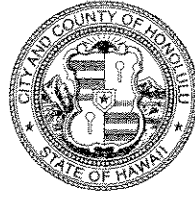


DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
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MUFI HANNEMANN
MAYOR

HENRY ENG, FAICP
DIRECTOR

DAVID K. TANGUE
DEPUTY DIRECTOR

2005/ED-16 (JP)

September 20, 2005

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
State of Hawaii
State Office Tower, Room 702
235 South Beretania Street
Honolulu, Hawaii 96813

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

2005 SEP 23 08:30

RECEIVED

Dear Ms. Salmonson:

Re: Chapter 343, Hawaii Revised Statutes
Environmental Assessment (EA) Determination
Finding of No Significant Impact
Manoa Heritage Center

Applicant	:	Manoa Heritage Center
Agent	:	PlanPacific, Inc.
Location	:	2829 Manoa Road - Manoa
Tax Map Key	:	2-9-19: 25, 35, 37, 38 and 43
Proposal	:	To allow a meeting facility (educational center to facilitate interpretive docent-led visitations of the Kukao Heiau, a registered historic site, and native plant garden) and jointly develop five (5) zoning lots
Determination	:	Finding of No Significant Impact (FONSI)

Attached and incorporated by reference is the Final EA prepared by the applicant for the project. Based on the significance criteria outlined in Title 11, Chapter 200, Hawaii Administrative Rules, we have determined that preparation of an Environmental Impact Statement is not required.

We have enclosed four (4) copies of the Final EA, a completed OEQC publication form and its related project summary on a diskette.

2005-10-08 OA FONSI MĀNOA HERITAGE CENTER

OCT -8 2005
FILE COPY

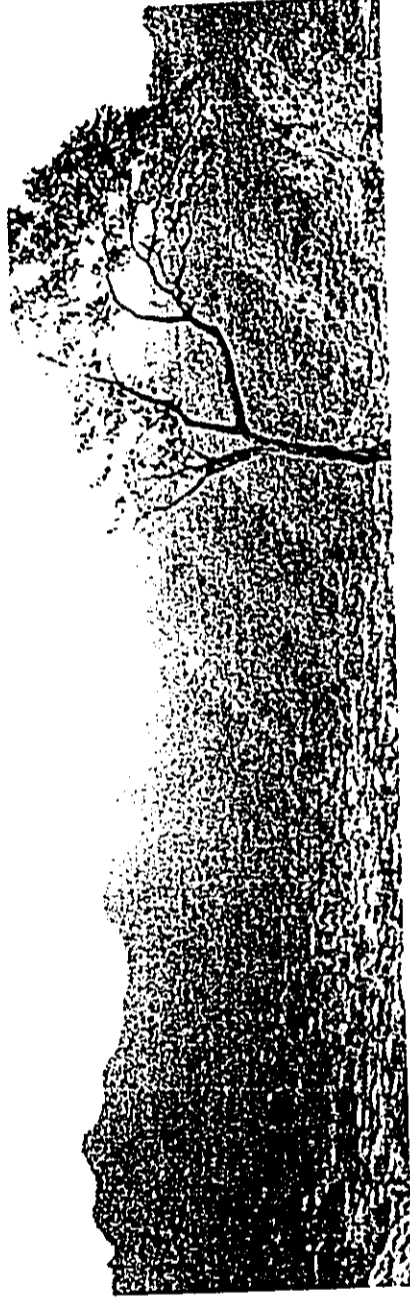


MĀNOA HERITAGE CENTER
FINAL REVISED ENVIRONMENTAL ASSESSMENT & SUPPORT DOCUMENT
FOR CONDITIONAL USE PERMIT (MINOR) APPLICATIONS

Prepared for the Mānoa Heritage Center by
PlanPacific, Inc.
September 2005

2005 SEP 16 PM 1 46

PLANNING
DEPARTMENT
CITY & COUNTY OF HONOLULU



MĀNOA HERITAGE CENTER

FINAL REVISED ENVIRONMENTAL ASSESSMENT & SUPPORT DOCUMENT
FOR CONDITIONAL USE PERMIT (MINOR) APPLICATIONS

Prepared for the Mānoa Heritage Center by
PlanPacific, Inc.
September 2005

TABLE OF CONTENTS

1.0 SUMMARY OF PROPOSED ACTION.....	1
2.0 GENERAL DESCRIPTION OF THE ACTION'S CHARACTERISTICS	3
2.1 TECHNICAL CHARACTERISTICS.....	3
2.1.1 Background.....	3
2.1.2 Description of the Property.....	3
2.1.3 Description of the Historic Site, Kūka'ō'ō Heiau.....	5
2.1.4 Description of the Planning Area.....	5
2.1.5 Description of the Proposed Action.....	6
2.1.6 Special Events	12
2.1.7 Overall Goal	12
2.1.8 Construction Activities	12
2.1.9 Construction Timetable and Funding Source	12
2.2 ECONOMIC CHARACTERISTICS.....	12
2.2.1 Employment.....	12
2.3 SOCIAL CHARACTERISTICS.....	12
2.3.1 Population and Housing.....	12
2.3.2 Other Community Facilities and Services	13
2.4 CULTURAL AND HISTORIC CHARACTERISTICS	13
2.5 ENVIRONMENTAL CHARACTERISTICS.....	13
3.0 SUMMARY DESCRIPTION OF THE AFFECTED ENVIRONMENT, IMPACTS, AND MITIGATION.....	14
3.1 CLIMATE.....	14
3.2 TOPOGRAPHY.....	14
3.3 SOILS AND GEOLOGY	14
3.4 HYDROLOGY AND DRAINAGE.....	14
3.5 NATURAL HAZARDS.....	14
3.6 FLORA AND FAUNA.....	15

3.7	ARCHAEOLOGICAL AND HISTORIC RESOURCES.....	15
3.8	NOISE.....	15
3.9	AIR QUALITY.....	15
3.10	VISUAL RESOURCES.....	15
3.11	SOCIAL AND EMPLOYMENT CHARACTERISTICS.....	15
3.12	CHARACTER OF THE COMMUNITY.....	16
3.13	INFRASTRUCTURE.....	16
3.13.1	Roadways, Traffic, and Parking.....	17
3.13.2	Water Supply.....	17
3.13.3	Wastewater Treatment and Disposal.....	17
3.13.4	Drainage Facilities.....	17
3.13.5	Solid Waste Disposal.....	17
3.13.6	Electrical/Communication.....	17
3.14	PUBLIC SERVICES.....	17
3.14.1	Police and Fire.....	17
3.14.2	Schools.....	17
3.14.3	Recreational Facilities.....	18
3.14.4	Medical Facilities.....	18
3.15	OVERALL SHORT-TERM AND LONG-TERM MITIGATION MEASURES.....	18
3.16	SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED.....	18
3.17	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES.....	18
4.0	ALTERNATIVES TO THE PROPOSED ACTION.....	18
4.1	ALTERNATIVES CONSIDERED.....	19
4.1.1	The Original Plan.....	19
4.1.2	The No-Action Alternative.....	19
5.0	SIGNIFICANCE CRITERIA.....	20
		21

5.1	SIGNIFICANCE CRITERIA.....	21
6.0	LIST OF ALL APPROVALS AND PERMITS REQUIRED	24
7.0	APPLICANT'S JUSTIFICATIONS	25
7.1	COMPLIANCE WITH THE LAND USE ORDINANCE.....	25
8.0	SUMMARY OF FINDINGS AND ANTICIPATED DETERMINATION	27
9.0	REFERENCES.....	29

APPENDICES

A	Summary of Hawaiian Religious Protocol Appropriate for Interpretive Programs at Kūka'ō'ō Heiau, Mānoa, O'ahu
B	Approval Letter from the State Historic Preservation Division
C	Site Registration Form for Listing on the Hawai'i Register of Historic Places
D	Visual Survey
E	Inventory of Plants in Botanical Garden
F	Contacts/Comments Received
G	Transportation Demand Management Plan

LIST OF FIGURES

Figure 1: Location Map.....	3
Figure 2: Tax Map Keys	4
Figure 3: Site Plan for Mānoa Heritage Center.	9
Figure 4: Floor Plan for Administrative Center and Caretakers' Residence	10
Figure 5: Maneuvering Diagram and On-Site Photos of Proposed Passenger Bus for Visitor Groups.....	11

1.0 SUMMARY OF PROPOSED ACTION

Applicant:

Mānoa Heritage Center
 2829 Mānoa Road, Honolulu, Hawaii 96822
 Contact: Victoria Kneubuhl, (808) 988-1287

<u>TMK</u>	<u>Area</u>	<u>Owner(s)</u>	<u>Existing Use</u>
2-9-19: 25	.38 ac	Kuali'i Family LLP	residence
2-9-19: 35	1.32 ac	Samuel A. and Mary M. Cooke	residence
2-9-19: 37	.39 ac	Kuali'i Foundation	vacant
2-9-19: 38	.43 ac	Kuali'i Foundation	vacant
2-9-19: 43	.52 ac	Kuali'i Foundation	Heiau, garden

Tax Map Keys, Area, Landowners, and Existing Uses:

Proposed Action:

The proposed use will allow limited, docent-controlled school group and public visitation of the Kūka'ō'ō Heiau, a historic site, located on TMK 2-9-19: 43 for educational purposes. In support of the new use, an existing dwelling on TMK 2-9-19: 25 will be adaptively reused for a both a caretakers' residence and a facility for conducting meetings, visitor presentations, a docent office and storage. The project also proposes joint development of five parcels as listed above.

State Land Use District:

Urban District

County Development Plan Designation:

Lower-Density Residential

County Zoning:

Residential District R-7.5

SMA: The project is not located within the Special Management Area.

Historic Site: The project involves a Historic Site.

Approving Agency: City and County of Honolulu Department of Planning and Permitting

Agencies, Organizations, & Individuals Consulted: State Historic Preservation Division
City and County of Honolulu Department of Planning and Permitting
Mānoa Neighborhood Board
Immediate surrounding neighbors

Anticipated Determination Finding of No Significant Impact (FONSI)

2.0 GENERAL DESCRIPTION OF THE ACTION'S CHARACTERISTICS

2.1 TECHNICAL CHARACTERISTICS

2.1.1 Background

This document is a revision of a previous environmental assessment (EA) that was published as a Final EA in March 2000. The earlier EA described a project that is very similar to what is currently being proposed. The differences between the earlier and current proposals are summarized in Section 2.1.5.

An EA is required under Chapter 343, Hawai'i Revised Statutes because the proposed use involves the use of a Historic Site, the Kūka'ō'ō Heiau, which is listed on the Hawaii and National Registers of Historic Places. The EA is also prepared in support of applications for two City and County of Honolulu Conditional Use Permits (Minor). The CUPs would allow the "Meeting Facility" use in a Residential District and the joint use of five contiguous lots.

On March 17, 2000 (Case No. 1999/CUP-30), the Department of Planning and Permitting (DPP) approved a Conditional Use Permit (CUP) - Minor for the Mānoa Heritage Center as it was originally proposed. In March 2005, in response to Mānoa Heritage Center's proposal to modify their plan, DPP determined that a Revised EA and a new CUP would be required (see letter in Appendix G.)

2.1.2 Description of the Property

The subject properties are part of the Kualii Estate which is located between Mānoa Road and O'ahu Avenue on the western slopes of Mānoa Valley. It is within one of Honolulu's older residential neighborhoods (see Figure 1).

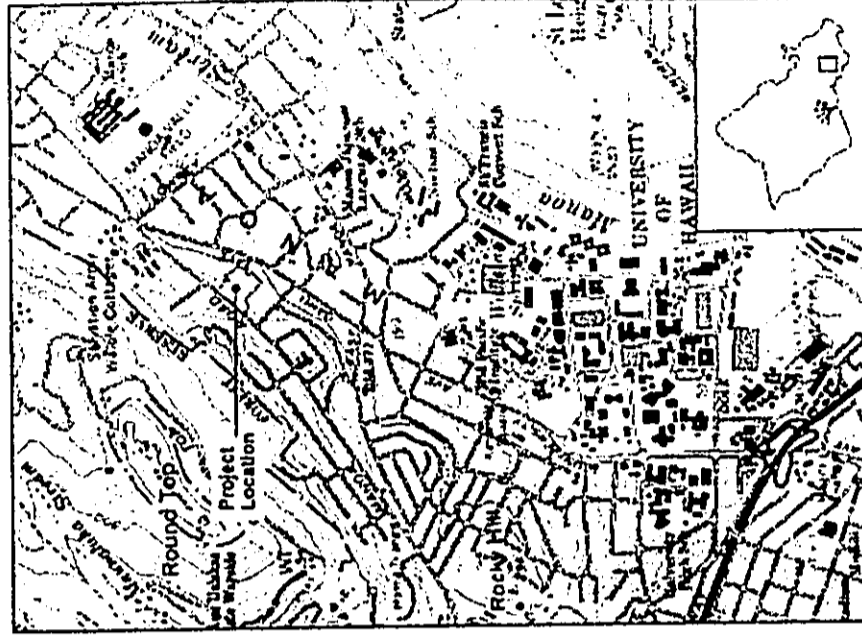
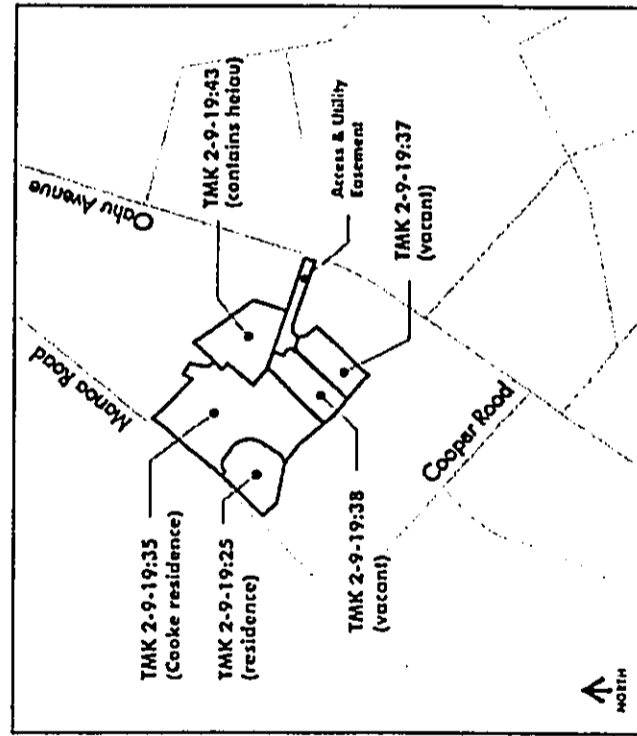


Figure 1:
Location
Map.

The estate encompasses five parcels of adjacent land totaling approximately 3 acres, as shown in the table and map below:

Figure 2: Tax Map Keys

TMK Number	Area (sf)	Area (ac)	Use
2-9-19: 43	22,800	0.52	Kūka'ō'ō Heiau
2-9-19: 38	18,740	0.43	vacant
2-9-19: 37	17,000	0.39	vacant
2-9-19: 35	57,623	1.32	main residence
2-9-19: 25	16,537	0.38	residence



The main residence on parcel 35 is owned and occupied by the Samuel A. Cooke family. It is also a historic structure that is listed on both the National and State Registers of Historic Places (see Appendix C). In 1992 Samuel Cooke acquired parcel 43, which contains Kūka'ō'ō Heiau, and vacant parcels 37 and 38 in 1997 from Eugene Yoshioka Subdivision. Samuel Cooke's interest was to preserve the heiau. In 1992 he commissioned Paul Cleghorn Consulting to conduct an archaeological inventory survey of the heiau and develop a preservation plan.

In 1996, two non-profit foundations, the Kualii'i Foundation and the Mānoa Valley Cultural Heritage Foundation (later renamed "Mānoa Heritage Center"), were created for the purpose of historic preservation and education. Kualii'i Foundation maintains the financial and land assets to support the Mānoa Heritage Center. Sam and Mary Cooke are currently members of the Board for both foundations. Ownership of parcels 43, 37 and 38 has already been transferred to the Kualii'i Foundation, and ownership of parcel 25 will be transferred when the proposed new CUP is approved. Parcel 35 will remain as a private residence for the Samuel A. Cooke family, but is included in the CUP application because it will provide necessary vehicular and pedestrian access for the operation of the Mānoa Heritage Center.

The subject area slopes down from west to east, following the natural slope from the almost adjacent Round Top ridge in the northwest to the valley floor in the southeast. Parcels 25, 35 and 43 are at a higher elevation and slope down to adjacent parcels 37 and 38.

Parcel 43 contains the Kūka'ō'ō Heiau and a botanical garden containing plant species that are native or endemic to Hawai'i, some of which are rare. Parcels 37 and 38 are currently vacant. Access to these parcels is provided by a private concrete driveway from O'ahu Avenue that also serves a residential lot at 2862 O'ahu Avenue.

Vehicular access to parcels 25 and 35 is from Mānoa Road. Views of the residences on these two lots from the road are largely obscured by a rock masonry wall and a growth of mature vegetation along the road frontage. Thus, while the subject site area is large and is situated between two well-traveled roads, it is also quite secluded and only a very limited portion of the site interior can be seen from the roads.

The existing land use designations for the subject area are as follows:

- a. State Land Use District – Urban
- b. PUC Development Plan – Lower-Density Residential
- c. County Zoning – Residential District R-7.5
- d. Special Management Area – N/A
- e. Other Special Districts – N/A

2.1.3 Description of the Historic Site, Kūka'ō'ō Heiau

The Kūka'ō'ō Heiau measures approximately 40 by 45 feet and its walls vary from 4 to 4½ feet in height. The heiau is archaeologically and ethnically Native Hawaiian and significant, having legendary as well as prehistoric

associations with Mānoa Valley and O'ahu island. It reflects a major trend in Hawaiian history, when political power was transformed from a familial orientation to the formal stratified kapu system. It is one of the few extant traditional religious structures in the Kona District of O'ahu island.

Kūka'ō'ō is also a significant heiau in that, according to Hawaiian oral history, it was built by menehune. It is said that later in the 17th century, the menehune at Kūka'ō'ō were defeated by the great O'ahu chief Kualii'i, who rebuilt the heiau perhaps to restore prosperity. Kūka'ō'ō served as an agricultural heiau for Kualii'i. As such, it was used for rituals aimed at increasing agricultural crops and not for rituals of governance. It was primarily used by ali'i or chiefs, rather than commoners, including farmers.

Over time, the heiau fell into disuse and vegetation around the heiau took over, but in 1993 the Cookes began to clear the vegetation and restore the heiau area. In 1994, Samuel Cooke commissioned the restoration of the heiau itself by stone mason Billy Fields and his team of restoration specialists from the island of Hawai'i. The restoration was completed that same year. The heiau was placed on the Hawai'i State Register of Historic Places in 1995, under amendment to State site number 80-14-1368 (the main residence). It was subsequently listed on the National Register.

2.1.4 Description of the Planning Area

Presently, immediate surrounding uses are residential,

with Mānoa Road forming the northwestern boundary. Other nearby uses within a half-mile radius include the Waioli Tea Room, wedding chapel, and Salvation Army family treatment service to the north; the Mānoa Elementary School/Mānoa Recreation Center/Mānoa Valley District Park and Mānoa Gardens Elderly Housing to the east; and the Mānoa Market Place/Mānoa Innovation Center to the south.

Nearby religious institutions include the Koganji Buddhist Temple across O'ahu Avenue to the east, as well as the Japanese Seventh Day Adventist Church, Mānoa Valley Church, St. Pius X Catholic Church and Religious Society of Friends.

2.1.5 Description of the Proposed Action

The proposal is to introduce an interpretive program for the Kūka'ō'ō Heiau and native Hawaiian botanical gardens. It proposes to allow small-scaled docent-led public visits of the estate to promote education about the Kūka'ō'ō Heiau, including its greater Mānoa Valley context. Information on the geological, ecological, and human-altering development of Mānoa Valley also would be shared in order to foster a greater understanding of the heiau and appreciation of the area's role in history. See Appendix A.

The focus is on educating school children, with fourth graders being the target audience. Adult groups will also be accommodated, depending on demand. Visiting school groups would not exceed 30 people at a given

time. Adult groups are expected to be no more than half that size. During the week, an average of about 120 student and 50 adult visitors is expected.

Figure 3 depicts the site layout for the Center, showing the relationship of the Center's support building to the heiau, garden trail, and other site features.

The docent-led tours would be offered Monday through Friday with the possibility of an occasional weekend day. The tours would be by appointment only and occur in morning and afternoon groups. The tours would begin no earlier than 8:30 a.m. and would end no later than 4:30 p.m. Visitors would follow a guide along a designated path to view the heiau and native Hawaiian garden. It is envisioned that the Kūka'ō'ō Heiau tour would be a part of a bigger day tour for school groups that would include visiting other nearby sites such as the Hawaii Nature Center and Lyon Arboretum.

Components of the tour will include the following: orientation exhibit, video, heiau and garden tour. The length of a tour will be 45 minutes to one hour, but groups may have the option to extend their time on the site to two hours. In certain instances, arrangements may be made for special programming for school and adult groups, or school groups might wish to eat lunch on the site. It is the intent to operate the educational program for school children free of charge. Adult groups may be charged a fee in order to sustain the cost of operating the educational program and maintaining the grounds. A specific fee structure has not yet been determined, but it

volunteer docents, but, as indicated above, only one or two will be on site at a given time. The director, program manager, program assistant and the groundskeeper will be paid staff. The latter two (a couple) would reside on premises and serve as 24-hour caretakers for the facilities.

No new structures or exterior architectural changes are proposed. However, the interior of the existing dwelling on parcel 25 would be altered to set aside approximately 1,500 square feet as the caretakers' residence and use the balance of the floor area for a meeting room, offices and storage areas for Center operations (see Figure 4.) The offices and meeting room would provide covered, enclosed working space for the Center administrator and docents, as well as an assembly area for visiting groups and the Kualii Foundation Board. A size breakdown of the interior spaces is shown in the table on the following page.

Tours will be conducted in small groups by appointment only. School groups will arrive in buses with a maximum capacity of 24 passengers. There will be one school tour per day. Two of the adult tours will arrive in passenger vans or small buses with a limit of 15 passengers. One adult tour a day will allow for up to 20 visitors with a restriction of five passenger vehicles. The maximum visitor count in one day will not exceed 75 persons. The maximum vehicle count in one day will be one small school bus, two passenger vans or small buses and five cars, all arriving and departing at different times of day.

Visitors would enter the site from the main front gate

would be comparable to fees charged for similar non-profit museums and facilities. In addition, donations and volunteer services would be accepted to help with maintenance costs and program operations.

A total staff of about five to six people, whose duties are described below, will be on site during typical daily operations:

Duties and Responsibilities

Director of Educational Programs
 Coordinate day-to-day operations, budget management and grant writing, develop future programs (e.g. continuing historical research, exploring visitor opportunities), coordinate with other interpretive organizations (e.g. government agencies like State Parks, private museum organizations, and neighborhood groups), and overall management of tours and site protocol.

Program Manager
 Schedule visits, conduct off-site presentations, coordinate docents, help develop interpretive program and material.

Program Assistant
 Assist the Director with administrative responsibilities.

Docents (1-2)
 Greet visitors, lead visiting groups.

Groundskeeper
 Maintain landscaping and plant(s) and assist in the interpretation and documentation of the botanical garden.

Approximately 10 to 12 people will be trained to serve as

along Mānoa Road. The width of the gate and the site distance along the road frontage are adequate to accommodate the safe entry and exiting of a 24-passenger bus. There is also sufficient space on site to allow two alternative turn-around areas for the bus so that it can exit onto Mānoa Road in a forward manner. Figure 5 depicts a maneuvering diagram for the passenger bus and photos of an actual demonstration of a 24-passenger school bus entering and exiting the main gate to the premises. This bus model is available through either of the two companies on O'ahu that provide student transportation services to the Department of Education.

Because visitation to the Center will be handled in this manner, the CUP application requests DPP to adjust the required parking ratio to correspond to the Center's unique parking demand rather than the conventional parking ratio formula based on the use allocation of floor area. The City and County of Honolulu's Land Use Ordinance allows such adjustments to be made through the CUP review process.

Adjustment of the parking requirement will enable the preservation of existing landscaped areas, since the number and size of parking spaces that would actually be needed for the Center, based on parking demand, can be accommodated within existing paved areas on the site and minimize interference with the adjacent Cooke residence.

The following tables compare the number and type of parking spaces under the conventional floor area method

and the proposed parking demand method.

Parking Based on Floor Area (i.e., without adjustment):

Use	Standard Requirement	Proposed Area (sf)	Parking Spaces
Caretaker's residence	2 per dwelling	1,496	2
Meeting room	1 per 75 s.f.	576	8
Office	1 per 400 s.f.	245	1
Accessory (e.g., storage, bathrooms, lanai, garage)	none	1,314	--
			Total: 11

Parking Based on Demand (i.e., with adjustment):

Use	Parking Spaces/Type	Dimensions/Location
Off-site staff (paid and volunteer)	4 std.	8.25 ft. x 18.0 ft. driveway, garage
Resident staff	1 std.	8.25 ft. x 18.0 ft. garage
Visitors	5 std.; 1 bus/van	8.25 ft. x 18.0 ft. 12 ft. x 20 ft. all in driveway

The only exterior alteration of the site will be the eventual replacement of exotic species on parcels 37 and 38 with garden exhibiting typical plants cultivated by Hawaiians of an earlier era. Even so, two existing mature Monkeypod trees on these lots will remain.

