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PLANNING DEPARTMENT

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OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

January 21, 2003

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, HI 96813-2437

Dear Ms. Salmonson:

**SUBJECT: Finding of No Significant Impact (FONSI)
and Final EA & FONSI for Alkire Subdivision
Waipunaula, S. Kona, Hawaii Island
TMK: 8-2-03: 32**

The Hawaii County Planning Department has reviewed the comments on the above project proposal received during the 30-day public comment period which began on October 23, 2002, the OEQC publication date of the Environmental Notice. This agency has determined that the project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the next OEQC Environmental Notice. Enclosed are the following items. ✓

- Four copies of the Final EA & FONSI
- One copy of the OEQC Bulletin Publication Form
- One copy of the Final EA Distribution List
- One copy of the "Dear Participant" Letter for the Final EA

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
Page 2
January 21, 2003

Please contact Earl Lucero of my staff for any matter pertaining to this project at
(808) 961-8288.

Sincerely,



CHRISTOPHER J. YUEN
Planning Director

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Enclosures

cc: Planning Dept. – West HI Office

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Mooers Enterprises, LLC
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Kamuela, HI 96743

Ron Terry, Ph.D.
HC2, Box 9575
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**FINAL ENVIRONMENTAL ASSESSMENT
AND FINDING OF NO SIGNIFICANT IMPACT**

ALKIRE SUBDIVISION, WAIPUNLAULA

TMK (3rd): 8-2-3:32
Waipunaula, South Kona, Island of Hawaii

December 2002

Prepared for
Dennis Alkire
P.O. Box 561
Lihue HI 96766

**FINAL ENVIRONMENTAL ASSESSMENT
AND FINDING OF NO SIGNIFICANT IMPACT
ALKIRE SUBDIVISION, WAIPUNAUULA**

2002 DEC 12 PM 2 07
PLANNING DEPARTMENT
COUNTY OF HAWAII

TMK (3rd) 8-2-3:32
Waipunaula, South Kona, Island of Hawaii

APPLICANT:

Dennis Alkire
P.O. Box 561
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CONSULTANT:

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APPROVING AGENCY:

Hawai'i County Planning Department
25 Aupuni Street
Hilo, Hawaii 96720

CLASS OF ACTION:

Use Within Historic District

This document is prepared pursuant to the Hawaii Environmental Protection Act,
Chapter 343, Hawaii Revised Statutes (HRS), and
Title 11, Chapter 200, Hawaii Department of Health Administrative Rules (HAR).

TABLE OF CONTENTS

SUMMARY	iii
PART 1: ACTION DESCRIPTION	1
1.1 Project Location	1
1.2 Project Description, Purpose and Objectives	1
1.3 Alternatives	1
1.4 Ownership	1
1.5 Land Use Designation and Controls	2
1.6 Consultation with Agencies, Organizations and Individuals	2
1.7 Summary of Regulatory Requirements	2
PART 2: ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION	4
2.1 Basic Geographic Setting	4
2.2 Physical Environment	4
2.2.1 Drainage	4
2.2.2 Geologic Setting and Hazards	5
2.2.3 Flora, Fauna and Ecosystems	5
2.2.4 Air Quality and Noise	6
2.2.5 Scenic Impacts	7
2.3 Socioeconomic and Cultural	8
2.3.1 Socioeconomic	8
2.3.2 Archaeology and Historic Sites	9
2.3.3 Cultural Environment	10
2.4 Public Facilities and Services	17
2.4.1 Public Roads	17
2.4.2 Public Utilities	17
2.4.3 Public Services	18
2.5 Secondary and Cumulative Impacts	19
2.6 Required Permits and Approvals	20
2.7 Consistency With Government Plans and Policies	20
2.7.1 West Hawaii Plan	20
2.7.2 Hawaii County General Plan	21
PART 3: DETERMINATION	22
PART 4: FINDINGS AND REASONS	22
REFERENCES	25

