 Other maps

No recorded data available

Field Observations

Depth of Surface Water: \_\_\_\_\_ (inches)

Depth to Free Water in Pit: \_\_\_\_\_ (inches)

Depth to Saturated Soil: 24 (inches)

**Wetland Hydrology Indicators**

**Primary Indicators:**

Inundated  
 Saturated in upper 12 inches  
 Water Marks  
 Drift Lines  
 Sediment Deposits

**Secondary Indicators (2 or more required):**

Oxidized Root Channels in Upper 12 inches  
 Water Stained Leaves  
 Local Soil Survey Data  
 FAC-Neutral Test  
 Other (Explain in Remarks):

Remarks: This plot lacks positive indicators of wetland hydrology.

Map Unit Name: Kealia Silt Loam (KMU)  
(Series and Phase):

Drainage Class: Poorly drained

Taxonomy (Subgroup): Typic Satorithid

Field Observations Yes No  
Confirmed Mapped Type?

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
0-24	A1 s <sub>n</sub>	5YR 5/2	-	-	Pinkish gray unconsolidated fill
24-27+	C1 s <sub>n</sub>	5YR 3/1	-	-	Very dark gray sand

Hydric Soil Indicators:

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors

- Concretions
  - High Organic Content in Surface Layer in Sandy Soils
  - Organic Streaking in Sandy Soils
  - Listed on Local Hydric Soils List
  - Listed on National Hydric Soils List
- Other (Explain in Remarks):

Remarks: This plot lacks positive indicators of wetland hydrology.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is this Sampling Point Within a Wetland?	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Yes <input type="checkbox"/>
Hydric Soils Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		No <input checked="" type="checkbox"/>

Remarks: This plot lies near the toe of a filled area. The plot lacks any positive indicators in two of three wetland parameters.



Transect 4 Plot 1 a – Plot at the foot of the raised terrace on the north edge of wetland



Transect 4 Plot 1 b – saturated soil at 24 inches.

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site: Malama Cultural Park / Kapaemakakahi, Molokai  
 Application/Owner: Aha Isukei o Molokai  
 Investigator: Robert Hedy

Date: Oct 29, 2005  
 County: Maui  
 State: Hawaii

Do normal circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential problem area? (If needed explain on reverse side)	Yes <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	No <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	TMK(2) <u>5-3-01:02,05</u> Community ID: _____ Transect ID: <u>4</u> Plot ID: <u>2</u>
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**VEGETATION**

%	r%	Dominant Plant Species	Stratum	Indicator	%	r%	Dominant Plant Species	Stratum	Indicator
100	100	<i>Batis</i>	S	OBL					
		<i>maritima</i>							
15	100	<i>Prosopis</i>	T	FACW					
		<i>pubida</i>							

Percent Dominant species that are OBL, FACW, FAC (excluding FAC-) 50%

Remarks: — This plot has hydrophytic vegetation.

**HYDROLOGY**

Recorded Data (Describe in Remarks):

Stream, Lake, or Tide Gauge

Aerial photographs

Other maps

No recorded data available

Field Observations

Depth of Surface Water:	<u>—</u> (inches)
Depth to Free Water in Pit:	<u>11</u> (inches)
Depth to Saturated Soil:	<u>0</u> (inches)

**Wetland Hydrology Indicators**

**Primary Indicators:**

Inundated

Saturated in upper 12 inches

Water Marks

Drift Lines

Sediment Deposits

**Secondary Indicators (2 or more required):**

Oxidized Root Channels in Upper 12 inches

Water Stained Leaves

Local Soil Survey Data

FAC-Neutral Test

Other (Explain in Remarks):

Remarks: This plot has one positive indicator of wetland hydrology.

Map Unit Name: Kealia Silt Loam (KMU)  
(Series and Phase):

Drainage Class: poorly drained

Taxonomy (Subgroup): Typic Salorthid

Field Observations Yes  No   
Confirmed Mapped Type?

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
0-2	A1 sq	5YR 3/1	—	—	Very dark gray loam
2-11	C1 sq	5YR 4/2	—	—	Dark reddish gray clay loam
11 +	C2 sq	5YR 5/1	—	—	Gray sand

**Hydric Soil Indicators:**

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors

- Concretions
  - High Organic Content in Surface Layer in Sandy Soils
  - Organic Streaking in Sandy Soils
  - Listed on Local Hydric Soils List
  - Listed on National Hydric Soils List
- Other (Explain in Remarks):

Remarks: This plot has positive indicators in three wetland soil criteria

**WETLAND DETERMINATION**

	Yes	No
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hydric Soils Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Is this Sampling Point Within a Wetland?

Yes  No

Remarks: This plot has positive indicators in all three wetland parameters.



Transect 4 Plot 2 a – Pickleweed shrubland.



Transect 4 Plot 2 b – soil saturated at the surface, free water at 11 inches.

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site: Malaena Cultural Park / Kaenakakai, Molokai  
 Application/Owner: Aha Kuru O Molokai  
 Investigator: Robert Hobdy

Date: Oct 28, 2008  
 County: Mau  
 State: Hawaii

Do normal circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential problem area? (If needed explain on reverse side)	Yes <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	No <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Tmk (2) <u>5-3-01502,05</u> Community ID: _____ Transect ID: <u>5</u> Plot ID: <u>1</u>
---	--	--	--

**VEGETATION** Bare ground 10%

%	r%	Dominant Plant Species	Stratum	Indicator	%	r%	Dominant Plant Species	Stratum	Indicator
80	93	<u>Batis maritima</u>	<u>S</u>	<u>OBL/D</u>					
5	7	<u>Ptychea indica</u>	<u>S</u>	<u>FAC</u>					
5	100	<u>Heliotropium curassavicum</u>	<u>H</u>	<u>FAC/D</u>					

Percent Dominant species that are OBL, FACW, FAC (excluding FAC-) 100%

Remarks: — This plot has hydrophytic vegetation.

**HYDROLOGY**

Recorded Data (Describe in Remarks):

Stream, Lake, or Tide Gauge  
 Aerial photographs  
 Other maps

No recorded data available

Field Observations

Depth of Surface Water:	<u>—</u> (inches)
Depth to Free Water in Pit:	<u>12</u> (inches)
Depth to Saturated Soil:	<u>8</u> (inches)

**Wetland Hydrology Indicators**

**Primary Indicators:**

Inundated  
 Saturated in upper 12 inches  
 Water Marks  
 Drift Lines  
 Sediment Deposits

**Secondary Indicators (2 or more required):**

Oxidized Root Channels in Upper 12 inches  
 Water Stained Leaves  
 Local Soil Survey Data  
 FAC-Neutral Test  
 Other (Explain in Remarks):

Remarks: This plot has one indicator of wetland hydrology.

Map Unit Name: Kealia Silt loam (KMLW)  
(Series and Phase):

Drainage Class: poorly drained

Taxonomy (Subgroup): Typic Salorthid

Field Observations Yes No  
Confirmed Mapped Type?

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
0-3	A1 sa	5Y3 3/2	-	-	Dark reddish brown clay loam
3-6	A2 sa	5YR 6/3	-	-	Light reddish brown sand
6-8+	C1 sa	5YR 3/1	-	-	Very dark gray sand

**Hydric Soil Indicators:**

- |   |   |
|---|---|
| <input type="checkbox"/> Histosol                               | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon                        | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor                          | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input checked="" type="checkbox"/> Aquic Moisture Regime       | <input checked="" type="checkbox"/> Listed on Local Hydric Soils List         |
| <input type="checkbox"/> Reducing Conditions                    | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | Other (Explain in Remarks):   |

Remarks: this plot has three positive indicators of hydric soil.

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is this Sampling Point Within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Hydric Soils Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: this plot has positive indicators in all three wetland parameters.



Transect 5 Plot 1 a – north tip of wetland, sparse pickleweed shrubland.



Transect 5 Plot 1 b – soil saturated at 8 inches, free water at 12 inches.

### Literature Cited

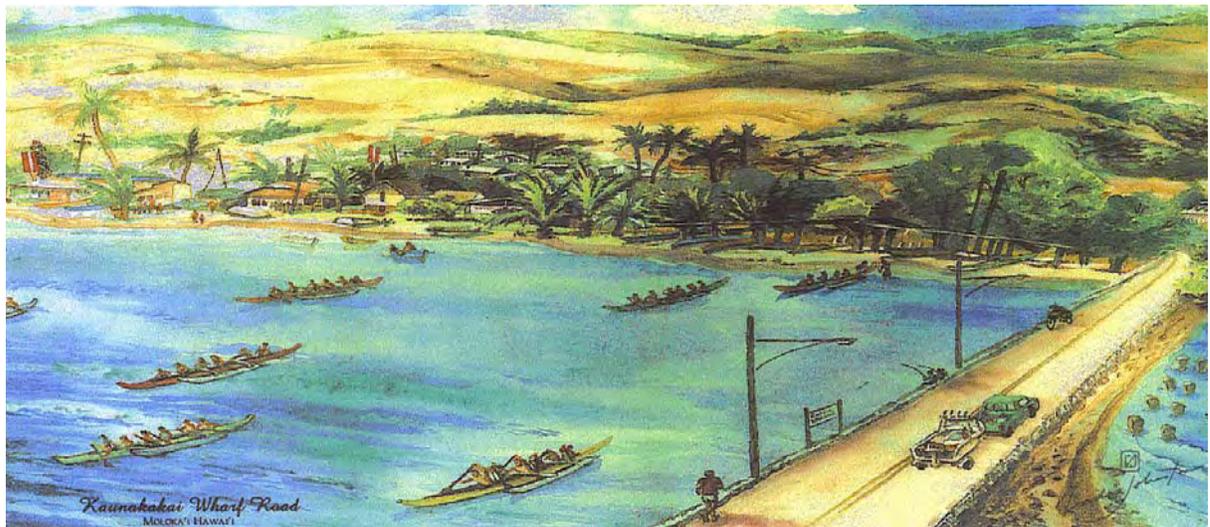
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**Appendix D:**  
**Cultural Impact Assessment**

## *Hālau Wa‘a O Malama Cultural Park*

Cultural Impact Assessment  
TMK: 2-5-3-01 at Kaunakakai Beach, Molokai

March 2009



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## ABSTRACT

This document provides a cultural impact assessment for proposed construction activities of a canoe halau facility in the development of the Malama Cultural Park on Kaunakakai Beach, Molokai. The assessment is based on a review of written material—archeological reports, government and other historical records—supplemented by interviews and oral history. The proposed canoe halau facility will have no cultural impacts but only continue the legacy of traditional cultural practices of canoeing, fishing, hula, art and crafts.

### 1.0 INTRODUCTION

At the request of ‘Aha Kukui O Molokai, a non-profit organization, *Maunakai & Associates* has completed a cultural impact assessment for the proposed canoe halau facility at the property of Malama Cultural Park in Kaunakakai, Molokai, described by tax map key 2-5-3-01. (Figure 1) The purpose is to identify cultural resources and traditional cultural practices associated with the proposed canoe halau facility --- supplemented by community consultation regarding cultural knowledge, land use history, cultural sites, and traditional Hawaiian or other cultural practices in the vicinity of the project area.

### 2.0 ARCHAEOLOGICAL INFORMATION AND THE CULTURAL PARK

The section of land containing the Malama platform has been considered for a cultural park for some time, with the historically important platform serving as a focal point. (Curtis 1988). The renewed efforts of park development continue to recognize the importance of this site and associated archaeological remains. (Tuggle, 1993).

Several archaeological surveys and historic background have been conducted in or near the project site or in the general area of Kaunakakai (Athens 1983, Komori 1983, Landrum 1984, Tomonari-Tuggle 1990, Tuggle 1993, Weisler 1989). There are three archaeological sites within the Malama Cultural Park: 1) the Malama Platform (Site 60-03-1030: Summers, 1971), Cultural Deposit (Site 60-03-630, Landrum 1984 & Athens, 1983) and the “Old Pier” (Site 60-03-890, U.S. Coast and Geodetic Survey map, 1902). The site includes the Malama house platform which is known to have been the residence of Kamehameha V. (Figure 2)

Earlier archaeological investigations undertaken by J.F. G. Stokes in 1909 were the survey of *heiau* sites on Molokai as well as in the general vicinity of the project area which Mahinahina *heiau* was recorded. Summers (1971) provides evidence that this *heiau* was believed

to have been destroyed and that it may be the same structure identified as the Malama Platform (Tuggle, 1993).

Surface surveys and two exploratory test excavations have been carried out by a professional archaeologist working in coordination with the State Historical Preservation Division or SHPD. This work has resulted in detailed recommendations [Tuggle, H. David Ph.D., Malama Platform Archaeology 1992 Excavations for Cultural Park Planning (Draft), January 1993] for historic preservation of the sites features and these recommendations have been incorporated in the overall master plan for the Malama Cultural Park. The presence of these sites provides an important opportunity for the planning of the cultural park and activities as well as meeting the State requirements for the historic investigations of a project area. The master plan included a center for practicing canoeing, hula, arts and crafts, the Hawaiian language, makahiki, teaching and story-telling.

With the indigenous character of the charcoal sample that was located by archaeologist, Shun, it suggests that human use of the site has occurred since the late prehistoric or very early historic period. (Shun, 1982) The surrounding vicinity is a “business commercial or country town business” district characterized by small businesses, bars, banks, construction, trucking, and civic buildings across the street.

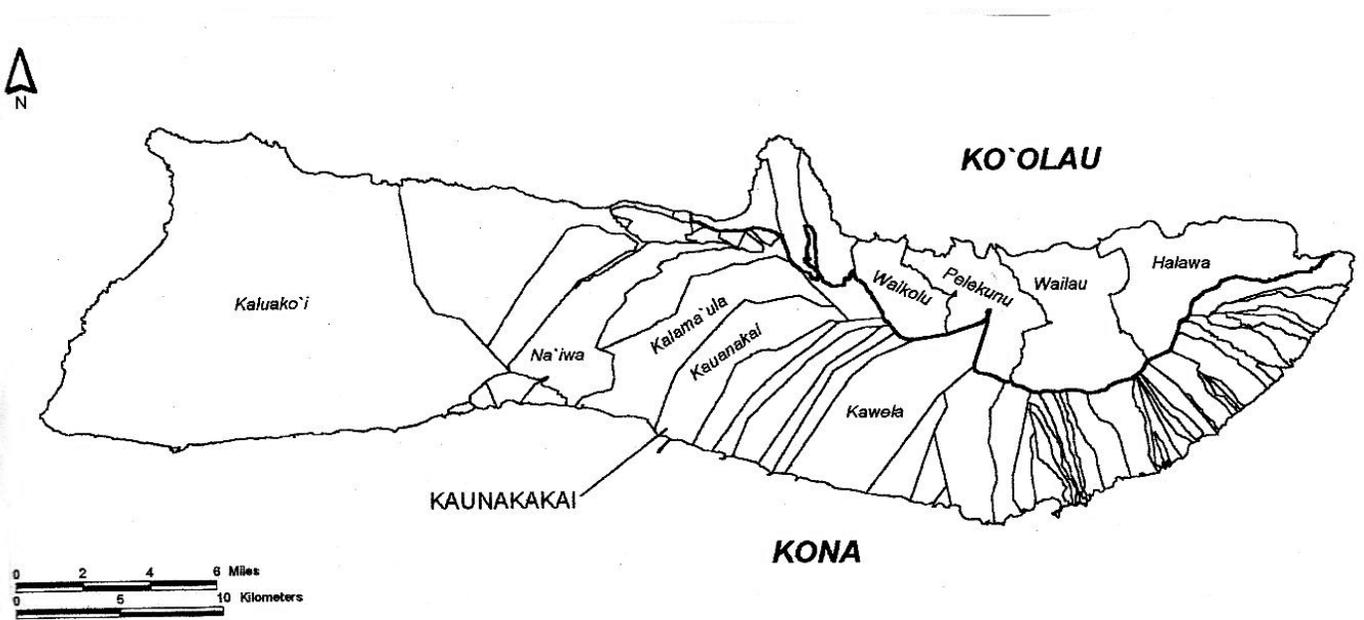


Figure 1. Molokai and its *ahupua`a*, showing the location of Kaunakakai extending inland from the sea on the south-central shore. (State Historic Preservation Division: Cordy: 2001)

### 3.0 CULTURAL RESOURCES IDENTIFICATION

**Literature Research:** Documents and materials at the State Historic Preservation Division (SHPD) library and correspondence files, the SHPD geographic information system database, the Survey Office of the State of Hawaii Department of Accounting General Services, the Hawaii State Library, Hawaii State Archives and the University of Hawaii at Manoa Hamilton Library.

**Interviews:** Project-specific interviews with residents of Molokai were conducted by the author in January 2009.

#### 3.1 SITE FEATURES AT MALAMA CULTURAL PARK

According to archaeological information, the Historic Hawaiian Platform is known to be that of Kamehameha V who had a house built on it. Summers/Sterling quote verbatim from George Paul Cooke's book, Moloka'i O Moloka'i [p. 110; in Summers/Sterling (1971)]:

“West of the approach to the Kaunakakai wharf is a built-up platform, the name of which is Ka Lae O Ka Manu, the point of the birds. On this site King Kamehameha V had a home, “Malama” which was still standing in 1908. It has since been removed to the village and is on a lot belonging to William Kamakana and his wife. The Reverend Isaac D. Iaea told me that there was a spit of sand beyond this platform where the plover used to settle in the evenings, hence the name, Ka Lae O Ka Manu.” (Figure 2) (Floor Plan: Figure 3)

Current laws dictate that a wetland in this area be preserved unless replacement by an equal or more extensive wetland can be accomplished. The Coast Guard Range Light, a marine navigational aid, is on the park site by legal agreement with the U.S. Coast Guard. The area within the 20° “Arc of Visibility” must be kept clear of structures interfering with the sighting of the front light (Range Light No. 28605) from the sea. The Kamehameha Property Line which is a portion of the old Royal property is included on this site. Although it is not apparent today, the property corner should be located and enhanced by the reconstruction of a fence section on the line. The fence should be Hawaiian in character.