Figure 3: Site Plan for Mānoa Heritage Center

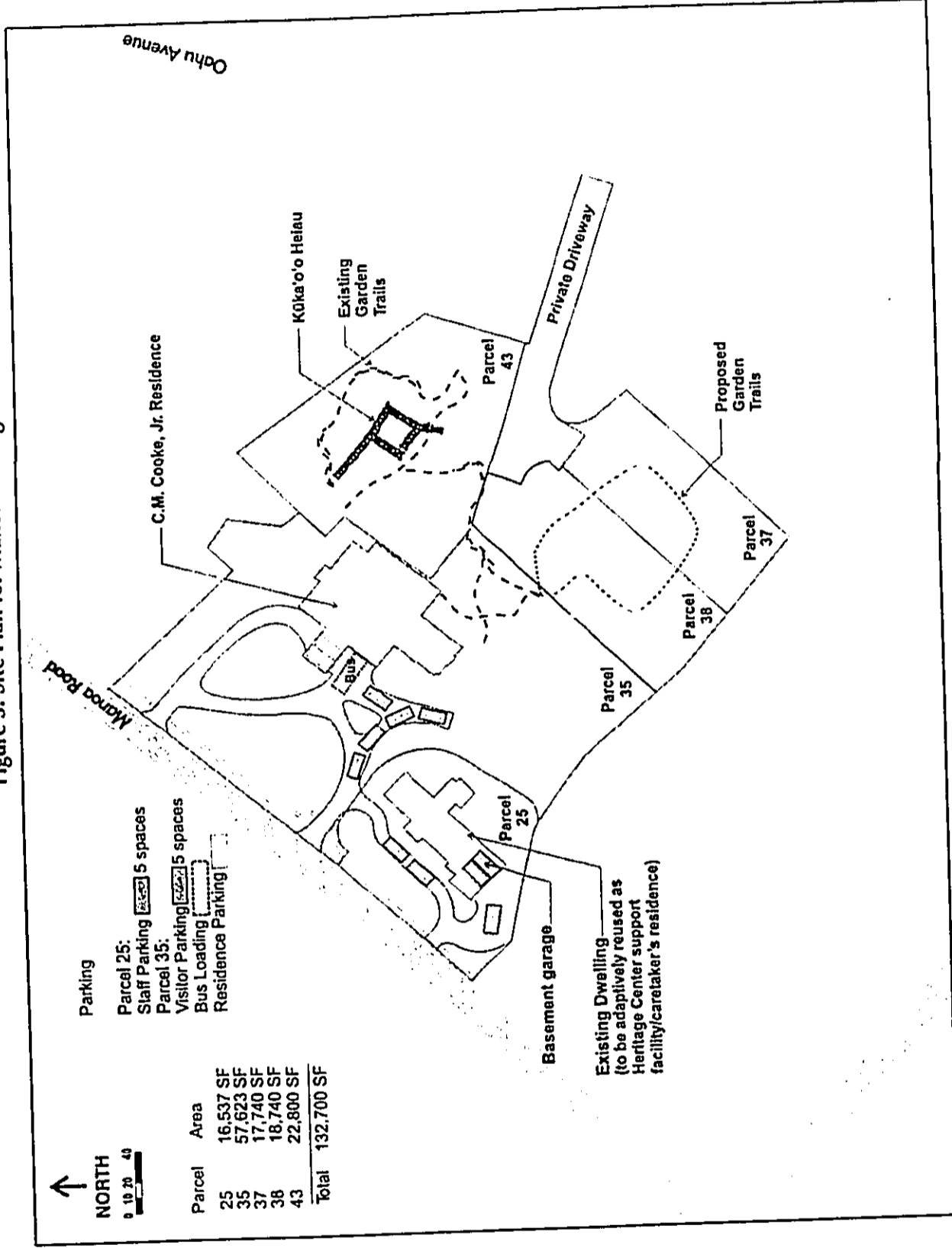
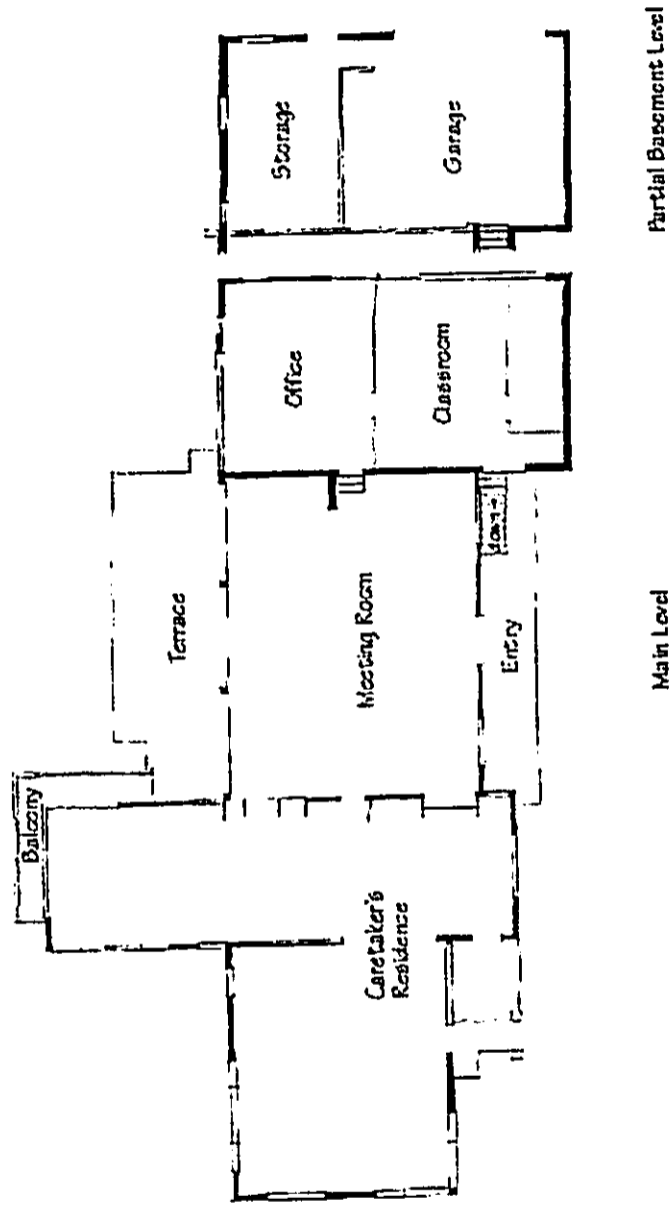
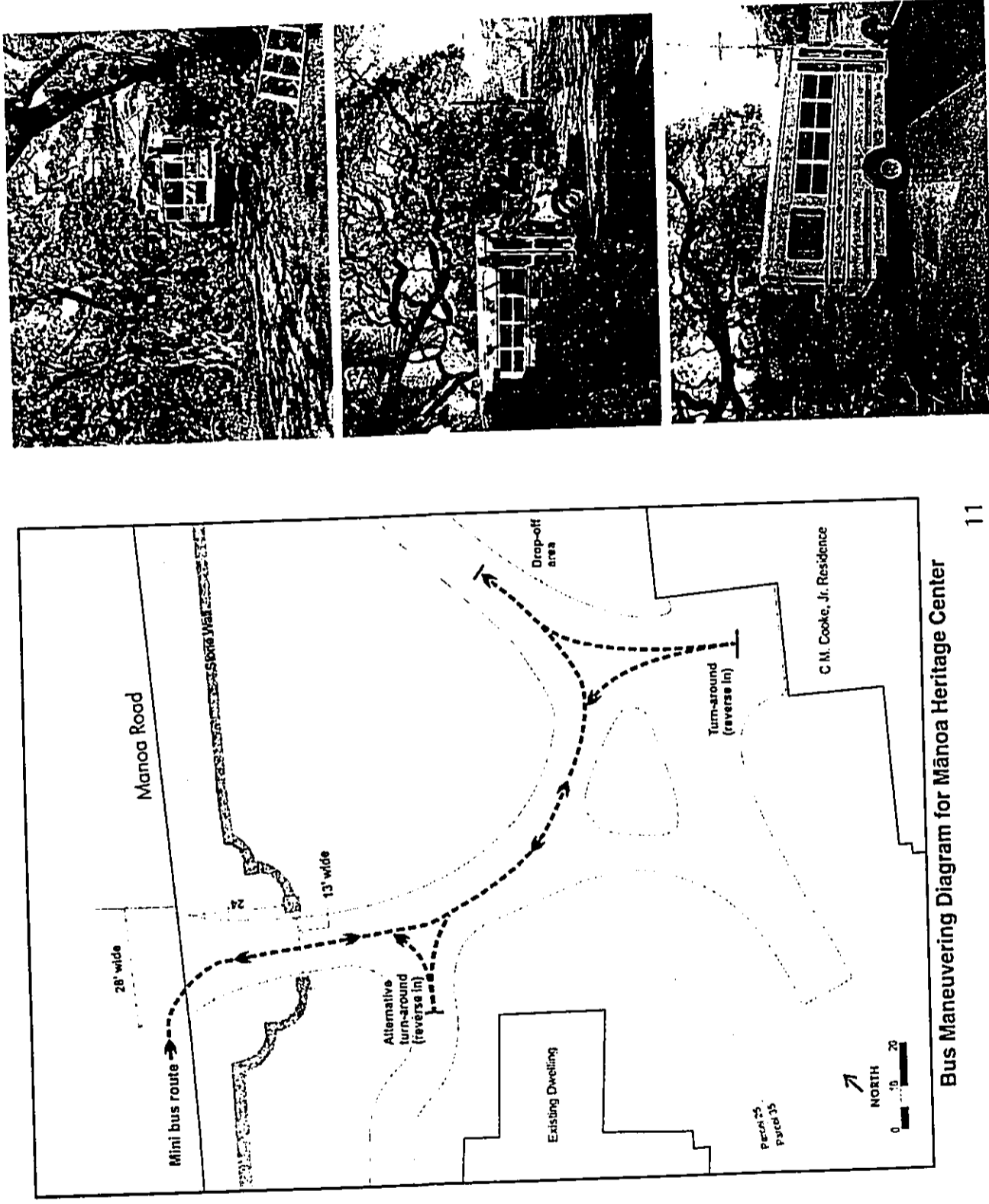


Figure 4: Floor Plan for Staff Residence and Administrative Center



Scale 1/8" = 1'-0"

Figure 5: Maneuvering Diagram and On-Site Photos of Proposed Passenger Buses for Visitor Groups



Bus Maneuvering Diagram for Manoa Heritage Center

2.1.6 Special Events

The Cooke family sometimes holds large private dinner-time gatherings at their home. These gatherings generally occur about six times a year. As many as 100 people attend. Usually, these events are related to community-related activities in which the Cookes are involved, particularly historic preservation. Mary Cooke as a current board member of both Historic Hawai'i Foundation and the National Trust for Historic Preservation and past president of Mālama o Mānoa, has hosted dinner events for each of these organizations at the home.

When these gatherings occur, parking attendants direct arriving guests to park theatre-style in the front lawn of the residence and assist in directing exiting traffic after the event has ended. This activity could continue without the need for a CUP; however, it is mentioned here to provide an understanding of the context for the proposed Mānoa Heritage Center program.

2.1.7 Overall Goal

The overall goal established by the applicant is to preserve the Kūka'ō'ō Heiau and native Hawaiian botanical gardens and enhance community awareness of the history and culture of the Hawaiian people and its relationship to Mānoa Valley. Limited public access in order to educate interested people and school groups would help achieve this goal.

2.1.8 Construction Activities

Construction activities would occur only on parcel 25, and would be limited to interior alterations. Mitigative measures will be implemented as applicable during construction to assure minimal impacts from dust and noise on the surrounding residences.

2.1.9 Construction Timetable and Funding Source

Actual construction is expected to occur over a duration of one to two months. Funding for construction and improvements will be provided by the Kualii'i Foundation.

2.2 ECONOMIC CHARACTERISTICS

2.2.1 Employment

The proposal is likely to create about four paid positions, two of which will be compensated partially by free lodging on the premises, and several part-time volunteer positions.

2.3 SOCIAL CHARACTERISTICS

2.3.1 Population and Housing

The proposed action involves properties that are in the City and County of Honolulu Residential District, however, no new residential structures are being

proposed, nor are any dwellings being removed. The proposed use and its staffing will not increase the resident population of the area nor will it increase the demand for housing in the area.

2.3.2 Other Community Facilities and Services

The subject area is served by the Mānoa Fire Station, Engine Company Number 22 and the Honolulu Police Department's District 7 – Honolulu Office (Mānoa Mō'ili'i to Hawai'i Kai). The fire station is located approximately a half-mile away, at 2850 East Mānoa Road. The proposed use will not significantly increase the demand for these or other community facilities and services including medical, libraries, parks, and schools.

2.4 CULTURAL AND HISTORIC CHARACTERISTICS

The subject area contains two structures of historical and cultural significance. The Kūka'ō'ō Heiau is a link to the long ago Hawaiian landscape and link to a time and culture of menehune builders and owl gods. It is also a reminder of a Hawaiian historical past of great chiefs in the centuries just before western contact. Scientific research ties the heiau to a spectrum of religious sites that reflect political and social change in Hawaiian prehistory. The heiau is also a reflection of the evolution of the Mānoa community. The proposed action seeks to preserve the Kūka'ō'ō Heiau, an uncommon feature in urban Honolulu.

The other significant historic feature is the C.M. Cooke,

Jr. residence and grounds. The proposed Mānoa Heritage Center will not alter the physical appearance of this site in any way, and the residence itself will continue to be well maintained by the current owners, who are themselves active supporters of the proposed Mānoa Heritage Center and its programs.

2.5 ENVIRONMENTAL CHARACTERISTICS

The site contains some rare native and endemic plants, but they are cultivated rather than naturally occurring, and the nurturing of these plants is one of the objectives of the Mānoa Heritage Center program. Other than the presence of these plants, there are no environmentally unique characteristics associated with the site. It is not located in an environmentally sensitive zone such as a tsunami zone, erosion prone area, geologically hazardous land, estuary, potable groundwater recharge area, or sensitive habitat for flora and fauna. The entire subject area is located in Flood Zone X, which is defined as an area outside of the 500-year flood plain.

The soils in the subject area are classified as Tantalus silty clay loam¹. Runoff from this soil type is classified as medium and erosion hazard is moderate.

No major earthwork is planned and the valley's natural land forms will not be affected.

¹ Paul Cleghorn Consulting, *Archaeological Inventory Survey in Mānoa Valley, Oahu, TMK: 2-9-19:36, and Preservation Plan for Kūka'ō'ō Heiau*, March 1992.

3.0 SUMMARY DESCRIPTION OF THE AFFECTED ENVIRONMENT, IMPACTS, AND MITIGATION

3.1 CLIMATE

The area is characterized by warm temperatures and rains of approximately 40 to 60 inches per year². Design of the proposed structures will be typical for a tropical climate. The proposed action will have no effect on climatic conditions and no mitigative measures are necessary.

3.2 TOPOGRAPHY

On-site elevations range from 204 to 210 feet above sea level. Earthwork and grading will not be necessary as no construction is proposed. Thus, no mitigative measures are necessary.

3.3 SOILS AND GEOLOGY

Soil suitability studies serve mainly to describe the relative productivity of different land types for agricultural production. The subject parcels are in the middle of a residential area and will not be used for agricultural production, although there will be a small exhibition of a Hawaiian garden on parcels 37 and 38. Since the subject site is in a well-established residential area, and was previously developed, the proposed action will not

² Juvik, Sonia P. and James O. Juvik, *Atlas of Hawaii*, Third Edition, Honolulu: University of Hawaii Press, 1998

contribute to a loss of agricultural lands. The soil is generally suited for the proposed construction, and any impact due to construction will be negligible.

3.4 HYDROLOGY AND DRAINAGE

The site generally slopes from west to east and surface run-off drains via existing grassed swales. There are no perennial streams and/or intermittent gulches of appreciable size on the properties.

The velocity and volume of on-site flows is not expected to increase, since no new structures or paved areas will be built.

3.5 NATURAL HAZARDS

The subject properties are not unusually susceptible to potential natural hazards (tsunamis, floods, volcanic events and earthquakes). For example, the site is located outside the tsunami zone; there are no perennial streams and/or intermittent gulches on the properties, and no flood prone areas within the site boundaries. The site is also located outside of significant lava-flow and other volcanic event hazard areas.

The proposed action will not exacerbate any hazard conditions. Planning and design for the proposed

structures will implement County building standards to mitigate any potential damages.

3.6 FLORA AND FAUNA

While there are some rare plants in the site's botanical garden, the plants are not large enough to constitute a unique or special habitat feature essential to native wildlife. The existing exotic flora on the vacant parcels 37 and 38, with the exception of the mature trees, will be removed and replaced with grass, ornamental shrubs, and native Hawaiian vegetation. The landscaping that will replace the existing vegetation will enhance the area and augment the cultivated native botanical garden of the parcel that contains the heiau.

3.7 ARCHAEOLOGICAL AND HISTORIC RESOURCES

The Kūka'ō'ō Heiau and historic features on the site will remain intact. The very purpose of the proposed use is to preserve these sites and promote education and greater understanding of these features, as well as the plants in Native Hawaiian botanical garden, and their role in the area's history. The Kual'i Foundation has been working in conjunction with the State Historic Preservation Division (SHPD) to restore and preserve the heiau. Archaeological consultant Paul Cleghorn has prepared an inventory and preservation plan approved by the SHPD, and International Archaeological Research Institute, Inc. prepared an interpretive master plan. Sam Gon III researched Hawaiian religious protocol associated with

the heiau, which is included in Appendix A. The SHPD has reviewed and approved the proposed use. A copy of the approval letter is included in Appendix B. The historic residence and grounds on parcel 35 (C.M. Cooke, Jr. Residence) will also remain intact. Parcels 25, 37 and 38 do not contain historic sites.

3.8 NOISE

Potential additional noise would likely be generated from short-term construction activity and from the visiting groups. Construction activities will comply with the Department of Health's Administrative Rules Chapter 11-46. Noise from the visiting groups is expected to be intermittent and will be minimized by keeping the groups small and by having a docent oversee the groups. Noise impacts can also be mitigated through landscaping and proper siting of visitor activities. Both construction and visitor activities will be restricted to daytime only.

3.9 AIR QUALITY

Air quality impacts attributed to the proposed action may include dust generated by short-term construction-related activities. The action is of a small-scale and the impact to local and regional ambient air quality conditions will be negligible.

3.10 VISUAL RESOURCES

Since no new structures or additions are proposed, the change in use will be largely imperceptible. Replacement

of the vegetation on parcels 37 and 38 is expected to enhance the appearance of the site, but these lots are not visible for public streets, and are only partially visible from adjoining lots.

Kūka'ō'ō Heiau on parcel 43 is somewhat visible from Oahu Avenue, but it is over 130 feet away from the street, above eye level, and is screened by mature vegetation. The small group tours around the heiau will not cause any distraction for drivers or pedestrians travelling on Oahu Avenue.

Views toward the site from Mānoa Road, into parcels 25 and 35, are mostly obscured by a rock masonry wall and mature vegetation along the front property lines.

3.11 SOCIAL AND EMPLOYMENT CHARACTERISTICS

The socio-economic impacts of the proposed action will be positive rather than negative. The staffing of the Mānoa Heritage Center will not increase the resident population nor the demand for housing in the area. The completed project will not be a significant source of employment nor will it create a significant impact on employment in the area or the island. On the other hand, it will contribute a unique and invaluable cultural resource that will be open to children of school age, as well as the wider community and visitors.

3.12 CHARACTER OF THE COMMUNITY

The proposed land use has been planned to blend with and enhance the Mānoa community. The proposed action will provide additional educational opportunities to improve the overall quality of life for the community.

The proposal concept has been introduced to the grassroots community and environmental organization, Mālama o Mānoa. Mālama o Mānoa has a constituency of approximately 3,500 mostly Mānoa residents. Mālama o Mānoa helped coordinate a half-day visit involving 60-70 Mānoa school teachers and staff to give them a brief tour of the heiau and share ideas on the educational/interpretive program concept.

The proposal concept has also been introduced to the Mānoa Neighborhood Board and the surrounding neighborhood and landowners. Thus far, all expressed comments have been positive and supportive of the project. One of the adjacent neighbors, however, while supportive of the spirit of the project, also expressed concern about the use of the private driveway from O'ahu Avenue as the principal access to the Center, as was originally proposed. In the revised proposal, principal access would instead be from Mānoa Road.

In summary, impacts of the revised proposal on the overall character of the community will be positive and mitigation measures are not necessary.

3.13 INFRASTRUCTURE

3.13.1 Roadways, Traffic, and Parking

Principal ingress and egress to and from the site are via Mānoa Road. Parking will be accommodated on-site. Smaller-capacity school buses are readily available and feasible to use for the transportation of school groups to the site, as was demonstrated in the photos in Figure 6. The anticipated traffic and parking impacts associated with the proposed action will be minimal and no road widening, construction, paving, or striping will be necessary. No other mitigation measures are required.

3.13.2 Water Supply

The average daily demand for potable water for the proposed use will not be significantly more than if the existing dwelling on parcel 25 were to continue to be used exclusively as a private residence. Given the low quantity of water required for the proposed use, impact to the ground water resource will be insignificant. Special water conservation or other measures are not required.

3.13.3 Wastewater Treatment and Disposal

The proposed facility will utilize the existing sewer lateral that connects the residence on parcel 25 to the sewer line along Mānoa Road. Capacity is more than adequate. Anticipated impacts to wastewater treatment facility capacities will be negligible and mitigation measures are not warranted.

3.13.4 Drainage Facilities

The proposed use will not add impervious surface or remove ground cover, so there will be no net change to the volume or quality of stormwater run-off from the subject site. Run-off continue to be channeled to existing grassed swales along Mānoa Road. Mitigation measures are not required.

3.13.5 Solid Waste Disposal

The proposed action will not create a significant impact on solid waste facilities or services. Mitigation measures to minimize potential adverse impacts are not required.

3.13.6 Electrical/Communication

Electrical service is provided by Hawaiian Electric Company and telephone service is provided by Hawaiian Telcom. Access and connections are available to the subject properties. No negative impacts on utility systems will result from the proposed action and thus, no mitigative measures are needed.

3.14 PUBLIC SERVICES

3.14.1 Police and Fire

The proposed use is not expected to increase the demand for police or fire protection services. No mitigation measures are required.

3.14.2 Schools

The proposed use will not impact existing school capacities or facilities; however, it will create educational opportunities. The Mānoa Heritage Center has been and intends to continue to work with schools, particularly elementary schools, to share its educational resources. The proposed action will not create additional need for educational facilities and therefore, mitigation measures are not required.

3.14.3 Recreational Facilities

The proposed use will not result in any loss of recreational areas, facilities, or opportunities. No mitigation measures are required.

3.14.4 Medical Facilities

The proposed use is not anticipated to create an increase in demand for medical facilities. No mitigation measures are required.

3.15 OVERALL SHORT-TERM AND LONG-TERM MITIGATION MEASURES

As indicated above, few potential adverse impacts to the area are expected to result from the proposed use.

Recommended mitigation measures include the following:

Short term:

- Restrict construction activities (i.e., interior renovations) to daylight hours.
- Plant new grass and shrubs as soon as possible after alien vegetation is removed.

Long term:

- Establish landscaping to maintain long-term air quality, noise quality, and aesthetically integrate the proposed use into the surrounding neighborhood.

3.16 SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The proposed use will result in negligible impacts as described earlier in this section. Potential effects include noise occurring from construction activities. In addition, there may be temporary air quality impacts associated with dust generated from construction activities. The proposed action is not anticipated to create any significant, long-term adverse environmental effects.

3.17 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

No significant irreversible and irretrievable commitments of resources have been identified in connection with the proposed action.

4.0 ALTERNATIVES TO THE PROPOSED ACTION

In compliance with the provisions of Title 11, Department of Health, Chapter 200, Environmental Impact Statement Rules, Section 11-200-17(f), the "known feasible" alternatives to the proposed action are limited to those that would allow the objectives of the project to be met, while minimizing potential adverse environmental impacts. The feasible alternatives must also realistically address the project's economic limitations while also respond to the surrounding residential land uses that will be impacted by the action.

4.1 ALTERNATIVES CONSIDERED

4.1.1 The Original Plan

Mānoa Heritage Center could implement the plan that was approved in the earlier CUP in 2000. That plan entailed the construction of a new building on parcels 37 and 38 to provide a support facility for the Center's programs and operations. Access to the Center would be via a private driveway from O'ahu Avenue that is shared with the owner of the residence at 2862 O'ahu Avenue.

The revised proposal offers several advantages over the original plan.

- Adaptive reuse of the existing dwelling on parcel 25 as the Center's support facility avoids the delay and cost of constructing a new structure on parcels 37 and 38,

thereby enabling the Center to begin its program earlier and conserve funding to support program activities.

- Adaptive reuse of the existing dwelling on parcel 25 also provides a caretaker's residence, which will enhance the security and maintenance of the site, a consideration that was not fully addressed in the original plan.
- The revised proposal provides access to the Center directly from a public collector street – Mānoa Road – rather than from a private, shared driveway, as in the original plan. By changing this access, the revised proposal addresses the concern expressed by the neighbor at 2862 O'ahu Avenue.
- The revised location for the Center's support facility is also a superior starting point for the tours, letting the story about the heiau and its historical and cultural context unfold. Instead of arriving in the immediate vicinity of the heiau, as would be the case in the site layout proposed in the original CUP, visitors instead would enter the site from Mānoa Road, where there is no view of the heiau. After receiving the tour orientation in the Mānoa Heritage Center assembly room and classroom, visitors would exit the building through the rear lanai, where there is an excellent view of Mānoa Valley and surrounding mountains.

From the rear lanai, visitors would be led along the garden trails that descend from the rear lawn, then gradually climb to the heiau itself. Along this trail, the interpretive guide would point out the plants and continue telling the story about the culture that built the heiau. This will greatly enhance the visitor's appreciation for and understanding of the site when arriving at the heiau itself.

4.1.2 The No-Action Alternative

The "no-action" alternative would leave the subject properties as vacant or "underutilized" residential land that could be developed with additional single-family homes, duplexes, or two-family homes. Up to four single family homes could be built on vacant parcels 37 and 38 under the current zoning designation and Land Use Ordinance standards. An additional dwelling could also be developed on parcel 25. Even greater density could be achieved if a portion of parcel 35 were combined with other lots and re-subdivided or arranged in the cluster site plan. In any case, land use intensity would be much greater than the proposed alternative. Built area and impacts on the visual character, municipal services and traffic conditions in the vicinity would be greater. Access to the heiau would be significantly restricted.

5.0 SIGNIFICANCE CRITERIA

5.1 SIGNIFICANCE CRITERIA

According to the Department of Health Rules (11-200-12), an applicant or agency must determine whether an action may have a significant impact on the environment, including all phases of the proposal, its expected consequences both primary and secondary, its cumulative impact with other projects, and its short and long-term effects. In making the determination, the Rules establish "Significance Criteria" to be used as a basis for identifying whether significant environmental impact will result from the development. According to the Rules, an action shall be determined to have a significant impact on the environment if it meets any one of the following criteria:

a) *Involves an irrevocable commitment to loss or destruction of any natural or cultural resources;*

The proposed use will not result in a loss of cultural resources. On the contrary, the proposed use is in support of preserving a significant Hawaiian heiau.

The proposed use will not impact scenic views of ridgelines in the area. The change in visual character of the subject area will be unnoticeable.

The properties are not subject to coastal-related flooding and do not contain any wetlands or other unique habitats.

Impacts to the microclimate, hydrology, and drainage will be insignificant.

b) *Curtails the range of beneficial uses of the environment;*

The subject properties are sized and prepared for residential development. They are located in the midst of a well-established urban residential area. The beneficial use of the properties has already been significantly curtailed by both historical development of the area and land use policy.

Given the limitations of the properties for alternative uses, the proposed use for educational purposes is of greater benefit to the public than the construction of additional private residences that current zoning regulations would allow on the site.

c) *Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS; and any revisions thereof and amendments thereto, court decisions, or executive orders;*

The proposed use is consistent with the Environmental Policies established in Chapter 344, HRS.

d) Substantially affects the economic or social welfare of the community or state;

The preservation of the heiau is a contribution to the knowledge of Hawaiian history and ancient Hawaiian beliefs. It is an educational resource and will be open to the community with an emphasis to educate school children and the interested public. The docent-led visits will help to preserve the heiau by increasing the public's awareness of its existence and significance. The proposed use will allow the public to enjoy the estate and will help preserve the open space and beauty of the neighborhood.

e) Substantially affects public health

Construction-related traffic, air quality impacts, and noise will be insignificant especially compared to the impacts of the no-action alternative, which would allow the development of four or more dwellings. The proposed use provides positive social and quality of life improvements.

f) Involves substantial secondary impacts, such as population changes or effects on public facilities

The proposed use is not expected to involve substantial secondary impacts.

g) Involves a substantial degradation of environmental quality;

The proposed use will utilize existing vacant land, but will not result in degradation of environmental quality. No significant increases in air, noise, or water impacts are anticipated. No endangered plant or animal species or important habitat is associated with the site.

h) Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions;

No commitment for larger actions or significant cumulative impacts on the environment is associated with the proposed action.

i) Substantially affects a rare, threatened or endangered species or its habitat;

The purpose of the proposed action is to preserve, nurture and expand a botanical garden comprised of Native Hawaiian plants, some of which are rare or endemic. Any effect on such plants will be beneficial rather than adverse.

j) Detrimentially affects air or water quality or ambient noise levels;

The proposal will not impact near-shore ecosystems nor significantly affect groundwater resources. The proposal does not involve a use that is a source of emissions nor constant noise. Noise attributed to the proposed use will not detrimentally affect ambient noise levels.

k) Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, freshwater, or coastal waters.