LIST OF APPENDICES

APPENDIX 1A	COMMENT LETTERS FROM AGENCIES AND ORGANIZATIONS IN RESPONSE TO PRE-CONSULTATION
APPENDIX 1B	COMMENT LETTERS TO DRAFT EA AND RESPONSES
APPENDIX 2	NOMINATION FORM FOR THE NATIONAL REGISTER OF HISTORIC PLACES
APPENDIX 3	ARCHAEOLOGICAL LETTER REPORT AND SHPD CONCURRENCE
APPENDIX 4	CULTURAL IMPACT ASSESSMENT
APPENDIX 5	FIGURES
	Figure 1 Location Map
	Figure 2 TMK Map
	Figure 3 Proposed Subdivision Plan Layout
	Figure 4 Project Site Photos
	Figure 5 Kealakekua Bay Historic District

SUMMARY

The proposed Planned Unit Development (PUD) subdivision would create three lots from one 16.316-acre parcel of land located makai of Napo'opo'o Road and Pali O Manuahi.

The basic alternative to the proposed subdivision is to leave the property intact as one parcel. Although multiple homes might be accommodated through farm dwellings or condominium property regimes, such arrangements would not accomplish the owners' objective of creating three separate parcels of a size appropriate for the zoning.

The subdivision has been designed as a PUD in order to allow potential building pads for all three lots to occupy the less steeply sloped parts of the property, thereby avoiding hazardous terrain and minimizing scenic and cultural impacts. Brief, temporary effects to air quality and ambient noise will occur during construction of homes and farm buildings. Impacts to water quality will be avoided through mitigation measures in compliance with State and County regulations and policies. Much of the property is steep for any use and will not be modified. A further effect is that three households would now be accommodated on the property instead of one, which would be expected to increase the population of South Kona by about six individuals.

The site is located within the Kealahou Bay Historic District. The State Historic Preservation Division has determined that no archaeological historic sites are present and that no effects to such would likely occur as a result of the action. However, cultural impact analysis has determined that Pali o Manuahi qualifies as a Traditional Cultural Place, and the view plane looking *mauka* from Kealahou Bay area has cultural/historical value. The proposed project will not adversely affect the historic character of the area or the value of Pali o Manuahi by inserting incongruous land uses or interfering with scenic public views, given adherence to proposed building pads. The subdivision will perpetuate low-density agricultural uses for the area consistent with current A-5a zoning and will preserve the character of the Historic District.

PART 1: ACTION DESCRIPTION

1.1 Project Location

The proposed Planned Unit Development (PUD) subdivision would occur on TMK (3rd) 8-2-3:32, a 16.316-acre parcel of land located on the makai side of Napo'opo'o Road (Figs. 1-2). The steeply sloping parcel extends between about 400 and 950 feet above sea level. Pali o Manuahi, the terminus of a faulted cliff system, intersects the parcel near its mauka end.

1.2 Project Description, Purpose and Objectives

The property, portions of which have been cleared and farmed in the past, is now vacant. The subdivision would create three lots (Fig. 3). The subdivision has been designed so as to allow potential building pads for all three lots to occupy the less steeply sloped parts of the property, thereby avoiding hazardous terrain and minimizing scenic and cultural impacts.

1.3 Alternatives

The basic alternative to the proposed subdivision is to leave the property intact as one parcel, which may be termed the No Action Alternative. No impacts or benefits would occur with No Action. Another alternative is to subdivide the property without a PUD into 5-acre lots. This alternative was rejected because it would be difficult to shape the lots in such a way as to accommodate building pad locations that minimized scenic and cultural impacts by avoiding steep areas of the pali. Furthermore, although multiple homes could be accommodated through other means such as farm dwellings or condominium property regimes, such arrangements would not accomplish the owners' objective of creating three separate parcels; such alternatives were thus rejected.

1.4 Ownership

The property is owned by Dennis Alkire and David Knittle.