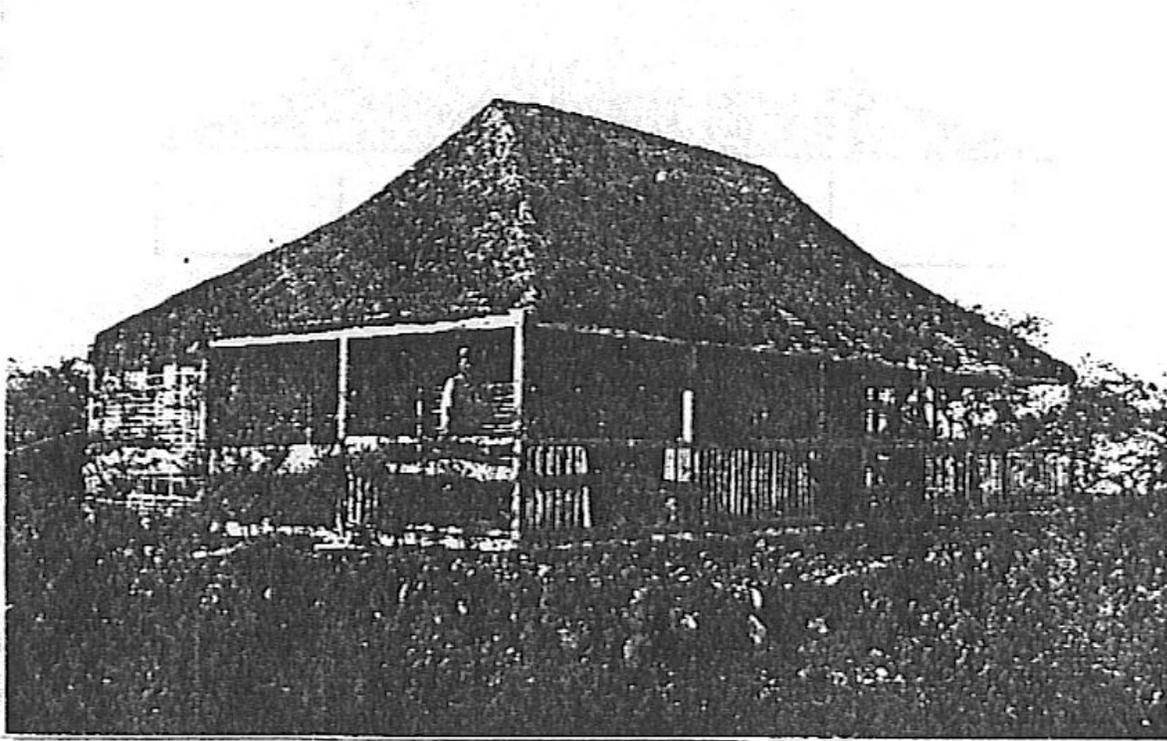


Figure 2. 1888 Photo of House of Kamehameha V, Brigham 1908 Courtesy of the B.P. Bishop Museum

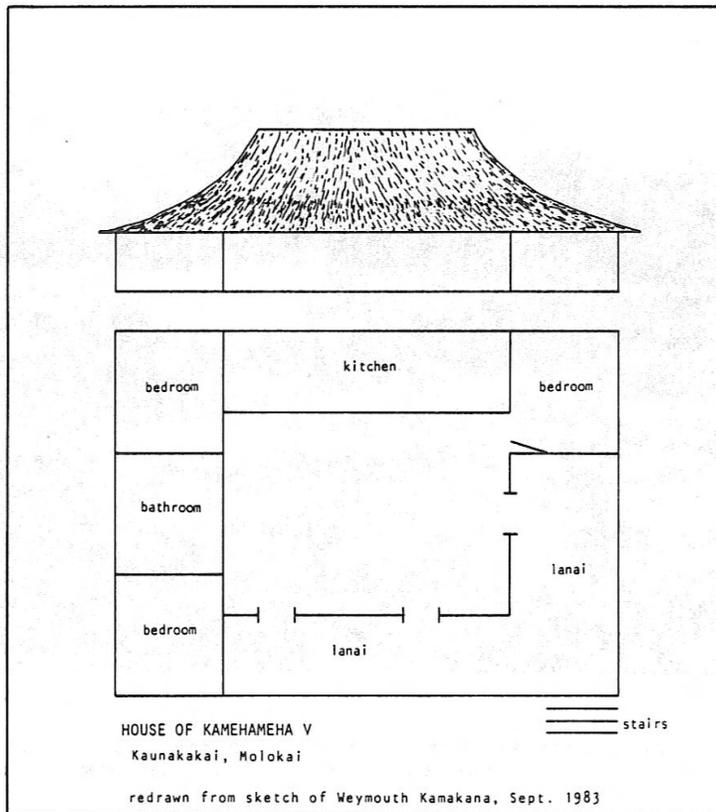


Figure 3: Home of Kamehameha V: Malama House Floor Plan, Kaunakakai Beach, Molokai, (Athens, 1983)

### 3.2 HISTORICAL BACKGROUND

The historical background of the project area is not particularly well documented. Catherine Summers (1971) provides much of the historical foundation upon which the discussion of Kaunakakai has been developed. A combination of historical documents that is relevant to the project site has been provided by J. Stephen Athens (1983), and a compilation of historical references and oral traditions associated with Kaunakakai is presented by Carol Silva (1983). Additional historical documentation of the Malama Platform and the general project site has also been provided by David Tuggle, PhD (1996) and Paul Titchenal, M.A. (1998). Finally, a workshop presented by Professor R. Kawena Johnson from the University of Hawaii on September 24, 1992 reviews documented history of Molokai --- Malama Cultural Park and her direct genealogical relationship to Kamehameha I.

Based on archaeological and historical evidence, a permanent population may have been centered in the present town of Kaunakakai dating back several hundred years prior to the arrival of Capt. James Cook. (Tuggle: 1993). In this coastal area, archaeological dates from Kaunakakai in the Malama house platform area go back to A.D. 1230-1340 - -from deep deposits (Athens: 1983). With springs and fine alluvial soil fanning out from the gulches, agricultural fields would have been present. Dry land crops such as sweet potatoes and dry land taro are likely to have been cultivated – seen by charcoal flecking deep in site 631 (Shun: 1982). Wet taro cultivation is even suggested, with water being brought from springs (Dye: 1998). Indeed, in Kalama`ula (1858-1861), the *konohiki* or chief had collected rents from taro patches in the area (Hommon & Ahlo: 1983). Coconut trees and bananas were also likely to have been scattered around and probably near houses.

The vicinity of the present project site was probably used as a canoe landing and for activities relating to fishing. Prized for its fishing grounds and as an important meeting place, Kaunakakai was frequently used as a canoe landing for parties traveling around the island or between Maui and Oahu (Summers: 1971). In the 1790's, Kaunakakai is said to have been used as a canoe landing by warring chiefs embarking on campaigns of conquest between the islands of Kauai, Oahu, Maui and Hawaii. (Summers: 1971).

...Kamehameha and his chiefs were quartered at Kaunakakai on Molokai, in 1795, on their way to make war upon Ka-lani-ku-pule (Kamakau: 1961)

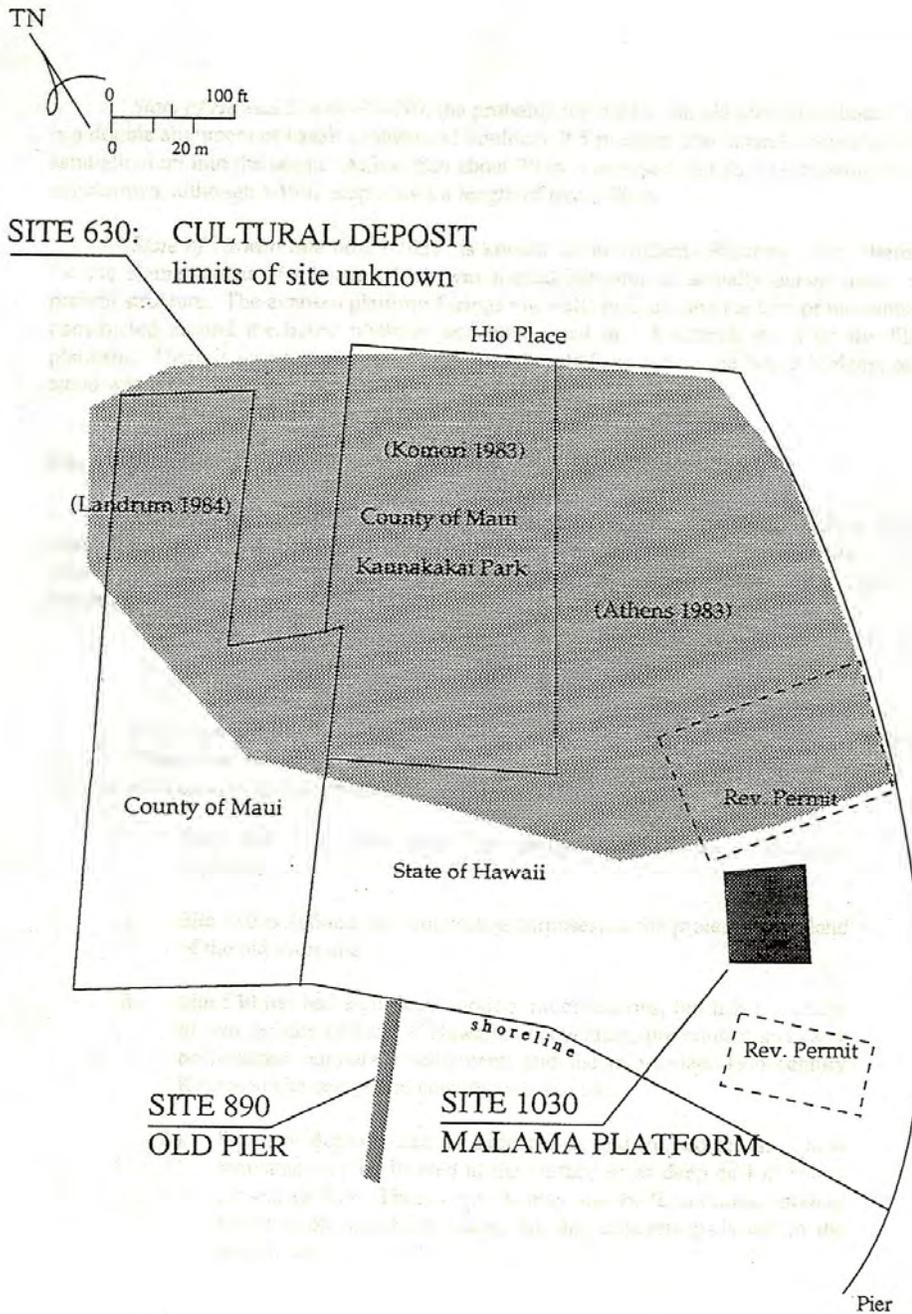


Figure 4. Historic Sites of the project area (International Archaeological Research Institute, Inc. April, 1996)

According to Professor R. Kawena Johnson, a direct descendant of Kakuelikenui's sister, `Akaupalahaha (w), from whom Kamehameha I had Naho-o-Kamehameha (w), who married `Ohulenui (k), priest of `Ili`iliopae Heiau in Mapulehu, these relationships indicate why Kamehameha III set aside, in agreement with the Molokai *konohiki*, the *ahupua`a* of Kalama`ula, Kaunakakai, and Ualapu`e as his private lands and from which Lot Kamehameha V received

ownership of Molokai lands issued to him during the Great Mahele of 1848, and also should explain why King David Kalakaua, shortly before his death, arranged to convey the unassigned category of lands on Molokai to the Bishop Estate in exchange for other properties in the kingdom. (Johnson: 1992)

After his death in 1872, Princess Ruth Ke`elikolani, his half sister inherited the property until 1883 and upon their deaths, her heir Princess Bernice Pauahi Bishop also died a year later. Bishop Estate then acquired the title to the property and subsequently sold it in 1897 to Molokai Ranch and its subsidiary, the American Sugar Company. During this time (1883-1897), R.W. Meyer was the administrator for the property. According to recorded interview with Mr. Philip Akiona, who related that “during the late 1890’s to the 1920’s and after being abandoned, the property became the town dump site.” (Landrum, 1984) (Figure 4)

By the end of the 19<sup>th</sup> century, the Kaunakakai Wharf was constructed and with the excitement of sugar producers and increased activities in the area, they were all short lived. Huge steam driven pumps were brought to the site to move water upland to the cane fields. However, the huge pumps sucked up all the water and it was soon exhausted. By then brackish and salt water was being pumped up the eight miles to Ho`olehua which in turn killed all the young cane. (Johnson, 1992).

### 3.3 THE NAME: KAUNAKAHAKAI

The original name of Kaunakakai was *Kaunakahakai*, “Resting-(on)-the-beach.” It was the place for the canoes to come, for here, there were plenty of fish (M. K. Pukui, personal communication: Summers, 1971). In October 1983, J. Stephen Athens, Ph.D. conducted archaeological and historical background research at a property near Kaunakakai or *Kaunakahakai*, old name. (Soehren 1983) These studies revealed similar findings regarding the historical background and showed that traditional Hawaiian practices that once occurred on the property.

Historically, the importance of Kaunakakai included:

- a. The principal city of Molokai;
- b. The main street of Kaunakakai, Ala Malama, repeats the name of the Kamehameha V residence “Malama”
- c. Kamehameha held his councils at Kaunakakai (Sterling/Summers:1971)
- d. Kaunakakai belonged within the *kalana* of Kala`e, belonging to the chief/priest Kaiakea, and this *kalana* included: (1) from Pu`u Ka`eo, in the

mauka portion of Kaunakakai on the East to Kipu on the West; (2) the mauka portions of Kaunakakai, Kalama`ula (2) and Na`Iwa, Kahanau 3, `Iloli 2, Pala`au 3, Manowainui, Kipu, and Naiwa 2. (Johnson: 1992)

After, Kaiakea's death, his land went to his son, Kekuelikenui, high chief of Kalama`ula. (Johnson: 1992).

#### 4.0 PROJECT SETTING

The project area is situated within the Malama Cultural Park in the nearshore area immediately west of the wharf at Kaunakakai, in the *ahupua`a* of Kaunakakai, in the Kona District of Molokai. This is located near the center of the island's south coast. This area is bordered by Hio Place to the north and Kaunakakai Place to the east, Kaunakakai Beach to the south and the wetlands and the Molokai Yacht Club to the west. (Figure 5)

The project area's elevation above sea level is slight and has an overall dimension of 3.5 acres. The cultural theme of the halau wa`a would be focused on native Hawaiian culture and recreational activities popular on Moloka`i including canoeing, arts and crafts, hula, and fishing. With the possible redesign of the Kaunakakai Wharf by the Army Corps of Engineers in the future, there is a possibility that the golden sands of Ka Lae O Ka Manu may return one day.

The site development plan for this parcel zoned P-2 for Community Park Districts include: (1) facilities for parking, restrooms, showers, a canoe halau facility support building associated with canoeing, fishing and beach area activities; (2) activity area include shoreline fishing, canoe storage and launching, and family gathering. (G. Coates Associates. 1993)

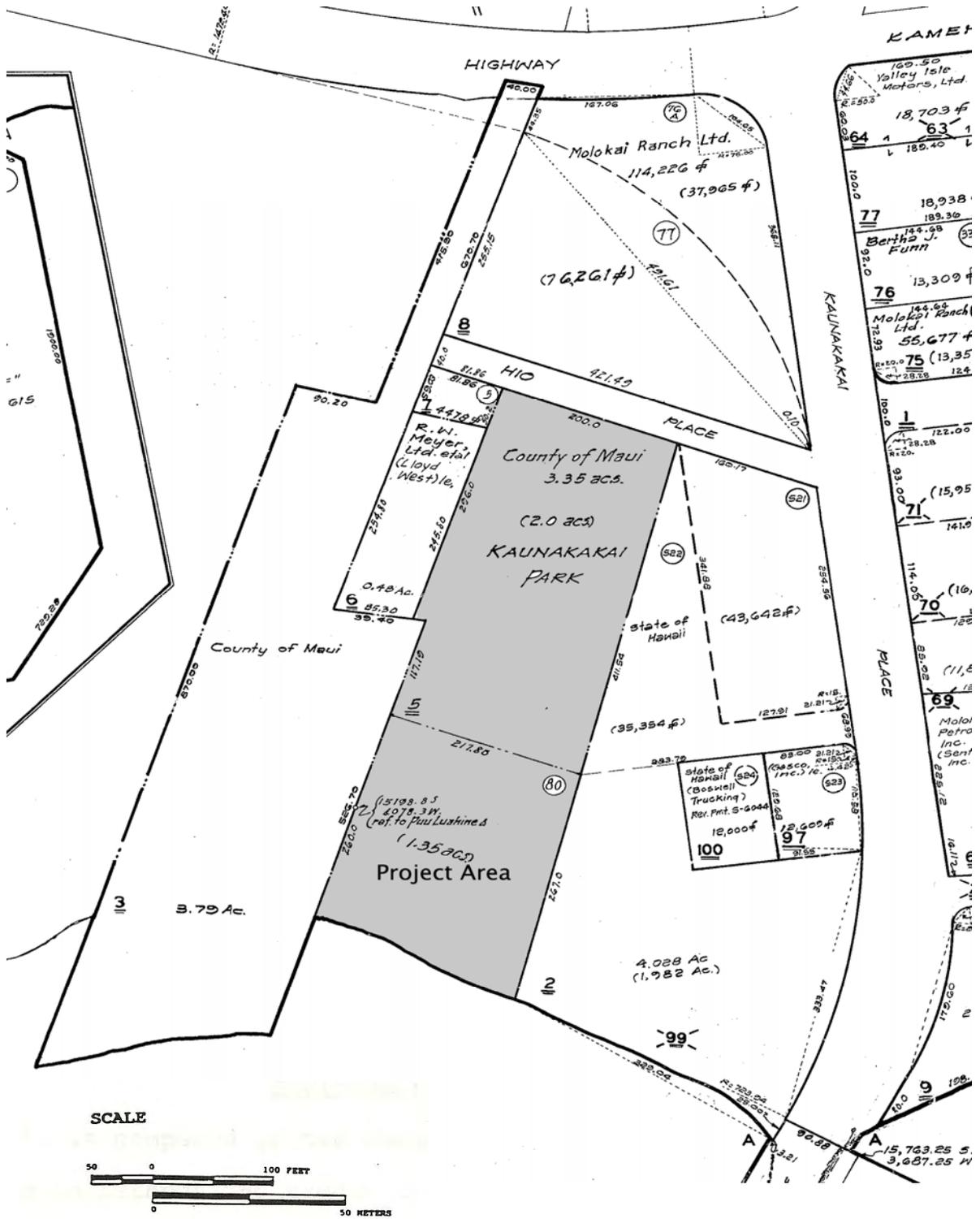


Figure 5. Project area on Hawaii Tax Map Zone 5, Sect. 3, Plat 01 (County of Maui)

## 5.0 MOLOKAI'S MO`OLELO (STORY)

Although the history of Molokai is much more in depth than described, this narrative is a tribute to her island people and their vision. Molokai has been known by many names. The ancient names honor Moloka`i with a deep respect and profound love full of richness and depth.

*Moloka`i Nui a Hina* - Moloka`i, child of the goddess Hina

*Moloka`i Pule `o`o* - the land of powerful prayer, deep  
Spirituality and faith

*Moloka`i Aina Momona* – the “fat land” blessed with an abundance  
of natural resources

*Moloka`i no ka Heke* – Moloka`i, the best (Molokai Community, 2008)

In the written genealogical traditions, they say that La`ila`i was the first human being, that she and her husband Ke-li`i-wahi-lani were the ancestors from whom came mankind. However, in the genealogy of Ololo, they say that Kahiko, a man, was the first human, that his wife was Kupu-lana-ke-hau, that Lihau`ula and Wakea were born to them, and that the wife of Wakea was Haumea, that is, Papa. Molokai and Lanai were the children of Wakea by different wives. Hina was the mother of Molokai and the child was called Molokai-a-Hina.