The subject properties are not located within a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous area, estuary, freshwater, or coastal waters.

l) Substantially affects scenic vistas and view planes identified in county or state plans or studies;

Due to the location and topographical characteristics of the properties, views of the subject properties are limited and not significant. On the other hand, by making this private residential property accessible to visitors, as proposed by Mānoa Heritage Center, many more people will be able to enjoy scenic view of the Ko'olau Range that is visible from the vicinity of the heiau.

m) Requires substantial energy consumption.

The proposed use will not require substantial energy consumption. It will help conserve energy since the alternative use for the properties would allow 4 two-family dwellings to be developed. The dwellings would most likely be continuously occupied and would cumulatively require more public services.

6.0 LIST OF ALL APPROVALS AND PERMITS REQUIRED

During implementation, the applicant will be working with the State and County review agencies for examination and approval of proposal plans and specifications.

<u>Permit/Approval</u>	<u>Responsible Agency</u>
Revised Environmental Assessment	Department of Planning and Permitting
Conditional Use Permits – Minor	Department of Planning and Permitting
Building Permits	Department of Planning and Permitting
Use of Historic Structure	State Department of Land and Natural Resources, Historic Preservation Division

7.0 APPLICANT'S JUSTIFICATIONS

7.1 COMPLIANCE WITH THE LAND USE ORDINANCE

a) Residential Districts

Section 21-3.70 states that: *Nondwelling uses which support and complement residential neighborhood activities shall be permitted.*

The proposed meeting area will be used by various residents of the Mānoa neighborhood including the members of the Mānoa Valley Cultural Heritage Foundation, Mālama o Mānoa, and nearby schools.

b) Use of Historic Structures

Section 21-5.330 states that the intent is to provide an incentive for owners of historic structures to retain them, by allowing uses not otherwise permitted in the underlying zoning district. In addition, this section states that:

Any structure on the State or National Register of Historic Places may be occupied by a use not otherwise permitted in the underlying zoning district, provided that any proposed alteration, repair or renovation beyond its original design and the proposed use is approved by the State Historic Preservation Officer.

The State Historic Preservation Division has been consulted in the development of the proposal. The Division's letter of approval is contained in Appendix B. One of the Division's officers has been intimately involved in the restoration of Kūka'ō'ō Heiau and is in support of the educational tours.

Site Suitability

Because of the purpose of the Mānoa Heritage Center, and the fact that the Kukao`o Heiau exists on this particular site, the facility cannot reasonably be located elsewhere. The large size of site and buffering effects of substantial setbacks, changes in grade and mature vegetation relative to surrounding properties make this a very suitable site for the proposed meeting facility.

Parcel 35 already contains a residential dwelling that can be adaptively reused for the purposes of the Mānoa Heritage Center without major interior alteration, so the need for new structures is avoided. Furthermore, there is good access to the site from a major collector street and ample room on-site for vehicle maneuvering and parking.

Alteration of the Character of the Surrounding Area

No significant change in the character of the neighborhood or the surrounding area is expected with the proposed change in use. The activities and structures

associated with visitation and education will not limit immediate surrounding neighbors from continuing their activities and enjoying the full use of their properties, nor will they disrupt the quiet character of this residential neighborhood. Landscaping improvements to the subject parcels will also benefit surrounding adjacent neighbors by increasing their privacy and beautifying their views toward the subject property.

Contribution to General Welfare

The preservation of the heiau is a contribution to the knowledge of Hawaiian history and ancient Hawaiian beliefs. It is an educational resource and will be open to the community with an emphasis to educate school children and the interested public. The docent-led visits will help to preserve the heiau by increasing the public's awareness of its existence and significance. The proposed use will allow the public to enjoy the estate and will help preserve the open space and beauty of the neighborhood.

Compliance with the Minimum Development Standards

The proposed use fully complies with the intent of Section 21-5.330, Use of Historic Structures (see previous section, Compliance with the Land Use Ordinance).

Table 21-3.2, Residential Districts, Development Standards, of the Land Use Ordinance shows requirements of a minimum lot area of 7,500 square feet (20,000 is actually required for "meeting facility"); a

minimum lot width and depth of 65 feet; a front yard of 30 feet; side and rear yards of 15 feet; a maximum building area of 50 percent of the zoning lot; a maximum height of 25-30 feet; side and rear height setbacks of one foot for each two additional feet over 15 feet; and a front setback of one foot for each two additional feet over 20 feet. These requirements will be met as shown in the table below:

	<i>Development Standards</i>	<i>Proposal Standards</i>
<i>Lot Area</i>	Min. 20,000 sf	132,700 sf
<i>Lot Width & Depth</i>	Min. 65 ft	320 ft width 360+ ft depth
<i>Front Yard</i>	Min. 30 ft	30 ft
<i>Side and Rear Yards</i>	Min. 15 ft	15 ft
<i>Building Area</i>	Max. 50% (66,350 sf)	7,806 sf (footprints of existing dwellings)
<i>Height</i>	Max. 25-30 ft	15 ft
<i>Height Setbacks</i>	Side/Rear - 1 ft for every 2 ft over 15 ft. Front - 1 ft for every 2 ft over 20 ft.	N/A
<i>Accessory Uses</i>	No accessory eating and drinking establishments	None proposed
<i>Width of Access Street</i>	Minimum determined by "appropriate agencies"	Mānoa Road is a major collector street, at least 24-ft pavement width

8.0 SUMMARY OF FINDINGS AND ANTICIPATED DETERMINATION

The proposed use, which is approved by the State Historic Preservation Division, will help preserve the Kūka'ō'ō Heiau, a significant site of legendary and prehistoric associations with Mānoa Valley and Oahu island. It will also help to foster a greater understanding of the heiau, heighten an appreciation of the area's role in history, and preserve the existing open space and beauty of the neighborhood. The emphasis is to educate school children and the interested public.

In general, there are no environmentally unique characteristics associated with the properties. The site is not located in an environmentally sensitive zone such as a tsunami zone, erosion prone area, geologically hazardous land, flood plain, estuary, potable groundwater recharge area, or area of sensitive flora and fauna habitat.

The subject properties are sized and prepared for residential development. It is located in the midst of a well-established urban residential area. Impacts associated with the proposed use and supporting structures are negligible. The no-action alternative would create greater impacts on public services, infrastructure, the physical environment, and parks and recreation facilities. The beneficial uses of the properties have already been significantly curtailed by both

historical development of the area and land use policy. The availability, location, and topography of parcels 37 and 38 offer a highly unique opportunity for the proposed interpretive and educational use. The properties' size, contiguity, street access, connections to utilities, and zoning also make the properties highly suitable for the proposed use. Although the properties are zoned for residential use, the City and County of Honolulu allows for the proposed use.

The zoning is, in turn, consistent with the City and County of Honolulu Primary Urban Center Development Plan (PUCDP) land use designation for the site, which is Lower-Density Residential. While these land use designations are not intended to be site-specific, the proposed action is consistent with the intent of the Lower-Density Residential use category.

The proposed use supports the City and County of Honolulu's General Plan, Culture and Recreation Objective B, which is *to protect Oahu's cultural, historic, architectural, and archaeological resources*. It also supports the following policies:

Policy 1: Encourage the restoration and preservation of early Hawaiian structures, artifacts, and landmarks.

conflicts or abrupt contrasts that detract from or destroy the physical integrity and historic or cultural value of the site. Retain, whenever possible, significant vistas associated with historic, natural and man-made features. Allow adaptive reuse of historic buildings to serve a new function and/or enhance interpretive value without destroying the historic value of a site.

Section 3.1.3.1 further states:

Preserve the architectural character, landscape setting and visual context of historic landmarks through appropriate zoning standards and development controls, as necessary, and public outreach programs such as design guidelines for the maintenance, renovation or expansion of older dwellings.

Based on this Environmental Assessment, the Department made a Finding of No Significant Impact (FONSI), so an Environmental Impact Statement (EIS) is not required.

Policy 2: Identify, and to the extent possible, preserve and restore buildings, sites, and areas of social, cultural, historic, architectural, and archaeological significance.

Policy 4: Promote the interpretive and educational use of cultural, historic, architectural, and archaeological sites, buildings, and artifacts.

Policy 6: Provide incentives for the restoration, preservation, and maintenance of social, cultural, historic, architectural, and archaeological resources.

Historic preservation efforts are also encouraged by the PUCDP policies. Section 2.1, setting forth a vision for the PUC, states:

Culturally- and historically-important sites, landmarks and structures continue to preserved and enhanced. Historic and cultural districts are improved and interpreted for visitors.

Section 3.1.2 of the PUCDP states the following policy:

Preserve and protect sites that have high preservation value because of their good condition or unique features. Protection includes planning and design of adjacent uses to avoid

9.0 REFERENCES

- City and County of Honolulu Department of General Planning, *General Plan Objectives and Policies*, Honolulu, 1992
- Gon III, Sam, *Summary of Hawaiian Religious Protocol Appropriate for Interpretive Programs at Kūka'ō'ō Heiau, Mānoa, O'ahu*, Honolulu, March 2000
- Juvik, Sonia P. and James O. Juvik, *Atlas of Hawaii*, Third Edition, Honolulu: University of Hawaii Press, 1998
- Mālama o Mānoa, *Background Report for the Mānoa Valley Special District*, Honolulu, January 1995
- Paul Cleghorn Consulting, *Archaeological Inventory Survey in Mānoa Valley, Oahu, TMK: 2-9-19:36, and Preservation Plan for Kūka'ō'ō Heiau*, Honolulu, March 1992.

APPENDIX A

SUMMARY OF HAWAIIAN RELIGIOUS PROTOCOL APPROPRIATE FOR
INTERPRETIVE PROGRAMS AT KŪKA'Ō'Ō HEIAU, MĀNOA, O'AHU

Summary of Hawaiian Religious Protocol
Appropriate for Interpretive Programs
at Kūkaō'ō Heiau, Mānoa, O'ahu

by Sam Gon III

*Iho mai ana ka ua i lalo nei
E ku 'u kino akua i ka lani
E ka haka lei o Paao
E mahele ana e ka ua, e ka lā
E ka 'ālewatewa, e ka piūnohu nui ākea
I hā'ule ai ka lani i ka honua
I ho'oka'aka'a ai ka lani e ua
Hānau Kiouli, Kiomea
Hānau Kauakahi'ipo 'owaikū
'O Kahaaka 'akelu, e!
'O Kepolohaina
'O Kūlīaikēkua
'O Lonomakaihe
'O Lonoikiaweawealoha
'O Lono 'ōpuakau
'O Apanapo 'o, e Pō'ōilole 'a
E Kanikawi, e Kanikawā
E Kūmahumahu'ukolo
E Kōloka 'aka
E nā akua ho'ōhehu o Kama la, e!
Hōmai ana he ua!
'Amama, ua noa*

the above from, GUMMAU 1991: 13 Puik Kubilo Ancient Hawaiian Project

This *pule ho'ouluulu ua* (prayer for increased rain) is symbolic of the ancient richness of Hawaiian agricultural ritual and protocol that is largely lost to us today. It is in the spirit of relearning about a rich cultural past that this work is dedicated.

MANOA VALLEY CULTURAL HERITAGE FOUNDATION
KUALI'I FOUNDATION
2859 Manoa Road
Honolulu, Hawaii 96822
Tel. (808) 383-7818, Fax. 988-5763
ccooke@aloha.net

March 1, 2000

Mr. John Whalen, AICTP
Ms. Lisa Imata
Plan Pacific
737 Bishop Street, Suite 1520
Honolulu, HI 96813

Dear John and Lisa,

Please find attached the final draft of Dr. Sam Gon III's research report, "Summary of Hawaiian Religious Protocol Appropriate for Interpretive Programs at Kūkaō'ō Heiau, Mānoa, O'ahu". This document, in addition to Myra Tuggle's 1998 historical survey and interpretive master plan, "Kūkaō'ō Heiau: A Glimpse at Manoa's Past," will form the basis for the future interpretive and docent programs of the Manoa Heritage Center.

The Board of Directors of the Manoa Valley Cultural Heritage Foundation have approved this final draft subject to the addition of an executive summary, to be added at the beginning of the report. Due to employment circumstances, Dr. Gon will not be able to complete the executive summary until this coming Summer, 2000.

Please do not hesitate to contact me at the above number(s) if I can answer any further questions.

Very truly yours,



Cathy Cooke
Director, Kualii and Manoa Valley Cultural Heritage Foundations

Summary of Hawaiian Religious Protocol Appropriate for
Interpretive Programs at Kūkaō'ō Heiau, Mānoa, O'ahu

Table of contents

Statement of scope..... 3
 Introduction..... 3
 The ancient view of agriculture..... 4
 Hawaiian Gods and their relation to agriculture..... 5
 Akua..... 5
 Kinolau..... 5
 Four major akua..... 5
 Lono..... 6
 Kāne..... 6
 Kamaioa..... 6
 Kū..... 7
 Sacred nature of wai, kalo, and 'uala..... 7
 Wai..... 8
 Kalo..... 8
 'Uala..... 9
 Compilation of *inoa akua* associated with agriculture..... 10
 The many gods of agriculture..... 10
 List of deities..... 10
 Lono deities..... 11
 Kāne deities..... 11
 Kamaioa deities..... 12
 Kū deities..... 12
 Other deities..... 12
 The name Kūkao in the context of agricultural gods..... 13
 Agricultural *heiau* types..... 15
 Unu..... 16
 Waihu..... 16
 Protocol for agriculture..... 19
 Protocol Summary..... 19
 Practical purpose of Hawaiian agricultural rituals..... 22
 The Hawaiian lunar calendar and religious practices..... 25
 Concluding statements..... 26
 Major Sources..... 27

Appendix I: The Hawaiian Lunar Calendar

Appendix II: Some Examples of *Pule Mahi'ui*

Summary of Hawaiian Religious Protocol Appropriate for
Interpretive Programs at Kūkaō'ō Heiau, Mānoa, O'ahu

by Sam Gea III
November 1999

STATEMENT OF SCOPE

Present as complete a summary picture as possible of the function and protocol at agricultural *heiau** so that an interpretation can be made regarding its role and significance in Hawaii culture, the prayers, along with the rituals and protocol associated with this type of *heiau*.

*We recognize that it will be impossible to present a full protocol and description of rituals, since most of the information has been lost.

INTRODUCTION

This report is designed to provide the necessary background material regarding agricultural protocol at a *heiau* such as Kūkaō'ō, to serve eventually as the basis for an interpretive program highlighting one aspect of the rich history and cultural significance of Mānoa Valley. Such information is not available in any single source, but scattered in loosely organized fashion among many general sources. The gathering of this information and compilation into this summary report parallels that of building a traditional structure:

1. A foundation is constructed in the form of an introduction to Hawaiian religious practice, and the general attributes of the *akua* (gods) of ancient Hawai'i.
2. The main posts are erected via descriptions of the roles of the four major *akua* and their connections to agriculture, examples of the names of major agricultural *akua* (among the myriad epithets of the four major *akua*), a summary of the spiritual aspects of major crops such as *kalo* (taro, *Celestia esculenta*) and 'uala (sweet potato, *Ipomoea batatas*), description of the cycle of typical religious and agricultural practice of *māhi'ui* (farmers) and *kāhuna* (priests) as patterned by

HAWAIIAN GODS AND THEIR RELATION TO AGRICULTURE

Akua

Background on religious protocol and ritual related to agriculture requires an introduction to the Hawaiian gods in general, then those important to agriculture. In general, ancient Hawaiians viewed the universe as occupied by countless thousands of conscious deities (*akua*) that can be communicated with directly and who have a direct role to play in affecting human life and activities. All of the major elements of the natural world (wind, rain, light, life, etc.) are the result of or manifestations of these *akua*.

Kinolau

Physical manifestations of *akua*, especially forms that are classically assumed by particular *akua*, are called *kinolau* (literally: many bodies), indicating that an *akua* may take many forms (see discussion in Handy et al 1972 p 23). The concept of *kinolau* is extremely important, since the objects and offerings used in religious ritual, and the names of natural objects or events mentioned in *puie* (prayers) are often specifically chosen on the basis of the classical *kinolau* of specific *akua*. This will be seen in examples to follow.

Four major akua

Multiply the *kini akua* (uncountable gods) with their many potential manifestations and you get a very crowded and active, conscious universe. That being said, the majority of the *kini akua* are organized under the manifestations of four major *akua*: Lono, Kū, Kāne and Kanaloa. Each presides over particular aspects of life and nature. In overtly simplified accounts, Lono is the god of peace and agriculture; Kū is the god of warfare and chiefly governance; Kāne is the god of light, healing, and creation; and Kanaloa the god of the sea. As seen in the more expanded descriptions below (mostly from Handy et al 1972, and Malo 1961) the manifestations and realms of influence overlap, and all include agricultural aspects.

natural cycles in the course of a lunar month, and a discourse on the name and nature of Kūka'ō'ō among the described types of *heiau* (Hawaiian temples or religious structures).

3. Finally, the structure is thatched with the protocols and chants gleaned from the literature, related to agricultural practice in ancient Hawai'i. Part of this thatching is in Appendix I illustrating the Hawaiian lunar calendar and the main cycles of religious and agricultural significance in the course of a month, and in Appendix II compiling some agricultural chants.

It is hoped that the end result is a glimpse of the patterns and complexities of Hawaiian religious practice, as well as the role of *heiau* and ritual in the everyday life of the *mohi'āi* of Mānoa Valley in ancient times.

THE ANCIENT VIEW OF AGRICULTURE

The importance afforded farming in ancient Hawai'i is clearly demonstrated by examining who engaged in this practice. Farm work was largely a male responsibility (as was worship to the major gods), and farming activities (planting, harvesting, etc.) were not seen as menial, but could be undertaken by both *maka'āinana* (commoners) and *ali'i* (chiefs). It is mentioned in several places (e.g. see Gutmanis 1983, Handy et al 1972) that Kamehameha I would join farmers in working the agricultural fields. The Hawaiian lexicon (vocabulary) of farming also points to the activities of *ali'i* in agriculture. For example, Malo (1951 p 205) indicated the different terms for the farms of the *ali'i* (for example, *kō'efe* and *kakione*) to be distinguished from generic farmlands of the *maka'āinana* (which were called *mahina'āi*). We start, therefore, with the idea that farming was considered sacred, and was counted among the activities of the highest ranking *ali'i* of the land.

Lono

Lono is the principal god of growth, horticulture, and rain (clouds). Lono is clearly associated with both *kalo* (taro) and *'uala* (sweet potato) culture, which together comprised the majority of starch and carbohydrate sustenance in ancient Hawaii. Therefore Lono is often afforded the primary role as god of farmers. To Lono are offered the first harvest of the land each year, particularly *kalo* (taro, *Colocasia esculenta*), during the *Makahiki* (the start of the Hawaiian year, coinciding with the coming of the wet season, roughly in October-November). *'awa* (kava, *Piper methysticum*) is also sacrificed, presented in a gourd (a *kinolau* of Lono), hung around the neck of the *akua Iā'au nui o Lono* (great wooden image of Lono). The gourd's roundness connotes fullness, abundance, pregnancy, clouds about to unleash rain, etc. Both water and poi, two of the mainstays of life, are stored in ipu. Each male child, upon weaning, entered the *hale mua* (men's house) via the rite called *Pule Ipu*, which was a Lono rite. The agricultural *kinolau* of Lono include *'uala* (sweet potato), *ipu* (gourd), and *pua'a* (hogs)

Kāne

In Valeri's summary of the general features of the major Hawaiian gods, Kāne is described as the god of light (e.g. the sun), creation, freshwater, and life. The association of Kāne (and his brother Kanaloa) to freshwater (see story in Kanaloa discussion below) means that Kāne is also of major significance to agriculture, especially *kalo* agriculture. Agricultural *kinolau* of Kāne include *kalo*, *'awa*, *ohé* (bamboo), *kō* (sugar cane), and *'ōlena* (turmeric). Similarly, Handy et al (p 82) point out that Kāne's association with both freshwater and sunlight provide the fundamental combination for agriculture, embodied in a single god.

Kanaloa

Kanaloa is generally considered the god of the sea, but is indirectly associated to agriculture via his relationship to his brother Kāne, and by a tradition linking the origins of many famous freshwater springs to the actions of Kanaloa and Kāne. Waiamau (Kū'oko'a 1865) relates that the two brother-gods are *'awa* drinkers.

They are said to have traveled from island to island, stopping occasionally to eat and prepare their *'awa*. If they were in a waterless place, they would need to open a spring. Kāne would plunge his spear into the ground at the behest of Kanaloa, and at each such spot, a spring would appear. In general, although Kāne was the one who thrust the spear, it was usually at Kanaloa's bidding (it was always Kanaloa that mentioned that he was hungry and wanted to stop, eat, and drink *'awa*). Handy et al (p 156) point out that Kanaloa is also associated with agriculture via one of his terrestrial *kinolau*: *mai'a* (bananas).

Kū

Kū is typically associated with warfare, male aggression, steadfastness, and governance. Trees are *kinolau* of Kū via their erect, steadfast nature, and therefore forested areas are considered the realm of Kū. Objects derived from trees, especially weapons, but in the case of agriculture *ō'ō* (digging sticks, the primary tool of the *mahi'ai*), are also directly related to Kū. Two tree crops, *ulu* (breadfruit, *Artocarpus altilis*) and *niu* (coconut, *Cocos nucifera*), are considered *kinolau* of Kū, and therefore the farming of *niu* and *ulu* requires religious rituals dedicated to Kū. Handy et al (p 170) note that both *ulu* and *niu* are considered the body of Kū upside-down, with head in the earth, and with penis (leaf or flower spike) and testicles (nuts or fruit) in the air. One certain declaration of war is the felling of an enemy's *niu* trees: an attack on the *kinolau* of the god of war, Kū.

SACRED NATURE OF WAI, KALO, AND 'UALA

Handy et al (1972) point out that *mahi'oi* (farmers) as a class of people were sectarian, there being *mahi'oi* who worshiped any one of Lono, Kū, Kāne, and Kanaloa deities. Beyond the deities chosen for worship, natural features and even the crops of the *mahi'oi* were considered sacred. Three of these are discussed below because of their importance in agricultural protocols of the Mānoa region: war (fresh water), *kalo*, and *'uala*.

Wai

All Hawaiians revered wai (water) as sacred, as a life-giving element. Although freshwater was generally considered the manifestation of Kāne, water falling as rain from the cloud forms of Lono in the sky, and especially from the winter storms of Lono would be associated with that god, perhaps with a specific epithet, as Lonowaimakua (Lono [of] parental water). Indeed, there are *pule* that ask for the water of life from Kanaloa, Lono, Kāne, Kū, and even Hi'iaka (the younger sister of Pele). But the connecting feature to agriculture is the reverence of water as sacred. As none could own water, it being a manifestation of gods, conflicts over water or water systems were rare (Handy et al p 59). Decisions over water distribution were made by the *ali'i*, the *konohiki* (*ali'i*-assigned manager) of the *ahupua'a*, and the water *kahuna* (himself typically a priest of Lono).

Kalo

In Hawaiian tradition *kalo* originated as the first offspring of Wakea (Sky-father) and Ho'ohokulani, the daughter of Papa (Earth-mother). The product of their union was born as a premature, malformed thing, which was buried, and became the first *kalo* plant, named Hāloa-naka, an elder sibling to the first human being, who was also named Hāloa. This intimate relationship between human and plant (with the plant taking the role of respected elder), means that plants, and *kalo* in particular, are considered genealogically superior and *kapu* above humanity. The sacredness of *kalo* meant that its cultivation was restricted to men. Kalo is associated to the worship of Kāne, which carries one of the more rigorous religious protocols.

Because of the dualism of terrestrial with marine elements (in which forms in the ocean were considered spiritually matched with forms on the land) and the concept of *kinolau*, *kalo* of certain forms could be substituted for fish or animal offerings in major rituals (Handy et al p 116). For example, the *kumu* variety of *kalo* could be used instead of *kumu* the fish, or the *hiwa* variety of *kalo* replaced for *pua'a hiwa* (black pig). These were not considered substitutions to compensate for the lack of a more desired offering, but spiritually equivalent. Thus, *kalo*, primarily a *kinolau* of Kāne, could via dualisms, be

offered as forms of other of the major gods. One good example is the *kalo* variety called *ipu o Lono*, which could be offered to Lono under certain circumstances.

That being said, the relationship between man and *kalo* is also a familial one, and similar terms are used to refer to *kalo* plants as human families. For example, large parent plants are called *makua*, the word for human parents, and the budding side growths stemming from the *makua* are called *'ohia*, the same root as *'ohana* (family). Thus the *mahi'zi* (farmer) standing bidden among tall clean *kalo* plants feels sacredly surrounded by individuals regarded as supporting elder siblings, rather than a mass of subordinate foodstuffs.

The sacred status of *kalo* is perhaps associated with its connection to freshwater. Kalo was the only staple crop that was afforded irrigation (*auwai*). Other crops received irrigation only under conditions of surfeit. The protocol associated with consecration of a new *auwai* has been documented by Handy et al (1972), as part of the ritual and chants associated with agriculture they reviewed.

'Uala

In contrast to *kalo*, *'uala* was cultivated by both men and women, was not the choice staple of the *ali'i*, flourished in drier, less favored localities, was quicker to mature, and considered common food (Handy et al). *'Uala*, however is also the *kinolau* of Lono, the major Hawaiian god of agriculture and rain. Handy et al (p 137) suggest that the majority of rain-making lore and protocols come from the *'uala* traditions, since rain is extremely important for *'uala* cultivation (vs. irrigation for *kalo*). Both *kahuna* and *mahi'zi* engaged in these rituals, addressing chiefly Lono as rain-maker, or Kānepua'a (or Kamapua'a, another rain-making *kinolau* of Lono). Kū and Kāne were also mentioned in these rituals, as gods of growing things and living waters, respectively.

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COMPILATION OF *INOA AKUA* ASSOCIATED WITH AGRICULTURE

The many gods of agriculture

It was mentioned earlier that all of the major gods in the Hawaiian theology (Lono, Kū, Kāne, and Kanaloa) are associated with various general aspects of agriculture, with Lono perhaps primary. A footnote in Malo (1951 p 208) indicates that while Lono was a major god of agriculture, Kū was also a frequent object of worship, and finally he states, "there were also many other gods worshipped by farmers." Rarely does one come across a concerted effort to compile the *inoa akua*, (the names of these gods). It is instructive to provide detail of this sort to convey the richness of ancient Hawaiian religion, and to show, through the names of the gods, how the various aspects of the natural world are woven into agricultural protocol.

The association of the various deities to agriculture goes far beyond associations of crops with certain gods. The properties of the universe that are associated with each god and important to farming were also evoked directly and indirectly. For example, rain and growth involve invocations to both Lono and Kāne, as seen in numerous chants, such as the example provided (see chant in Appendix II entitled: "E Kāneaulikahonua..."). Similarly, the main tool of the farmer, the 'ō'ō (the digging stick) is made from forest hardwoods, and therefore the jurisdiction of Kū (Appendix II chant "E Kūmokuhāli'i...").

List of deities

The following list of agricultural deities (and suggested translations and annotations) is compiled from a few major sources, including Pukui and Elbert (Hawaiian Dictionary, 1971 Edition, which included a glossary of names of major Hawaiian gods), Guamanis (1983), Beckwith (1970), Kamakau (1964 & 1976), and Malo (1951). The purpose of this compilation of names is not to provide an exhaustive and complete listing, but to indicate the numerous and vital ties to Hawaiian religion, worship, and protocol inherent in agriculture. The names of the gods provide insight on the nature of their involvement in agriculture, as alluded to in the brief translations/annotations given below for each. Following the names that fall under the category of epithets for the major gods are names

that do not include the name prefix of any of the four *akua*. It is likely that each of these is connected in some way to one of the four, but I chose not to delve into the aspects of research that would uncover those links.