1.5 Land Use Designation and Controls

The current zoning of the property is Agricultural, five-acre minimum lot size (A-5a). The State Land Use District is Agricultural, and the General Plan Land Use Pattern Allocation Guide Map (LUPAG) designation is *Orchard*. The current draft of the new General Plan proposes the designation of *Important Agricultural Land* for this area. These designations are consistent with the applicants' intended use. The property is within the Special Management Area (SMA), where development is subject to review by the County Planning Department to ensure consistency with guidelines meant to protect coastal resources. The property lies within the Kealakekua Bay Historic District. Land use in neighboring land is mostly agricultural with residences, in conformance with the State Land Use District and County zoning for these parcels.

1.6 Consultation With Agencies, Organizations and Individuals

The following agencies, organizations and individuals were consulted during the preparation of the Draft EA:

County:

Planning Department
County Council
Police Department

Department of Public Works
Fire Department
Department of Water Supply

State:

Department of Land and Natural Resources, Historic Preservation Division

Private:

Kona Outdoor Circle

Notice of the availability of the Draft EA was published by the Hawaii State Office of Environmental Quality Control (OEQC) in the *Environmental Notice* of 23 October 2002. This initiated a 30-day comment period during which the public was invited to respond to the Draft EA with comments or questions. Four comment letters were received. These letters and the responses to them are included in Appendix 1B. The Final EA has been expanded to incorporate revisions based on comments. Sections where substantive information has been added to Final EA are denoted by double underlines, as in this paragraph.

1.7 Summary of Regulatory Requirements

This Environmental Assessment (EA) process is being conducted in accordance with Chapter 343 of the Hawai'i Revised Statutes (HRS). This law, along with its implementing regulations, Title 11, Chapter 200, of the Hawai'i Administrative Rules (HAR), is the basis for the environmental impact process in the State of Hawai'i. According to Chapter 343, an EA is prepared to determine impacts associated with an action, to develop mitigation measures for adverse impacts, and to determine whether any

of the impacts are significant according to thirteen specific criteria. As the Planned Unit Development ("PUD", considered a "use") occurs in the Kealahou Bay Historic District, compliance with Chapter 343, HRS, is required. In that subdivision is involved, and a Special Management Area permit, both of which involve actions by the Hawai'i County Planning Department, the Hawai'i County Planning Department will act as the Approving Agency for the Environmental Assessment. Part 4 of this document states the anticipated finding that no significant impacts are expected to occur; Part 5 lists each criterion and presents the findings for each made by the applicant and submitted to and concurred with by the Hawai'i County Planning Department.

PART 2: ENVIRONMENTAL SETTING, IMPACTS AND PROPOSED MITIGATION MEASURES

2.1 Basic Geographic Setting

The property is a steeply sloping parcel situated between 400 and 950 feet above mean sea level about 3,000 feet inland from the coast (Fig. 1). The mauka portion of the parcel contains the tapered end of a fault cliff, Pali o Manuahi, which is basically a southward and less dramatic extension of Pali Kapu O Keoua, which towers over Kealakekua Bay. The property, while steep, has a slope typical of much of the farmed and inhabited areas of South Kona. Soil is classified as Kainaliu Very Stony Silty Clay Loam, a well-drained soil with little erosion or runoff potential that is often used for coffee and macadamia nuts (U.S. Soil Conservation Service 1973). Annual rainfall is about 50 inches (Giambelucca et al 1986). As illustrated in the photos in Figure 4, the property is mostly covered by alien, savanna-like vegetation of monkeypod and opiuma trees with a guinea grass understory. An unpaved driveway leads part way down the property from the Old Government Road (also called Pali Poko Road) to a cleared pad and a small storage structure.

2.2 Physical Environment

2.2.1 Drainage and Water Quality

Environmental Setting

Most of the property is designated Zone X, defined as areas outside the 500-year flood plain on the Flood Insurance Rate maps (FIRM). A highly intermittent watercourse identified by Flood Insurance Rate Maps (FIRM) as within the 100-year floodway is classified Zone AE, defined as a Special Flood Hazard Area subject to inundation as determined in a Flood Insurance Study by detailed methods, is present on the extreme south end of the property (see Fig. 3). This location is away from the area proposed for building pads or driveways. The location of the property 3,000 feet from the coastal waters of Kealekekua Bay merits measures to ensure coastal water quality.