Over two million years ago, two major volcanoes emerged from the Pacific Ocean to become the West Molokai and East Molokai Mountains. A plain between these mountains joins the two principal part of Molokai. In ancient times, the entire western portion of the island was called the Kona District (leeward), and represented three quarters of the island. This district was distinguished by the shoal waters off its southern coast, where numerous fishponds were built for continuous catches of fish. Another district of Molokai formerly called the Ko`olau district includes the Ahupua`a O Halawa, Wailau, Pelekunu, Kalawao, Makanalua, and Kalaupapa. An *ahupua`a* is a land that usually extended from the uplands to the sea. (Figure 6) In ancient times, it was not uncommon for a king or chief to bestow upon a favored individual an ahupua`a, thus assuring a food supply from both the mountains and the sea.

Before western contact, the economy of Molokai was agricultural and centered on inshore fishing, the cultivation of various crops, and hunting and foraging. During the 19<sup>th</sup> century, the traditional economy declined as the population fell, and the first search for alternate industries for Moloka`i began. Experimental crops such as white potatoes, cotton, corn, grapes, sweet potatoes, coffee, honey, sugar, barley oats, wheat, beans, and

alfalfa were devoured by insects, damaged by high wind, or desiccated by the lack of irrigation water.

Molokai lies approximately 25 miles southeast of O`ahu, 8.5 miles northwest of Maui, and 9 miles north of Lana`i. In the Hawaiian group of islands, Molokai is the fifth largest. It is 38 miles long and 10 miles wide, with an area of 260 square miles and 100 miles of coastline. There are many historical and archeological sites on this island that have been documented and preserved.

By 1982, agricultural produce valued at \$10.5 million was shipped from Molokai. With the closing of the pineapple plantations, Moloka`i Ranch has become the largest employer of agricultural labor remaining on the island.

Molokai is also known as the “Last Hawaiian Island,” having the highest percentage of Native Hawaiians in the island chain. Unfortunately, the poor health (physical and mental) statistics of Hawaiians throughout the State is a well-documented problem. Because Molokai has such a high percentage of Hawaiians, this issue proves a major concern within this small community.

## 6.0 CURRENT USE AND SURROUNDING PROPERTIES

The Malama Cultural Park currently functions as a gathering place for local canoe clubs and paddlers, makahiki games, family picnic gatherings, kayakers, fishing, and other recreational activities. The rectangular shaped lot is landscaped with a double row of milo trees along Kaunakakai Place where it should be preserved. Also, there are two kiawe trees adjacent to the hula Hawaiian platform that would serve as umbrellas for family gatherings.

The area surrounding the subject property is described as commercial. To the south east corner of the proposed project are a pizza parlor, small businesses, and Gasco Inc. Across the street to the north end lies the Kaunakakai commercial and mixed use district: grocery outlets, government services, bakery, restaurants, banks, civic buildings, fuel stations, a construction and trucking company. On the east end is the light industrial land use area with commercial storage tanks while on the west side is the Molokai Sewage Treatment Plant.

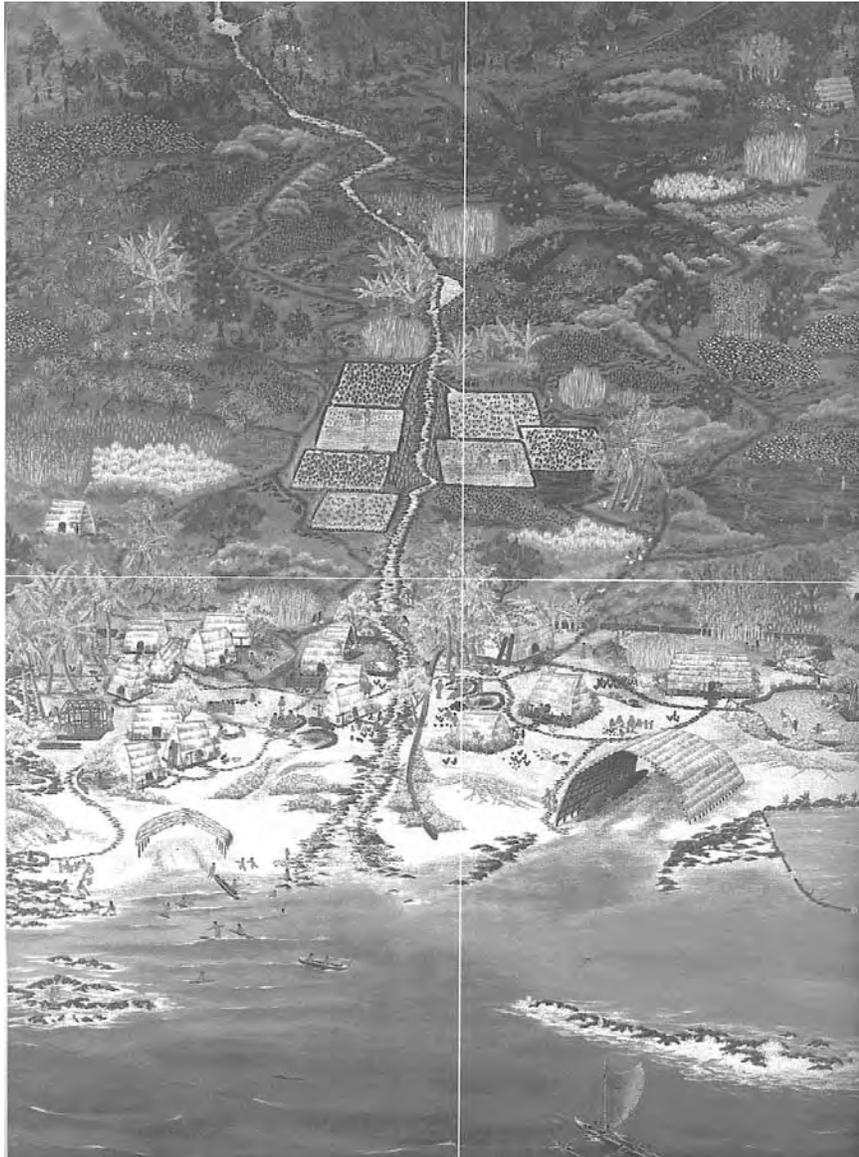


Fig. 6 Ahupua`a Illustration. B.P. Museum

## 7.0 A BRIEF HISTORY OF THE CANOE AND ITS HOUSE

It has been suggested that the hālau wa`a should remind us of our past while supporting contemporary activities linked to the past and using traditional and modern materials that is practical to meet the building criteria.

In old Hawai`i, the mode of transportation was principally by water. The outrigger canoe could be paddled or sailed from one seaside village to another, often within the protection of a fringing coral reef. This led to the discovery and eventually the colonization of the Hawaiian Islands. Two types of canoes were used in the Hawaiian Islands: double (Figure 7) and outrigger (Figure 8). The Hawaiian canoe (*kaukahi*) with a single outrigger (*ama*) on the port or left side to steady it was

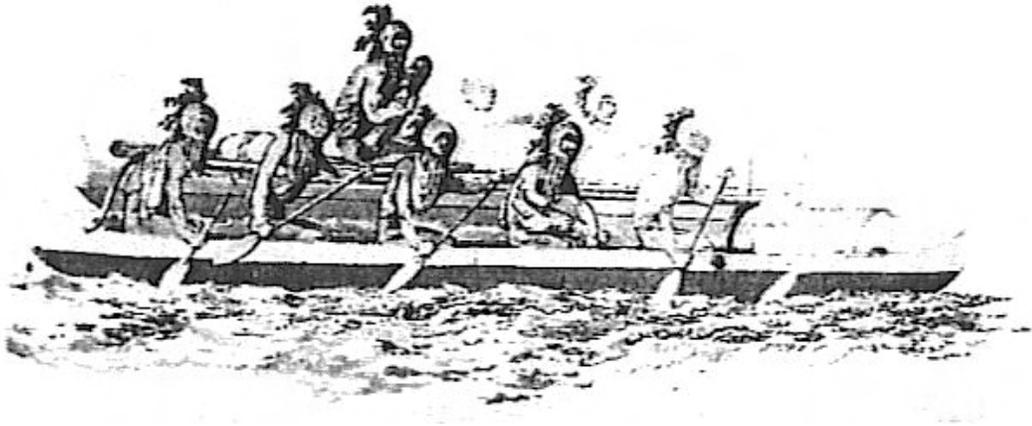


Figure 7 A double hull warriors by Webber in 1779, an artist with Captain Cook (Holmes 1981:53)



Figure 8. Illustration of an outrigger canoe by Webber in 1779 (Holmes 1981:53)

constructed to carry one person, (*ko`okahi*), two persons, (*ko`olua*) or an increasingly larger number until it provided room for eight persons (*ko`owalu*). The long narrow racing outrigger was called *kialoa* or a *kioloa*. The current name for canoe, *wa`a*, also applied to the hull which was usually hewn from a single *koa* log. From small, single-man outriggers to large canoes, the logs usually varied in size, 40 to 60 feet long. As the Hawaiian class system evolved, restrictions were placed on who could own and use double canoes. By the time of European contact, only *ali`i* were permitted to own double hull canoes; *maka`ainana* or commoners were restricted to outrigger canoes. They functioned primarily as fishing vessels. The lack of roadways and the absence of beasts of burden in early Hawai`i made canoes the principal medium of transportation.

Canoes were the ideal craft for Pacific navigation since the shallow-draft hulls could clear the coral reefs in certain places around the island. Canoe sizes and shapes were restricted by the types of landings that would be used as well as typical ocean conditions in the sailing area.

Canoe houses, or *hālau wa`a*, shelter canoes from the elements: sun, wind, and rain, in a modes similar to modern garages and automobiles. (Figure 9) Their locations within traditional Hawaiian villages were dictated by two factors: accessibility to water and location of canoe construction materials. They were important structures in traditional coastal Hawaiian villages and are still used today by canoe racing teams. Their primary function is to protect the canoe from sun and rain which can crack or rot the wood and the wind which can chafe.

The principal Hawaiian architectural house types include:

1. The house type which includes the residence and buildings within the residential compound, the shrine, temple, monastery and school.
2. Cave and rock shelters.
3. Subsistence structures, including agricultural terraces, pond fields and aquaculture ponds.
4. The defensive fort and other enclosures.
5. The ramp and pathways.

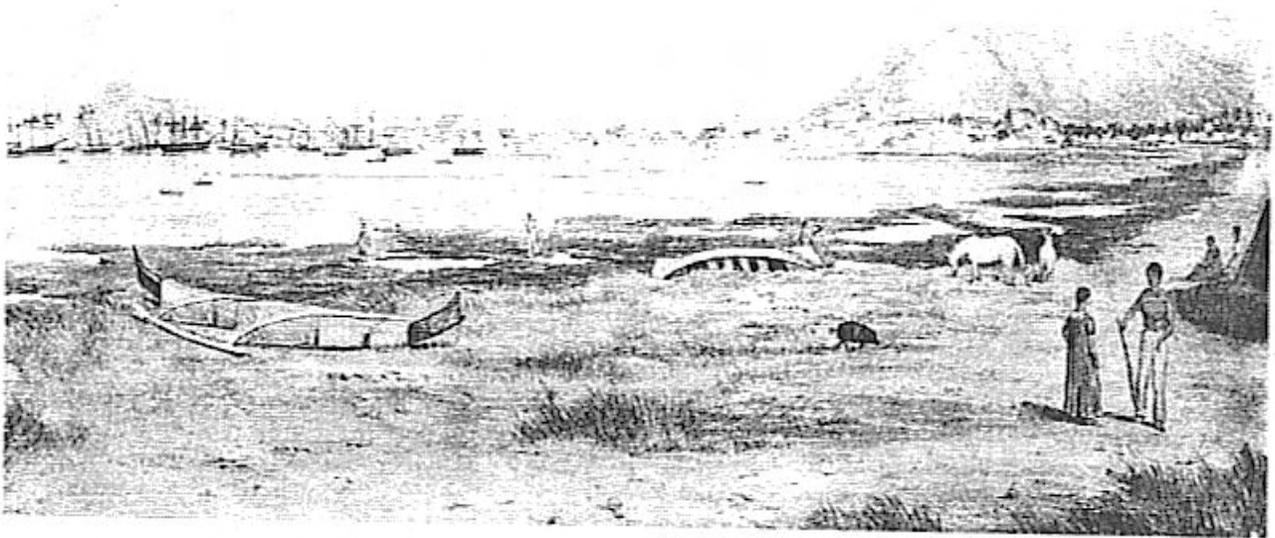


Figure 9. Lauhala mats covering outrigger canoes in Honolulu to protect them from the sun. Painting by James Gay Sawkins in 1850 (Holmes: 1981: 202)

Canoe houses were built by the Hawaiians using methods and traditions handed down from their ancestors. Some were built with stone walls and others without; with either gabled (roof sloping down from a central ridge) or hipped (inclined angle formed by the junction of two sloping sides) roofs. Hawaiians built these canoe houses with the same techniques used to construct other buildings in Hawai`i. They collected rocks and fashioned them into walls by either stacking them one on top of the other or by placing large rocks on the outer edges of the wall and filling the interior of the wall with smaller, pebble-sized rock; no mortar was used. The canoe house located on the shore near the sacred district had societal significance and associated ritual and substituted as a men's house in smaller fishing hamlets.

The house dedication ritual was a metaphor for birth. A symbolic cutting of a navel cord represented an untrimmed bit of thatch hanging over the doorway brought the house to life. The house had an identity, and if built properly, it would contribute to the owner's prosperity where "form foretold the future. The hālau or long house which sheltered the precious canoe was an elongated formal house type. It had opened sides and long enough to shelter the canoe, masts and paddles. The frame structure was built near the shore, often against a sheltering bluff with its open, short end facing the sea.

When the framing was completed *thatching* was bound in small bundles and tied to small sticks along the side of the wall with sennit or cord. This lasted the longest from



Figure 10. Outrigger leaning against a canoe house, ca.1890. Courtesy Bishop Museum.

five to ten years. Thatching was made from pandanus, banana or ti-leaves. Dedications prayers were spoken while cutting the thatch and are typical of the prayers that free a sacred object for daily use. (Figure 10)

## 8.0 INTERVIEWS

Interviews were conducted with several long-time Molokai residents who are very familiar with the project and have participated with the Malama Cultural Park Project. They include: Walter and Loretta Ritte, Beverly Pauole-Moore, Puni Burrows, Jerome Kalama Jr., Ron Kimball, Victoria Kapuni, Donna and Mel Pauoa, Joe and Martha Kalipi, Keli Mauwae, Laurie Buchanan, and Lei Ah Choy of Akaula Schools. The interviews took place on January 4 – 5, 2009 at various meeting places and telephone conversations. These interviews were not recorded.

Molokai residents have been involved with the Malama Cultural Park since its conception. Many of these residents were directly involved with the Malama Cultural Park Project for more than 10 years and are familiar with the project site.

Students from the 5<sup>th</sup> through 8<sup>th</sup> grades at Akaula School have used the site since 1993 to practice for the annual traditional makahiki games. Families frequent the hula mound and park for family gatherings such as birthdays, anniversaries, and barbeque. Many of the canoe clubs and paddlers along with other ocean activities frequent the site daily to practice canoe paddling. Fishermen are often seen hand sewing their fishing nets while other traditional practitioners like hula instructors continue to frequent the site with their haumana. Malama Cultural Park continues to be a gathering place for visitors as well as local families.

## 9.0 CONCLUSION

This cultural impact assessment was conducted in order to assess the traditional Native Hawaiian practices that had a potential for being displaced. Although Native Hawaiians may not have occupied the land in over a century, Kaunakakai was a place where traditional Native Hawaiian practices and culture occurred daily.

Today, many Native Hawaiian communities persevere in their struggles against development of ancestral and national lands on all islands. Culturally sensitive and environmentally restorative activities and practices would serve to mitigate any negative impacts and provide access and opportunities for Native Hawaiians to practice, perpetuate and educate others about their culture.

Fishing and canoeing are the only traditional practices that still occur in the area and are primarily a weekend activity. It is important to take into account the interdependence of culture and the environment. The Malama Cultural Park should enhance the ability of Native Hawaiians to perpetuate their traditional customs and practices. Careful designing, planning, and implementation of the program should be strongly considered to assure a positive impact on cultural practices.

On the other hand, the site has been neglected and used as a dumping ground. Leaving the site as status quo is not appropriate. Increased stewardship and oversight of the area could enhance culturally appropriate use of the site.

Regarding the unique Malama Cultural Park setting along with the new construction of the canoe halau facility project, we cannot afford to miss an opportunity to preserve our heritage together with our Molokai *'ohana* community. It does not appear that the proposed project will affect these practices and therefore with these recommendations, the project should move forward.

**APPENDIX**



Viewing the site from Kaunakai Harbor



The project site.



View of Kaunakakai Beach from the harbor.



View of the existing hula mound of Malama Cultural Park



Existing Molokai Yacht Club building, canoes and range light



Existing Meyer building in the foreground with historic courthouse building on site.



Existing concrete slab once used for the plantation weighing scale and signage for MCP.



Existing restroom (1/2 stall), historic jail house and telephone booth.

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**Appendix E:**  
**Archaeological Monitoring Documents**

LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
601 KAMOKILA BOULEVARD, ROOM 555  
KAPOLEI, HAWAII 96707

LAURA H. THIELEN  
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KEN C. KAWAHARA  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

February 17, 2009

Michael F. Dega, Ph.D.  
Scientific Consultant Services, Inc.  
711 Kapiolani Boulevard, Suite 975  
Honolulu, Hawai'i 96813

LOG NO: 2009.0227  
DOC NO: 0902PC12  
Archaeology

Dear Dr. Dega:

**SUBJECT: Chapter 6E-8 Historic Preservation Review – REVISED  
Archaeological Monitoring Plan for the Construction of a Halau Wa'a and Parking  
Lot Improvements at Malama Cultural Park  
Kaunakakai Ahupua'a, Kona District, Island of Moloka'i, Hawai'i  
TMK: (2) 5-3-001:002; (2) 5-3-001:003; (2) 5-3-001:005**

Thank you for the opportunity to review this revised plan, which our staff received on February 5 of 2009 (Ogg and Spear 2009): *An Archaeological Monitoring Plan for the Construction of a Halau Wa'a...* Scientific Consultant Services, Inc.

The plan was accidentally reviewed separately by two different SHPD staff members. This letter applies to the review completed on January 29, 2009 (SHPD LOG NO: 2009.0217; DOC NO: 0901PC30), which resulted in two requested revisions. The most recent version of the plan was reviewed in PDF format to confirm completion of those revisions and suggestions.