While there are relatively long lists of epithets for three of the four gods, one of them, Kanaloa, for reasons not well explained in any source, lacks recorded epithets in agricultural prayers. This is despite being closely tied to Kāne originating freshwater springs, being afforded *kapu* during certain nights of the lunar cycle (moreover, nights that are considered auspicious for planting), and having an agricultural crop (*mai'a*) as a *kinolau*. Even in his role as god of the sea, I found only one epithet, *Kanaloaikahe'e* (Kanaloa of the squid). Squid and octopus are among the oceanic *kinolau* of Kanaloa.

Lono deities:

Lono - the direct request to Lono is often seen in *pule mahi'ai*.
Lonoikaewaewaloha - a Lono form called in *ho'oulu ua*
Lonokawai - Lono [of] the water
Lonomakaihe - a Lono form called in *ho'oulu ua*
Lonomakua - parent (providing care for descendants)
Lono'ōpuakau - a Lono form called in *ho'oulu ua*

Kāne deities:

Kāne - the direct request to Kāne is occasionally seen in *pule mahi'ai*.
Kāneaulikahonua - Kāne transformer of the world (e.g. ending drought)
Kāneikeienuenue - Kāne in the rainbow
Kāneikanoe - Kāne in the fog
Kāneika'ohu - Kāne in the mist
Kāneikapahu'anui - Kāne in the strong thrust (of the spear creating springs)
Kāneikapahuwai - Kāne at the water source
Kāneikapohu'ula - Kāne in the red rainbow
Kāneikaua - Kāne in the rain
Kāneikawaioala - Kāne at the water of life

Kāntikeaolani - Kāne in the heavenly cloud
Kānepua'a - Kāne in pig form

Kanaloa deities:

Kanaloa (I could not find a *pule mahi'ai* in which Kanaloa was invoked)

Kū deities:

Kū - the direct request to Kū is occasionally seen in *pule mahi'ai*.
Kūlanawao - a forest Kū form prayed to by farmers preparing the 'ō'ō.
Kūkeolo'ewa - a Kū deity with a cloud form, prayed to for rain
Kūhailimoku - a Kū form that bedecks the land with greenery
Kūho'outumeakanu - Kū that causes plants to grow
Kūkeolowalu - Kū of joint effort; a god of *kalo* farmers.
Kūkalanī'ehui - Kū of heaven-sent spray
Kūka'ō'ō - Kū the digging stick; a farmer's god
Kūkeolo'ewa - a war god, but also associated with rain
Kūkūlia - a god of dryland planting
Kūmahumuhukolo - a Kū form, prayed to for rain
Kūmauna - a rain god
Kūmokuhāli'i - a forest Kū form prayed to by farmers preparing the 'ō'ō.
Kūoianākia'i - prayed to by planters
Kūpā'aikē'e - a forest Kū form prayed to by farmers preparing the 'ō'ō.
Kūpūlupulu - a forest Kū form prayed to by farmers preparing the 'ō'ō.

Other deities:

Āpapapo'o - a god called in *ho'oulu ua*.
'Awaiku - Kāne's messenger spirits warding off evil
Hina - wife of Kū, invoked with Kū (E Kū, e Hina) in *ho'oulu'ai*
Hinapuku'ai - goddess of food plants
Hōkeo - assistant to Lono, bringing winds; a gourd form (*hōkeo*)

Kahaka'akeli - a god called in *ho'oulu ua*
Kamapua'akine - a god called in *ho'oulu ua*
Kamapua'awahine - a god called in *ho'oulu ua*
Kepolohaina - a god called in *ho'oulu ua*
Koloaka'aka - a goddess of 'ulu (breadfruit) trees
Mehaikana - a god called in *ho'oulu ua*
Po'oiloica - a god called in *ho'oulu ua*

THE NAME KUKA'OO IN THE CONTEXT OF AGRICULTURAL GODS

In the Tomonari-Tuggle report, there is a brief set of discussions and speculations on the interpretation of the name of the *heiau* Kūkao'o. Given the previous discussion of some of the names of major Hawaiian gods of agriculture, we might provide additional insights. The major interpretations in Tomonari-Tuggle 1998 were listed as:

1. Kūka'ō'ō - Kū (deity) of the digging stick (*ka'ō'ō*); Pukui and Elbert 1971 use this spelling of Kūka-ka-ō'ō and describe the name as that of "a god of farmers."
2. Kūkao'o - Kū (deity) of [the] manure growth (*ka'ō'ō*)
3. Kūkao'o - Achievement of maturity (*hi* as stative verb "to reach, attain," rather than the name of the deity Kū)
4. Kūkao'o (no diacritical marks) - given by Malo (1951) as "God of husbandmen"

It is very likely that the "god of husbandmen" that Malo mentions is the same "god of farmers" that Pukui and Elbert refer to. In that case, the lack of diacritical markings in Malo's name is merely the trend of the time to exclude such markings as unnecessary for a literate Hawaiian audience still familiar with the names of the major deities. However, it requires that we have some evidence that Pukui and Elbert were not merely speculating on the name and rationalizing that the digging stick interpretation was the most logical. On what did they base their choice of "Kū, deity of the digging stick" versus the other interpretation (e.g., *o'ō* = maturity)?

I was not able to find other sources that specifically advocated either choice, but there may at first blush be some temptation to lend the digging stick interpretation additional weight since the 'ō'ō is unambiguously mentioned in several *pūle mahi'ai* (for example, see Appendix II chant entitled: "E Kūmukuhāli'i..."). However, there are also *pūle mahi'ai* in which the word *o'o* (manurity) is evoked as a goal of the farmer (i.e., that his crop should mature), which is consistent with the interpretation of the name as Kūka'o'o (Kū of manurity).

Rather than choose, the answer for the purposes of interpretation can be to keep and evoke both: the digging stick ('ō'ō) as tool of the farmer, and manurity (*o'o*) as a similar word wielded in *pūle mahi'ai* in typical Hawaiian poetical wordplay. Both might legitimately appear in a *pūle* to Kūka'o'o (or Kūka'o).

Until there is unambiguous interpretation from a sufficiently old and respected source, all of the reasonable interpretations should be presented together.

Kūka'o'o is described by Pukui and Elbert (1973:389) as an alternate or associated name with another Kū deity, Kūkeolowalu (Kū of prolific growth, or, in alternate translation, Kū of joint effort). Once again, the beauty of Hawaiian language is that the name of the deity can stand for both concepts simultaneously!

Beckwith adds a third name, Kūkulia in the same category, and all three are referred to as gods of husbandry. Solis (1998) questions whether Kūkulia is an actual deity name, or a reduplicated evocation for the deity to lend assistance (*kīlia* = exertion of strength), and concludes ~~that~~ *later*. However, since more than one source mentions Kūkulia as a deity name, it seems prudent not to lightly discard the name for an evocation. It may very well be that the name of the deity is designed to provide the evocation via the naming.

How much can we ascribe meaning to the name of a deity? It is tempting to suggest that the deity Kūka'o'o would preside over the working of the land, using the traditional implement, the digging stick ('ō'ō). The precedence exists in the Pele traditions, in which

various brothers of Pele, themselves Kāne deities, are named for the elements that they have particular power over. For example, Kānehekehi has power over thunder (*hekehi*). In other sources, such as Kamakau, similar patterns exist for Kāne deities, such as Kāneikawaola (Kāne of the life-giving water).

In the case of Kū deities, it is clear that in some *pūle*, the particular Kū deities that logically prevail over the situation are evoked. For instance, when carrying a digging stick, harvested from the forest, the *mahi'ai* prays to the Kū deities of the forest, such as Kūpūpūpū (god of the forest undergrowth), Kūlonowao (Kū of the deep forest) and Kūmukuhāli'i (Kū spreading over the land), so that his 'ō'ō might not be broken. (Handy et al 117). The logical application of this to Kūka'o'o lends credence to the thesis of agricultural significance to the heiau of the same name. I have chosen, at the end of this line of thought, to use the spelling variant Kūka'o'o for the name of the heiau.

One can even suggest that Kūka'o'o may have been a heiau dedicated to wet *kalo* agriculture, even though the rich 'uala fields of Pu'u 'Ualaka'a (now Roundtop) were nearby. This is because the deity Kūka'o'o is described as an alternate name for Kūkeolowalu, which is not only a god of agriculture, but one of the most consistently evoked gods of wet *kalo* agriculture (see discussion in Solis 1998). One can scarcely think of a better location for a wet *kalo* agriculture heiau than on Pu'u Pueo, overlooking the vast lo'i of Mānoa in the wā *kahiko* (ancient times).

There is also precedent for attributing the name of a heiau with the name of a major *akua*. Numerous examples can be found, for example, Kānekauiia heiau at Kīpahulu, Maui; Kāneaki heiau in Mākaaha, O'ahu, or Lonoaka heiau at Kaupō, Maui. Moreover, Stokes (compiled and printed in 1991) from his 1906-1907 tour of heiau of the island of Hawai'i, found that his informants would at times refer to regional heiau according to the ali'i that built or dedicated it (if the heiau was of *luakini* class), the priest presiding there, or the major god worshiped there. The result being that there might be several names attributable to a single structure.

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How much can we ascribe meaning to the name of a deity? It is tempting to suggest that the deity Kūka'o'o would preside over the working of the land, using the traditional implement, the digging stick ('ō'ō). The precedence exists in the Pele traditions, in which

various brothers of Pele, themselves Kāne deities, are named for the elements that they have particular power over. For example, Kānebekii has power over thunder (*heke'i*). In other sources, such as Kamakau, similar patterns exist for Kāne deities, such as Kāneikawaiola (Kāne of the life-giving water).

In the case of Kū deities, it is clear that in some *pule*, the particular Kū deities that logically prevail over the situation are evoked. For instance, when carving a digging stick, harvested from the forest, the *mahi'ai* prays to the Kū deities of the forest, such as Kūpūpūpū (god of the forest undergrowth), Kūlionowāo (Kū of the deep forest) and Kūmukuhāli'i (Kū spreading over the land), so "that his 'ō'ō might not be broken." (Handy et al 117). The logical application of this to Kūka'o'o lends credence to the thesis of agricultural significance to the heiau of the same name. I have chosen, at the end of this line of thought, to use the spelling variant Kūka'o'o for the name of the heiau.

One can even suggest that Kūka'o'o may have been a heiau dedicated to wet *ka'o* agriculture, even though the rich 'uala fields of Pu'u 'Ualaka'a (now Roundtop) were nearby. This is because the deity Kūka'o'o is described as an alternate name for Kūkeolowalu, which is not only a god of agriculture, but one of the most consistently evoked gods of wet *ka'o* agriculture (see discussion in Solis 1998). One can scarcely think of a better location for a wet *ka'o* agriculture heiau than on Pu'u Puco, overlooking the vast *lo'i* of Mānoa in the wā *kahiko* (ancient times).

There is also precedent for attributing the name of a heiau with the name of a major *akua*. Numerous examples can be found, for example, Kānekaula heiau at Kūpahulu, Maui; Kāneaki heiau in Mākaaha, O'ahu, or Lonoaea heiau at Kaupō, Maui. Moreover, Stokes (compiled and printed in 1991) from his 1906-1907 tour of heiau of the island of Hawai'i, found that his informants would at times refer to regional heiau according to the *ali'i* that built or dedicated it (if the heiau was of *luakini* class), the priest presiding there, or the major god worshipped there. The result being that there might be several names attributable to a single structure.

AGRICULTURAL HEIAU TYPES

Stokes (1991) provides the review of heiau presented here, augmented by notes from Valeri, Malo, Kamakau and others as cited. *Heiau* were temple structures of various size and shape that were sites of worship for the ancient Hawaiian religious system. Not all *heiau* were the same, and there are several classes of *heiau* type, based on size, structure, and manner of worship. Some were small and temporary, built and used to deal with a particular situation (e.g., purification ritual, or impromptu ritual to increase rain or food). Others were more permanent (although even large, permanent *heiau* were subject to expansions, modifications, and rededication of purpose).

Unu

It is unclear whether the *unu* is consistently defined by its structure, as some informants describe the *unu* as an oval of rocks in the shape "of an open mouth" (see McAllister 1933). The term *unu* is used in a variety of contexts, ranging from simple piles of stone and small shrines, to portions of major *heiau* sites. Kamakau mentions the *ununu* *ho'oulu 'ai* as a *heiau* to increase food crops, and where the first harvest offerings are taken (see also *heiau ma'o* below). It is a controversial idea that the *ho'oulu 'ai* was also used for human sacrifice. Kamakau mentions it, but Barrere (in Tomonari-Tuggle) proposes that this statement is erroneous. However, it is also made by Pogue in Mo'o'olelo Hawai'i. Kamakau mentions the *unu o Lono* as a *heiau* consecrated to Lono (a major god of agriculture).

Waihau

The term *waihau* refers to larger structures, including agricultural *heiau*, *heiau* of *Iuakini* type, and *hale o Papa* (*heiau* usually associated with a *Iuakini*, typically adjacent, and a site of female chiefly rituals). Moreover, the term *waihau* seems limited to the islands of O'ahu and Kauai. There is an overlap in terms with the *hale o Lono*, which Kamakau also refers to as the *waihau ipu o Lono*. The *hale o Lono* is a *heiau* that secures abundance in crops (*ho'oulu 'ai*) and/or rain (*ho'oulu ua*). By way of explanation, the verb *ho'oulu* means "cause to grow or increase," *'ai* = vegetable food, and *ua* = rain.

Handy et al (p 136) indicate that Makuku *heiau* in Nu'uamu is a *heiau ipu o Lono* (presumably equivalent to the *waihau ipu o Lono*), built to restore prosperity and rain. They indicate "nothing is known about the worship at these shrines except that it must have been the priesthood of Lono [*mo'o Lono*] who performed the rites." If Kūka'ō'ō is a *hale o Lono*, it fits with a speculation in Tuggle 1998 that the rebuilding and rededication of Kūka'ō'ō by Kūali'i might have been to restore prosperity after his takeover of O'ahu.

'i'i (1963) and Malo (1951) mention that the wood used for the structures of the *hale o Lono* was *lama* (an endemic ebony, *Diospyros sandwicensis*), and thatched with *lā'i* (ti leaf, *Coriaryline fruticosa*). The rites conducted at this *heiau* are held monthly from the evening of the 27th to the dawn of the 29th day (that is, on the nights of Kāne and Lono, ending on Maui, the night before the new moon). These need not have agricultural purpose, according to the sources. However, note that the agricultural offerings of first harvest described by Malo are also timed according to the nights of the appropriate deities (see table and discussion of the Hawaiian lunar month in Appendix I).

In addition to the *hale o Lono*, there is the *māpele*, which is also dedicated to the cult of Lono, and described (Malo 1951) as thatched with *pili* (the indigenous grass *Heteropogon contortus*), and used for rituals aimed at increasing agricultural crops. Handy et al (1972 p 136) indicate that the *māpele* was the place where *'uala* planters worshipped, and contend that only pigs were offered, never human sacrifice. The *heiau ma'o* is a small temporary *heiau* covered with *kapa* stained green (*ma'o* refers to both the cotton plant, and a bright green dye that is derived from the plant). According to Malo it was also used in *ho'oulu 'ai* ceremonies. A final kind of temporary *heiau* is the *kiikou 'e*, which was built at the end of the Makahiki festival, and was the place where the high chief was cleaned of impurity. For an *anahulu* (10 day period) the chief was restricted from entering any other *heiau* (Handy et al p 137). Malo indicated that the *kiikou 'e* was used to propitiate the heavens for food.

Valeri (1985) summarized the nature of *heiau* dedication to the great gods by pointing out that the *Iuakini* and fishing *ko'a* are dedicated to Kū, while the *ho'oulu 'ai* and *ho'oulu*

ua are dedicated to both Lono and Kane. While fishing *ko'a* (small shrines) and the men's shrine in the *hale mua* (household structure dedicated to male religious practice) may be constructed and used by commoners, the greater *heiau* (temples) were for the use of the *ali'i* in hierarchical fashion, up to the *ali'i nui*. As Kūka'ō'ō is associated with Kānāli'i, one of the *ali'i nui* of the island of O'ahu, it suggests that its use, even if related to agriculture, was probably associated with and primarily used by the *ali'i*, rather than of general access to the *maka'āinana* (common folks), including the *mahi'ai* (farmers).

PROTOCOL FOR AGRICULTURE

In Tomonari-Tuggle's research and master plan document for Kūka'ō'ō (1998), the protocol for first fruit (first seasonal harvest) agricultural offerings given by Malo (1931:206) was presented verbatim. This is a valuable account, since it represents one of very few agricultural rituals detailed in any source. Below, we summarize the protocol and add some additional interpretations and notes that provide insight based on other related protocol sources:

Protocol Summary

When a crop achieves maturity and is ready for harvest, a religious service is conducted involving the major deity of the particular farmer(s). The purpose of the ritual is to lift the *kapu* on the farmer's fields. No harvesting can occur until the field is made *noa* (free of *kapu*). Fires are built under *kapu* of silence, and used to cook an offering of food (presumably in the traditional *imu*, or earth oven). Both vegetable (*ai*) and meat (*i'a*) are cooked, enough to divide out among all participating farmers, who sit in a circle, their portion of food laid in front of each. A *ki'i akua* (god image) is brought into the center, with the *ipu o Lono* (gourd of Lono) hanging around its neck. A *kahuna* offers a portion of food to the god, after which the participating farmers may eat until sated. Whatever remains goes back to the farmer whose fields provided the food. Thereafter his field is *noa*, and he may harvest without additional ritual, but on preparation of food for eating, a small portion is offered to the god.

What follows are a few points of additional interpretation that help expand and explain the summary above, using the context of Hawaiian cultural practice to point out similarities to other, better-recorded protocols.

1. *Building of fire* - The fires that are indicated are not ones in which offerings are consumed entirely, their essence given thus to the gods (as in early Judeo-Christian or Classical Greek-Latin sacrifice). Instead, these are fires of

preparation for the traditional *imu* into which the offerings will be cooked as food items to the gods. The *imu* is never mentioned, and is here presumed.

2. *The day of the god* - This reference to specific days of first harvest ritual dedicated to particular gods refers to the religious divisions of the Hawaiian lunar month, and is discussed more fully below. Briefly, different phases of the moon were associated with short (typically 2-3 day) periods of *kapu* dedicated to Kū, Lono, Kāne and Kanaloa. The main consequence of interest here is that the rites of first harvest were probably not conducted all at once for the *ahupua'a* of Waikiki (fed by the *lo'i kalo* and *'uaia* fields of Mānoa Valley), but on several days in the course of a month.

3. *The ipu o Lono* - This symbol of Lono (*ipu* is one of Lono's *kinolau*) is mentioned in several other sources (reviewed in Valeri and in Handy *et al*), some of which describe offerings which are placed directly into the small gourd (*ipu*) hanging around the image's neck. This is inconsistent with the description given in Malo, in which the offering is specifically not placed in the *ipu o Lono* (the offering being directed to the heavens instead, where the god truly dwells).

In descriptions of protocols related to the *māpele* class of heiau (reviewed in Valeri), *'awa* (*Piper methysticum*) is also sacrificed, similarly presented in a gourd (a *kinolau* of Lono), hung around the neck of the *akua lā'au nui o Lono* (great wooden image of Lono). Valeri suggests that the gourd's roundness connotes fullness, abundance, pregnancy, clouds about to unleash rain, etc. It is perhaps worthwhile to recall that both water and *poi*, two of the mainstays of life, are typically stored in *ipu*. The *ipu o Lono* also plays a central role in the rite of passage of the male child into the *hale mui* at weaning.

3. *Role of the kahuna* - The proceedings described by Malo were considered "more formal" than the simple rituals followed by the individual farmer, and there is direct mention made of a *kahuna* in the protocol, in addition to the majority of

"the company" of active participants, who are presumably farmers. These farmers, according to the particular deity they worship, would build their fires on the days (Hawaiian lunar days) dedicated to those individual deities (Kū, Lono, Kāne, Kanaloa). Apparently they conducted this as a group under the direction of a *kahuna*, who would preside over several key activities. These are:

- the distribution of food to all participants (it was not specified who these participants would be, but perhaps the family and cooperative neighbors of the farmer upon whose *kūleana* the rituals were taking place),
- the presentation of the god image with the *ipu o Lono* hanging around its neck, and
- the offering of the food to the *akua* in the heavens (*i ka lani*).

4. *Site of the ritual* - Presumably, these harvest rituals took place either at a central site (such as a *heiau*) or at the family shrines of the farmers. Kamakau directly mentions the *ununu ho'oulu 'ai* as the kind of *heiau* where the first harvest offerings are taken. If the assembly of participating farmers was large (as might be expected in a valley such as Mānoa), and if the *kahuna* presiding was the same for each of the farmers participating in what must have been numerous first harvest rituals, then it may be reasonable to suggest that instead of the *kahuna* wandering through the large *ahupua'a*, servicing the many offerings that had to be conducted on specific days, a *heiau* such as Kūka'ō might have served as the focal site for first harvest rituals. There is no corroborative record at all for this kind of activity at the *heiau*, but this is not surprising (attributable to the general dearth of knowledge on specific rituals at any of the major *heiau* on O'ahu).

5. *Prayer (Prayers) used during the ritual* - Handy *et al* (1972) suggest that the *mahi'ai* would offer the first harvest item on the "platform" (presumably the *ku'aihu*), with a prayer for increase of the crop (*ho'oulu 'ai*). Several such prayers from Hawaiian language newspaper sources were recently compiled by Kekaha Solis (Master's thesis 1998) and samples of these are provided with some

interpretation, in Appendix II, and referred to in a later section dealing with prayers related to agriculture.

Handy et al (1972 p 137) also describe an *'uala* planting ritual, in which a *kahuna ho'oulu* *'ai* (the redoubled *"ulu"* in *ho'oulu* is an often-seen variant of the single form *ho'oulu* used elsewhere in this summary) leads a procession of planting farmers who follow, digging holes. The *kahuna* plants *'uala* slips into two holes, uttering a planting prayer (see chant in Appendix II entitled "E Kamapua'a-kāne..."). Following this, everyone else in the procession plants, moving forward in the patch. It was *kapu* to look back on what was planted behind. After the planting was completed, the *kahuna* uttered a prayer for shade (see chant in Appendix II entitled "E kēia ao nui...").

PRACTICAL PURPOSE OF HAWAIIAN AGRICULTURAL RITUALS

Given the discussion above, the purpose of rituals at agricultural heiau (or at least rituals associated with agriculture, be they conducted at heiau or not) include a number of practical ends, such as: successful planting, call for increased rain, call for increased growth, thanks for abundant harvest, averting disease or pests, maintenance and protection of 'auwai (irrigation systems), ameliorating famine or drought, etc. Examples of *pule mahi'ai* for some of these major agricultural aspects are given in Appendix II.

One *mo'olelo* (traditional story) points to the power of the *kahuna ho'oulu ua* in affecting drought and famine on the land. In the story of the great chief Hua (Fomander 5:660 and 2:41) a conflict between Hua and his *kahuna* Luaho'omoe causes Hua to conspire to kill his priest. Luaho'omoe, prophesizing his death, sends his sons to escape, but he is trapped in his house, which is put to flames by Hua and Luaho'omoe dies. Immediately the streams of the land dry up entirely, and for three and a half years no rains fall. All the people of the district, including Hua, perish in the drought and famine, and the result is *"nakeke nā iwi a Hua i ka lā"* ("the bones of Hua rattle in the sun" -- there was no one left alive to hide his bones, and they were left exposed where he died, the ultimate disgrace). Were the story to end there it would be instructive enough, but the drought spread to the

other islands, and a *kahuna* on O'ahu, Nūala-a-Ma'ibea, who lived in Waimālu, became concerned for the fate of the entire Hawaiian people. He saw the lack of clouds on Ka'ala, and no sign of rain on Kaua'i or Mōloka'i, so looked out to Maui and saw one dark spot above Hana'uia (in the West Maui Mountains). He traveled there with offerings, and discovered the hiding place of the sons of Luaho'omoe, who accepted his offerings and prayers, which healed the great wrong of the chief Hua, and ended the drought. See Appendix II chant entitled "E ke akua..." for an example of a chant to end misfortunes on the land.

In his thesis for a Master's degree in Hawaiian Religion, Solis (1998) pointed out some of the basic patterns of structure in a typical *pule mahi'ai*. These are instructive because the contents of the *pule* allude to the purpose of the prayers and rituals via the requests made, direct or indirect, to the *akua mahi'ai*. Although there is variation, Solis contends that the majority of *pule* are composed of four major parts that play vital roles in establishing the audience, purpose and effectiveness of the prayer. These are:

ke kahea - the call

ka 'ulana - the offering

ke noi - the request

ke pani - the closing

To elaborate, each *pule* typically starts with a *kahea* (call) that addresses the deities evoked in the prayer. Here is where we might find specific mention of the *inoa akua* that were listed earlier. Sometimes features of the natural environment are addressed instead (the sun, clouds, rain, etc.), but recall that each of these is considered *kinohāu* of *akua*, and therefore legitimate addressees.

This is followed by the *'alana* (offering) that describes the sacrifice being presented to the *akua* (typically food objects vegetable and animal). Recall that *'ai* (vegetable food) may include *lu'au*, *kalo*, *'uala*, *'awa*, etc., while *i'u* (animal food) is typically *pua'u* (pig) or fish. The *'alana* is not always spoken, and is missing from some *pule mahi'ai*.

THE HAWAIIAN LUNAR CALENDAR AND RELIGIOUS PRACTICE

The timing of rituals at a *heiau* such as Kūka'ō'ō would certainly have been measured by the lunar calendar (provided in table and narrative form in Appendix D). These are the named 30 days (and nights) that structure Hawaiian religious practice, and therefore set the appropriateness of all other activities, such as agricultural milestones of planting, care, weeding, harvesting, etc. While the lunar calendar is not held to today by the vast majority of people, it is one of those natural cycles that can be pointed out at any time, underscoring the importance of natural cycles and attention to the surrounding environment that was so important in ancient Hawaiian life.

In Appendix I, two aspects of the Hawaiian lunar calendar have been highlighted: agricultural recommendations gleaned from three main sources (Malō, Kamakau and Handy et al), and religious cycles (the *kapu* periods associated with the four major Hawaiian gods Kū, Kāne, Lono, and Kanaloa). Many of the recommendations for planting may have had roots in empirical patterns linking lunar phases with tides, winds, and monthly rhythms of living things, including plants. The religious observances for the major gods is not described in detail, since their rituals are not strictly tied to agriculture, *per se*, but to all aspects of life under their influence. One common pattern pointed out by Handy et al (p. 40) is that on the *kapu* nights, those who worshipped neither worked nor played, but offered ritual and prayed to their gods; *maka āina* at the *ku āhu* of the *hale mua*, and *ali'i* at the appropriate *heiau* (such as Kūka'ō'ō).

However, the few descriptions of religious protocol for agriculture invariably include a physical presentation of an offering. It must be a vital part of the protocol.

This is immediately followed by the *noi* (request) that describes the ultimate purpose of the *pule*, whether to bring rain and growth, or protect crops from disease, or offer thanks for an abundant harvest. Solis notes that this is often indirectly stated, rather than directly requested, which is an important part of ancient Hawaiian etiquette. Unless you were intimate (e.g., close kin) with someone you never asked a direct favor. Instead, you would state the desired result as a potential state of being, and allow the person(s) addressed to agree and help make it so. (or not). Thus, in the *pule* "E ke akua..."