Impacts and Mitigation Measures

Development on the site will be required to contain all runoff onsite, in conformance with Chapter 27 of the Hawaii County Code. As part of the subdivision process, the Hawaii County Department of Public Works will examine the property further and determine if there is a need for the applicant to construct drainage improvements. Additionally, they may require a flood zone easement to preclude any development in or alteration of the Zone AE area. These requirements will be imposed during the subdivision process. Furthermore, construction activities shall be restricted to periods of minimal rainfall and areas denuded of vegetation which could be susceptible to erosion shall be appropriately

stabilized to prevent any sedimentation entering Kealahou Bay. Further, precautions shall be taken during construction to prevent debris, landscaping chemicals, eroded soil, petroleum products and other potential contaminants from flowing, blowing or leaching into coastal waters. In compliance with County policy, all development-generated runoff shall be disposed of on-site and shall not be directed toward any adjacent properties. All development shall comply with all requirements of the Chapter 10, *Erosion and Sedimentation Control*, and Chapter 27, *Flood Control*, of the Hawai'i County Code."

2.2.2 Geologic Setting and Hazards

Geologic maps show that the property occupies a lava flow from Mauna Loa dating from approximately 3-5,000 ago (Wolfe and Morris 1996). Pali Manuahi is a cliff that is part of the Kealahou-Kaholo Fault System, the downthrust side of which lies makai in Kealahou Bay and adjacent coastal lands (MacDonald et al 1986). The fault system forms a steep, high cliff northwest of the property, which gradually decreases in prominence through the property and south. By a few hundred yards southeast of the property the slope, though steep, has no visible surface manifestation and the cliff essentially disappears. The steepest areas of the property are the northern and mauka sides.

The entire Big Island is subject to geologic hazards, especially lava flows and earthquakes. The site is located on the unsupported flank of Mauna Loa in an area of Lava Flow Hazard Zone 3 (on a scale of ascending risk 9 to 1). Zone 3 areas on Mauna Loa have had 15 to 20 percent of their surfaces covered by lava in the last 750 years. There is thus moderate risk of lava inundation over relatively short time scales (see Heliker 1990).

In terms of seismic risk, the entire Island of Hawai'i is rated Zone 4 Seismic Probability Rating (*Uniform Building Code*, Appendix Chapter 25, Section 2518). Zone 4 areas are at risk from major earthquake damage, especially to poorly-designed or -built structures.

Impacts and Mitigation Measures

The existing lot and any subdivided lots would be at risk from earthquakes and lava flows. The position near a fault may place the lot – like many others on the slopes of South Kona – at greater risk than some other locations in Kona. However, a nearly comparable level of geologic risk is a fact of life for many locations and residents on the island of Hawai'i. As such, there are no reasonable alternatives to assuming such risk, and geologic conditions per se impose no constraints on the project.

2.2.3 Flora, Fauna and Ecosystems

Environmental Setting and Impacts

A biological reconnaissance of the property was conducted in July 2001. Through a combination of influences – particularly relict farming land use and the general spread of

aggressive alien plants – the property has a savanna-like vegetation dominated by the alien trees monkeypod (*Samanea saman*) and opiuma (*Pithecellobium dulce*), with an understory dominated by guinea grass (*Panicum maximum*). Other prominent components are also all alien, including the trees avocado (*Persea americana* – the remnant of an old orchard), *Manihot glaziovii*; the shrubs or herbs koa haole (*Leucaena leucocephala*), leaf of life (*Kalanchoe pinnata*), hairy abutilon (*Abutilon grandifolium*), garden spurge (*Chamaesyce hirta*), honohono grass (*Commelina diffusa*), *Barleria cristata*; the vines wild bitter melon (*Momordica charantia*), yam (*Dioscorea alata*) and morning glory (*Ipomoea* spp.); and the hare's foot fern (*Phlebodium aureum*). The only natives observed were scattered individuals of `uhaloa (*Waltheria indica*) and ilima (*Sida fallax*), and a colony of the less common `ala`ala-wai-nui (*Peperomia leptostachya*) on a talus slope that would likely be unaffected by land-clearing or other activities.