Prepared proactively at the request of the project consultant, the monitoring plan involves an area which is the location of three previously identified culturally significant sites: SIHP #50-60-03-630 is a traditional period subsurface cultural deposit which underlies the majority of the current project area; SIHP #50-60-03-890 is a remnant of an early-historic era pier in the central portion of the current project area; and SIHP #50-60-03-1030, the Malama Platform, originally a portion of Kamehameha V's house and later a church, is located in the southeast portion of the current project area. Precautionary archaeological monitoring is therefore understandably warranted for ground altering disturbance within the subject parcels because of their potential to contain additional culturally significant subsurface evidence of pre-Contact and Historic period land use, such as human burials, artifact and/or midden deposits.

As specified in the monitoring plan, there will be an archaeological monitor on site for all ground altering disturbance associated with the proposed project. A coordination meeting with the construction crew and all other pertinent parties to explain monitoring procedures and that the monitoring archaeologist has the authority to halt work in the vicinity of a culturally significant find will be undertaken, and should anything of cultural significance be identified, the SHPD will be consulted for mitigation recommendations. The plan further states that in the event human remains are inadvertently exposed,

both the SHPD and Moloka'i Island Burial Council will be notified and appropriate burial protocol followed. A report detailing the findings of the monitoring will be prepared and submitted to our office for review within 180 days after the completion of the project.

The plan now contains the required information as specified in HAR §13-279-4 (a) regarding the contents of monitoring plans in general and is acceptable.

Now that the monitoring plan has been accepted pursuant to HAR §13-279, please send one hardcopy of the current version, clearly marked **FINAL**, along with a copy of this review letter and a text-searchable PDF file on CD to the attention of "**SHPD Library**" at the Kapolei SHPD office. However, before doing so we respectfully ask that you include the revision requests from each review into that copy in an effort to eliminate future confusion regarding which plan is to serve as the governing document for the proposed project.

Should you have any questions or comments regarding this letter, please contact Patty Conte ([Patty.J.Conte@hawaii.gov](mailto:Patty.J.Conte@hawaii.gov)).

Aloha,



Nancy McMahon, Deputy SHPO/State Archaeologist  
State Historic Preservation Division

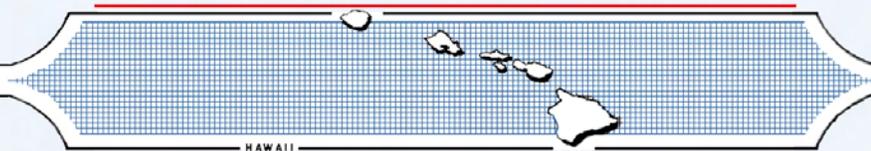
c: Jeff Hunt, Director, Dept. of Planning, 250 S. High Street, Wailuku, Hawai'i 96793  
Maui CRC, Dept. of Planning, 250 S. High Street, Wailuku, Hawai'i 96793

**ARCHAEOLOGICAL MONITORING PLAN FOR  
THE CONSTRUCTION OF A HALE WA`A  
AT MALAMA CULTURAL PARK  
AT KAUNAKAKAI, KONA DISTRICT, KAUNAKAKAI AHUPUA`A,  
ISLAND OF MOLOKA`I, HAWAII  
[TMK 5-3-1: 2, 3 & 5]**

Prepared by:  
**Randy Ogg, B.A.**  
and  
**Robert L. Spear, Ph.D.**  
Revised February 2009

Prepared for:  
**Mr. Jason Medema**  
**Chris Hart & Partners**  
**Wailuku, Maui HI 96793**

**SCIENTIFIC CONSULTANT SERVICES Inc.**



711 Kapiolani Blvd. Suite 975 Honolulu, Hawai'i 96813

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## **INTRODUCTION**

Scientific Consultant Services Inc. (SCS) was contracted to produce an Archaeological Monitoring Plan (AMP) in advance of construction work on the subject parcel of Malama Cultural Park at Kaunakakai [TMK: 5-3-1: 2, 3 and 5] in the *ahupua`a* of Kaunakakai, Kona District, Island of Moloka`i, Hawai`i (Figures 1 and 2). Construction activities will include excavating and grading as necessary for the construction of a canoe house (*hale wa`a*) and grading for improvements to an existing nearby parking area. The details of the project area's environment, previous archaeology and historical background will be discussed in this monitoring plan.

This AMP provides guidelines to ensure that if human remains are identified during monitoring, appropriate and lawful protocol concerning the Inadvertent Discovery of Human Remains (pursuant to §13-300-40a, b, c, HAR) is followed. This AMP will also ensure that if cultural deposits are identified, the work will satisfy reporting requirements outlined in §13-279-5(5) through (6). The AMP must be approved by SHPD prior to the commencement of any ground-altering activities. This AMP provides a synopsis of the background information on the parcel, previous archaeological work conducted in the vicinity the project area, and summarizes monitoring conventions, methodology for fieldwork, methodology for laboratory work, curation, and reporting. This AMP has been written in accordance with the rules of the DLNR-SHPD §13-279 HAR.

## **PROJECT AREA LOCATION AND ENVIRONS**

Kaunakakai is located on the central southern coastline of Moloka`i. The parcel [TMK: 5-3-1: 2, 3 and 5] is located on the coastal plain to the north of the wharf at Kaunakakai, Island of Moloka`i. The TMK: 5-3-1: 3 parcel extends about 300 meters from the shoreline inland to the Mauna Loa Highway. The TMK: 5-3-1: 2 and 5 parcels extend from the shoreline north to Hio Place, a short, paved sub-street. TMK: 5-3-1: 99 is a very small rectangular enclave at the southeast corner of the parcel that is owned by the State of Hawai`i and is utilized by the Moloka`i Canoe Club. The entire parcel is west of Kaunakakai Place, which is the access road to Kaunakakai Wharf from Kaunakakai town and the highway. The project area is nearly level and is at a mean elevation of about 1 meter (3.3') amsl. The surrounding land is also low and flat. There is a small wetland area near the southeast corner of the parcel and another along and just outside of the western boundary of the project area. Several buildings are located along the west

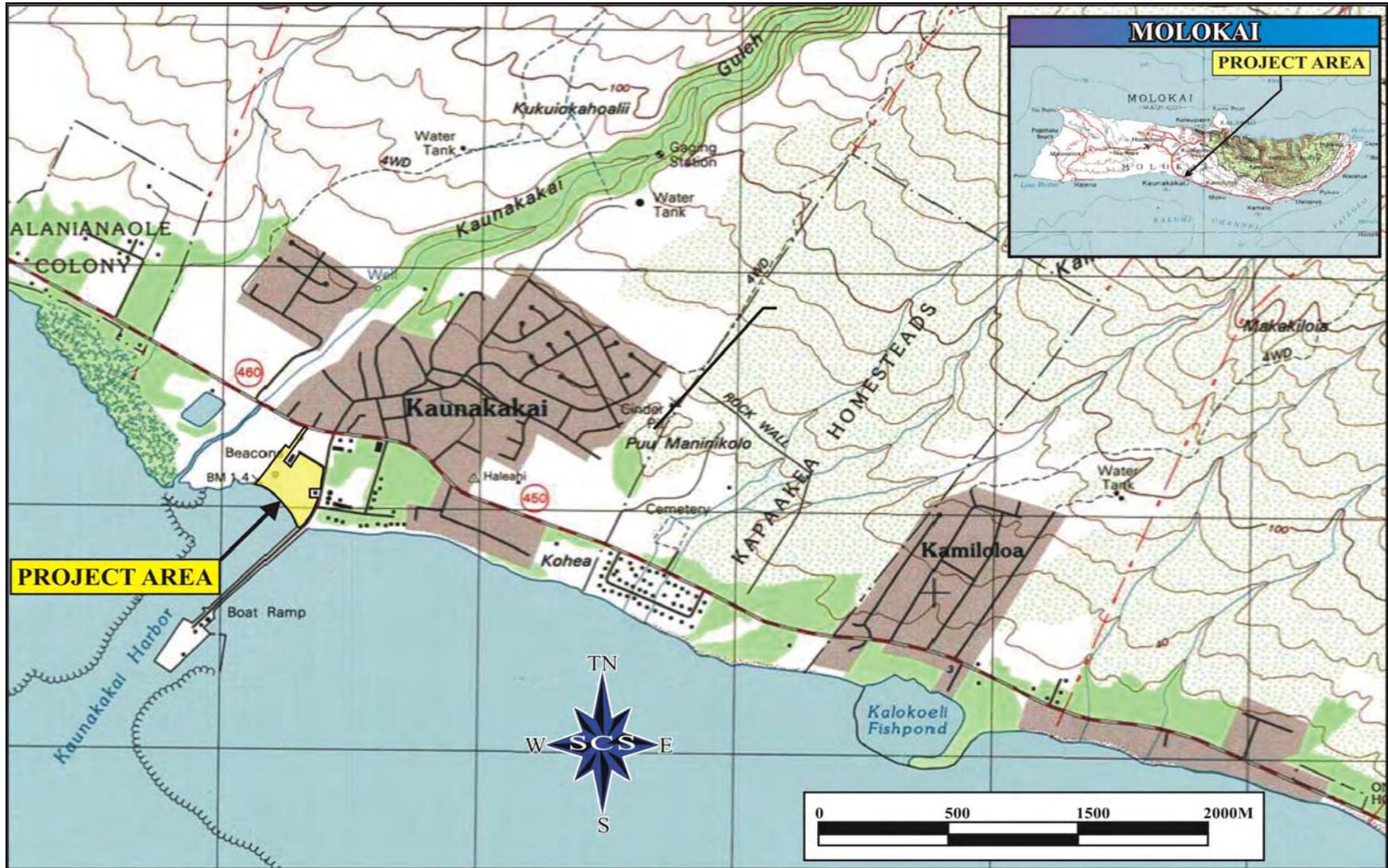


Figure 1: USGS Map Showing Location of Project Area

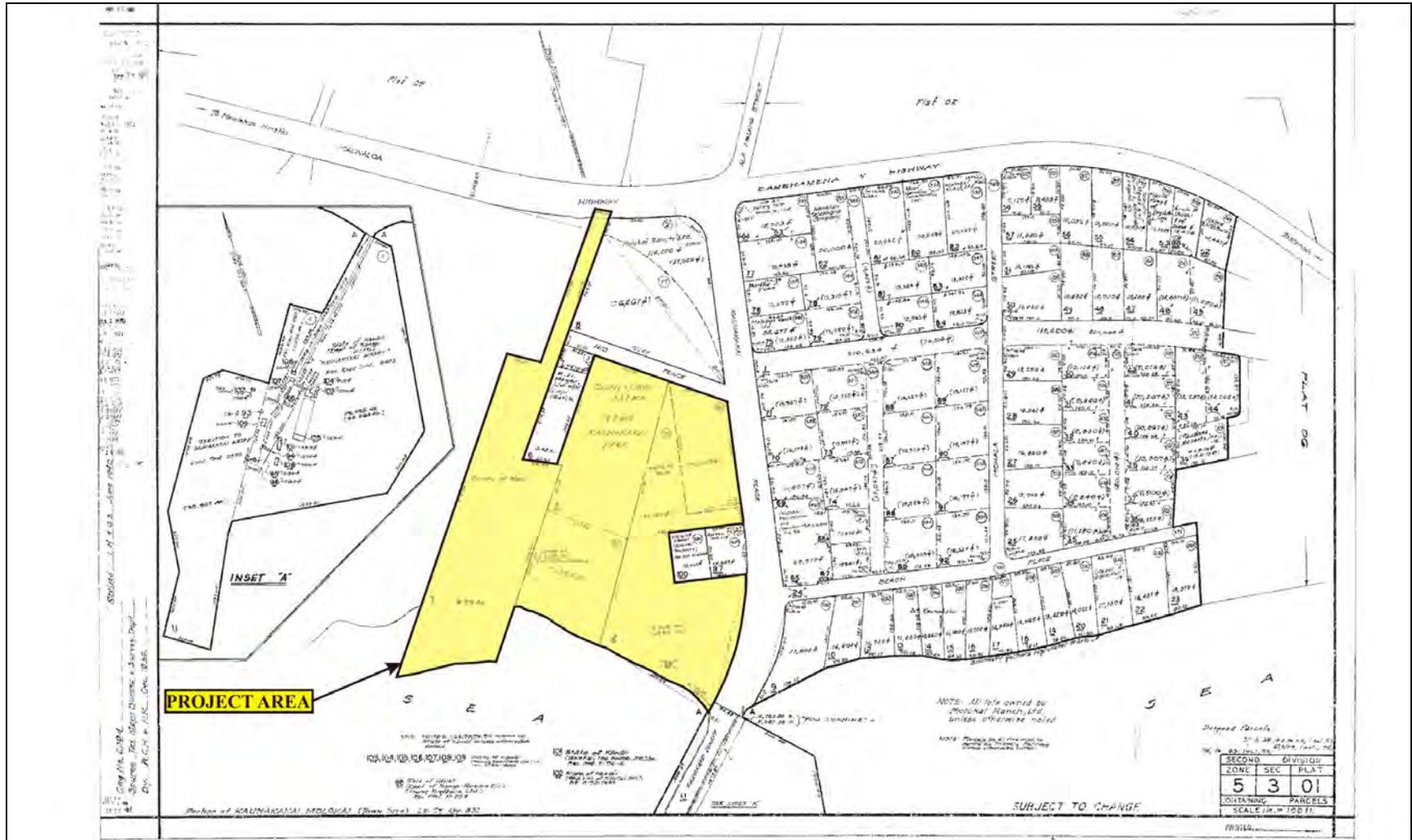


Figure 2: TMK Map Showing Project Area

side of the parcel and a restroom facility is located in the center of the project area. Also, at the west end of the parcel are two range lights installed by the U.S. Coast Guard which provide course guidance through the reef to vessels accessing the wharf at Kaunakakai from the sea. Towards the eastern edge of the parcel, is an abandoned truck weigh station which is adjacent to Kaunakakai Place. Kaunakakai Gulch, which drains the southwestern slopes of East Moloka`i Volcano, is located approximately 250 meters west of the parcel. This channel was modified in 1950, and only flows during periods of rainfall.

An immense fringing reef sits just offshore of the south coast of Moloka`i and extends out to sea 1.8 km or more in places. A partially natural, partially artificial gap in the reef allows access to the wharf from the sea by vessels that would otherwise run aground on the shallow reef.

Kaunakakai is on the leeward side of the East Moloka`i Volcano, so the area is quite dry. According to Giambelluca *et al.* (1986), mean annual rainfall in Kaunakakai is 400mm (15.75") with a January maximum of 80mm (3") and a monthly minimum of 5mm (0.2") in the months of June, July, August and September.

The soils throughout the project area have been designated KMW by Foote *et al* (1972: 67-68). This designation is Kealia Silt Loam, and is characterized by poor drainage and a high content of salt. Ponding occurs in low areas after periods of heavy rain. When the soil dries, salt crystals accumulate on the ground surface. The top soil layer is typically a dark reddish brown silt loam about 3 inches thick, below which are stratified layers of silt loam, loam and fine sandy loam. A brackish water table occurs at a depth of 12 to 40 inches, depending on the tide. The Kealia Silt Loam here is believed to have been a recently deposited as a result of deforestation and overgrazing of the upland regions to the north during historic times (Macdonald *et al.* 1970:334).

### **REASON FOR MONITORING**

Three archaeological sites have been recorded at Malama Cultural Park through previous archaeological investigations (see Tuggle 1993) which the State Historic Preservation Division of the Department of Land and Natural Resources has determined to be eligible for the National Register of Historic Places (Figure 3). These include: Site 50-60-03-1030, the Malama Platform, Site 50-60-03-890, the remnant of an early historic pier, and Site 50-60-03-630, an extensive subsurface cultural deposit underlying much of the project area.

Site 50-60-03-1030 (the Malama Platform), is located at the southeast portion of the project area (see Figure 3). The platform now measures 25 by 30 meters and rises 30 to 60 cm above the ground surface. Earlier components of the platform were the foundation of Kamehameha V's house. The platform later served as the foundation for a small church. Components of the greater compound relating to Site 1030, such as building foundations, post holes or cultural debris may be found within the Site 630 cultural deposit. Human burials have not been recorded in this parcel, but encountering human remains is a possibility, especially in association with the greater Malama Platform compound during the time period of its use as a church.

The pier remnant (Site 50-60-03-890), is a double alignment of basalt cobbles and boulders that extends to sea from the shoreline at the central portion of the project area (see Figure 3). About 20m of this feature is exposed at low tide. Much of the pier is probably buried in the silt loam that has been deposited in historic times. Investigation by Athens (1983:22) determined that shoreline accretion amounted to 36.6 meters in the time period between 1882 and 1924 in the project area.

Site 50-60-03-630, the subsurface cultural deposit, underlies much or all of the project area that is inland of the old shoreline. Since the shoreline has accreted several meters over historic times this deposit would not extend to the existing shoreline. The site includes remains of different periods with some intact subsurface portions; however, much of the area has been disturbed by grading and trenching. The known presence of Site 50-60-03-630 indicates a high probability for encountering culturally significant deposits throughout the more *mauka* portions of the project area.

These circumstances demand that all subsurface construction activities be subject to Archaeological Monitoring so that any archaeologically significant deposits, including human burials, are properly handled and recorded and that any historic sites or deposits that are encountered are properly documented.