(Appendix D) the purpose of the prayer is to avert diseases, but there is no line that specifically asks the addressed akua to remove disease from the land. Instead of "E holo'i 'oukou i ka pō'ino o ka 'āina" (Remove thou the misfortunes of the land), it is stated much more indirectly: "He pule ia e holo'i ana i ka pō'ino o ka 'āina" (This is a prayer that will clean the misfortunes of the land). It is up to the akua to make it so, but it is not directly asked of them.

Finally, the prayer closes (*puni*) typically with ritual closing phrases indicating that the prayer is completed, the *kapu* ended, and the prayer free to fly to its intended audience.

The typical *puni* is: *Āmama, ua noa* (Completed, it is free from *kapu*).

At Kūka'ō'ō it is likely that there was a combining of the practical and directly agricultural purposes of *pule mahi'ai* with economic and political purposes associated with *ali'i* such as Kūali'i (suggested in Tomonari-Tuggle 1998). This would have resulted in a complex set of rituals according to the season or situation. In this review, however, I have purposefully avoided retelling of the better-documented rituals associated with *heiau* of governance (*Iuakini*) that was the subject of Valeri's extensive review of chiefly rituals. We operate under the premise that Kūka'ō'ō served as the agricultural *māpele* for Kūali'i and his retinue, rather than as the *Iuakini* at which he offered the rituals of governance.

CONCLUDING STATEMENTS:

It is hoped that this compilation of information on religious practices associated with agriculture and agricultural heiau provides a readily available body of information that can be worked into the interpretive program developed for the Kūka'ō'ō site in Mānoa. By linking the ancient Hawaiian gods to agriculture, affirming the power of the names of the gods to places and processes they governed in ancient Hawaiian thought, and providing examples of the rituals associated with *kalo* and *'uala*, in the context of the repeating cycle of life in ancient Hawai'i, and noting the richness of the language in expressing protocol, we hope to build something to share with the future of Hawai'i. What we share is a past of surprising elegance and sophistication, where human activities and spiritual practice was intimately connected to the cycles of the natural world. It is a connection that we largely lack today, to our detriment. Perhaps the seeds planted by the lessons here will lead eventually to a future where the people of a place move in tune with their surroundings, caring for and being cared for in turn by the land upon which they live.

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The Hawaiian Lunar Calendar

moon phase	name of day	presiding Akua	kapu periods
☉	Hilo	Kū	Kapu Kū begins Hilo night
☽	Hōaka	Kū	Kapu Kū period
☾	Kūkahi	Kū	Kapu Kū period
☾	Kūlua		Kapu Kū lifted dawn of Kūlua
☾	Kūkolu		
☾	Kūpau		
☾	'Olekūkahi		
☾	'Olekūlua		
☾	'Olepau		
☾	Huna		
☾	Mohalu	Kāne	Kapu Huna starts night of Mohalu.
☾	Hua	Lono	Kapu Huna period
☾	Akua		Kapu Huna lifted dawn of Akua.
☾	Hoku		
☾	Mabealani		
☾	Kulu		Makahiki offering made by ali'i
☾	Lā'aukūkahi		
☾	Lā'aukūlua		
☾	Lā'aupau		
☾	'Olekūkahi		
☾	'Olekūlua		
☾	'Olepau	Kanaloa	Kapu Kaloa starts night of 'Olepau
☾	Kāloakūkahi	Kanaloa	Kapu Kaloa period
☾	Kāloakūlua		Kapu Kaloa lifted dawn of Kāloakūlua
☾	Kāloapau		
☾	Kāne	Kāne	Kapu Kāne starts night of Kāne
☾	Lono	Kāne & Lono	Kapu Kāne period
☾	Mauli		Kapu Kāne lifted dawn of Maui
☾	Muku		

APPENDIX I: THE HAWAIIAN LUNAR CALENDAR

The Hawaiian Lunar Calendar (Sources: Kamakau, Malo, Handy et al)

The thirty days of the Hawaiian lunar month set the tempo for religious activities of ancient Hawai'i. The notes below describe agricultural and religious patterns associated with the lunar month in ancient Hawai'i.

HILO

First night

The appearance of the moon in the evening in the western horizon marks this first night of the month. This new moon appears as a "slender" or "twisted" sliver (*hilo*). Foods maturing underground will "hide". Some leaf crops planted under this moon will be small like the moon they started under. The *kapu* period dedicated to Kū begins on this night.

HOAKA

Second night

Hoaka means "faint light" or "cast a shadow." On this night the *uhane* (ghosts) are about and cast shadows. It is not a good time for activities. This is the second *kapu* night of Kū.

KŪKAHI - KŪPAU

Third to sixth night

These are the first, second, third, and fourth nights of Kū. The *kapu* period of Kū ends with Kūkaahi (First Kū). Many farmers believed that on this night *uao* and *kalo* should be planted so they will grow "upright" (*ka*) in the soil. *Kalo* planted will have a single main stalk if planted on Kūkaahi, or two on Kūlua, and three on Kūkolu. *Mai'a* planted during the Kū period will be tall.

'OLEKŪKAHI - 'OLEPAU

Seventh to tenth nights

This is an unproductive time for *'ole* means "nothing," "without," or "unproductive." Some recommend that planting be avoided until *'ole pau* which ends the nonproductive period. Breadfruit, for example, may be planted on *'olepau*.

HUNA

Eleventh night

It is on this night that the sharp points of the moon's horns are finally hidden as *huna* (hidden) implies. Farmers favor root plants (e.g., *uala*), that will flourish, hidden under dense foliage, or *ipu* that hides under a thick growth of leaves.

MOHALU

Twelfth night

Flowers planted on this night will mature with full form, as will *kalo*, *uala*, and *ipu*. Fruits, fish and *limu* were *kapu* for this night was sacred to Kāne, the life-giver. This night begins the *kapu* period called *Hina*.

APPENDIX II: SOME EXAMPLES OF PŪLE MAHI'AI

This appendix is a compilation of some example *pule mahi'ai* (agricultural prayers) that would have been used at appropriate times in the course of agricultural practice in ancient Hawai'i. Line for line translations are provided. Endnotes for each *pule* typically indicate the source, and provide interpretation on the meanings of and appropriate usage of the *pule*.

**E Kāne-au-loli-ka-honua... O Kāne-changer-of-the-earth...
Pule hōluulu'ai**

<p>E Kāne-au-loli-ka-honua Honu ne'e pū ka 'āina Ulu nakaka kāwahawaha ka honua Ulu ka 'ai hāpu'u, e Lono 'Ōhi malo'o kupukupu 'Ōhi a'ā nā 'uala o nā pali Pali kā kāwahawaha ka ua Ka ua hā'ule mai Hā'ule lani ka 'uala He 'āweu ke kalo He laulua pili ka nāwao 'O wao akua ka 'ai, e Kāne</p>	<p>O Kāne-changer-of-the-earth [Like a] creeping turtle, the land! Spreading shaking fissures [in] the land Growing [is] the edible tree-fern Gather dried kupukupu fern Gather roots [of] sweet potatoes of the cliffs Steep cliff, furrowed [is] the rain The rain [that] falls hither Falling [from] heaven the sweet potato 'Āweu [a wildland-form] [is] the taro Laulua [taro variety] mixed with the nāwao Of [the] upland zones [is] the food, O Kāne</p>
<p>E Kāne! E Lono! Nā akua mahi'ai Hō'ola i ka 'āina A pohō ka 'ai A ulu kupukupu A ulu lau po'o'ole A 'o ka nui ia o ka 'ai Āu, e Kāne a me Lono 'Āmama, ua noa</p>	<p>O Kāne! O Lono! Gods of the farmer Vivify the land Until surfeit [is] the vegetable-food Until growth sprouts-exceedingly Until growth [of] leaves [is] endless! Until there is plenty of vegetable-food Yours [to grant], O Kāne and Lono Completed, [the prayer is] freed</p>

NOTES: In Malo (Hawaiian Antiquities, p. 158), Emerson calls this pule a *hōluulu'ai*, asking for plentiful food, performed in the open and in public. Emerson sources Politepa of 'Awaiohima (Honolulu), via Rev. Kapohaku of Kula, Maui. Emerson's translation is less than literal, and I've tried to adjust it here. Kumu John K. Lake provided this oil with notes that this is a chant to bring life (hō'ola), offered to Kāne, god of creation, and Lono, god of peace, agriculture, fertility. One of the forms of Lono is Mauiola, who brings life and casts out sickness. The prayer asks for life to come to earth-mother Pāpahanamoku. Additional footnotes below:

1. Honu ne'e pū ka 'āina - the Hawaiian Dictionary specifically lists the phrase literally as "the land moves as a turtle creeps," figuratively, the responsibility for the land eventually passes to the heirs of the land. Perhaps it suggests that while we acknowledge the help of the akua to vivify the land, we kānaka are responsible for stewardship of the land.
 2. He 'āweu ke kalo, He laulua pili ka nāwao - 'āweu is a taro variety often found growing wild. The laulua, another variety, also called hāloa (thus linked to the original taro of creation), is also found naturalized (growing wild). The term pili ka nāwao can mean "growing mixed with (pili) the taro gone wild (nāwao). Alternately, the endemic kamawao (*Cyrtandra* spp.) plants grow in wet forest gulches (wao akua). Thus the two lines describe what people do in famine times: turn to wild sources of food - food from the upland forest realm of the gods (hence, the line: O wao akua ka 'ai).
 3. A ulu lau po'o'ole - The Hawaiian Dictionary lists po'o'ole as literally "without head" implying illegitimacy. However under the word po'o is the definition "end of a leaf," so perhaps lau po'o'ole suggests continual proliferation of leaves without end. Of course, lau can mean "leaf," "to leaf out," or "very many," all appropriate for a pule hōluulu'ai.
- Finally, note that the words 'ohi (gather) and ohi (slips from shoots or roots) might both be applicable in the line: 'Ōhi a'ā nā 'uala o nā pali. Either one gathers ('ohi) wild sweet potatoes from the cliffs, or the prayer asks that such potatoes sprout (ohi), providing food during famine... S. M. Gon III

**E ke akua... E ke akua...
Pule hō'ōla 'āina Prayer to heal the land**

<p>E ke akua: He pule ia e holo'i ana i ka pō'ino o ka 'āina a me ka pale a'e i pau ko ka 'āina haumia He pule ia e hō'opau ana i nā hewa o ka 'āina a pau I pau ke a'e, me ka kawaū I pau ke kulopia, a me ka pō luluaka I pau ka hūlialana. A laila, nihopeku, hō'emu, hūikala, malapakai Kāmaui hou i ke akua, e!</p>	<p>O god: This is a prayer to cause cleansing of the misfortunes of the land and to ward off all of the land's desecration This is a prayer to cause ending of all wrongs of the land that the blight ends, and moistness returns that the decay ends, and the peace returns that the bitterness ends. And therefore, buds-shooting, weeding, complete cleansing, vines overgrowing Renew offerings thanking the akua!</p>
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NOTES: This pule can be found in Malo (p. 190), and was shared by Kumu John K. Lake. No particular akua is specified in this prayer to remove blights and other problems from the land. It is presented here as an example of the kind of prayer that might be used to ward off diseases and other crop problems as part of the cycle of a greener in Hawaii. It is interesting to note that disease and other misfortune is linked to desecration (*haumia*) and requires spiritual cleansing (*hūikala*) in order to right the wrongs and bring healing and renewed growth. Similarly, it is instructive to see that a single word (*Kāmaui*) has the specialized meaning of "offering presented in thanks for abundant crops." The morphemes of the word being *ka* (an unusual word that can mean "strike, swing, hit, curse, bail, thrust, fling, tie, remove, or snare" and implying action undertaken with great intensity) and *maui* (seat of life, spirit)... S. M. Gon III

**E kēlā ao nui...
Pule ho'omalua**

<p>E kēlā ao nui 'ele'ele: i ka maka o ka 'ōpua la o lalo iho E malū, malū kia'i Kia'i 'oe i ko kāua waena nei la E ke ao nui: Malū 'oe i ko kāua waena nei la E ke ao nui: Malū 'oe mai kēlā kīhi ā keia kīhi E malū 'oe mai kēlā iwi ā keia iwi Mai malū 'oe i ko ha'i waena o huhū ia 'oe i ka pūmi o ka lā Ko'eko'e auane'i i ka mea nona ia waena E ke ao nui e! E malū nō 'oe i ko kāua waena nei Malū 'oe i ka makālua Malū 'oe i ka lau o ka kāua 'ai i ulu i pūha ka makālua i ka 'uāla (ke kalo) E ke ao nui: E malū i ko kāua waena mai uka ā kai Malū nā'e ā lalo</p>	<p>Say! that large black cloud in the face of the rain cloud below Cast a shadow, a watchful shadow Watch thou over this, our field Say, large cloud: Cast a shadow from that corner to this corner Say, large cloud: Cast your shadow from that side to this Cast your shadow from that border to this Do not cast your shadow on the field of others or you'll be censured for obscuring the sun The owner of that field might be chilled Say large cloud! Cast your shadow indeed on this, our field Shade thou the holes Shade the leaves of our growing food that the hole be filled with 'uāla (kalo) Say large cloud: Shade our field from mountainward to seaward From the windward to the lowland</p>
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NOTES: From Fomander V.683 comes this *pule* that asks for shady protection of newly planted 'uāla (sweet potatoes) for dryland kalo). Clouds of this sort are the *kinolau* of Lono, so although no deity is mentioned, this may be considered a *pule* to Lono. By its nature, this *pule* is intended for presentation in the field, rather than at a *heiau* ho'oulu 'ai... S. M. Gon III

**That large cloud...
Prayer for shade**

**E Kūkūlia...
Pule Kāmauli**

<p>E ke akua: E Kūkūlia, E Kūkeoioa E Kūkeapoko, E Kūkeolewa E Kūkeaohe'omūhāmihāikalani E Kūpūpūpū, E Kūmōkūhā'i'i E Kūka'ōhi'alaka Ou mau kino e Kamaikalani, e Kānepua'a Eia ka 'ai, eia ka i'a Eia ka 'ai e ke akua e Kāhela e ka wahine e moe ana i luna ke alo Moe-a-hānuna, 'o Mīlūko'o, ā Kale'āhulu, 'o Pahukini, 'o Pahūlau, 'o Kulana-a-ka-pahu 'o 'Olekāhūa, 'o Kapapa'ialaka, 'o Kapaepaenuialeimoku e E ala, e ala e ka ua, e ka lā, e ka pō 'Ohu kolo mai i uka, 'ōhu kolo mai i kai Kai kāne, kai wahine, kai ulala, kai behena, kai pi'i'āku e! Ua puni nā moku i ke kai 'o hu'āhu'a nui kai, a ka 'ale ihi, a ka 'ale moe, a ka 'ale hāko'iko'i i kalana a Kahiki e! E ola, e ola i ka mō'i, e ola i nā ali'i, e ola i ka hū, i ka maka'āinana E ola ia'u, i ka mahi'ai nui, e ola i ko'u 'ōhanaa, e ola i ko'u 'ōhua, e ola i ka 'ai'ai ia'u, a ka mahi'ai nui 'Eli'eli i'o la honua 'Amama, ua noa, tele wale aku la E 'ai, e 'ai!</p>	<p>O God O Kū [of] striving, O Kū the long cloud O Kū the short cloud, O Kū the floating cloud O Kū the dark cloud of heaven O Kū undergrowth, O Kū spreading greenery O Kū the 'ōhi'a [tree of] Laka Your many forms, o Kama in the heavens, O Kāne [the] hog Here is the food, here is the meat Here is the food, o god, o Kahela, the woman who lies face upward Moe-a-hānuna, 'o Mīlūko'o, a Kale'āhulu, 'o Pahukini, 'o Pahūlau, 'o Kulana-a-ka-pahu 'o 'Olekāhūa, 'o Kapapa'ialaka, 'o Kapaepaenuialeimoku e Awake, arise o rain, o sun, o night Mists crawling upland, mists crawling seaward Rough sea, mild sea, mad sea, delirious sea, numbing sea The islands are surrounded by sea, great foaming sea small billows, low billows, turbulent billows floating from Kahiki Grant life, life to the king, life to the chiefs life to the masses, to the commoners Grant life to me, the great farmer, to my family life to my household, life to my dependents, [those] of the great farmer Profoundly upon the earth Completed, it is freed, it has flown off Eat, eat!</p>
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NOTES: This *pule*, from Kamakau (1976 p 30-1) accompanies offerings of thanks to the *akua* of the *mahi'ai* at successful harvest. It is notable for its mentioning of many *inoa akua* of importance to the *mahi'ai*. Perhaps 20 *akua* are named, including many Kū forms. There is a clear *kāhea* (address to the gods), followed by 'āhana (offering), *noi* (request), and *pāni* (closing). The 'āhana is augmented by poetry and includes another *kāhea* phase in which several forms of the goddess Kāhela (an earth goddess?) are named (perhaps because the offerings are of the earth). Kamakau noted that this *pule* was uttered by the farmer if the fields were his own, but was presented by the *kāhuna pule* of the *mō'i* if this *pule* was for the royal fields.

**E Kūmokuahāli'i...
Pule kālai 'ō'ō**

E Kūmokuahāli'i
E Kūpūpūpū
E Kū'ālanawao
E Kūpā'aikē'e
E Kūho'oholopali
Ke kua nei au i ke kumu o ka lā'au
I ka ʻēlu, i ka 'alā
E 'ike mai ia'u i kālai 'ō'ō
He kauila ka 'ō'ō
mahī'ai au i ka 'āina kula
He 'uala ka 'ai
He kalo malo'o ka 'ai
He uhi ka 'ai
He mai'a ka 'ai
He wauke ka 'ai
He kō ka 'ai
E 'ike mai ia'u, i ka mahī'ai nui
Ho'i i ka pulapula i ke ao
'Āmama, ua noa

**O Kūmokuahāli'i...
Digging stick carving prayer**

O Kū spread over the island
O Kū forest litter
O Kū upland offering
O Kū removing imperfection
O Kū running on the cliff
I am bawing the base of the tree
[And] at the treetop, with the hard stone [adze]
Look upon me who carved the digging stick
A digging stick of kauila wood
with which to farm the kula lands
Sweet potato is raised
Dryland taro is raised
Yam is raised
Banana is raised
Paper mulberry is raised
Sugarcane is raised
Look upon me, the great planter
Return to your descendants of this world
Completed, it is freed.

NOTES: A carving prayer to Kū in his many forest forms. The forest connection is made by the source of the 'ō'ō, a kauila tree taken from the realm of Kū; native forest. The majority of the Kū deities mentioned are forest deities, with the exception perhaps of Kūpā'aikē'e: a deity credited with the invention of the adze. The literal translation of pā'ai kē'e is "strokes consuming faults," which is precisely what the fine adze blows of a craftsman does when turning a rough branch of kauila into a fine agricultural tool. This pule is a good example of how one of the major gods, Kū, not normally thought of as a god of agriculture, may be placed within the religious protocol of the mahi'ai... S. M. Gon III

**E ku'u akua i ke o'o
Pule o'o kalo**

E ku'u akua i ke o'o ana o ke kalo
E Kūkeolowalu
a kakahiaka e uhuhi ka 'ai a kākou
e hūhūhi ka 'ai, e auamo ka 'ai
E hō'ā ka umu o ka 'ai
e kal'ya ka umu o ka 'ai
e huz'i ka umu o ka 'ai
e 'ini ka 'i'i o ka 'ai
e ku'i ka 'ai a kākou
e hāhao ka 'ai i ka 'umeke
e hō'owali ka 'ai a kākou
e Kūkeolowalu la
E kākā ka wahie, e hō'ā ka umu
e 'u'umi ka pua'a,
e unuuu ka hulu o ka pua'a,
e kua'i ka pua'a
E kalua ka imu o ka pua'a a kākou
e Kūkeolowalu
Ua mo'a ka pua'a, e 'oki'oki ka pua'a
E 'ai kāne, e 'ai wahine, e 'ai kamali'i
i ka pua'a i ke poi, i ke kalo a kāua,
a ka mahi'ai nui
E Kūkeolowalu
e papaiki, e papanui
'eli'eli kapu, 'ēi'ēi noa
i ola honua
'Āmama, ua noa, lele wale aku la

**E ku'u akua i ke o'o
Prayer for maturing taro**

O my god that matures the taro
O Kū of joint effort
At dawn, harvest the food of ours
bunch the food, load the food on carrying stick
ignite the oven for the food
bake in the oven for the food
uncover the oven for the food
peel the skin of the food
pound the food of ours
put the food into the bowl
mix [with water] our food
O Kū of joint effort
Strike the firewood, light the oven
strangle the pig
singe the bristles of the pig
disembowel the pig
bake in the oven for the pig of ours
O Kū of joint effort
The pig is cooked, cut up the pig
Let men, women and children eat
of the pig, with poi, of our taro
of the great farmer
O Kū of joint effort
of the lesser ranks, of the greater ranks
profound kapu, profound freeing of kapu
that the earth lives
Completed, freed, [the prayer] flies off!

NOTES: From Kamakau (25 November 1869) comes this pule kāmauī (prayer of harvest thanks) that is clearly designed to accompany first harvest offerings to Kūkeolowalu. It is instructive that Kūka'ō'ō is listed by Pukui and Elbert as an alternate name for Kūkeolowalu, and therefore, perhaps that this pule is one of the more appropriate to choose as an example of one that may have been part of the protocol at the heiau Kūka'ō'ō in Mānoa, O'ahu. It also provides considerable detail regarding the nature of the offerings presented, and their preparation, which matches well the protocol for first harvest offerings described by Malo (p. 206).

**E Kūmokuhālī'i...
Pule kālai 'ō'ō**

E Kūmokuhālī'i
E Kūpūlupulu
E Kū'ālanawao
E Kūpā'a'ike'e
E Kūho'oholopali
Ke kua nei au i ke kumu o ka lā'au
I ka ʻēulu, i ka 'alā
E 'ike mai ia'u i kālai 'ō'ō
He kauila ka 'ō'ō
mahi'ai au i ka 'āina kula
He 'uāla ka 'ai
He kalo malo'o ka 'ai
He uhi ka 'ai
He mai'a ka 'ai
He wauke ka 'ai
He kō ka 'ai
E 'ike mai ia'u, i ka mahi'ai nui
Ho'i i ka pulapula i ke ao
'Āmama, ua noa

**O Kūmokuhālī'i...
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O Kū running on the cliff
I am heaving the base of the tree
[And] at the treetop, with the hard stone [adze]
Look upon me who carved the digging stick
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Look upon me, the great planter
Return to your descendants of this world
Completed, it is freed.

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Pule o'o kalo**

E ku'u akua i ke o'o ana o ke kalo
E Kūkeolowalu
a kakahiaka e uhuiki ka 'ai a kākou
e hūhūi ka 'ai, e auamo ka 'ai
E ho'i ka umu o ka 'ai
e kalua ka umu o ka 'ai
e hūz'i ka umu o ka 'ai
e 'ihi ka 'i'i o ka 'ai
e ku'i ka 'ai a kākou
e hāhaa ka 'ai i ka 'umeke
e ho'owali ka 'ai a kākou
e Kūkeolowalu la
E kākā ka wahie, e ho'ā ka umu
e 'u'umi ka puā'a,
e ununu ka hulu o ka puā'a,
e kua'i ka puā'a
E kalua ka imu o ka puā'a a kākou
e Kūkeolowalu
Ua mo'a ka puā'a, e 'ōki'ōki ka puā'a
E 'ai kāne, e 'ai wahine, e 'ai kamali'i
i ka puā'a i ke poi, i ke kalo a kāua,
a ka mahi'ai nui
E Kūkeolowalu
a papaiū, a papanui
'eli'eli kapu, 'eli'eli noa
i ola honua
'Āmama, ua noa, lele wale aku la

**E ku'u akua i ke o'o
Prayer for maturing taro**

O my god that matures the taro
O Kū of joint effort
At dawn, harvest the food of ours
bunch the food, load the food on carrying stick
ignite the oven for the food
bake in the oven for the food
uncover the oven for the food
peel the skin of the food
pound the food of ours
put the food into the bowl
mix [with water] our food
O Kū of joint effort
Strike the firewood, light the oven
strangle the pig
singe the bristles of the pig
disembowel the pig
bake in the oven for the pig of ours
O Kū of joint effort
The pig is cooked, cut up the pig
Let men, women and children eat
of the pig, with poi, of our taro
of the great farmer
O Kū of joint effort
of the lesser ranks, of the greater ranks
profound kapu, profound freeing of kapu
that the earth lives
Completed, freed, [the prayer] flies off!

NOTES: From Kamakau (25 November 1869) comes this *pule kāmauī* (prayer of harvest thanks) that is clearly designed to accompany first harvest offerings to Kūkeolowalu. It is instructive that Kūka'ō'ō is listed by Pukui and Elbert as an alternate name for Kūkeolowalu, and therefore, perhaps that this *pule* is one of the more appropriate to choose as an example of one that may have been part of the protocol at the *heiau* Kūka'ō'ō in Mānoa, O'ahu. It also provides considerable detail regarding the nature of the offerings presented, and their preparation, which matches well the protocol for first harvest offerings described by Mālo (p 206).

Ou kino e Lono...
Pule ho'onoa

Your bodies, O Lono...
Prayer of kapu lifting

<p>[Kahuna:] Ou kino e Lono i ka lani He ao loa, he ao poko He ao kiei, he ao halo He ao ho'opua i ka lani Mai Uliuli, mai Meleniele Mai Polapola, mai Ha'eha'e Mai 'Ōma'oku'uhulu Mai ka 'āina o Lono I hānau mai ai. 'O! ho'oku'i aku o Lono Kā hōkū e miha i ka lani Amoamo ke akua iā'au nui o Lono Ku'iku'i papa ka lua mai Kahiki Hāpaina, kūka'a i ka hau miki no Lono E kū i ka malo 'āhiu!</p>	<p>[Kahuna:] Your bodies O Lono in the heavens A long cloud, a short cloud A watchful cloud, a peering cloud An overlooking cloud in the heavens From Uliuli, from Meleniele From Polapola, from Ha'eha'e From 'ōma'oku'uhulu From the land of Lono That which gave [him] birth. Ahi! Lono places on high The star that sails in the heavens. Resplendent is the great wooden image of Lono. Linking the two [dynasties] from Kahiki. Lifted, purified in the essence of Lono Stand up, malo girded for wildness!</p>
<p>[People:] Hui! [Kahuna:] 'O Lono [People:] Ke akua iā'au [Kahuna:] Aulu! [People:] 'Aulu e Lono!</p>	<p>[People:] Fling! [the pola in girding (?)] [Kahuna:] Oh Lono! [People:] The wooden god-image [Kahuna:] Hail! [People:] Hail to Lono</p>

NOTES: From Malo 1951 p 146-7 and Guzman p 107. This *pule* was offered to the god Lono during the Makahiki, typically after first harvest offerings were collected. It was used to declare the land free from *kapu* at the conclusion of the rites of the Makahiki. Translation given by Kumu John Lake January 1996. Style of *oli* is *kepaepa*, but with certain slow-starting lines: Ou kino, 'O! ho'oku'i, Amoamo, Ku'iku'i, and Hāpaina are the lines.

APPENDIX B
APPROVAL LETTER FROM THE
STATE HISTORIC PRESERVATION DIVISION

BENJAMIN J. CAYTELANO
GOVERNOR OF HAWAII



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kaluhonua Building, Room 555
401 Kamehaha Boulevard
Honolulu, Hawaii 96813

TRUSTEE E. JOHNS, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

SCIENTIST
JANET E. LAWRENCE

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

June 14, 1999

Ms. Lisa Leonillo Imata, Planner
Plan Pacific
737 Bishop Street, Suite 1520
Honolulu, Hawaii 96813

LOG NO: 23605
DOC NO: 9906rm09
Architecture

Dear Ms. Imata:

SUBJECT: Kukao'o Heiau Interpretive Program
TMK: 2-9-19:43, Manoa, Honolulu, Oahu

Thank you for your transmittal on the above proposal. We support the efforts of the Kualii Foundation for the educational opportunities they will be giving to the people of Hawaii through this interpretive program. Since the land has been heavily developed for homes and recently graded for the subdivision, we do not believe there will be any impact to archaeological sites. We believe the Major and Minor Permit to conduct these educational tours will have "no effect" on the historic character of the *heiau* or the adjoining historic residence.

We look forward to reviewing the schematic site plan and building plans as they develop. Should you have further questions regarding the architectural plans, please feel free to call Tonia Moy at 692-8030. Thank you for the opportunity to comment.

Aloha,

DON HIBBARD, Administrator
State Historic Preservation Division

TM:lm

APPENDIX C
SITE REGISTRATION FORM FOR LISTING ON
THE HAWAII REGISTER OF HISTORIC PLACES

Note: Registration of the heiau as a historic place on the Hawaii Register was done in 1995 as an amendment to the 1984 registration of the Cooke residence. The following form is the 1995 amended registration to include the heiau. The heiau is not highlighted on the form, but it is mentioned on the last paragraph of Section 7, Page 2 of the registration form. Registration of the heiau with the National Register of Historic Places has been submitted, but approval is still pending.



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESERVATION DIVISION
25 SOUTH KING STREET, 8TH FLOOR
HONOLULU, HAWAII 96813

RECEIVED
DEPARTMENT OF LAND AND NATURAL RESOURCES
HONOLULU, HAWAII

DEPT. OF LAND AND NATURAL RESOURCES

- AGRICULTURAL DEVELOPMENT
- ADULT EDUCATION
- CONSERVATION AND
- ENVIRONMENTAL AFFAIRS
- CONSTRUCTION AND
- CONSERVATION
- ENERGY SERVICES
- PROPERTY AND RECORDS
- PLANNING AND ADMINISTRATION
- LAND MANAGEMENT
- STATE PARKS
- WATER AND LAND DEVELOPMENT

September 12, 1995

Mr. Sam Cooke
2859 Manoa Road
Honolulu, Hawaii 96822

Dear Mr. Cooke:

Site: Charles Montague Cooke, Jr. Residence

The Hawaii Historic Places Review Board is pleased to inform you that at its hearing on September 9, 1995, a decision was made to place the property described above on the Hawaii Register of Historic Places and to recommend to the State Historic Preservation Officer that he nominate the property for placement on the National Register of Historic Places.

If you have any questions, please do not hesitate to call 587-0047.

Sincerely yours,

Richard K. Paglinawan
RICHARD K. PAGLINAWAN
Chairperson

RP:jen

c: County of Honolulu Planning Department

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM

This form is for use in nominating or requesting determinations for individual properties and districts. See Instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classifications, materials, and uses of significance, state only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

Historic name CHARLES MONTAGUE COOKE, JR. RESIDENCE

other name/site number KUALI

2. Location

street & number 2859 Manoa Road not for publication X

city or town Honolulu vicinity Manoa Valley

state HAWAII code HI county HONOLULU code 003 zip code 96822

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this _____ notification _____ request for _____ determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property _____ meets _____ does not meet the National Register Criteria. I recommend that this property be considered significant _____ nationally _____ statewide _____ locally. I _____ See continuation sheet for additional comments.

Signature of certifying official _____ Date _____

Title of Federal agency and bureau _____

In my opinion, the property _____ meets _____ does not meet the National Register criteria. I _____ See continuation sheet for additional comments.

Signature of sponsoring or other official _____ Date _____

Name of Federal agency and bureau _____

4. National Park Service Certification

I hereby certify that the property is:

listed in the National Register

determined eligible for the National Register

See continuation sheet.

determined not eligible for the National Register

removed from the National Register

other (specify) _____

Signature of Keeper _____ Date of Action _____

LESLIE M. NIMIP Expedition Form
(Property Name) CHARLES MONTAGUE COOKE, JR. RESIDENCE
(County and State) HONOLULU, HAWAII 96822

5. Classification

Ownership of Property
(Check as many boxes as apply)
 private
 public-local
 public-State
 public-Federal

Category of Property
(Check only one box)
 building(s)
 district
 site
 structure
 object

6. Function or Use

Historic Functions (Enter categories from list below)
Cat: Domestic

Current Functions (Enter categories from list below)
Cat: Domestic

7. Description

Architectural Classification (Enter categories from list below)
Late 19th & 20th Century Revival: Tudor Revival

Materials (Enter categories from list below)
foundation: Masonry
roof: Composition
walls: Stone
other: Stucco with half timber 2nd floor

Narrative Description

(Describe the historic and current condition of the property on one or more continuation sheets.)

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing)
N/A

Number of Resources within Property
Contributing Noncontributing
- 1 - buildings
- 1 - sites
- 1 - structures
- 1 - objects
- 1 - Total

Number of contributing resources previously listed in the
National Register 0

Sub: Single Dwelling

Sub: Single Dwelling

OMB No.

April Form 10-800-8
PS-88

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 1 CHARLES MONTAGUE COOKE, JR. RESIDENCE HAWAII
name of property county and State

The Charles Montague Cooke Jr. Residence is a two-story Tudor revival style house. The house is situated at the top of a hill in Maunaloa Valley and has a large front lawn landscaped with several mature monkey pod and shower trees. The front of the house is separated from Maunaloa Road by a stone wall, and a circular drive provides vehicular access to the property. The house is characterized by its steep gable roof, prominent porte-cochere, and a facade featuring blue stone on the first story and half-timber and stucco on the second.

The main body of the house is three bays wide, with a kitchen wing extending off the right (makai, ocean) side. The center bay is dominated by a porte-cochere which has blue stone piers supporting a second floor sitting-room that is capped by a gabled roof. The porte-cochere's sitting room was added in 1937 and contains double hung sash windows on the left side and front side. Openings on the right (makai, ocean) side are only screened. A massive wood door with wrought iron fixtures leads from the porte-cochere into the house. Above the porte-cochere is a gabled dormer, treated in a half-timber and stucco manner, breaks the roofline of the house.

Both the left and right bays of the main house terminate with high pitched auxiliary gables with finials. The left bay has on the first story a pair of sliding doors, each of which has a window of twenty-five panes. The twenty-one light transoms extend over this doorway, which leads into the living room. Corbels "support" the outer second story which contains four casement windows. The gable has a pair of casement windows that provide light and ventilation for the attic. The right bay repeats the left, only instead of sliding doors on the first story, there are three casement windows with twelve light transoms.

The kitchen wing has three 16 X 1 double hung sash windows, and a gabled entry. A bell next to the doorway was originally used to call the dairy workers in from the fields for lunch. A blue stone chimney is at the end of this wing. It originally was used in conjunction with the kitchen's wood stove. Another blue stone chimney is at the other end of the house and services the living room fireplace.

The second floor of the kitchen wing originally contained a sleeping porch, but in recent years this was converted to a den. A gabled entry at the end of the kitchen wing provides access to a basement kitchen and maid's quarters.

The interior of the house also retains its original character. The central entry hall features a paneled wainscot, coffered ceiling and large stairway leading to the second floor. The living room has a similar wainscot, an open beam ceiling, two alabaster chandeliers, and brass light fixtures mounted on the wall to flank each opening. A brick fireplace dominates the end wall. The dining room has a coffered ceiling, a delicate brass chandelier, wall light fixtures, and a mirrored double door of twenty lights that opens to a built-in china/silver storage area. A pair of sliding doors each of twenty-five lights leads from the dining room to a rear porch.

April Form 10-800-8
PS-88

OMB No.

UDAVING HUIOJ Lajalandia Pava
(Property Name) CHARLES MONTAQUE COOKE, JR. RESIDENCE
(County and State) HONOLULU, HAWAII 15221

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section 7 Page 2 CHARLES MONTAQUE COOKE, JR. RESIDENCE HAWAII
name of property county and State

Upstairs there are five bedrooms, each with their own bath. These contain original light, fixtures, and call bell buttons (no longer functional). An open, second story lanai is off the master bedroom. The kitchen has been remodeled; however, several original light fixtures remain intact.

A walkway goes around the house and in the rear is a modest sized terraced lawn. On the north side of the house is a rock garden with waterfall and small pool. The back yard jets out to a gazebo located situated on a knoll that commands a view of the entire valley. Also found on the northern side of this outcrop is Kaka'o Heiau. A large ancient unadorned stone religious temple.

UDAVING HUIOJ Lajalandia Pava
(Property Name) CHARLES MONTAQUE COOKE, JR. RESIDENCE
(County and State) HONOLULU, HAWAII 15221

8. Statement of Significance

Applicable National Register Criteria
Mark "X" in one or more boxes for the criteria qualifying the property for
National Register listing:

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations

(Mark "X" in all of the boxes that apply.)

Property is:

- A owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace of a grave.
- D a cemetery.
- E reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years of age or achieved significance within the past 50 years.

Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

- Previous documentation on file (NPS):
 - preliminary determination of individual listing (36 CFR 67) has been requested.
 - previously listed in the National Register
 - previously determined eligible by the National Register
- Primary Location of Additional Data:
 - State Historic Preservation Office
 - Other State agency
 - Federal agency

Area of Significance

(Enter categories from instructions)

ARCHITECTURE

Period of Significance

1812

Significant Dates

1912

Significant Person

(Complete if Criterion B is marked above)

NA

Cultural Affiliation

N/A

Architect/BUILDER

Emory A. Webb

- designated a National Historic Landmark
- recorded by Historic American Buildings Survey
- recorded by Historic American Engineering Record
- Local government
- University
- Other

Name of repository: _____

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 8 Page 1 CHARLES MONTAGUE COOKE, JR. RESIDENCE HAWAII
name of property county and State

The Charles Montague Cooke Jr. Residence is architecturally significant as an outstanding example of a Tudor revival residence in Hawaii. Its massive bluestone and half-timber and masonry facade lends over its large front lawn and neighborhood in a baronial fashion, making it one of the best known examples of the style in the state. It, along with several other houses in Manoa and Nu'uuanu Valleys, stands as a prime example of this residential form in Hawaii.

The Residence shares its premises with an ancient Hawaiian agricultural temple, Kuka'o'o Heiau. The Heiau is archaeologically and ethnically (Pacific Islander) significant, having legendary as well as prehistoric associations with Manoa Valley and O'ahu island. When the Residence was originally being conceived, demolition of this temple was considered. Instead the temple was spared and the Residence was sited to peacefully coexist with the heiau. The house takes its name Kua'i'i, from one of the early chiefs of O'ahu known to have worshipped at this site. During the summer of 1994 the heiau was painstakingly retrenched by Billy Fields from Kailua Kona, Hawaii. During the restoration of this site the surrounding land was landscaped with pathways and native Hawaiian plants.

Charles Montague Cooke Sr. gave the land on which this house sits and its surrounding acreage to his son in 1902. On it his son established Kaimi dairy. In 1911, Emory & Webb, a major architectural firm in Honolulu, designed this house, and it stands as one of their major works from this period. Other works of theirs from this time include the Y.M.C.A. (greatly altered) and the First Methodist Church (no longer extant).

The house is also significant for its associations with Dr. Charles Montague Cooke Jr., and the Cooke family in general. Amos Starr Cooke came to Hawaii in 1837 as a missionary. He founded the firm of Castle & Cooke in 1851, which became one of the "Big Five" sugar companies, which dominated so much of Hawaii's economic, social and political history up through World War II. Charles Montague Cooke Jr. was the grandson of Amos Starr Cooke and the son of Charles Montague Cooke. His father was the President of both C. Brewer, another of the "Big Five" firms, and the Bank of Hawaii.

Dr. Charles Montague Cooke Jr. was born in Honolulu in 1874, and attended Punahou and Yale. In 1901 he received his Ph.D. and went to Europe to do scientific work in London and Paris. In 1902 he returned to Hawaii to work at the Bishop Museum, where he made valuable contributions to the field of malacology, the branch of zoology that deals with mollusks, especially with regards to the study of Hawaiian land snails. He headed a number of scientific expeditions throughout Polynesia and was the author of 45 scientific works.

The present owner is the grandson of Dr. Charles Montague Cooke Jr.

10. Geographical Data

Area of Property 80,423 sq. feet

UTM References

(Please add UTM references on a continuation sheet)

Zone Easting	Northing	Zone Easting	Northing
1	3	3	
2	4	4	

Verbal Boundary Description

(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification

(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/surname Mr. Sam Cooke
organization
street & number 2859 Manoa Road date Revised July 1986
city or town Honolulu state HAWAII telephone zip code 96822

Additional Documentation

(Submit the following items with the completed form.)

Continuation Sheets

Maps

A USGS map (7.5 or 15 minute series) indicating the property's location.
A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs

Representative black and white photographs of the property.

Additional Items

(Check with the NPS or FPO for any additional items)

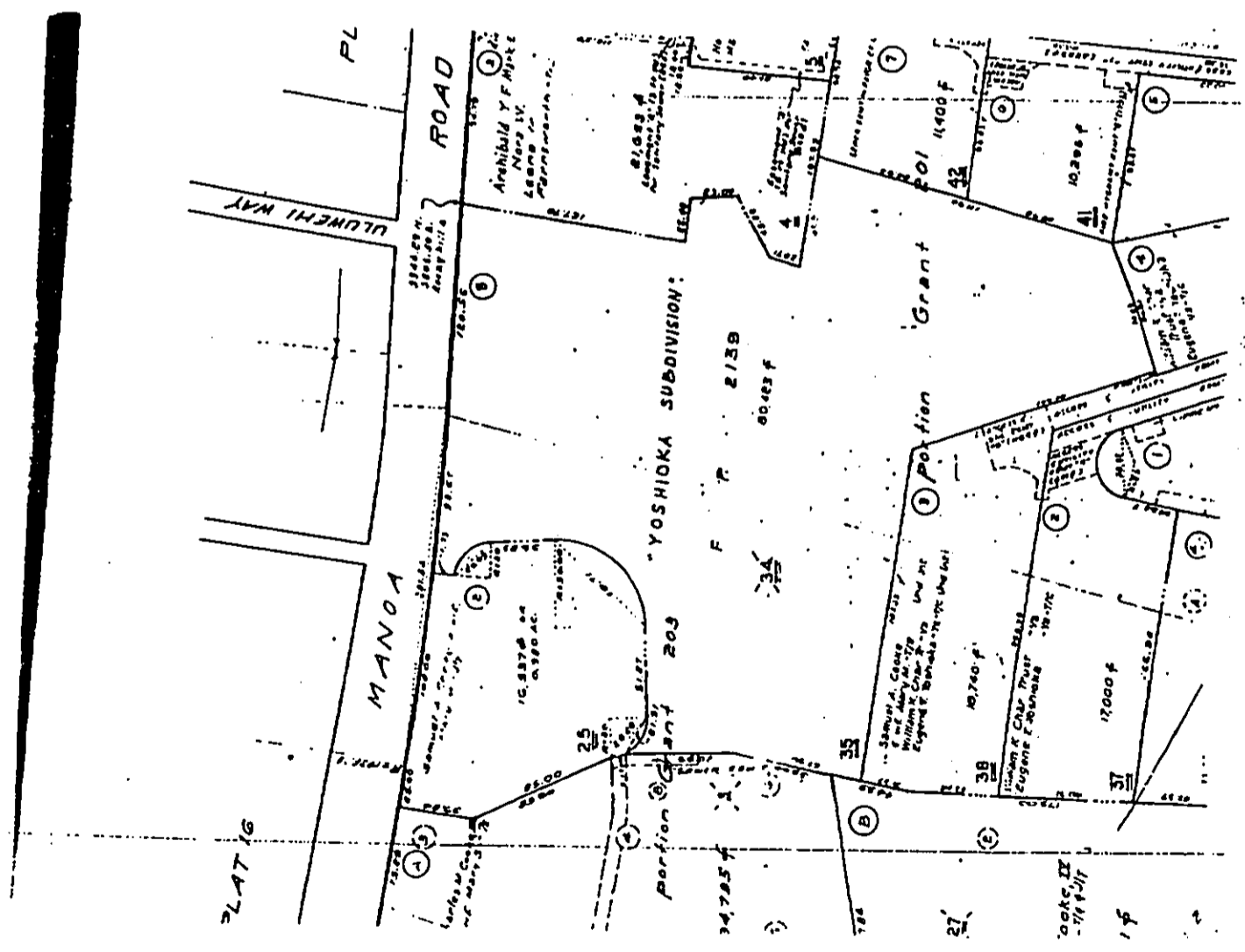
Property Owner

(Complete this item at the request of the NPS or FPO.)

name Mr. Sam Cooke
street & number 2859 Manoa Road telephone
city or town Honolulu state HAWAII zip code 96822

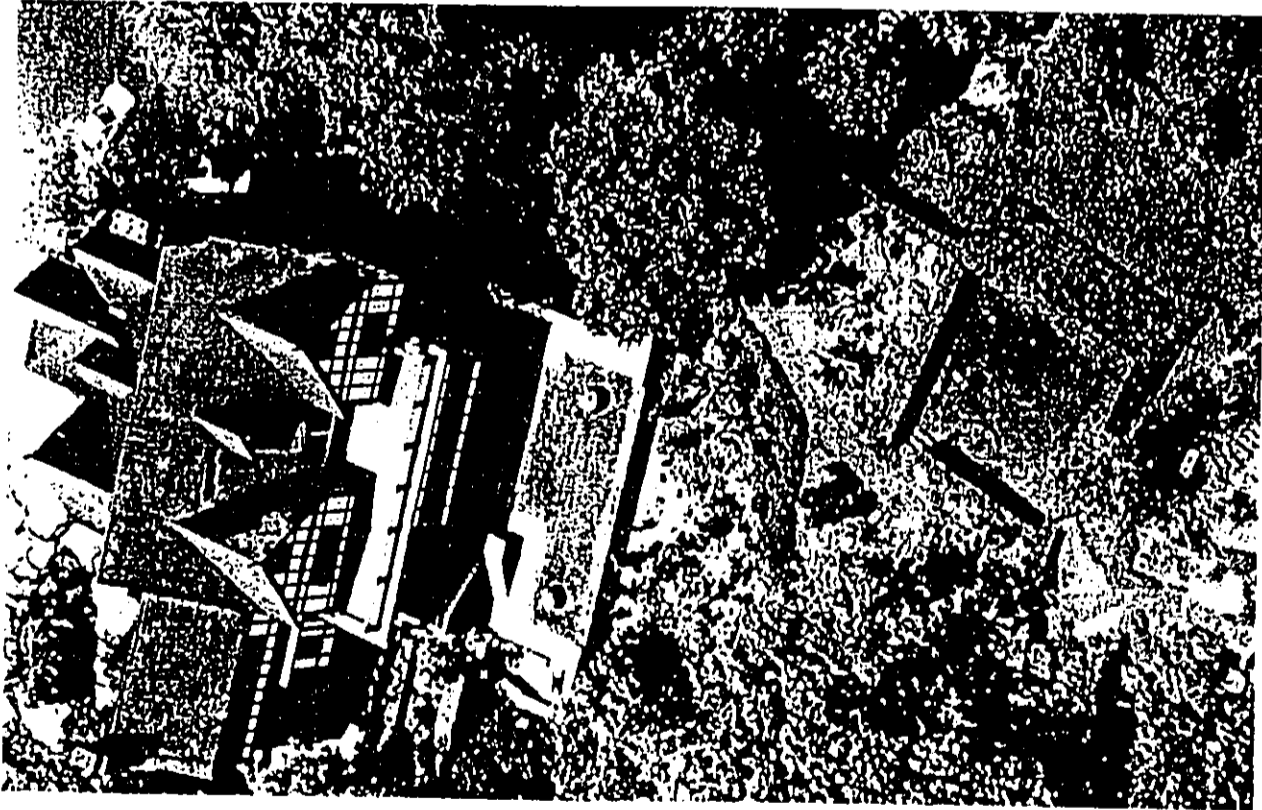
Property Evaluation Act Statement: This information is being collected for applicants to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Architectural Record Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37133, Washington, DC 20013-7133; and the Office of Management and Budget, Paperwork Reduction Project (1024-0018), Washington, DC 20503.



APPENDIX D
VISUAL SURVEY

Photos of Site Conditions at Proposed Mānoa Heritage Center



Left photo: Aerial view of the C.M. Cooke, Jr. Residence, the Kūka'o'o Heiau and the Native Hawaiian gardens.

Below photo: View across Kūka'o'o Heiau toward the mauka extent of Mānoa Valley.





Left photo: The entry to the proposed Heritage Center office, visitor orientation facility and caretaker's residence. The width clearance at the gate is 14 feet. A two-car parking garage is on the lower level directly ahead.



Right photo: Looking makai, the parked vehicle shows how a driveway bends to the left beyond the entry gate, providing a drop-off area in front of the Heritage Center building entrance.



Left photo: Looking mauka, the C.M. Cooke historic residence is in the background. The Heritage Center building is to the right. The mauka portion of this building will serve as the caretaker's residence. The driveway turns to the left to allow vehicles to exit to Mānoa Road.



Right photo: The access gate has a width clearance of approximately 14 feet, which is adequate to accommodate a turning school bus. This driveway also serves as the main ingress and egress for the C. M. Cooke residence, although a second ingress/egress is available approximately 120 feet mauka.

APPENDIX E
INVENTORY OF PLANTS IN BOTANICAL GARDEN

K I Z

many native birds. This tree is often alluded to in Hawaiian poetry and song. A local myth says that picking the flowers will bring rain.

Station 5

Achyranthes Endemic. Endangered. (*Achyranthes splendens* var. *rotundata* AMARANTHACEAE)

'Ala'ala wai nui Indigenous. (*Peperomia leptostachya*, PIPERACEAE) Found in dry mesic forests on rocks, cliffs, ledges and a lava, the leaves and stems of this plant are used to make a grey-green dye.

Alahe'e Indigenous. (*Psydrax odorata*, RUBIACEAE) This native hardwood grows in drier regions, and the wood was used to make 'ō'ō (digging sticks). The leaves were used for making black dye and the flowers prized for making lei. The sweet scent (ala) is thought to slide (he'e) to you on the wind.

Hau kuahiwī Endemic. Endangered (*Hibiscadelphus distans*, MALVACEAE) This whole genus is endemic to Hawai'i and found nowhere else. The petals are fused and tubular, perhaps to encourage birds to sip nectar and thus pollinate the flowers. One species is endangered and the others are candidates.

Hō'awa Endemic. (*Pitiosporum hosmeri* [fr. Big Island])

PITIOSPORACEAE) These are small trees or shrubs. There are three varieties in the garden.

'Ilie'e Indigenious. (*Plumbago zeylanica*, PLUMBAGINACEAE) This wild plumbago is a shrub with small white flowers. Ilie'e means to stain dark brown and the sap from this plant was used to blacken tattoo marks. The oval leaves were also used medicinally.

Kokī'o 'ula Endemic. Endangered. (*Hibiscus clayi*, MALVACEAE)

Hibiscus clayi has a red flower.

Kokī'o 'ula Endemic. (*Hibiscus kokio* subs. *saintjohnianus*,

MALVACEAE) This is very similar to the *Hibiscus clayi*, but is not endangered. On O'ahu it grows up to 20' high.

Kou Polynesian Introduction. (*Cordia subcordata*, BORAGINACEAE) This quick growing tree with its straight trunk has soft and beautifully grained wood. The wood was prized for making calabashes and other utensils. The leaves were used for making a brown dye and the pale golden orange flowers are used for making lei.

Kukui Polynesian Introduction. (*Aleurites moluccana*, EUPHORBIACEAE) Kukui means lamp, light or torch in Hawaiian, and the oil from the kukui nut was used, among other things, to make lamp oil. The meat from the nut was eaten as a relish and the nutshells strung into lei.

Kulu i Endemic. (*Nototrichium sandwicensis*, AMARANTHACEAE) This silver-leafed shrub was used in lei making.

Kupukupu (*Nephtrolepis exaltata* ?) This fern was sometimes added to the hula altar for knowledge.

Ma'o hau hele Endemic. Endangered. (*Hibiscus brackenridgei*, MALVACEAE) In 1988 this yellow native hibiscus was named the official state flower. The flowers, leaves and growth habits vary from island to island. It tends to root where a branch touches the ground and over time it will move, therefore, the name, hau hele.

Milo Polynesian Introduction. (*Thespesia populnea*, MALVACEAE) This tree was planed around homes in old Hawai'i and valued for its wood and fiber. The beautifully grained wood is second only to kou for making calabashes and other wooden utensils. The leaves are heart shaped and the yellow flowers a shaped like a bell with purple centers.

Moa Indigenous. (*Psilotum nudum*, PSILOTACEAE) Because this plant is propagated through spores, it has a wide distribution. It was used medicinally.

Naito Endemic. (*Myoporum sandwicense*, MYOPORACEAE) This small tree or shrub is called "False Sandalwood" because when it is fresh cut, it is scented. It is drought tolerant and has tiny white or pink flowers.

Nanea Indigenous. (*Vigna marina*, FABACEAE) This beach pea is a somewhat succulent creeping or climbing herb used as a ground cover. It has small bright yellow flowers and produces 2" long seed pods. The leaves are thick and notched, forming three leaflets.

Naupaka kahakai Indigenous. (*Scaevola sericea*, GOODENIACEAE) This tough, attractive shrub is often used as a hedge or windbreak. It covers ground and holds the soil well. The half flower is featured in a romantic Hawaiian legend.

'Uki'uki Endemic. (*Dianella sandwicensis*, LILIACEAE) This plant, a member of the lily family, has long smooth, leathery leaves. The light or dark blue fruit is used as a kapa dye.

Station 6

'A'ali'i Indigenous. (*Dodonaea viscosa*, SAPINDACEAE) This plant has the ability to withstand strong winds, hence the saying, "A'ali'i ku makani" (a'ali'i standing in the wind). The wood was used for tools, weapons and timber. Red dye was made to color kapa and the plant was also used medicinally to treat skin ailments. Hawaiians also used the red fruits to make lei.

Hau Indigenous. (*Hibiscus tiliaceus*, MALVACEAE) The fibers of this plant were used for cordage and the light wood for the spars of outrigger canoes. The slimy sap, and the flower buds were used in medicine. The seeds of this plant are viable in salt water for many months, and it is thought that this plant originally came here via water. This plant became a favorite arbor plant in kama'aina gardens.

Hō'awa Endemic. (*Pitiosporum confertiflorum*, PITTIOSPORACEAE)

There are three species in the genus.

Mane'e, a'e Indigenous. (*Sapindus saponaria*, SAPINDACEAE) A

member of the soapberry family, the fruit of this plant is brown-skinned with shiny, yellowish, soapy pulp surrounding a large brown or black seed. The wood was used for digging sticks and spears, and the seeds were used in lei.

Station 7

'Akoko Endemic. (*Chamaesyce celastroides*, EUPHORBIACEAE) 'Akoko means blood colored and the fruiting capsules of this plant are green, pink and red. One species of this plant was chewed for debility.

Alahe'e Indigenous. (*Psidium odorata*, RUBIACEAE) This native hardwood grows in drier regions, and the wood was used to make 'ō'ō (digging sticks). The leaves were used for making black dye and the flowers

prized for making lei. The sweet scent (ala) is thought to slide (he'e) to you on the wind.