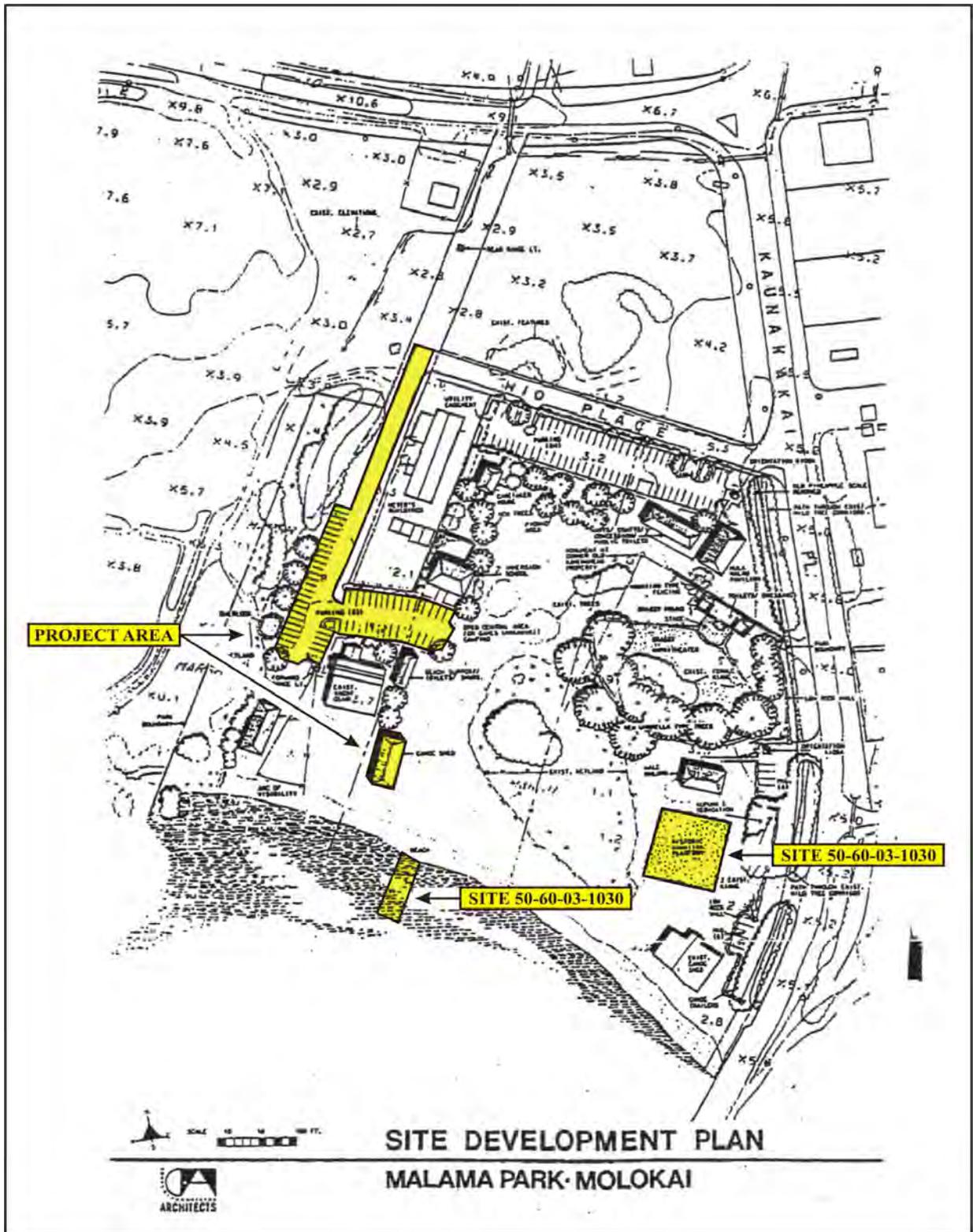


Figure 3: Map of Project Area Showing Surface Archaeological Sites near the Area of Impact.

## TRADITIONAL AND HISTORIC SETTING

### **PRE-CONTACT**

The concepts of the Hawaiian land system are helpful in understanding traditional land use in and around the project area. In general, several terms, such as *moku*, *ahupua`a*, *`ili* or *`ili`āina* were used to delineate various land sections. A district (*moku*) contained smaller land divisions (*ahupua`a*) which customarily continued inland from the ocean and upland into the mountains. Extended household groups living within the *ahupua`a* were therefore, able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua`a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The *`ili`āina* or *`ili* were smaller land divisions next to importance to the *ahupua`a* and were administered by the chief who controlled the *ahupua`a* in which it was located (*ibid*:33; Lucas 1995:40). The *mo`o`āina* were narrow strips of land within an *`ili*. The land holding of a tenant or *hoa`āina* residing in a *ahupua`a* was called a *kuleana* (Lucas 1995:61). The *ahupua`a* of Kaunakakai, encompassing the present project area, comprised a total 1,598 acres of land.

The island of Moloka`i consists of two districts known as the Ko`olau and Kona Districts. Ko`olau district lands encompass the northern *ahupua`a* and consist of the wet, windward valleys that supported immense gardens of *lo`i kalo* (taro pondfields). The Kona District, located on the drier leeward coast, encompasses a fringing reef and an elaborate fishpond complex. A few small gulches east of Kawela contained *lo`i kalo* (Tomonari-Tuggle 1990:6; Summers 1971:2). Generally, however, the leeward side of the island was considered ideal for the dryland cultivation of sweet potato (*`uala* or *Ipomoea batatas*) and taro (*kalo* or *Colocasia esculenta*). In the Kona District of Moloka`i, sweet potato was planted along the southern, leeward shore. On *kula* lands, sweet potato was still being planted into the 1930s. Dryland taro was also grown on slopes rising behind Kaunakakai Village while sweet potato plantations extended east of the village (Handy and Handy 1972:517-520). Kaunakakai was known for its marine resources, especially crustaceans, and these were gathered from the coral reef (*Ibid.*). Within this ecological framework, the project area is located near traditionally used dryland agricultural fields and also lay proximate to marine resources. Both resources are considered important aspects of the traditional subsistence economy.

Hawaiian traditions and archaeological research indicate that the general project area was never densely populated, but was well known as a stopping place for people travelling between O`ahu and Maui. Archaeological research indicates that there was some limited activity along the coast in pre-contact times, predominantly relating to fishing camps and armies in transit. Settlement was concentrated at the lower elevations where the inhabitants had access to the shoreline fisheries, the fishponds and the agriculturally productive bottomlands. Fresh water may have been available from springs along the coastal margin. Residential sites were located along the lower ridges where house sites were above flood zones and had exposure to the cooling effects of the prevailing winds.

During his early survey of Moloka`i, J. Stokes (1909) mentioned that a temple, known as Mahinahina, might exist in the area. If such a temple did exist, no known remnant of it survives today.

## **POST-CONTACT**

Much knowledge of traditional land use patterns in the Hawaiian Islands is based upon written records, these scribed during the time of initial and early contact between native Hawaiians and the first European and American visitors to the islands. Early records (such as journals kept by travelers and missionaries), Hawaiian traditions that survived long enough to be written down, and archaeological investigations have assisted archaeologists in understanding the past.

Although Moloka`i was observed by foreigners during Captain James Cook's return expedition to the islands in 1779, westerners did not make landfall on the island until 1786, this being the arrival of Captain George Dixon (1789:92-93). Kamakau (1961:132-133; see also Fornander 1980 Vol. II:154) relates that at this time, Moloka`i was under the rule of Kahahana, a relative of Kahekili, the ruler of Maui Island and rival of Hawai`i Island chiefs. However, in 1786, when Dixon and his crew arrived on Moloka`i, Kahahana was dead. The island had become a possession of Kahekili.

Kamehameha I, from Hawai`i Island, had conspired to conquer Maui, O`ahu, and Kaua`i, thus bringing all the major Hawaiian Islands under his sole proprietorship. After assuming control of Maui in 1790, Kamehameha proceeded to focus on uniting Moloka`i with the other islands under his rule. His plan was to procure the support of the Moloka`i chiefs against Kahekili, the powerful chief of Maui, who was then living on O`ahu. Kamehameha temporarily

succeeded with this plan until he lost control of Maui. Kamehameha then returned to Hawai`i Island, having not secured authority over Moloka`i. Politically, Moloka`i was still under the control of Maui chiefs. In 1795, Kamehameha set out once more to conquer of Moloka`i. Summers (1971: 20) relates that a fleet of canoes accompanying Kamehameha to Moloka`i were of such a great number that they extended along the coast from Kawela to Kalama`ula, which included the coast of Kaunakakai. Kamehameha held council at Kaunakakai while his chiefs camped nearby at Kalama`ula. No battles were recorded as having been fought at this time suggesting that Moloka`i became a part of Kamehameha's kingdom through negotiation (Kamakau 1961).

In 1792, Vancouver recorded his impressions of Moloka`i while sailing along its southern coast towards O`ahu. Vancouver described the eastern part of the island: "It seemed to be well inhabited, in a high state of cultivation, and presented not only a rich but a romantic prospect" (Vancouver 1984). Archibald Menzies, a naturalist also on Vancouver's expedition, had a different impression. He was told by the natives of Moloka`i that "Kamehameha's descent upon it had desolated the country, and that it had not yet recovered its former state of population ... desolating the country by destroying the fields and plantations of the inhabitants." (Menzies 1920:115, 118).

Attesting to a large population living mostly along the southern coast of Moloka`i was the settlement of the missionaries which occurred in 1832 at Kalua`aha. A missionary census estimated the population here to be 8,000 people (Schmitt 1973: 20). This information suggests that concentrated settlements occurred near the project area.

In the 1840s, traditional land tenure shifted drastically with the introduction of private land ownership based on Western law. While it is a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kamehameha III was forced to establish laws changing the traditional Hawaiian economy to that of a market economy (Kame`eleihiwa 1992:169–70, 176; Kelly 1983:45; Daws 1962:111; Kuykendall 1938 Vol. I:145). The Great *Māhele* of 1848 divided Hawaiian lands between the king, the chiefs, the government, and began the process of private ownership of lands. The subsequently awarded parcels were called Land Commission Awards (LCAs). Once lands were thus made available and private ownership was instituted, the *maka`āinana* (commoners), if they had been made aware of the procedures, were able to claim the plots on which they had been cultivating and living. These claims did not include any previously cultivated but presently fallow land, *`okipū* (on O`ahu),

stream fisheries, or many other resources necessary for traditional survival (Kelly 1983; Kame`eleihiwa 1992:295; Kirch and Sahlins 1992). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent after which they could take possession of the property (Chinen 1961:16).

No individual *kuleana* were awarded in the *ahupua`a* of Kaunakakai during the *Māhele*, but subsequent land records include land-use information important during the historic post-Contact period. Records from the Department of Interior from 1852 and 1854 state that Abner Paki owned Kaunakakai Ahupua`a (Borthwick and Hammatt 1993:17). By 1855, the *ahupua`a* of Kaunakakai had been purchased for \$200 by Kamehameha V (Lot Kapuaiwa) for his own use as a cattle and sheep ranch. Eventually, Kamehameha V released deer that roamed freely on Moloka`i, necessitating the building of walls to protect garden crops. Walls were built around the village of Kaunakakai for security against the wandering ungulates (*Ibid.*:18).

As noted above, in 1855 the *ahupua`a* of Kaunakakai was a Mahele award to, or was purchased by, Lot Kamehameha (Kamehameha V). He pastured sheep and cattle, and in 1859 his brother Alexander Liholiho (Kamehameha IV) established a sheep station (Borthwick and Hammatt 1994). The extant Malama Platform was possibly the foundation of his royal residence, which may have been his summer home. It is not known if the Malama Platform is a remnant of the temple that was known as Mahinahina (see Tuggle 1993).

Princess Ruth Ke`elikolani, the half sister to both Kamehameha IV and V, inherited the *ahupua`a* upon the death of Lot Kamehameha in 1872. Her residence was located in the project area about 200' (60m) northwest of the Malama Platform and is marked as "Ruth's house" on early maps of the area.

The Kaunakakai area became property of Bishop Estate. It was sold to Moloka`i Ranch in 1897. A subsidiary of the ranch organized in 1898, the American Sugar Company, utilized the coastal plain for the cultivation a sugar cane. The sugar plantation soon failed due to the encroachment of salt water into the wells that provided irrigation water for the cane fields. A wharf (Site 50-60-03-890) of *kiawe* piles and basalt boulders was constructed at about that time, as were a railroad, a road and a workers camp. The stones utilized in the construction of the wharf, or other stone structures, allegedly had been robbed from local *heiau*, (Borthwick and Hammatt 1994:18) and possibly the Mahinahina Temple if such a structure really did exist.

Probably in 1909, the Kalaiakamanu Church (or Kalai Ka Manu Hou church; Athens and Silva 1983:23) was built on the expanded Malama Platform. In the 1920's a mole and wharf was built about 130 meters to the east of the earlier pier (Site -890). The railroad tracks ran out onto the mole for a time, which eventually evolved into the wharf and boat ramp as it is today.

In the 1920's Libby McNeil and Libby began the cultivation of pineapple in the Maunaloa area on land leased from the Moloka'i Ranch. Eventually the weigh station and scale house were built beside Kaunakakai Place along the eastern side the project area for the purpose of weighing outgoing shipments of pineapples en route to the wharf. Pineapple cultivation ceased during the 1970's and early 1980's and the weigh station fell into disuse.

Kaunakakai Town, although still very small, continues to be the urban center on Moloka'i. Tourism and service-related industries have become the economic mainstay of the town (Borthwick and Hammatt 1994: 24).

## **PREVIOUS ARCHAEOLOGY**

Previous archaeological investigations conducted at this project area have identified the three sites mentioned in "Reason for Monitoring." These are: Site 50-60-03-630 (an extensive subsurface cultural deposit that underlies much of the project area north of the old shoreline), Site 50-60-03-890 (the remnant of a pier built prior to 1900), and Site 50-60-03-1030 (the Malama Platform).

Archaeological investigations, including a walk-through survey and test excavations, were undertaken in November 1981 at the proposed site of the Moloka'i Sewage Treatment Facilities expansion located west of Kaunakakai by B.P. Bishop Museum (Shun 1982). This area is about one kilometer west of this parcel and extends from Maunaloa Highway to the shoreline. One site, 50-60-03-631, was recorded which included the surface remnant of salt pans. The subsurface component of the site, discovered in two backhoe trenches excavated in this area, included possible fire-cracked rock, one basalt flake, dispersed charcoal flecks, charcoal lenses, and an extensive deposit of marine shell midden. A charcoal sample taken from 73 to 93 cmbs yielded a date of 1769 to 1869, thus representing a late prehistoric to historic period occupation.

In June 1983, an on-site survey of TMK: 5-3-01: 2 was performed by Eric Komori of B.P. Bishop Museum with Mr. Marshall Weisler (Komori 1983). A basalt polishing or grinding

stone, a coral abrader and a pearl shell button were collected from the ground surface. A one inch diameter screw type auger was used to probe the cultural deposit (Site 50-60-03-630) at four locations to a depth of 75 cm. Layer I (2-20 cmbs) was determined to be a disturbed layer of fine grayish coral sand and Layer II (2-20 to 75 cmbs) was comprised of coarse, white coral beach sand. The upper 10-15 cm of Layer I contained numerous charcoal fragments.

In September, 1983 archaeological and historical investigations were conducted by Athens and Silva (1983). Four test pits and 26 trenches were excavated. Historic period remains, especially glass fragments indicated an occupation going back possibly as early as 1860, the time of Kamehameha V. The prehistoric component of the cultural deposit was least disturbed at the southwest portion of their project area. Archaeological investigations determined that prehistoric occupation of the area dates back to at least A.D. 1200-1300.

An archaeological reconnaissance survey of TMK: 5-3-01:3 was conducted by B.P. Bishop Museum on 2 October 1984 (Landrum 1984) for the U.S. Coast Guard, Fourteenth Coast Guard District. Records of previous archaeological work were also reviewed. They recovered a basalt adze fragment and a hammerstone from an area that had been bulldozed by the Moloka'i Yacht Club, apparently for a parking area. The bulldozer had exposed an 18 by 5 m section of Site 50-60-03-630, the extensive subsurface traditional cultural deposit that underlies much of the project area. No test excavations were performed during the investigation.

In July and September 1992 two phases of archaeological testing were carried out by the International Archaeological Research Institute at Site 50-60-03-1030, the Malama Platform (Tuggle 1993) to provide information for the planning of the Malama Cultural Park. The platform was mapped and areas around the perimeter of the platform were trenched. Another trench was placed through the platform in a northwest/southeast orientation. Testing determined that the Malama Platform, as it is seen today, is the result of two main stages of construction. The inner structure, comprised of a stacked stone facing surrounding a coral fill is now completely enveloped by the fill and outer facing of the platform as seen today. The outer structure was built in two phases. It is believed that the Malama house stood on the original, inner structure after the western side of it had been modified and possibly extended. The Kalaiakamanu Church stood probably stood on the platform which was the result of the second phase of construction. It was not determined if the earlier, inner part of this structure may have been the Mahinahina Temple, reported by Stokes in 1909.

In September, November and December of 1997 the removal of vegetation from selected areas of the parcel and excavation of approximately 1,400' of utility trenching was monitored by Aki Sinoto Consulting (Titchenal 1998). Five cultural features were encountered during monitoring, all presumably within the Site 50-60-03-630 cultural deposit. Three of these were historic refuse deposits comprised of extensive assemblages of glass bottles and bottle fragments, ceramic fragments, milled lumber, iron oxide concretions and bone fragments. Also encountered was a basalt cobble pavement with associated historical and midden material and a pit which was filled with dark, organically stained calcareous sand, some volcanic cinder, conus shell midden and darker carbon-stained sand. Little could be discerned of the nature and function of these features.

### **SETTLEMENT PATTERN**

The earliest mention of Kaunakakai was in the first quarter of the 18<sup>th</sup> century, when the chiefs of the Ko`olau (windward) side of Moloka`i fought several battles with the chiefs of Kekaha who ruled the drier leeward side of the islands (Summers 1971). The Ko`olau chiefs wished to gain control of the Kekaha fishing grounds, which were accessible year around. The Ko`olau waters were too rough for fishing during the winter months, about half of the year. In this time Kaunakakai is mentioned as a landing place for canoes and as a meeting place (Summers 1971 quoting Fornander 1916-17). In 1790 the canoes of Kamehameha I, enroute to O`ahu with his army to make war on Kalanikupule, landed at Kaunakakai (Summers 1971:19). In the later years of the 19<sup>th</sup> century Kaunakakai may have been a favorite residence of Kamehameha V. It also remains speculative that the Malama Platform was the base for residence.

The project area is situated entirely within a coastal environmental zone. Archaeological and historical evidence indicate that a permanent population was already settled in the area several hundred years prior to the arrival of Captain Cook to the islands (see Tuggle 1993). The portion of the coast in the vicinity of Kaunakakai was apparently settled considerably earlier than other areas along the south coast, specifically the Kawela area (Borthwick and Hammatt 1994). The area of the existing Kaunakakai Town was most likely the locale of main early settlement of the Kaunakakai *ahupua`a*, as the areas along the coast itself were swampy and unfavorable (see below). The immediate project area was probably utilized as a canoe landing by those travelling between Maui and O`ahu, thus the old name for Kaunakakai was Kaunakahakai, "Resting-(on)-the beach" (Summers 1971:87). The shoreline here could be accessed through a natural gap in the fringing reef that blocked access to much of the south coast of Moloka`i.

Two *heiau* were formerly located in Kaunakakai, neither of which presently exists. These may have been destroyed when their stones were robbed and used for building the original pier (Site 50-60-03-890) or the presently existing mole/pier.

### **PROJECT AREA EXPECTATIONS**

Excavation and construction of the canoe shed will take place at, or to the west of, the remnant of Site 50-60-03-890, a pier built in about 1900. The remnant of this feature is comprised of two boulder alignments that are 2.5 meters apart. This feature was as much as 220m long at one time, but now only about 20 meters of the twin alignment is visible extending into the water from the existing shoreline. The shoreline has advanced during historic times due to the introduction of grazing animals that have stripped the slopes above the coastal plain of the soil stabilizing ground cover, so much of the feature is probably buried behind the existing shoreline. It is likely that boulders of the twin alignment will be encountered at shallow depth in that area.

The construction of the canoe shed will take place within several meters of the existing shoreline, so will be built upon a surface that has accreted over the last 200 years or so. This area is *makai* of Site 50-60-03- 630 subsurface cultural deposit. Excavation in this area may encounter cultural deposits that accumulated during the time period as the shoreline advanced during historic times. Grading for the parking area, which is further inland, may expose some of the Site 630 cultural deposit.

Site 50-60-03-1030, the Malama Platform, is well to the east of proposed construction and will not be impacted in any way. Since the Malama Platform is an historic-era structure, it is possible that some outlying features or the associated cultural deposit will be encountered at shallow depth.

The project area (TMK: 5-3-01: 3) has recently been altered through land clearing and landfill activities conducted by the Moloka`i Yacht Club (Landrum 1984:8). The southern portion of the project area has been covered with cinder, boulders and other imported materials to raise the ground surface and thus avoid inundation of the ground surface during periods of high tides and heavy rains. It is not known if these activities impacted the southwest portion of the overall present project area, including TMK: 5-3-01: 3.

Informants (noted in Athens and Silva 1983:25) mentioned that the property had been graded several times.

### **MONITORING CONVENTIONS AND METHODOLOGY**

This AMP has been prepared in accordance with DLNR-SHPD rules governing standards for Archaeological Monitoring (§13-279). Archaeological monitors will adhere to the following guidelines during monitoring:

1. A qualified archaeologist familiar with the project area and the results of previous archaeological work conducted near the project area will monitor subsurface construction activities in the project area. If significant deposits or features are identified and additional field personnel are required, the archaeologist will notify the contractor or representatives before additional personnel are brought to the site.
2. If features or cultural deposits are identified during Archaeological Monitoring, the on-site archaeologist will have the authority to temporarily suspend construction activities at the significant location so that the cultural feature(s) or deposit(s) may be fully evaluated and appropriate treatment of the cultural deposit(s) is conducted. These actions are needed to fulfill the reporting requirements specified in §13-279-5(5) through (6). SHPD archaeologists will be consulted to establish feature significance and potential mitigation procedures. Treatment activities primarily include documenting the feature/deposit through plotting its location on an overall site map, illustrating a plan view map of the feature/deposit, profiling the deposit in three dimensions, photographing the finds (with the exception of human burials), artifact and soil sample collection, and triangulation of the finds. Construction work will only continue in the significant location when all documentation has been completed.
3. Stratigraphy in association with subsurface cultural deposits will be noted and photographed, particularly from deposits containing significant cultural materials. If deemed significant by SHPD and the archaeologist, these deposits will be sampled.
4. In the event that human remains are encountered, all work in the immediate area of the find will cease; the area will be secured from further activity until compliance with §6E-43.6, HRS, and §13-300-40, HAR, has occurred. The SHPD-Maui (Hinano Rodrigues) and SHPD-Culture History Program (located in Kapolei, O‘ahu) will both be immediately notified about the inadvertent discovery of human remains on the property. Notification of the inadvertent discovery will also be made to the Island Burial Council by either SHPD (H. Rodrigues) or by the archaeologist. Procedures to determine the minimum number of individuals, age of the site, and ethnicity of the individual(s) will conform to the relevant procedures established in §13-300, HAR, as directed by the SHPD. Profiles, plan view maps, and illustrative documentation of skeletal parts will be recorded to document the burial(s). The burial location will be identified and marked. If a burial is disturbed, materials excavated from the vicinity of the burial(s) will be

manually screened through 1/8-inch wire mesh screens in order to recover any displaced skeletal material. Only SHPD has the authority to approve the removal of human remains, which is typically conducted in consultation with the appropriate burial council members.

5. To ensure that contractors and the construction crew are aware of this AMP and possible site types to be encountered in the project area, a brief coordination meeting will be held between the construction personnel and monitoring archaeologist prior to initiation of the project. The construction crew will also be informed as to the possibility that human burials could be encountered and how they should proceed if they observe such remains.
6. SCS will provide all coordination with the contractor, SHPD, and any other group involved in the project. SCS will coordinate all monitoring and sampling activities with the safety officers for the contractors to ensure that proper safety regulations and protective measures meet compliance. Close coordination will also be maintained with construction representatives in order to adequately inform personnel of the possibility that open archaeological units or trenches may occur in the project area.
7. As necessary, verbal reports will be made to SHPD, and any other agencies as requested

### **HUMAN BURIAL MITIGATION**

Before any ground disturbing activities begin in the project areas, all machine operators and the work crew will be informed about the potential for encountering human burials. Work crews will be notified on how mitigation will be initiated should any burials or cultural materials be inadvertently discovered. In terms of burial treatment methodology, several undertakings are required to appropriately mitigate human remains. These involve steps from initial identification of remains to curation.

First, if human remains are encountered, all work in the immediate area of the find will cease and the area will be secured from further activity. The Burial Sites Program staff of the Maui and Oahu SHPD offices will immediately be notified to discuss the likely age, ethnicity, and number of burials found. Mitigation measures (see below) will be implemented following procedures outlined in the Hawai'i Revised Statutes (HRS), Chapter 6E-43.6, and Hawaii Administrative Rules (HAR) 13-300. All burial finds will be documented to the extent possible, including a description of context and an inventory of identifiable remains present.

Identified human remains will be distinguished in four ways:

1. **Isolated Remains:** Isolated remains are most likely a product of previous disturbance to select areas. The remains are disarticulated and represent secondary, and possibly even tertiary, burial contexts.

2. **Multiple Remains** from Previously Disturbed Burials and/or Secondary Burials: In this classification, there are enough remains to suggest a burial occurred in the area but after searching/screening the trench and excavated material, no discrete evidence for a burial and/or burial pit can be discerned. It could be assumed that multiple, commingled, and disarticulated remains may constitute a secondary deposition or represent previously disturbed *in situ* remains.

3. **Remains Recovered after Burial Identification:** While monitoring excavation work, recovered burials and/or cultural strata may be identified after being partially disturbed by backhoe. Raking, screening, and collecting remains and soil will ensure that all remains are recovered from both *in situ* and disturbed proveniences. The location of all burial finds will be recorded as accurately as possible, using professionally accepted standards in accordance with DLNR/SHPD standards.

4. **Complete, *In Situ* Burials:** This category represents articulated human remains that are identified in a primary, *in situ* context. The location of all burial finds will be recorded as accurately as possible, using professionally accepted standards.

If a burial is disturbed during construction activities, materials excavated from the area will be manually screened to recover any displaced skeletal material. The burial location will be identified and marked. The burial will be properly recorded, including contextual and provenience information. A plan view will be drawn and a skeletal inventory form will be completed. No photographic documentation of the burial(s) will occur. Should relocation of skeletal remains be authorized, all subsequent treatment measures—including transport, temporary curation containers, and location of a curation facility—shall be carried out under the direction of the SHPD Burial Sites Program staff and the burial council, who shall determine treatment and disposition of all inadvertently discovered remains, in consultation with recognized descendants and the landowner.

### **LABORATORY ANALYSIS**

All samples collected during the project, except human remains, will undergo analysis at the archaeology laboratory, in accordance with SHPD rules (§13-279, HAR). In the event that human remains are identified, and the SHPD and Island Burial Council authorizes their removal, they will be curated at an acceptable location on Molokai. All photographs, illustrations, and field notes accumulated during the project will be curated by the archaeologist. All retrieved artifacts and midden samples will be cleaned, sorted, and analyzed by the archaeological firm.

Permanent storage of artifacts and midden samples will be the responsibility of land owner. Significant artifacts will be photographed, sketched, and classified (qualitative analysis). All metric measurements and weights will be recorded (quantitative analysis). These data will be presented in tabular form within the final monitoring report. Midden samples will be minimally identified to major 'class' (e.g., bivalve, gastropod mollusk, echinoderm, fish, bird, and mammal). All data will be clearly recorded on standard laboratory forms which also include number and weight (as appropriate) of each constituent category. These counts will also be included in the final report.

Should any samples amenable to dating be collected from a significant cultural deposit, they will be prepared in the laboratory and submitted for taxa identification. If short-lived native and/or Polynesian-introduced taxa are identified, they shall be selected for radiocarbon dating, if necessary. While primary emphasis for dating is placed on charcoal samples, we do not preclude the use of other materials such as marine shell or nonhuman bone materials. The archaeologist will consult with SHPD and the client if radiocarbon dates are deemed necessary.

All stratigraphic profiles will be drafted for presentation in the final report. Representative plan view sketches showing the location and morphology of identified sites/features/deposits will be compiled and illustrated.

### **CURATION**

As a temporary measure, the archaeological firm will curate all recovered materials (except human remains, which would remain on-island) until the work is completed, reviewed, and accepted by the state.

### **REPORTING**

An Archaeological Monitoring report documenting all aspects of the work will be submitted within 180 days of the completion of fieldwork, in accordance with SHPD administrative rules (§13-279-5). This time line is requested to account for any radiocarbon age determinations (typically 60 days), if necessary.

If cultural features or deposits are identified during fieldwork, the sites will be evaluated for historic significance according to criteria established in §13-275-6(b), HAR. The Archaeological Monitoring report will be drafted until accepted by SHPD and final revised reports will be submitted to SHPD, and to the client.

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**Appendix F:**  
**Preliminary Engineering and Drainage Report**

**PRELIMINARY ENGINEERING REPORT**

**FOR**

**MALAMA CULTURAL PARK  
HALAU WA'A**

**Kaunakakai, Molokai, Hawaii**

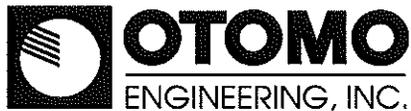
**T.M.K.: (2) 5-3-001: 005**

**Prepared for:**

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**October 2009**

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1 LOCATION MAP

2 VICINITY MAP

3 SOIL SURVEY MAP

4 FLOOD INSURANCE RATE MAP

## **APPENDICES**

A HYDROLOGIC CALCULATIONS

B WATER DEMAND CALCULATIONS

C WASTEWATER CALCULATIONS

**PRELIMINARY ENGINEERING REPORT  
FOR  
MALAMA CULTURAL PARK  
HALAU WA'A  
Kaunakakai, Molokai, Hawaii**

**1.0 INTRODUCTION**

The purpose of this report is to provide information on the existing infrastructure which will be servicing the proposed project. It will also evaluate the adequacy of the existing infrastructure and anticipated improvements which may be required for the proposed project.

The subject parcel is identified as T.M.K.: (2) 5-3-001: 005, which contains an area of 3.35 acres. The project site is bordered by Hio Place to the north, vacant Park land to the east, the ocean to the south, and developed properties to the west.

Presently, the project site is partially developed with a small structure, concrete slab, concrete walkways, restroom, and outdoor shower.

The development plan includes a canoe hale for storage, canoe hale for canoe repairs, and a meeting hall facility. Associated improvements include grass-paved parking and access roadway, underground utilities, drainage system, and landscaping.

**2.0 EXISTING INFRASTRUCTURE**

**2.1 ROADWAYS**

Kamehameha V Highway is a two-lane, State-owned roadway which connects most of the communities on Molokai. Ala Malama Street is a two-lane, County-owned roadway which provides access to the business and residential communities to the north of Kamehameha V Highway.

Kaunakakai Place is a two-lane, County-owned roadway across Ala Malama Street which provides access to the area south of Kamehameha V Highway and to Kaunakakai Wharf.

Hio Place is a two-lane, County-owned roadway from Kaunakakai Place. Its terminus is approximately 80 feet to the west of the project site at T.M.K.: (2) 5-3-001: 003. Access to the project site is from Hio Place.

## 2.2 DRAINAGE

The project site slopes down in a southerly direction from Hio Place from an elevation of 5.6 feet above mean sea level at the southeasterly corner to approximately 5 feet above mean sea level at the certified shoreline. There is a low area on the site, approximately 80 feet mauka of the certified shoreline. The low area is designated as a wetland near the southeasterly corner of the parcel. The ground slopes at approximately 0.6% from the Hio Place to the low area.

There is a natural berm along the shoreline which prevents runoff from sheet flowing directly into the ocean.

According to Panel Numbers 150003 0080 C and 150003 0085 C of the Flood Insurance Rate Map, dated September 6, 1989, the majority of the project site is situated in Flood Zone C and a small portion of the project site at the shoreline is situated within Flood Zone A4 with a base flood elevation of 3 feet. Flood Zone C is designated as areas of minimal flooding. Flood Zone A4 is designated as areas of 100-year flood; base flood elevations and flood hazard factors determined.

According to the "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (August, 1972)," prepared by the United States Department of Agriculture Soil Conservation Service, the soil within the project site is classified as Kealia silt loam (KMW). Kealia silt loam is characterized as having moderately rapid permeability, slow to very slow runoff, and no more than slight water erosion hazard, but the hazard of wind erosion is severe when the soil is dry and the surface layer becomes loose and fluffy.

The County of Maui recently completed construction of a portion of the Kaunakakai Drainage System "B". The completed system is located mauka of Kamehameha V Highway. They currently have a contract to complete the unfinished portion of the drainage system makai of Kamehameha V Highway. When completed, the drainage system will collect runoff from Kaunakakai town by grated-inlet catch basins and convey it to an outlet near the Kaunakakai Landing.

It is estimated that the existing 50-year, 1-hour storm runoff from the project site is 2.92 cfs. The resultant runoff volume is 5,776 cubic feet. Presently, onsite runoff sheet flows across the project site from Hio Place in a southerly direction toward the low point of the parcel. The runoff then sheet flows into the wetlands near the southeast corner of the project site.

### 2.3 SEWER

There is an existing 18-inch sewerline along Kaunakakai Place which connects to the 18-inch sewerline on Kamehameha V Highway. The subject parcel is presently serviced by the County's wastewater. There is an existing 6-inch sewer lateral servicing the existing restrooms.

Wastewater collected from Kaunakakai town is transported to the Kaunakakai Wastewater Reclamation Facility located to the west of the project site by a pump station and force main located at the intersection of Kamehameha V Highway and Kaunakakai Place.

### 2.4 WATER

Domestic water and fire flow will be provided by the County's water system. There are existing 2-inch and 8-inch waterlines along Hio Place which presently provides domestic water and fire protection to the project site. There is an existing fire hydrant located at the northeast corner of the project site along Hio Place and an existing standpipe located at the northwest corner of the project site along Hio Place. There is an existing water meter currently serving the property.

A 1.0 million gallon concrete water tank at an elevation of 232 feet above mean sea level provides storage for the area. It is located approximately 3,700 feet to the northeast of the project site. The source for the water system is the Kualapuu wells.

### 2.5 ELECTRIC, TELEPHONE AND CABLE TV

There is an existing overhead electrical distribution system in the vicinity of the project site along the south side of Hio Place.

## **3.0 ANTICIPATED INFRASTRUCTURE IMPROVEMENTS**

### 3.1 ROADWAYS

The proposed project will have a single driveway from Hio Place. Hio Place is improved with asphalt pavement, but no concrete curbs, gutters or sidewalks. No additional improvements are anticipated for these roadways, with the exception of a new concrete driveway for the project.

### 3.2 DRAINAGE

After development of the proposed project, it is estimated that the 50-year, 1-hour storm runoff will generate 3.50 cfs, a net increase of 0.58 cfs. The resultant runoff volume is 6,821 cubic feet. An onsite detention basin will be constructed within the landscaped areas to mitigate at least the increase in runoff generated from the proposed project for a 50-year, 1-hour storm. The project's drainage system will, at a minimum have sufficient capacity to accommodate the increase in runoff of 0.58 cfs and a runoff volume of 1,045 cubic feet (6,821 cubic feet - 5,776 cubic feet). Excess runoff will continue to sheet flow into the wetlands as it is presently doing.

The drainage design criteria will be to minimize any alterations to the natural pattern of the existing onsite surface runoff. The proposed drainage system will be designed in accordance with Chapter 4, "Rules for the Design of Storm Drainage Facilities in the County of Maui."

### 3.3 SEWER

The proposed development will generate approximately 1,500 gallons per day (gpd) of wastewater. The proposed facilities will connect to the existing sewer lateral. Wastewater generated by the project will continue to be transported to the Kaunakakai Wastewater Reclamation Facility.

### 3.4 WATER

In accordance with the Department of Water Supply's Domestic Consumption Guidelines for commercial development, the average daily demand for the development is 5,695 gallons based on a use of 1,700 gallons per acre for Parks. Fire flow demand will be computed for the proposed structures during the building permit phase.

A detailed analysis of the existing water demand and fire protection will be required when the building permit plan is submitted for review.

### 3.5 ELECTRIC, TELEPHONE AND CABLE TV

The proposed electrical, telephone and cable TV distribution systems for the proposed improvements will be from the existing overhead facilities along Hio Place. The project consultants will work with the utility companies during the building permit phase of the project.

APPENDIX A  
HYDROLOGIC CALCULATIONS

## Hydrologic Calculations

Purpose: Determine the increase in onsite surface runoff due to the development of the project site based on a 50-year, 1-hour storm.

A. Determine the Runoff Coefficient (C):

### DRAINAGE AREA CHARACTERISTICS:

#### ROOF AREAS:

Infiltration (Negligible)	= 0.20
Relief (Hilly)	= 0.06
Vegetal Cover (None)	= 0.07
Development Type (Roof)	= <u>0.55</u>
C	= 0.88

#### PAVEMENT AREAS:

Infiltration (Negligible)	= 0.20
Relief (Flat)	= 0.00
Vegetal Cover (None)	= 0.07
Development Type (Pavement)	= <u>0.55</u>
C	= 0.82

#### LANDSCAPE AND GRASS-PAVED AREAS:

Infiltration (Medium)	= 0.07
Relief (Flat)	= 0.00
Vegetal Cover (Good)	= 0.03
Development Type (Landscape)	= <u>0.15</u>
C	= 0.25

#### EXISTING CONDITION:

Paved Area = 0.06 Acres  
Roof Area = 0.02 Acres  
Landscaped Area = 3.27 acres  
WEIGHTED C = 0.26

DEVELOPED CONDITION:

Grass-Paved Area = 0.63 Acres

Roof Area = 0.18 Acres

Landscaped Area = 2.54 acres

WEIGHTED C = 0.28

- B. Determine the 50-year 1-hour rainfall:

$$i_{50} = 2.5 \text{ inches}$$

Adjust for time of concentration to compute Rainfall Intensity (I):

Existing Condition:

$$T_c = 33 \text{ minutes}$$

$$I = 3.35 \text{ inches/hour}$$

Developed Condition:

$$T_c = 28 \text{ minutes}$$

$$I = 4.01 \text{ inches/hour}$$

- C. Drainage Area (A) = 3.35 Acres

- D. Compute the 50-year storm runoff volume (Q):

$$Q = CIA$$

Existing Condition:

$$Q = (0.26)(3.35)(3.35)$$

$$= 2.92 \text{ cfs}$$

Developed Condition:

$$Q = (0.28)(3.73)(3.35)$$

$$= 3.50 \text{ cfs}$$

There will be an increase in runoff of  $3.50 \text{ cfs} - 2.92 \text{ cfs} = 0.58 \text{ cfs}$  due to the proposed development. The required storage volume to accommodate the increase in runoff is  $6,821 \text{ cubic feet} - 5,776 \text{ cubic feet} = 1,045 \text{ cubic feet}$ .