Alula Endemic. Endangered. (*Brighamia insignis*, CAMPANULACEAE)

This plant has been called one of the most unusual plants in the world. It can best be described as a cabbage head on top of a bowling pin. It is very rare in the wild although sparse populations can be found on Kaua'i. It will grow to a height of six feet with fragrant flowers occurring from September to early November.

'Ihi Endemic. (*Portulaca molokiniensis*, PORTULACACEAE) Recently discovered on the islet of Molokini this plant has succulent leaves in rosettes and clusters of yellow fragrant flowers.

Loulu Endemic. Endangered. (*Pritchardia* sp. *affinis* & *remota*, ARECACEAE)

The loulu genus is the only true palm of the Hawaiian islands and were once thought to be plentiful in Mānoa Valley. The remota specimens are from the island of Nihoa. Loulu is also the word in Hawaiian for umbrella as these palm leaves were used for protection from sun or rain. **Ma'o** Endemic. (*Gossypium tomentosum*, MALVACEAE) This Hawaiian cotton produces poor quality cotton bolls, but when it is hybridized with cultivated varieties, it produces superior, resistant hybrids. Its lack of nectar glands under the leaves makes it unattractive to ants and other insects. Hawaiians made a green dye from this plant, and the Hawaiian word for green is 'oma'oma'o.

Nānū Endemic. Endangered. (*Gardenia brighamii*, RUBIACEAE) This native gardenia has white tubular fragrant flowers.

'Ōhi'a lehua Endemic. (*Metrosideros polymorpha*, MYRTACEAE) This beloved Hawaiian tree is known for its beautiful red blossoms, leaves and leaf buds (liko). It is a hardwood tree and the blossoms provide food for many native birds. This tree is often alluded to in Hawaiian poetry and song. A local myth says that picking the flowers will bring rain.

Pāpala Endemic. (*Charpentiera* sp., AMARANTHACEAE) This small tree is in the beet family, and the wood is light and flammable. Formerly, Hawaiians on the north coast of Kaua'i used this wood for fireworks, throwing burning pieces off of cliffs.

48

Pūhinahina Indigenous. (*Vitex rotundifolia*, VERBENACEAE) This is a low branched coastal shrub whose leaves grow in pairs on the opposite sides of the branches. Its bluish purple flowers are borne in clusters with small round, dark red fruit that become bluish black at maturity. It is used medicinally.

'Ōlel (also eluehe) Indigenous. (*Ostreococcus anthyllifolia*, LILJACEAE) This shrub or groundcover has compound leaves and small white, rose like flowers. The wood is tough and was formerly used for digging sticks, fish spears and the 'ūkekē, a musical bow.

Station 8

Euphorbia Endemic. (*Euphorbia haeleleana*, EUPHORBIACEAE) This euphorbia was grown from seed and given to Mary Cooke. The plant grows in Waimea Canyon and Hā'e'e Valley on Kaua'i. It was recently discovered in 1985 in the Wai'anae Mountains on O'ahu.

Hala Indigenous, Polynesian Introduction, Post Contact Introduction. (*Pandanus tectorius* var. *laevis*, PANDANACEAE) The hala, or pandanus, had many uses in Hawaiian culture, most commonly for weaving mats and baskets. The aerial root tip (uleule) is a good source of vitamin B and was cooked in ti leaves and used medicinally. The male flower (hinano) is said to be an aphrodisiac.

Hala pepe Endemic. (*Pleomele* sp., AGAVACEAE) This woody tree like plant is a member of the lily family. Its branches have clusters of long smooth, narrow leaves, and the tiny flowers make a drooping inflorescence. This was one of the five standard plants used in the hula altar to Laka.

Hau kuahiwī Endemic. (*Hibiscadelphus distans*, MALVACEAE)

Endangered This whole genus is endemic to Hawai'i and found nowhere else. The petals are fused and tubular, perhaps to encourage birds to sip nectar and thus pollinate the flowers. One species is endangered and the others are candidates.

Hō'awa Endemic. (*Pittosporum confertiflorum*, *hosmeri* & *flocculosum*, PITTOSPORACEAE) There are three species in the garden.

49

Kauila Endemic. (*Alphitonia ponderosa*, RHAMNACEAE) The wood of this tree is very hard and red-and-black streaked. It was used to make tools and mallets.

KI Polynesian Introduction. (*Cordylone fructicosa*, AGAVACEAE) Commonly called ti, this plant was a symbol of purity in old Hawai'i, and its leaves were used in all manner of ceremonies by all classes of people to bless, consecrate, make sacred, and to protect people, places and things from harm. It is still used for these purposes today. When baked, the root caramelizes and was used as a sweet or in times of famine. During the post contact era, the roots were used to make a local liquor called 'okolehao. Kolomona Indigenous. (*Senna gaudichaudii*, FABACEAE) A native shrub with green and yellow flowers.

Ko'olua ula Endemic. Endangered. (*Abutilon menziesii*, MALVACEAE) This plant is related to the hibiscus, the 'ilima and the ma'o. It has slivery heart shaped leaves and small dark red pendant flowers.

Pāmohe (*Nephrolepis cordifolia*, DAVILLIACEAE) An indigenous fern. Maiapilo, pilo, puapilo Endemic. (*Capparis sandwichtiana*, CAPPARACEAE) This vulnerable native plant is a member of the caper family. It grows on some beaches and lava flows. The flowers are fragrant, white and pea shaped but bloom only at night. This is a difficult plant to grow. This particular specimen is from Kaua'i.

Mā'o hau hele Endemic. Endangered. (*Hibiscus brackenridgei*, MALVACEAE) In 1988 this yellow native hibiscus was named the official state flower. The flowers, leaves and growth habits vary from island to island. It tends to root where a branch touches the ground and over time it will move, therefore, the name, hau hele.

Nānū Endemic. Endangered. (*Gardenia brighamii*, RUBIACEAE) Native gardenia with white tubular fragrant flowers.

Nānū Endemic. (*Gardenia mannii*, RUBIACEAE) This gardenia may become a tree 5-15 meters tall. It has cream colored flowers and yellow to orange fruit with a reddish pulp and straw colored seeds. Mannii is a plant which may be placed on the endangered species list. This plant was obtained from the Lyon Arboretum on November 18, 1995.

Noni Polynesian Introduction. (*Morinda citrifolia*, RUBIACEAE) The fruit of this small evergreen tree was used for medicine and as a poultice. It was also a source of yellow dye, a red dye when mixed with a burnt color, and a blue dye when mixed with seawater. An endemic noni does exist.

Pāpala kēpau Indigenous. (*Pisonia brumoniata*, NYCTAGINACEAE) This plant belongs to the four-o'clock family. The gum of this tree was used for bird catching.

Pōhinahina Indigenous. (*Vitex rotundifolia*, VERBENACEAE) This is a low-branched coastal shrub whose leaves grow in pairs on the opposite sides of the branches. Its bluish purple flowers are borne in clusters with small round, dark red fruit that become bluish black at maturity. Used medicinally.

'Uki'uki Endemic. (*Daniella sandwicensis*, LILIACEAE) This plant, a member of the lily family, has long smooth, leathery leaves. The light or dark blue fruit is used as a kapa dye.

Wauke Polynesian Introduction. (*Broussonetia papyrifera*, MORACEAE) This small tree or shrub is known throughout the Pacific for its usefulness. The bark is used for making kapa for clothing and bedclothes. Māmaki was also used, but wauke was much more durable.

Station 9

'Āhinahina, hinahina. Endemic. (*Artemisia australis*, ASTERACEAE)

This low spreading shrub is found up to one mile high. It flowers in panicles and the pounded leaves are used for asthma.

Kalo Polynesian Introduction. (*Colocasia esculenta*, ARACEAE) Taro has been cultivated since ancient times throughout the tropics. In Hawai'i taro was the staple food and its culture was highly developed and included more than 300 forms. All parts of the plant are eaten. According to tradition, taro is the elder brother of the Hawaiian people.

Kōki'o (pure white) Endemic. Endangered. The only fragrant hibiscus in the world are the Hawaiian whites. The pure white flowers have white petals and a white stamen.

Munroidendron Endemic. Endangered. (*Munroidendron racemosum*, ARALIACEAE) These rare trees grow up to seven meters tall. They have a straight trunk with gray, smooth bark and spreading branches. This genus is named for George C. Munro, pioneer in Hawaiian ornithology, botany, horticulture and conservation.

Niu Polynesian Introduction. (*Cocos nucifera*, ARECACEAE) The coconut tree grows to over a hundred feet and are extremely wind resistant. The trunk rises with a curve and has a ringed, slender upper trunk used for hula drums, small canoes and house posts. At the top of the trunk is a cluster of long fronds that can reach up to 18 feet in length. The leaves of the niu were used for thatching, baskets, fans, fish traps, the collected midribs were made into brooms, and single midrib could be used for a lei needle or to roast kukui kernels. All parts of the fruit were used. The outer husk made sennit cordage, the hard shell made bowls, utensils and musical instruments. The meat and water were an important source of food, especially on long ocean voyages.

Ōhe makai, 'ōhe kuku'uae'o Endemic. (*Reynoldsia sandwicensis*, ARALIACEAE) If this native tree was grown at Mauna-Loa, Moloka'i, it was considered to be poisonous and is the tree form of the goddess Kapo. If grown elsewhere, it is not considered poisonous and the wood was used for making stilts.

Ōhi'a 'ai Polynesian Introduction. (*Syzygium malaccense*, MYRTACEAE) The fruit of this plant is a local favorite known as the mountain apple. The flowers appear like cerise pompoms on the trunk and branches.

Ōlena Polynesian Introduction. (*Curcuma domestica*, ZINGIBERACEAE) This turmeric is a kind of ginger and was used as medicinally for earache and lung trouble. It was also used ceremonially and as a yellow dye for kapa. The leaves die back in the fall, it lies dormant in winter and new leaves appear in the spring.

Pāpala Endemic. (*Charpentiera* sp., AMARANTHACEAE) This small tree is in the beet family, and the wood is light and flammable. Formerly,

Hawaiians on the north coast of Kaua'i used this wood for fireworks, throwing burning pieces off of cliffs.

'Uala Polynesian Introduction. (*Ipomoea batatas*, CONVOLVULACEAE) The sweet potato is a perennial, wide spreading vine with heart-shaped angled or lobed leaves and pinkish-lavender flowers. The tuber has been a staple food in many parts of Polynesia since ancient times.

Station 10

Awa Polynesian Introduction. (*Piper methysiticum*,) Also known as kava, the roots of this plant are used in Hawai'i and in other Pacific islands to make a mildly narcotic drink.

Hō'awa Endemic. (*Pitiosporum confertiflorum*, PITIOSPORACEAE) There are three species in the garden.

'Ilima papa Indigenous. (*Sida fallax*, MALVACEAE) This tiny, fragile, yellow orange flower is the official flower of the island of O'ahu and is a much prized lei flower. The flower bud is said to make a mild good tasting laxative. The plant is a good drought tolerant ground cover with heart shaped leaves and low spreading branches. The low growth probably gave rise to the name 'ilima papa as papa means flat. A beach variety of this plant is called 'ilima kahakai.

Kō Polynesian Introduction. (*Saccharum officinarum*,) A member of the grass family, sugarcane was used by Hawaiians as a sweet treat.

Kōki'o Endemic. Endangered (*Kōki'o kauaienses*, MALVACEAE) Loulu Endemic. Endangered. (*Pritchardia* sp. *affinis* ARECACEAE) The loulu genus is the only true palm of the Hawaiian islands and were once thought to be plentiful in Mānoa Valley. Loulu is also the word in Hawaiian for umbrella as these palm leaves were used for protection from sun or rain.

Nānū Endemic. (*Gardenia manni*, RUBIACEAE) This gardenia may become a tree 5-15 meters tall. It has cream colored flowers and yellow to orange fruit with a reddish pulp and straw colored seeds. Mannū is a plant which may be placed on the endangered species list. This plant was obtained from the Lyon Arboretum on November 18, 1995.

Niu Polynesian Introduction. (*Cocos nucifera*, ARECACEAE) The coconut tree grows to over a hundred feet and are extremely wind resistant. The

trunk rises with a curve and has a ringed, slender upper trunk used for hula drums, small canoes and house posts. At the top of the trunk is a cluster of long fronds that can reach up to 18 feet in length. The leaves of the niu were used for thatching, baskets, fans, fish traps, the collected midribs were made into brooms, and single midrib could be used for a lei needle or to roast kukui kernels. All parts of the fruit were used. The outer husk made sennit cordage, the hard shell made bowls, utensils and musical instruments. The meat and water were an important source of food, especially on long ocean voyages.

Pia Polynesian Introduction. (*Tacca leontopetaloides*, TACCACEAE) Pia is the Polynesian arrowroot and was used in cooking.

Pili Indigenous. (*Heteropogon contortus*.) Pili is a straw-colored grass that grows on the draw slopes of all islands. It was a favorite material for thatching because of its pleasant smell.

PāmoHo (*Nephtrolepis cordifolia*, DAVILLIACEAE) An indigenous fern. Crepe Myrtle Post-contact Introduction (*Lagerstroemia indica*, Lythraceae) This tall tree is a woody perennial whose flowers resemble crepe paper. It is a popular garden tree in the islands.

Haden Mango Post-contact Introduction (*Mangifera indica* L., ANACARDIACEAE) The mango has been a popular garden tree in Honolulu for many years. This tree was planted by Monty Cooke. Haden mango trees produce some of the sweetest and best fruit in the world.

African Tulip Post-contact Introduction (*Spathodea campanulata*, BIGONACEAE) A showy columnar tree, this tropical evergreen African species produces brilliant orange flowers most of the year.

Monkeypod Post-contact Introduction (*Samanea saman*, FABACEAE) This rapidly growing deciduous tree is one of the most popular shade trees in the tropics. From tropical America, it forms a wide-spreading, umbrella like crown and grows up to 80 feet.

APPENDIX F
CONTACTS/COMMENTS RECEIVED

Comments Received on the Draft and Revised Environmental Assessments

AGENCY/ORGANIZATION	DATE OF LETTER/FAX/E-MAIL/CALL	DATE OF RESPONSE
City and County of Honolulu		
Board of Water Supply	1/25/00	2/2/00
Planning Department	2/9/00	2/10/00
Planning Department, Policy Branch	1/13/00	2/1/00
Wastewater Branch	1/7/00	2/1/00
Traffic Review Branch (oral only)	5/2/05	5/2/05
Department of Planning and Permitting	8/26/05	9/8/05
Board of Water Supply	8/16/05	9/8/05
Honolulu Police Department	8/9/05	9/8/05
Honolulu Fire Department	8/9/05	9/8/05
State of Hawai'i		
Department of Education	12/30/00	1/31/00
Department of Health	1/25/00	1/31/00
Historic Preservation Division	1/7/00	2/1/00
Office of Environmental Quality Control	1/12/00	1/31/00
Historic Preservation Division	4/21/05	5/3/05

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
TELEPHONE: (808) 522-4132 • FAX: (808) 527-8743
DEPT. INTERNET: www.honolulu.gov • INTERNET: www.honolulu.gov



DEPT. MANAGER
DIVISION

HEAVY ENG. PLAN
DIRECTOR
DANIEL S. TAYLOR
PLANNING DIRECTOR

2005/ED-16(JP)

August 26, 2005

AUG 30 2005

John Whalen, AICP
Plan Pacific, Inc.
345 Queen Street, Suite 802
Honolulu, Hawaii 96813

Dear Mr. Whalen:

Re: Draft Environmental Assessment for the Manoa Heritage Center
2829 and 2859 Manoa Road, and 2856 and 2858 Oahu Avenue - Manoa
Tax Map Key 2-9-19: 25, 35, 37, 38 and 43

Thank you for the opportunity to comment on the subject Draft Environmental Assessment (DEA) for the proposed Manoa Heritage Center. Our comments are as follows.

1. Civil Engineering Branch (Site Development Division): The Civil Engineering Branch had no comments. Please contact Mr. Don Fujii at 527-7320 if you have any questions relating to civil engineering issues.

2. Traffic Review Branch (Site Development Division):

- a. A traffic management plan should be prepared as part of the forthcoming conditional use permit (CUP) application for the meeting facility use, and identify traffic demand management (TDM) strategies that will be implemented by the Center in an effort to reduce the over all traffic demand generated by the site, in particular, during the peak traffic periods.
- b. Driveways should be wide enough to accommodate two-way traffic, or the driveways should be converted to one-way operation and appropriately signed to specify the intended direction of vehicles which will ingress and egress the site.
- c. Adequate vehicular sight distance at the driveways to pedestrians and other vehicles should be provided and maintained.

John Whalen, AICP
August 26, 2005
Page 2

Please contact Mr. Mel Hirayama at 523-4119 if you have any questions relating to traffic issues.

3. Wastewater Branch (Site Development Division): Sewers are available and adequate for the site. A Site Development Division Master Application for sewer connection is required for the proposed change in use of the site. Please contact Ms. Tessa Ching at 523-4956 if you have any questions relating to wastewater issues.

4. Land Use Permits Division:

a. DEA Section 7.1, Compliance with the Land Use Ordinance, should also address the specific use development standards for meeting facilities in residential districts.

b. Regarding the tabulated "building area" information on page 26 of the DEA, please clarify whether the 3,631-square foot figure given for the "proposed standards" includes all structures on the five-parcel site. If not, then the figure should be revised to include the cumulative building area for the site. Also, the 17,780-square foot computation given as the maximum 50 percent "development standard" is incorrect for the cumulative 132,700-square foot site; the correct computation is 66,350 square feet.

Please contact Mr. Jamie Peirson at 527-5754 if you have any questions relating to zoning issues.

5. Planning Division:

- a. Regarding DEA Section 1.0, Summary of Proposed Action: Change the County Development Plan Designation from "Residential" to "Lower-Density Residential." This change should also be made on page 5 (item b) of the DEA.
- b. The Final EA should also note that the subject property's current Development Plan land use designation of Lower-Density Residential is not a site-specific designation, but rather an illustration of text policies. Furthermore, the proposed action is consistent with the intent of the Lower-Density Residential designation.
- c. Regarding DEA Figure 5: To make it easier for the reader to understand the parking and maneuvering of vehicles on-site, we suggest that you change the orientation of this map so that it matches that of DEA Figure 3 and the other maps in the report.

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
430 SOUTH BERETANIA STREET
HONOLULU, HI 96843



August 16, 2005

MUFT HANNEEMAN, Mayor
RANGULU Y. S. CHANG, Chairman
HERBERT S. K. KAOUA, Sr.
DAROLYN H. LEONG
SAMUEL T. HATA
RODNEY K. KURAGA, Esq.
LAVENNE MOA, Esq.
HERBERT H. UHUVUAI
Deputy Manager and Chief Engineer
DONNA FAY K. MOTOSUO
Deputy Manager and Chief Engineer

TO: HENRY ENG, FAICP
DIRECTOR OF PLANNING AND PERMITTING

FROM: HERBERT H. MINAKAMI, INTERIM MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

SUBJECT: YOUR MEMORANDUM OF JULY 26, 2005, ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE MANO'A HERITAGE CENTER, TMK:2-9-29-25, 35,37,38 AND 43

The existing water system is presently adequate to accommodate the proposed facility.

The availability of water will be confirmed when the building permit is submitted for our approval. When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission, and daily storage.

Our cross-connection control and backflow prevention requirements will be determined when the Building Permit Application is submitted for our review and approval.

If you have any questions, please contact Joseph Kaakua at 748-5442.

cc: Mr. John Whalen, PlanPacific, Inc.

AUG 18 2005

Water for Life... Ka Wai Ola

September 13, 2005

Mr. Henry Eng, FAICP
Director
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813

Attention: James Peirson

Re: Mānoa Heritage Center Revised Environmental Assessment

Thank you for your review of the draft revised environmental assessment for the Mānoa Heritage Center (MHC). Following are responses to the comments listed in your August 26, 2005 letter:

1. No response necessary.
2. A traffic management plan will be submitted with the conditional use permit application. We will also address your suggestions concerning driveways in that plan.
3. No response necessary.
4. The specific use development standards for meeting facilities in residential districts are referenced on page 26. We will make the necessary corrections to the "building area" information on that page.
5. We will revise the information regarding the Development Plan designation and add the positive impacts of the proposed use on archaeological resources and social and employment characteristics and its consistency with the Development Plan vision.

The orientation of Figure 5 is necessary so that the map can fit on the same page as the photos of the proposed school bus. We believe that the photos contribute more to the understanding of the diagram than would re-orientation of the diagram, especially since the orientation is pretty close to that of the site plan in Figure 3.

With respect to the parking layout, we do not anticipate conflicts between private automobiles and the school bus because they will not be present on the site at the same time. Tours will be only for groups at scheduled times. The school groups will always arrive by bus or passenger van. Parking spaces are provided only for smaller adult groups that are scheduled at a different time of day. MHC will also encourage these groups to ride-share or arrive in a commercial passenger van. We will clarify this in the traffic management plan.

Finally, we will correct the errors you point out in Sections 5.1 and 8.0.

Sincerely,

John P. Whalen

John P. Whalen

345 Queen Street
Suite 802
Honolulu
Hawaii 96813

Tel: (808) 521-9418
Fax: (808) 521-9468



September 13, 2005

Mr. Herbert Minakami, Interim Manager and Chief Engineer
Board of Water Supply
630 South Beretania Street
Honolulu, HI 96843

Dear Mr. Minakami:

Thank you for your review of the draft revised environmental assessment for the Mānoa Heritage Center. We do not anticipate the need for a building permit to implement this project, so are uncertain whether the Board of Supply requirements that you mention apply in this instance.

Sincerely,

John P. Whalen

345 Queen Street
Suite 802
Honolulu
Hawaii 96813

Tel: (808) 521-9418
Fax: (808) 521-9468

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
2115 KAPANA STREET, SUITE 4425 • HONOLULU, HAWAII 96819-1553
TELEPHONE: (808) 931-7761 • FAX: (808) 931-7750 • INTERNET: www.honolulu.gov



POST MARK
HAWAII

AUG 11 2005

August 9, 2005

TO: HENRY ENG, FAICP, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: WAYNE T. NOJIRI, ACTING FIRE CHIEF

SUBJECT: APPLICANT: MANOA HERITAGE CENTER
LANDOWNERS: KUALI FAMILY LIMITED PARTNERSHIP AND
MARY M. COOKE TRUST (PARCEL 25)
SAMUEL A. AND MARY M. COOKE (PARCEL 35)
KUALI FOUNDATION (PARCELS 37, 38, AND 43)
PLANPACIFIC, INC. (JOHN WHALEN)
2829 AND 2859 MANOA ROAD
2856 AND 2858 OAHU AVENUE
HONOLULU, OAHU, HAWAII
TAX MAP KEY: 2-9-019: 025, 035, 037, 038, AND 043
ZONING: R-7.5 RESIDENTIAL DISTRICT
STAFF PLANNER: JAMIE PEIRSON

We received your memorandum dated July 26, 2005, requesting our review and comments on the above-mentioned project.

The proposed project will not adversely impact services provided by the Honolulu Fire Department. Fire apparatus access and the off-site fire protection are adequate for fire fighting.

Should you have any questions, please call Battalion Chief Lloyd Rogers of our Fire Prevention Bureau at 831-7778.

WAYNE T. NOJIRI
Acting Fire Chief

WTN/SK:ji

cc: Mr. John Whalen, PlanPacific, Inc.



ARTURO K. LEONARDO
FIRE CHIEF

JOHN CLARK
SENIOR FIRE CHIEF

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU
801 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813 AREA CODE (808) 529-3111
<http://www.honolulu.gov>

BOISSE P. CORREA
CHIEF
GLEN B. BAUTAMA
SARAH D. PATZOLD
DEPUTY CHIEFS



HUFF HANSEN
MAYOR

OUR REFERENCE BS-KP

August 9, 2005

RECEIVED

US AUG 15 8 42

DEPT OF PLANNING
AND PERMITTING
CITY & COUNTY OF HONOLULU

TO: HENRY ENG. FAICP, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: BOISSE P. CORREA, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

SUBJECT: REVISED ENVIRONMENTAL ASSESSMENT AND SUBMITTAL
DOCUMENT FOR A CONDITIONAL USE PERMIT (MIROR)
APPLICATION FOR MANOA HERITAGE CENTER,
TAX MAP KEYS: 2-9-19, 25, 35, 37, 38 AND 43

Thank you for the opportunity to review and comment on the subject project.
This project should have no significant impact on the facilities or operations of the Honolulu Police Department.
If there are any questions, please call Major Bart Huber of District 7 at 529-3362 or Mr. Brandon Stone of the Executive Bureau at 529-3644.

BOISSE P. CORREA
Chief of Police

By *Karl Godsey*
KARL GODSEY
Assistant Chief of Police
Support Services Bureau

Serving and Protecting with Aloha



September 13, 2005

Mr. Wayne T. Nojiri, Acting Fire Chief
Honolulu Fire Department
3375 Koapaka Street, Suite H425
Honolulu, HI 96819-1869

Dear Acting Chief Nojiri:

Thank you for your review of the draft revised environmental assessment for the Mānoa Heritage Center. We note that you have no substantive comments.

Sincerely,

John P. Whalen
John P. Whalen

345 Queen Street
Suite 802
Honolulu
Hawaii 96813
Tel: (808) 521-9418
Fax: (808) 521-9468



PLAN PACIFIC

September 13, 2005

Mr. Karl Godsey, Assistant Chief
Support Services Bureau
Honolulu Police Department
801 South Beretania Street
Honolulu, HI 96813

Dear Assistant Chief Godsey:

Thank you for your review of the draft revised environmental assessment for the Mānoa Heritage Center. We note that you have no substantive comments.

Sincerely,


John P. Whalen

345 Queen Street
Suite 802
Honolulu
Hawaii 96813

Tel (808) 521-9418
Fax (808) 521-9468

HONOLULU
OFFICE OF HEALTH

SEP 20 2005



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
DEPARTMENT OF HEALTH
LEOPIA AKAHEA
235 SOUTH BERETANIA STREET, SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185

September 2, 2005

Ms. Victoria Kneubuhl
Mānoa Heritage Center
2829 Mānoa Road
Honolulu, HI 96822

Mr. John Whalen
Plan Pacific Inc.
345 Queen Street, Suite 802
Honolulu, HI 96813

Dear Ms. Kneubuhl and Messrs. Eng and Whalen:

The Office of Environmental Quality Control has reviewed the draft environmental assessment for the Mānoa Heritage Center, Tax Map Key (1*) 2-9-19-25, situated in the district of Honolulu, and offers the following comments for your consideration and response.

1. **General comments:** Generally, the draft environmental assessment is well prepared. With respect to parking, please considering include bicycle racks in or near the general parking area for those visitors who chose to use a bicycle access the site, as the University Avenue bicycle way feeds into Mānoa Road and environs. Also, you are to be commended for the native plantings in and near the bēiau area and we respectfully recommend that the parking area be landscaped with native plants.

Thank you the opportunity to comment. If you have any questions, please call Mr. Leslie Segundo, Environmental Health Specialist at (808) 586-4185.

Sincerely,


GENEVIEVE SALMONSON
Director

GENEVIEVE SALMONSON
Director

SEP 2 2005

Mr. Henry Eng, Director
Department of Planning and Permitting
City and County of Honolulu
630 South King Street, 7th Floor
Honolulu, HI 96813



PLAN PACIFIC

September 13, 2005

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
Department of Health
235 South Beretania Street, Suite 702
Honolulu, HI 96813

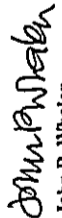
Dear Ms. Salmonson:

Thank you for your review of and comments on the draft revised environmental assessment for the Mānoa Heritage Center.