# Hydrograph Plot

English

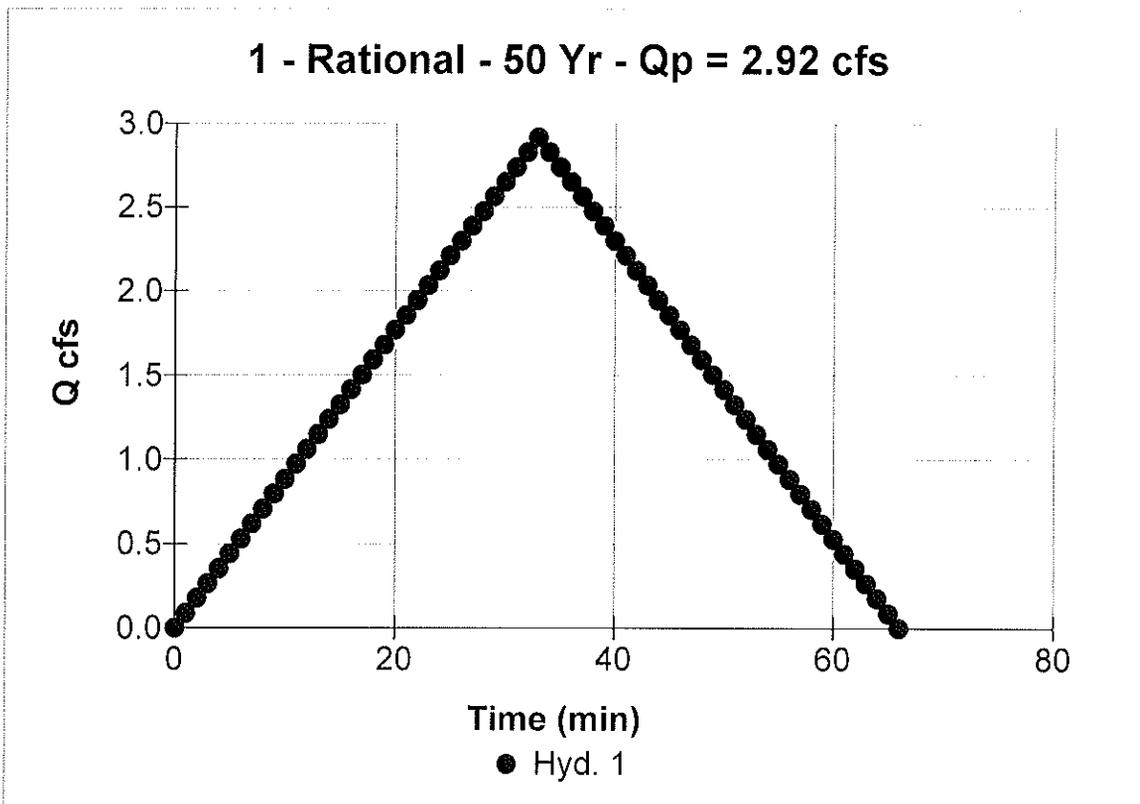
## Hyd. No. 1

### EXISTING CONDITION

Hydrograph type = Rational  
Storm frequency = 50 yrs  
Drainage area = 3.3 ac  
Intensity = 3.35 in  
I-D-F Curve = 2-5.IDF

Peak discharge = 2.92 cfs  
Time interval = 1 min  
Runoff coeff. = 0.26  
Time of conc. (Tc) = 33 min  
Reced. limb factor = 1

Total Volume = 5,776 cuft



# Hydrograph Plot

English

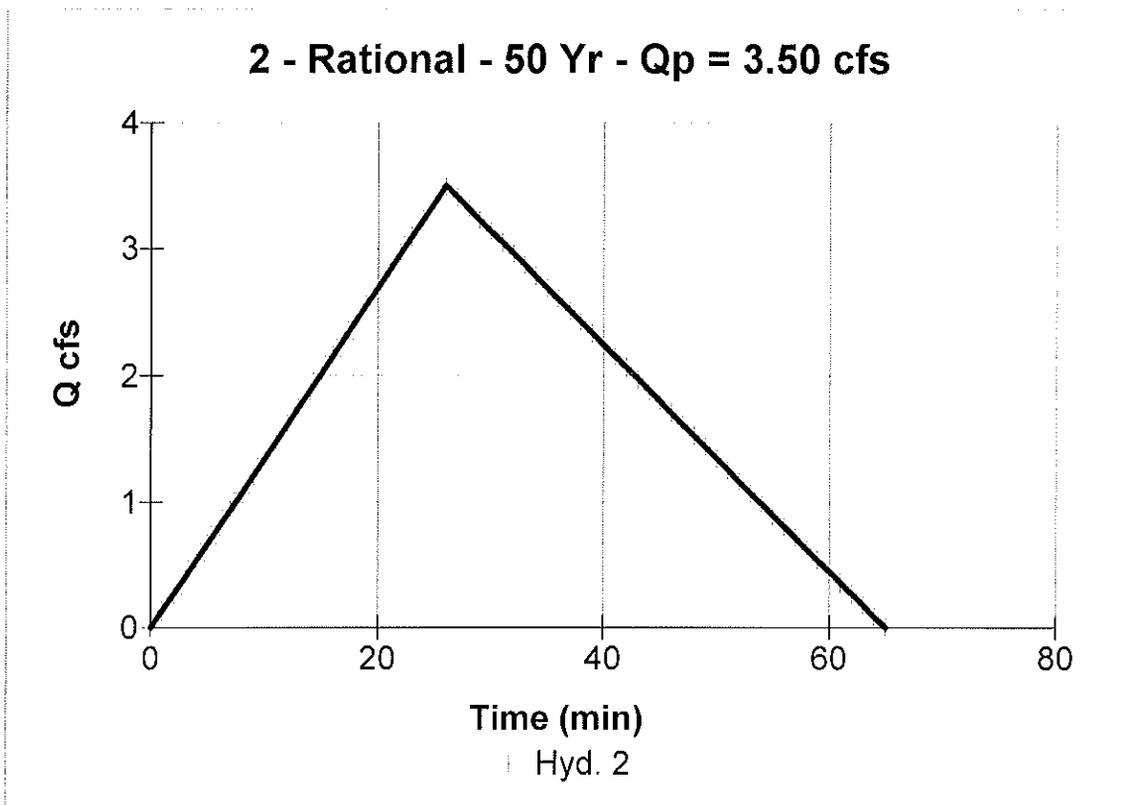
## Hyd. No. 2

### DEVELOPED CONDITION

Hydrograph type = Rational  
Storm frequency = 50 yrs  
Drainage area = 3.3 ac  
Intensity = 3.73 in  
I-D-F Curve = 2-5.IDF

Peak discharge = 3.50 cfs  
Time interval = 1 min  
Runoff coeff. = 0.28  
Time of conc. (Tc) = 26 min  
Reced. limb factor = 1.5

Total Volume = 6,821 cuft



APPENDIX B  
WATER DEMAND CALCULATIONS

## WATER DEMAND CALCULATIONS

Per 2002 Water System Standards:

Average Daily Demand (ADD) = 1,700 gallons per acre or 60 gallons per student for Parks

The Client anticipates a usage of approximately 60 people daily during the peak regatta season

$$\text{ADD} = (1,700 \text{ gal/acre}) (3.35 \text{ acres}) = 5,695 \text{ gpd}$$

$$\text{ADD} = (60 \text{ gal/student}) (60 \text{ students}) = 3,600 \text{ gpd}$$

Note - use greater of the two methods, therefore, ADD = 5,695 gpd

APPENDIX C  
WASTEWATER CALCULATIONS

## WASTEWATER CALCULATIONS

Per the 2000 Wastewater Flow Standards:

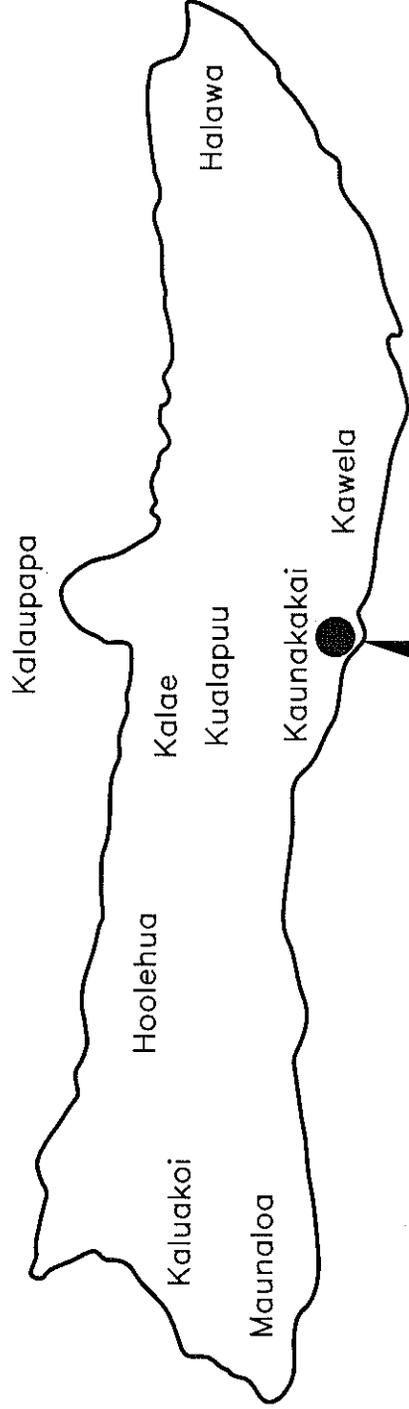
There is no wastewater standard for park use, therefore, the flow standards for a high school will be applied for this project.

Wastewater Contribution for high school is 25 gpd/student

Contribution = (25 gpd/student) x (60 students) = 1,500 gpd

## EXHIBITS

- 1 Location Map
- 2 Vicinity Map
- 3 Soil Survey Map
- 4 Flood Insurance Rate Map