There is presently a place on the grounds where bicycles can be parked and secured. Visitors will be invited to bicycle to the site if they are arriving independently, especially as an alternative to a private automobile. However, tours will be conducted only for groups, so independent arrivals may be infrequent.

Parking will be accommodated within existing driveways and paved areas on the site. The grounds are very attractively landscaped, with many native plants, even beyond the botanical garden trail associated with the heiau.

Sincerely,


John P. Whalen

345 Queen Street
Suite 802
Honolulu
HAWAII 96813

TEL (808) 521-9418
FAX (808) 521-9468

2005 Correspondence with State Historic Preservation Division

To: John P. Whalen <jwhalen@plannacific.com>
Cc: Susan Y. Takaki @hawaii.gov
Subject: Re: Mānoa Heritage Center
From: Thomas Lim @hawaii.gov
02:51 PM 5/3/2005

John,

I spoke to both Nathan Napoka Branch chief of History and Cultural Branch and Victoria Kneubuhl, a member of the Hawaii Historic Places Review Board. I fairly comfortable with the scope of work and have no comments at this time. It was stated that the caretaker residence was built in the 1970's and is not eligible for the Register of Historic Places. Please sent us the final plans when you are ready for review. Is there any intent to expand pave parking (item 3) at a later date? Please consider showing (dashed line) on the site plan where the additional parking will be. Suggest provide a circulation plan with any controlled areas be identified and; any noise mitigation or landscaping modification shown on site plan.

Thomas Lim MArch
Branch Chief - Architecture
State Historic Preservation Division
Kakuhewa Building
601 Kamokila Blvd., Suite 555
Kapolei, Hawaii 96707

Telephone: (808) 692-8030
Fax: (808) 692-8020
e-mail: Thomas.Lim@hawaii.gov

To: Thomas Lim @hawaii.gov
Subject: Mānoa Heritage Center
From: John P. Whalen <jwhalen@plannacific.com>
Attached: CUP mod 4-05.pdf
04/21/2005 08:04 PM

Aloha Thomas,

Attached, as I discussed with you, is the material for the proposed modification to the Conditional Use Permit for the Mānoa Heritage Center. In case you are not familiar with this project and the attached materials do not provide sufficient background, please call me. You may also wish to ask Nathan Napoka about the Center. He's a member of the board and was quite involved in the planning for the restoration and interpretation of the heiau.

The proposed CUP does not involve any physical modifications to exterior conditions on the property, nor does it involve any change in use to the historic Cooke residence. A 1960's era residence nearby will be adaptively reused for the caretaker's residence and the offices for the Center. The gates in the existing CRM wall along the property frontage are sufficiently wide to accommodate a 25-30 person passenger van, which will be the primary means by which visitors will arrive at the site. The Center's programs will be focused on school groups.

I'd appreciate any comments you may have within a couple of weeks. E-mail rather than letter response is OK. I would particularly ask you to address whether you feel a revised Chapter 343 environmental assessment is necessary. We prepared an EA in 2000 for the original proposed

program, which was essentially the same, except that a new building was proposed to house the Center's activities on the two vacant lots closer to the heiau. I think the current proposal actually reduces the potential impact on historic resources by making use of existing structures.

Mahalo, John

PlanPacific, Inc.
345 Queen Street, Suite 802
Honolulu, Hawaii 96813
Tel: (808) 521-9418 ext 12
Fax: (808) 521-9468

2005 Communication with Department of Planning and Permitting Traffic Review Branch

Contact: Mel Hirayama, Branch Chief
Via: Telephone, with John Whalen (57205)

Whalen described the proposed hours of operation of Mānoa Heritage Center, the anticipated number of visitors per day and week, and the means of access (i.e., from Mānoa Road, with visitors arriving by group, mostly in a single vehicle, with a maximum of 5 visitor vehicles on site at a time.) He also mentioned that MHC conducted a demonstration with the school bus operator to confirm that the proposed 24-passenger bus for school groups could safely enter the premises, turn around on-site, and exit the premises in a forward manner onto Mānoa Road in a single turn. The site plan will show that there are adequate site distances at the access point along the frontage.

Hirayama indicated that his branch would be primarily interested in the traffic management aspects of the CUP request; i.e., hours of operation and levels of use that would not exacerbate peak period traffic conditions. Based on the described operational aspects of the Mānoa Heritage Center, he stated that this concern is adequately addressed.

2005 Communication with State of Hawaii Disability and Communication Access Board

Contact: Duane Buote, Facility Access Specialist
Via: Site visit and telephone, with Nathan Napoka and Samuel Cooke of Mānoa Heritage Center (1/05 and 7/05)

Buote visited the Mānoa Heritage Center site at the invitation of Nathan Napoka of the State Historic Preservation Division to advise MHC on how to provide access to persons with mobility disabilities. He observed the garden trail that is composed of a rough lava stone surface and has gradients in places that exceed ADA standards. Based on his observation, and recognizing the impact that major alteration of this trail would have to the aesthetic, historic and natural values of the site, Buote advised MHC to provide visual access to the heiau and garden for persons with mobility disabilities. He said that access via a video presentation in the proposed visitor center would be sufficient. In a follow-up July 2005 phone call, Cooke confirmed this understanding with Buote.

Outside Contacts and Meetings to Discuss the Mānoa Heritage Center 1999-2005

ITEM	FROM/INITIATOR	TO/PARTICIPANT(S)	DATE	COMMENTS/OUTCOME
Letter	Mānoa Valley Cultural Heritage Foundation	<p>Neighbors along Mānoa Road (2817-2872) and O'ahu Avenue (2802-2885):</p> <p>Mr./Mrs. Ronald Rex Mr./Mrs. Milton Beamer Mr./Mrs. Francis Denis The A.H.K. Yee Family Mr./Mrs. John Lambert Ms. Peggy Murphy-Hazard Mr./Mrs. Charles Sakamoto Mr./Mrs. Gary Eastwood The T. Farnsworth Family Mr. George Barsky Ms. Leona Haladay Mr. Mark Anderson Mr./Mrs. C.M. Cooke IV Mr. William Obana Mr./Mrs. Daniel Han Mr./Mrs. Richard Yanagihara Maryknoll Sisters St. Domini The Y. Otaguro Family Mr. Richard Matsuura Mr. W.M. Carl Matsuura Mr./Mrs. Maxwell Yasukawa Mr. Thomas Nomura Reverend Jikyu and Mr. Lester Rose Mr./Mrs. Sidney Gonhata Mr. Lorrin King Dr./Mrs. Harrison Ishida</p>	11/5/99	<p>The Mānoa Valley Cultural Heritage Foundation sent out a letter to surrounding neighbors to introduce the project, invite them to visit the heiau and gardens, invite them to learn more about the plan, and invite them to the next month's Neighborhood Board Meeting where the project would be formally presented.</p> <p>A sample copy of the letter is attached.</p> <p>Only two responses resulted: 1) Dr. Angel Yanagihara contacted Catherine Cooke and follow-up meetings resulted (see below) and 2) Representatives of the Maryknoll Sisters requested a tour of the heiau. The Mānoa Valley Cultural Heritage Foundation gave the small group a tour.</p>

ITEM	FROM/INITIATOR	TO/PARTICIPANT(S)	DATE	COMMENTS/OUTCOME
Meeting	Mānoa Neighborhood Board	See minutes	12/1/00	Most comments were in strong support of the project. One resident voiced concerns over setting a precedent for non-residential uses -- see Minutes (attached).
Phone Call	Jeff Kato	John Whalen	1/5/00	J. Kato requested a copy of the Draft Environmental Assessment on behalf of the Koganji Temple. A copy was delivered to him 1/5/00.
Phone Call	Jeffrey Itoman	John Whalen	1/13/00	J. Itoman expressed concern regarding traffic impacts. J. Whalen mailed a response letter dated 1/14/00 (see attached)
Meeting	Called by Dr. Angel Yanagihara (immediate neighbor)	Attended by Dr. Angel Yanagihara, Dr. Richard Yanagihara, John Whalen, Catherine Cooke	11/24/99	Dr. Yanagihara asked about restrictive covenants prohibiting any use except residential. She supports the project in general, but is concerned it will set a precedent for non-residential uses in the area. Discussions between Dr. Yanagihara and the Cooke family are on-going. Both parties would like an amicable solution.
Meeting (on-going from above)	Called by Dr. Angel Yanagihara	Attended by Dr. Angel Yanagihara, John Whalen, Mark Mukai, Catherine Cooke, Sam Cooke, Mary Cooke	2/11/00	M. Mukai (real estate attorney) stated that he was available to draft any agreements or amendments to the Declaration of Restrictive Covenants (DRC) as needed to allow the proposed project. J. Whalen explained that he requested the City to review and respond to the "residential purposes" provision of the DRC, since it originated with the City's review of the subdivision application. Until the City responds, it is not known what, if any, amendments may be required. M. Mukai is to determine with the Yanagihara's whether the issues could be addressed by a legal document or whether the City's application review procedures were a more appropriate way to address any concerns they may have about the project's and other potential non-residential uses within the subdivision.

ITEM	FROM/INITIATOR	TO/PARTICIPANT(S)	DATE	COMMENTS/OUTCOME
Letter	Samuel and Mary Cooke on behalf of Mānoa Heritage Center	Mr./Mrs. Ronald Rex Mr./Mrs. Milton Beamer Mr./Mrs. Francis Denis The A.H.K. Yee Family Mr./Mrs. John Lambert Ms. Diane Perushek Mr./Mrs. Charles Sakamoto Mr./Mrs. Russell Masunaga Mr./Mr. Edward Rogin Mr./Ms. Gene Parola Ms. Corinne Peet Mr./Mrs. Shawn Yoshimoto	3/31/05	The addressees, all neighbors living adjacent to or across Mānoa Road from the proposed administrative office for Mānoa Heritage center were invited to attend a tour and briefing on the revised plans for the Mānoa Heritage Center on Saturday, May 7, 2005 at 9:00 am.
Meeting	Victoria Kneubuhl and Samuel and Mary Cooke (Mānoa Heritage Center), John Whalen (PlanPacific)	Attended by: Ronald and Faith Rex Gene and Shirley Parola Sonny and Miki Beamer Alicia Yee Diane Perushek Kathy Masunaga Lucille and Frances Dennis	5/7/05	Eleven neighbors attended the site tour and briefing on the revised plan. None expressed objections to or concerns about the proposal and three offered to serve as volunteer docents or garden caretakers.
Letter	PlanPacific, Inc.	To owners of adjoining properties and those across Mānoa Road: Edward and Sandra Rogin Diane Perushek Russell and Kathy Masunaga Charles and Marie Sakamoto Leona M. Quinn Trust Richard and Angel Yanagihara Koganji Mānoa Elder Care LLC Mānoa Senior Care LLC Daniel and Nancy Han William Obana and Kara Yamane-Obana	6/8/05	Neighbors adjoining the site and across Mānoa Road notified of the Mānoa Neighborhood Board Planning Committee meeting on Saturday, June 25, 2005, at the Mānoa Heritage Center site and invited to attend.

ITEM	FROM/INITIATOR	TO/PARTICIPANT(S)	DATE	COMMENTS/OUTCOME
Meeting	Mānoa Neighborhood Board Planning Committee	Ronald and Faith Rex Gene and Shirley Parola Corinne Peet Shawn and Melissa Yoshimoto Kathryn Beamer Trust Ronald and Lisa Carter Alicia Yee Trust Akiko Miyasaki Trust Neighborhood Board members in attendance Gary Anderson Nadine Nishioka Chuck Pearson Jim Harwood Hank Chapin Brian Kessler Neighbors and other interested Mānoa residents in attendance: Clara Y. Ching Shirley Parola Lilian Adams Tom Heinrich Pat Avery Kazu Vossbrink Tony Vossbrink Wendy Romanchak Ethan Romanchak Rep. Kirk Caldwell	6/25/05	<p>Neighborhood Board (NB) members toured the site prior to their meeting. During the tour, the applicant explained the reasons for revising the plan for the Center as it was approved in the 2000 CUP.</p> <p>The applicant made the following responses to questions raised by NB members or others:</p> <p>The Center's ADA consultant recommended that provision be made for visual access (e.g., video) to the garden and heiau for those in wheelchairs. It is impractical to provide an accessible trail around the heiau due to grade changes and vegetation. Construction of a pathway designed to ADA standards would destroy the historic value of the site and threaten or destroy rare plants in the garden.</p> <p>Two restrooms will be available for visitors at the visitor center.</p> <p>Beyond establishing a maximum capacity of 30 people on-site at a given time, the Center has not determined the maximum number of visitors it will handle during a week, but will clarify that before the CUP application is submitted. In general, the Center wants to limit visitation because of the fragility of the site and the type of experience and program that will be offered.</p> <p>School groups will be admitted free of charge. Adult groups will be no larger than 10 persons and, at least initially, no more than three days per week. There will be a charge for adult groups. The fee has not yet been determined, but will be comparable that charged by museums or similar sites.</p>

ITEM	FROM/INITIATOR	TO/PARTICIPANT(S)	DATE	COMMENTS/OUTCOME
Meeting	Mānoa Neighborhood Board	Neighborhood Board members in attendance George Nakano, Chuck Pearson, Jim Harwood, Nadine Nishioka, Milton Ragsdale, Hank Chapin, Paul Holtrop, and Brian Kessler	8/3/05	<p>The Center has not set a policy regarding requests from non-resident adult visitors (e.g., organized tour groups.) The Center's board will address this issue prior to the CUP application.</p> <p>No one at the meeting expressed opposition to the proposed CUP. Several mentioned that the proposal was potentially very beneficial to the community.</p> <p>The NB Planning Committee chair requested the following items:</p> <ul style="list-style-type: none"> • Names of the people on the board of directors of Kualiti'i Foundation and Mānoa Heritage Center; • Copy of ADA consultant's opinion; • Copy of Revised Environmental Assessment to Board and Gary Anderson; • Notice of CUP application directly to NB members.
				<p>As quoted from Neighborhood Board meeting minutes:</p> <p>MANOA HERITAGE CENTER REPORT - Robin Foster, from Plan Pacific, reported the following: 1) Manoa Heritage Center is filing an application for a Conditional Use Permit (CUP)-minor to provide access to Kuka'o'o Heiau and native Hawaiian garden and conduct educational programs. 2) In 2000, the City department of Planning and Permitting (DPP) granted a CUP-Minor for a similar proposal. 3) There are five lots, four are owned by Kualii Foundation or Kualii FLP. 4) The fifth lot is located on the Cooke residence. 5) The current application for CUP-Minor is to renovate the interior of the existing residence at 2829 Manoa Rd. in order to house the visitor center and caretaker's residence--no new structures are being proposed. 6) Entry and parking will be from Manoa Road (prior CUP access from Oahu Ave). 7) Maximum visitor vehicles per day equals eight (three small buses, five cars). 8) Small bus turning movements have been tested off of and onto Manoa Road. 9) 10 parking spaces are planned with one bus loading space. 10) Mr. Foster gave the following contact</p>

ITEM	FROM/INITIATOR	TO/PARTICIPANT(S)	DATE	COMMENTS/OUTCOME
				<p>information for the viewing public: Telephone: 521-9418/email: rfoster@planpacific.com</p> <p>Mr. Foster was thanked for attending the meeting. [No questions or comments.]</p>

APPENDIX G
TRANSPORTATION DEMAND MANAGEMENT PLAN

Proposed Schedule of Tours

Mānoa Heritage Center (MHC) will offer docent-led tours on Monday through Friday with the possibility of an occasional weekend day. The tours will be by appointment only and occur in morning and afternoon groups. The tours will begin no earlier than 8:30 a.m. and would end no later than 4:30 p.m. The length of a tour will be 45 minutes to one hour, but groups may have the option to extend their time on the site to two hours.

There will be a single morning tour for school children, primarily fourth graders. Visiting school groups will not exceed 30 people at a given time, including children, school supervisors and MHC staff.

Afternoons will be available for adult visitor groups, which are expected to be no more than half the size of the largest of the school groups. Like the school groups, visits by adults must be scheduled in advance, and will be conducted only for groups. On a very unusual day, there may be up to three adult groups. During the week, an average of about 120 student and 50 adult visitors is expected. The maximum visitor count in one day will not exceed 75 persons.

Proposed Staffing

A total staff of about five to six people will be on site during typical daily operations. Two of those staff will reside on premises, so a maximum of four employees will commute to the site each day.

Proposed Parking and Access

Visiting school children will arrive in buses with a maximum capacity of 24 passengers. Several bus companies on O'ahu have such vehicles in their fleet. Examples are shown in Figure 1, which includes photos of an on-site demonstration of a 24-passenger school bus entering and exiting the main gate to the MHC premises. If necessary, accompanying school personnel may arrive in an additional passenger vehicle, for which there is ample parking area on-site.

As shown in Figure 2, the main gate to the MHC site is at the about the center of the frontage along Mānoa Road. The width of the gate, driveway and apron and the site distance along the road frontage are adequate to accommodate the safe entry and exiting of a 24-passenger bus. There is also sufficient space on site to allow two alternative turn-around areas for the bus (see Figure 2) so that it can exit onto Mānoa Road in a forward manner (see photo in Figure 1.)

If there are up to three adult tours during the afternoon, two will arrive in passenger vans or small buses with a limit of 15 passengers. One adult tour a day will allow for up to 20 visitors, but with a restriction of five passenger vehicles, whichever maximum is reached first when the tour is scheduled.

The maximum daily vehicle count generated by the tours will be one small school bus, two passenger vans or small buses and five private passenger cars, all arriving and

Figure 1: On-Site Demonstration of Proposed School Bus



The above 24-passenger bus (length 18.75 feet; width 11.50 feet) entered the main gate (top), exited the gate in a forward manner after turning around within the property (center), and entered the makai-bound lane of Mānoa Road in a single turn (bottom).

departing at different times of day. All will enter the premises at the main gate, although the passenger cars will exit from the mauka gate, along with the vehicles for the private residence (C. M. Cooke Residence) on the property (see Figure 3.)

The following table summarizes the parking spaces that will be provided on site. The location of these spaces is shown in Figure 3.

Summary of Proposed On-Site Parking

Use	Parking Spaces/Type	Dimensions/Location
Off-site staff (paid and volunteer)	4 std.	8.25 ft. x 18.0 ft. driveway, garage
Resident staff	1 std.	8.25 ft. x 18.0 ft. garage
Visitors	5 std.; 1 bus/van	8.25 ft. x 18.0 ft. 12 ft. x 20 ft. all in driveway

Mitigating Conditions

1. Because tours will be scheduled in advance and conducted only for groups, transportation to and from the site by visitors will be mostly by min-bus and passenger vans. The exception is for adults scheduled for an afternoon tour who may arrive in

automobiles. For those times, however, the tours will be closed when a maximum of five visitor automobiles for visitors has been reached.

2. The timing of the tours avoids impacts on peak period traffic conditions. The bus carrying the morning school tour group will be traveling in the opposite direction of the morning peak direction of flow on Mānoa Road. The school bus will be making a right turn into the premises, so it will not cause queuing of traffic in the roadway. When the last afternoon adult tour finishes, visitors will leave the premises in the opposite direction of the afternoon peak direction of flow on Mānoa Road.
3. Providing an on-site residence for two of the MHC staff will reduce the employee generated traffic, which in any event is rather insignificant due to the small staffing requirement.
4. The property has three access points to Mānoa Road, which makes it possible to separate the employee, resident and visitor traffic. Since the expected number of vehicles traffic generated by the proposed use is expected to be relatively small due to the measures described in item #1, above, and the arrival and departure times of vehicles will be rather predictable, it may not be necessary to segregate the traffic flow for safety reasons. Nevertheless, it will be a convenience for the residents on the site if the number of vehicles using the driveway directly in front of their home is kept to a minimum.

Figure 2: Parking and Access When Visitor Group Arrives by Mini-Bus

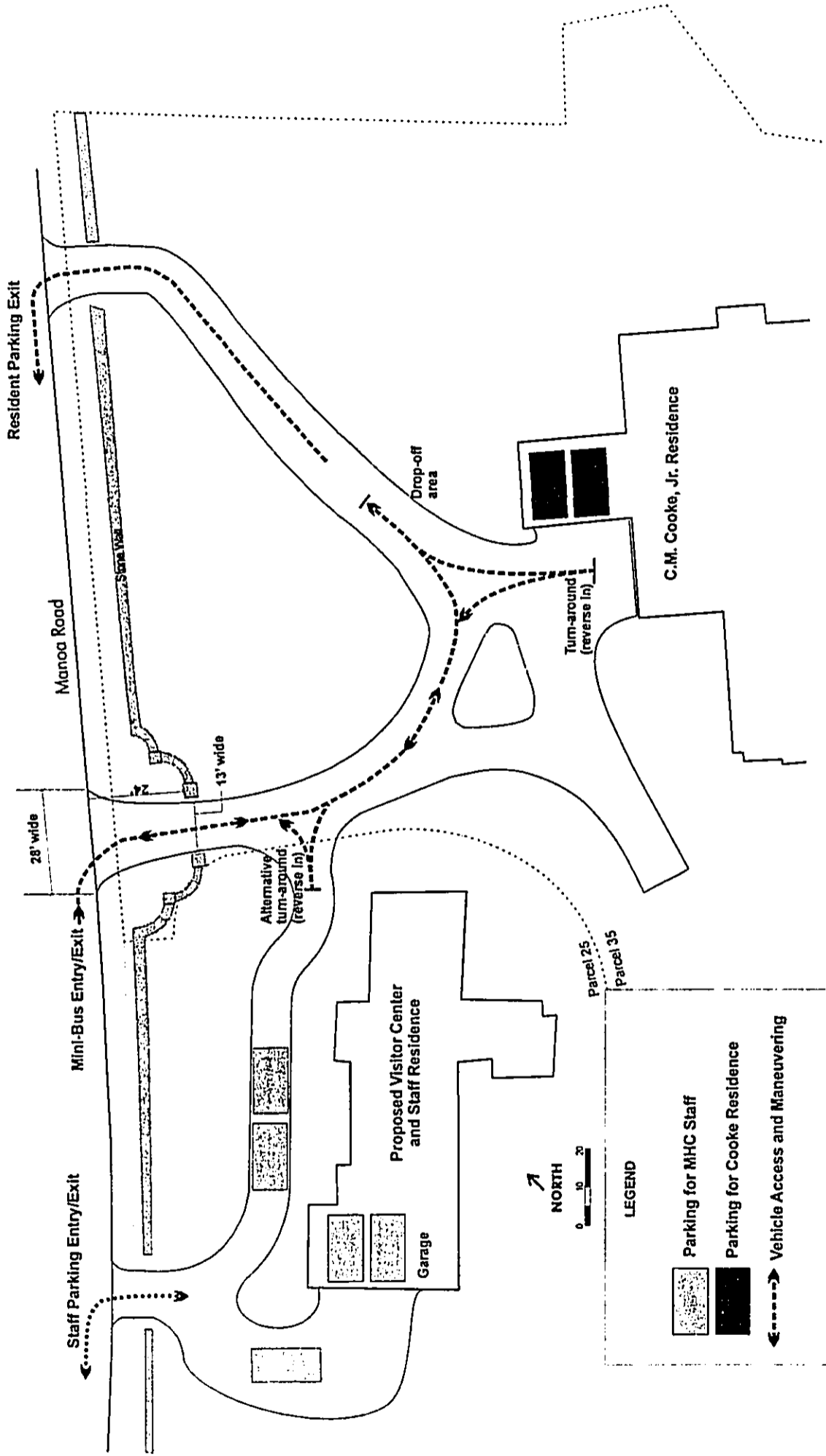


Figure 2: Parking and Access When Visitor Group Arrives by Mini-Bus

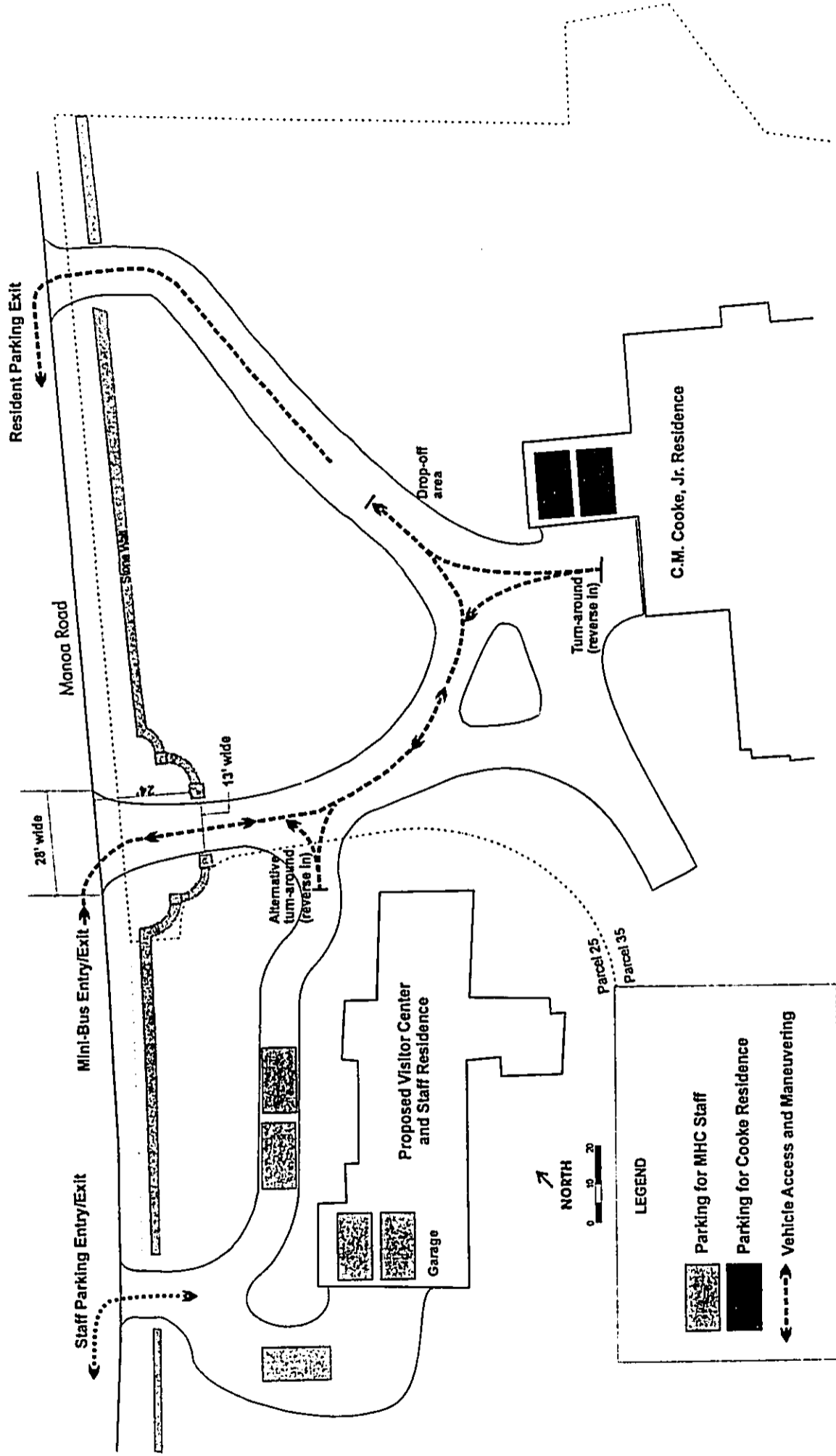


Figure 3: Parking and Access When Visitor Group Arrives by Passenger Cars