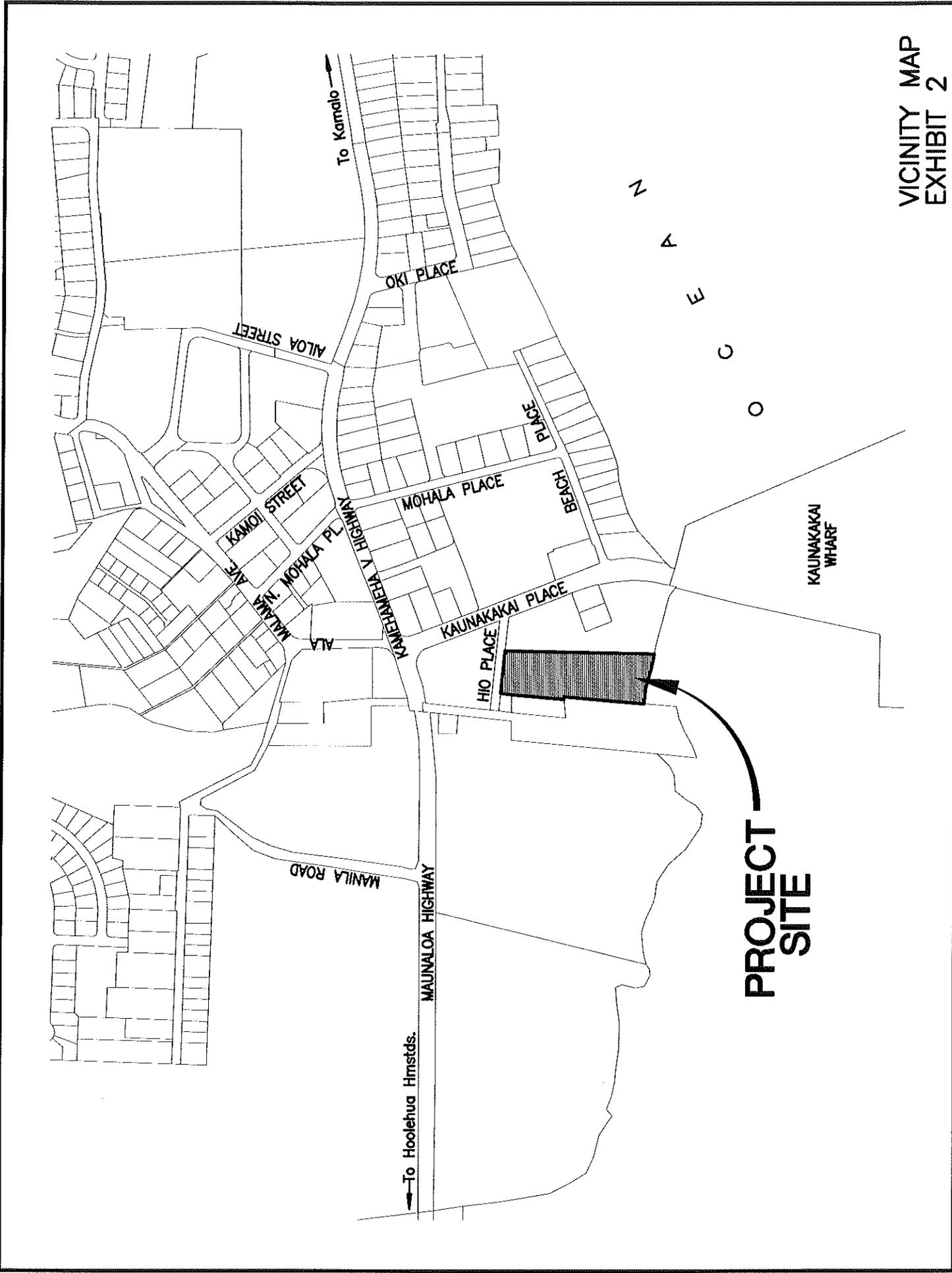
**PROJECT  
SITE**



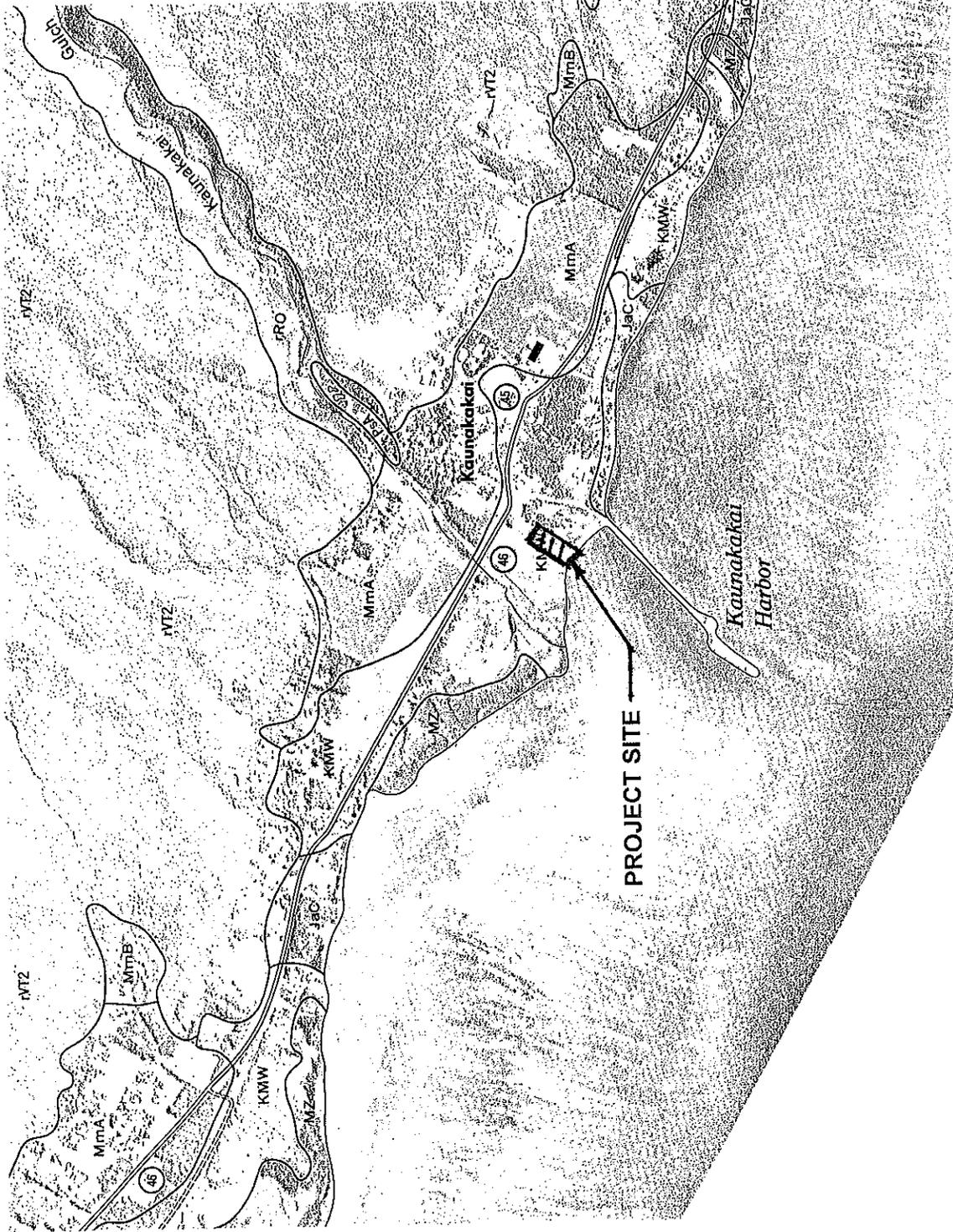
**ISLAND OF MOLOKAI**

NOT TO SCALE

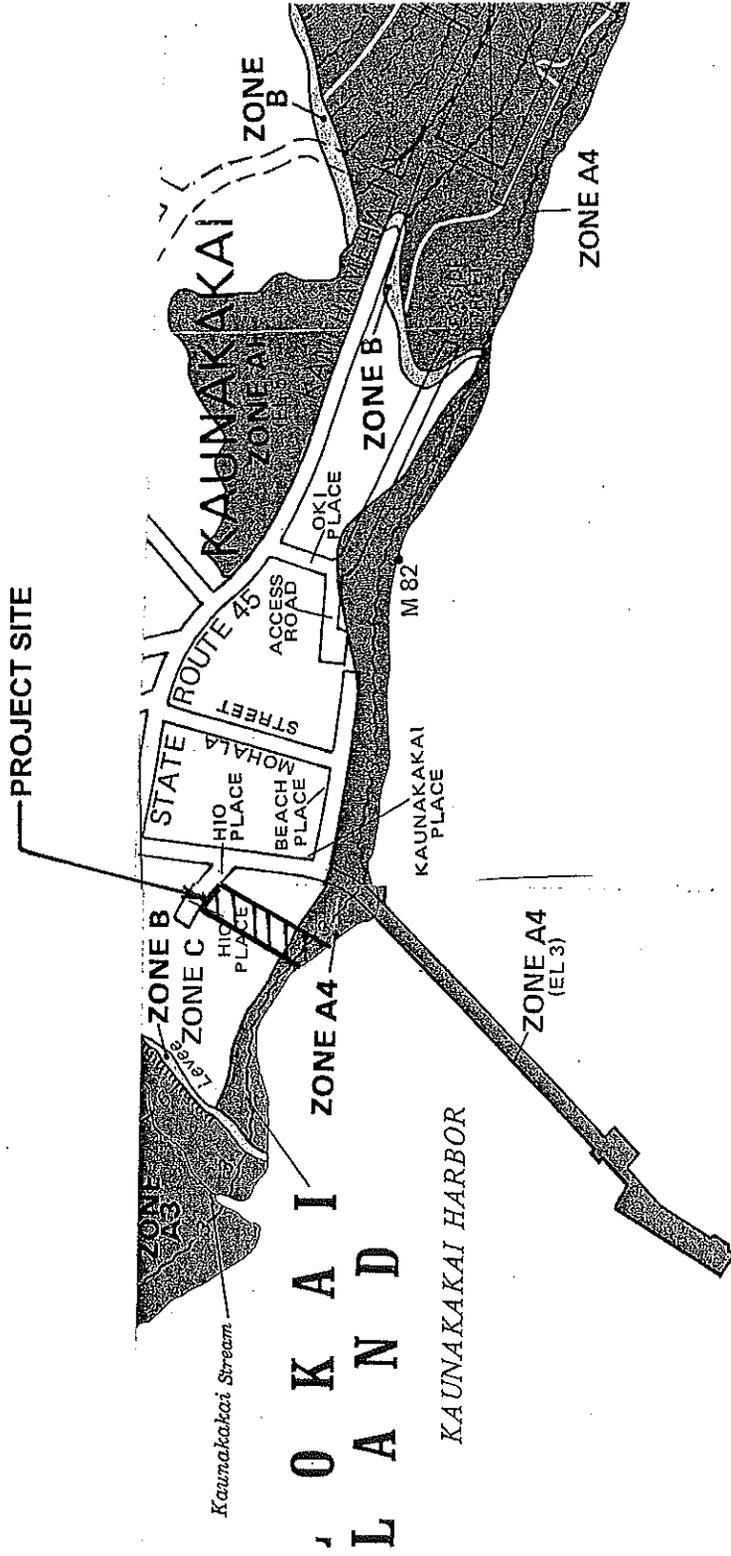
VICINITY MAP  
EXHIBIT 2

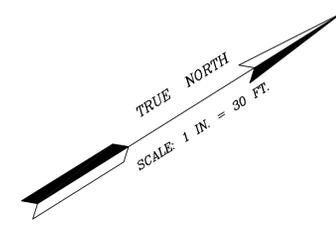
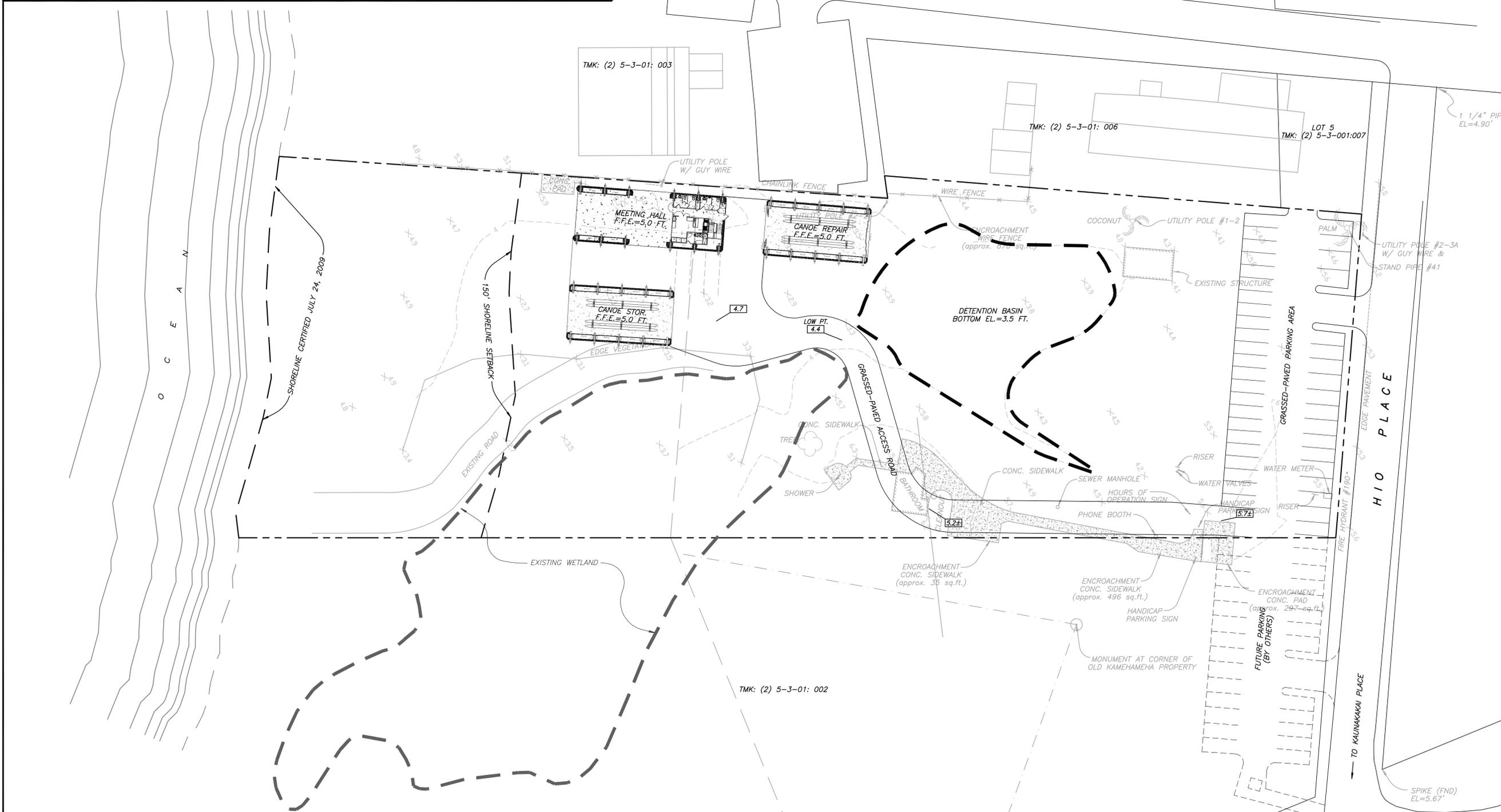
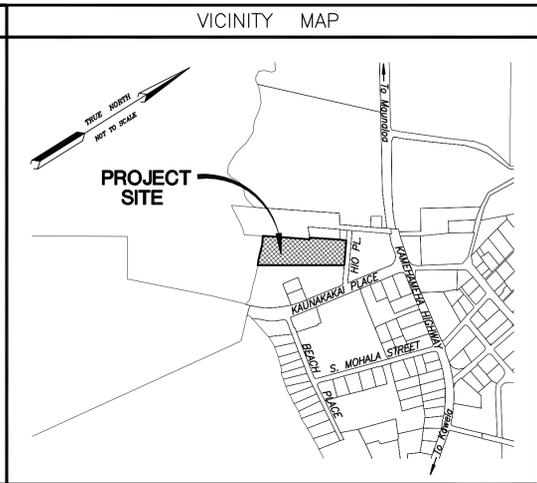
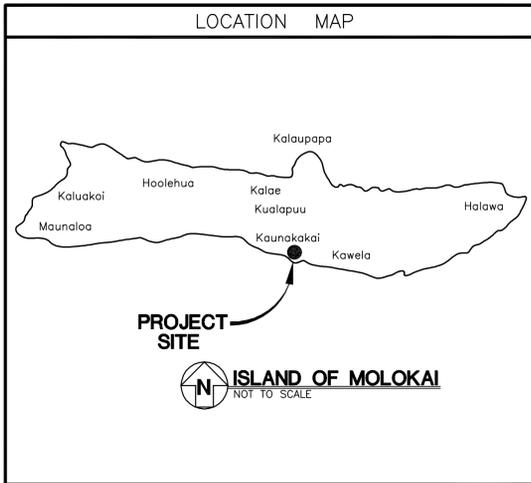


**PROJECT  
SITE**



SOIL SURVEY MAP  
EXHIBIT 3





**OTOMO**  
ENGINEERING, INC.  
CONSULTING CIVIL ENGINEERS  
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PHONE: (808) 242-0032  
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STACY A. OTOMO  
LICENSED PROFESSIONAL ENGINEER  
No. 5115-C  
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. POSSESSION OF CONSTRUCTION AS DEFINED UNDER SECTION 16-115-2 OF THE HAWAII ADMINISTRATIVE RULES, PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS, AND LANDSCAPE ARCHITECTS.

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

NOTE: THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AT THE JOB SITE BEFORE PROCEEDING WITH THE WORK.

**MALAMA CULTURAL PARK HALAU WA'A**  
**T.M.K.: (2) 5-3-01: 005**  
**KAUNAKAKAI, MOLOKAI, HAWAII**

PRELIMINARY GRADING & DRAINAGE PLAN

REVISION	DATE	NOTE

DESIGNED BY: S.A.O.  
DRAWN BY: L.C.O.  
PROJECT NO.: 2008-57  
DRAWING NAME: GRAD-00  
DATE: 11-6-09

**PRELIMINARY GRADING & DRAINAGE PLAN**  
SCALE: 1 IN. = 30 FT.

**Appendix G:**  
**Traffic Impact Assessment**



Maunakai & Associates  
Plan-Design-Preserve Cultural Sites & Buildings”  
121 Kapili Avenue Hilo, HI 96720  
Cell Phone: 808-341-9881 Email: franpalama@gmail.com

October 1, 2009

`Aha Kukui O Molokai  
P.O. Box 391  
Ho`olehua, HI. 96729

Attention: Mr. Adolph Helm, President

Re: Traffic Impact Assessment Report  
Halau Wa`a at the Malama Cultural Park  
Kaunakakai, Hawaii

Dear Mr. Helm:

Maunakai & Associates are pleased to submit this Traffic Impact Assessment Report (TIAR) for the proposed *halau wa`a* or canoe houses located within the Malama Cultural Park on Kaunakakai Beach.

A. Proposed Description

The proposed project is located on the south central shore of the island of Molokai. Based on the site plan provided, the project will consist of two (2) canoe halau or canoe houses totaling approximately 5,000 square feet and including approximately 1,000 square feet of meeting space. See attachments A and B. It is our understanding that this facility will be used for cultural ocean and land activities including but not limited to canoe building, canoe paddling, fishing, arts and crafts, hula, storytelling (mo`olelo) by the community, and educational programs.

In addition, the *halau wa`a* is located within a public park, Malama Cultural Park. Access to the site will be via Kaunakakai Place and Hio Place. Since, there is no standard formula in the Highway Capacity Manual for calculating traffic generated by a canoe *halau*, the reference number is based on a generic 5,000 square foot project.

B. Purpose and Objectives of Study

1. Estimate the amount of traffic that the proposed halau wa`a will generate.
2. Assess traffic levels-of-service (los) along the roadway providing access to and egress from the project.
3. Assess the operating conditions of the intersection within the halau wa`a.

## C. Methodology

### 1. Define the Study Area

The first step in defining the study area was to estimate the number of peak hour trips that the proposed project will generate. It was estimated that the segment description: Kamehameha V Highway, Kaunakakai Place and Ala Malama Avenue will generate a maximum 55 trips during the morning peak hours and 50 trips during the afternoon peak hours.

The study area is limited to the major intersections that the project will use to access the main highway: Kamehameha V/ Maunaloa Highway and Kaunakakai Place/Ala Malama Avenue intersections in the project boundaries.

### 2. Analyze Existing Traffic Conditions

Existing traffic volumes at the study intersections were obtained from the most recent counts completed June 23, 2008, by the State of Hawaii Department of Transportation (SDOT).

### 3. Estimate Year 2020 Background Traffic Projections

The background traffic conditions are defined as future traffic conditions without the proposed project and were estimated by super imposing background growth and traffic generated by related projects in the vicinity into existing traffic volumes.

The Year 2020 was used as the Molokai Long Range Land Transportation Plan. This does not necessarily represent the project completion date. It represents a date for which future background traffic projections were estimated.

### 4. Estimate Project-Related Traffic Characteristics

The number of peak hour trips that the proposed project will generate was estimated using standard trip generation procedures outlined in the *Trip Generation Handbook*.<sup>1</sup> Those trips were distributed and assigned based on the available approach and departure routes and existing approach and departure patterns as determined from the traffic counts.

### 5. Analyze Project Related Traffic Impacts

The project related traffic was then superimposed on Year 2020 background traffic volumes at the study intersections. The traffic impacts of the project were assessed by estimating the future levels-of-service at the study intersections. The purpose of this analysis was to identify potential operational deficiencies within the project, along the approach and departure road at the intersection of Kaunakakai Place and Kamehameha V and Maunaloa Highways.

D. Description of Existing Streets and Intersection Controls

The only existing intersection analyzed is the intersection of Kaunakakai Place/Ala Malama Avenue and Maunaloa/Kamehameha V Highway. A schematic diagram indicating the existing lane configuration and right-of-way controls at this intersection is presented as Attachment A.

Kamehameha V/ Maunaloa Highway is a two-lane, two-way roadway with an east-west orientation while Kaunakakai Place/Ala Malama Avenue has a north-south orientation. The intersection of these two roads is an un-signalized intersection with approaches having one-lane with separate right-turn lanes along any approach.

E. Existing Peak Hour Traffic Volumes

The existing traffic volumes are based on traffic counts completed Tuesday, 24<sup>th</sup> June 2008.

1. The traffic counts include buses, trucks, and other large vehicles. Mopeds and bicycles were not counted.
2. All intersections were counted from 6:00 am to 7:00 am and from 6:00 pm to 7:00 pm on weekdays. These hours were determined from SDOT traffic count data for this specific intersection..
3. The traffic volumes shown are the peak hourly volume of each movement rather than the peak sum of all approach volumes.
4. All volumes are rounded to nearest five (5) and all pedestrian activity was negligible.

F. Level-of-Service Concept

Level-of-Service is a term that denotes “a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience.

Level-of-Service for Two-Lane Highways

A concept used to define the quality of service for a two-lane highway. The three measures of service quality are the percent time delay, the operating speed, and the service flow rates or traffic volumes. Percent time delay is defined as “the average percent of the time that all vehicles are delayed while traveling in platoons” (HCM). Operating speed is subject to regulatory as well as physical design constraints. The percent time delay and operating speeds are more easily perceived by motorists. Each Level of Service is associated with a service flow rate under ideal highway and traffic flow conditions, expressed in terms of passenger cars per hour (pcph). The service flow rate is regarded as the maximum number of passenger cars that can be serviced by a two-lane highway under the given LOS condition. The LOS criteria for two-lane highways, under ideal conditions, are given in Table 1.

Table 1 Level of Service Criteria for Two-Lane Highways

Level of Service	Percent Time	Operating Speed	Service Volume
	Delay	(mph)	(pcph)
A	30%	60	420
B	45%	55	750
C	60%	52	1,200
D	75%	50	1,800
E	>75%	25-45	2,800
F	100%	Varies	<2,800

Table 2 Level-of-Service Definitions for Unsignalized Intersections

Level-of-Service	Expected Delay to Minor Street	
	Traffic	Delay (Seconds)
A	Little or no delay	<10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	See not (2) below	>51.1

Notes:

(1) Source: Highway Capacity Manual 2000

(2) When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing that they cause severe congestion affecting other traffic movements in the intersection. The condition usually warrants improvements at the intersection.

Table 3 Existing (2006) Levels-of-Service

Intersection and Movement	AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS
Kamehameha V Highway at Alamalama Ave.				
Eastbound Right & Thru	8.1	A	7.3	A
Westbound Left & Thru	6.2	A	9.1	A

Notes:

(1) Delay in seconds per vehicle

(2) LOS calculated using the operational method described in Highway Capacity Manual. Level of Service is based on delay.

G. Traffic Summary

Information collected by routes presenting average daily traffic and peak hour information by highway sections for state jurisdiction facilities, and includes:

- Section length - distance between two points on a facility
- ADT - average number of vehicles over a 24-hour period (Average Daily Traffic)
- Daily Vehicle - Miles of Travel – section length multiplied by the Average Daily Traffic
- T24 - percent of trucks in the Average Daily Traffic (includes buses but not smaller pickups and vans)
- AM Peak Hour K - percent of ADT represented by the highest one-hour traffic

- between midnight and noon
- AM Peak Hour T - percent of trucks in the AM Peak Hour traffic (includes buses but not smaller pick-ups and vans)
- PM Peak Hour K - percent of ADT represented by the highest one-hour traffic between noon and midnight
- PM Peak Hour D - directional distribution of traffic during the PM Peak Hour, expressed as percents
- PM Peak Hour T - percent of trucks in the PM Peak Hour traffic (includes buses but not smaller pick-ups and vans)

2008--- Program Count-Summary (SHDOT)

Location: Route 450 Kamehameha V Highway b/t Malamama Ave. M	Town: Molokai Count Type: Volume Counter Type: Tube	DIR 1: +MP DIR 2: -MP		
ADT	Volume	6,037		
	Vehicle Mi*			
	T 24	3.0	2.9	
*1000 /day				
TWO DIRECTIONAL PEAK AM PEAK HOUR	K	7.47		
	D	38/61		
	T	1.5		
TWO DIRECTIONAL PEAK PM PEAK HOUR	K	7.97		
	D	56/43		
	T	1.5		
ADT	2001	4,334		
	2003	5,990		
	2005	6,160		
	2007	n/a		
	2008	5,847		

H. Traffic Assessment of Future Conditions

All the intersections will be un-signalized and approaches will be one-lane with separate right turn lanes. The Level-of-Service A is the highest level of service, which means the intersections are expected to operate at a high level-of-service during the peak hours of time. The widening of the lanes to accommodate anticipated traffic volumes will not be required at this time.

I. Summary and Conclusions

1. The proposed project will consist of (1) 5,000 square foot *halau wa`a* (canoe house) and 1,000 square foot meeting space.
2. Based on trip generation data for a comparable development, the project will generate approximately 9 trips during the morning peak hour and 16 trips during the afternoon peak hour.
3. It is anticipated that all intersections will operate at Level-of-Service A, which is the highest level-of-service.

Respectfully submitted by,  
MAUNAKAI & ASSOCIATES

Francine M.P. Palama,  
Principal