The low elevation and disturbed site conditions preclude the presence of wildlife habitat or native birds. Although no formal avian survey was conducted, Northern Cardinals (*Cardinalis cardinalis*), Common Mynahs (*Acridotheres tristis*), House Finches (*Carpodacus c. mexicanus*), Zebra Doves (*Geopila striata*), and Japanese White-eyes (*Zosterops japonicus*) were seen during the botanical survey. All of the birds found are common throughout the leeward lowlands on the island of Hawai`i.

No threatened or endangered animal or plant species are present or would be expected to be present on the property. No adverse impact to flora, fauna or ecosystems would be expected to result from the proposed subdivision or any activities associated with it.

2.2.4 Air Quality and Noise

Environmental Setting

Human-caused air pollution on the Big Island is minimal. Kona suffers from a visible haze (vog) caused when volcanic emissions of sulfur dioxide produced by Kilauea volcano drift into the circulation of Kona and convert into particulate sulfate.

Ambient noise in the area is slight, although traffic, construction and agricultural activity may raise local noise to high levels for periods of hours to days.

Impacts and Mitigation Measures

The proposed action will have little effect on either air quality or noise in the area. The landowners recognize that both onsite and neighboring agricultural activities may produce temporary odors, fumes and noise, and that these conditions do not represent impacts. All project activities shall comply with the Administrative Rules of the Department of Health, Chapter 11-46, on "Community Noise Control."

2.2.5 Scenic Impacts

The guidelines contained in Rule 9 of the Hawaii County Planning Commission Rules (which governs the SMA) express the intent to minimize development that would "substantially interfere with or detract from the line of site toward the sea from the State Highway nearest the coast or from other scenic areas identified in the General Plan."

The Hawaii County General Plan contains Goals, Policies and Standards intended to preserve areas of natural beauty and scenic vistas from encroachment. For South Kona, the affected viewplanes or viewpoints areas pertinent to this permit application (both in the 1989 and the current draft GP) are listed as follows:

View	TMK	Ahupua`a
Kealakekua Bay from Kaawaloa Road and Lower Government Road	8-1-07:01 8-1-10:01, 02 8-1-11 8-2-02 8-2-04	Keopuka
Viewpoint Cove	8-3-03:29 8-3-04:01	Kahauloa Keei 1
White Sand Beach	8-3-04:04	Keei 1
Viewpoint (Palemano Point)	8-3-04:05	Keei 1
Honaunau & Scenic View from Ke Ala o Keawe Road	8-4-11, 12 13	Honaunau, Keokea

In addition, as the property lies within the Kealakekua Bay Historic District, the viewplanes towards and from individual historic sites also merit consideration. No archaeological historic sites are present near the property. As discussed in Section 2.3.3.5, Pali o Manuahi has been evaluated as a Traditional Cultural Property, and the view plane looking *mauka* from Kealakekua Bay area to this has cultural/historical value.

Impacts

Because of the relative location of the property and nearby roads, any structures built on the property would not detract from the coastal viewplane from Napo`opo`o Road, State Highway 11, or any other public road, towards features listed as important in the General Plan. Views of the property from the coast are not prominent, because the dominant feature is the horizon above Kealakekua Bay formed by Pali Kapu o Keoua (and its less imposing southern extension, Pali Manuahi, at the actual property location) and the steep slope that parallels the Hawai`i Belt Road.

Although the landscape below this dramatic horizon is dominated by vegetation, numerous manmade objects, including homes, roads, and particularly utility lines and poles, are also present. Nevertheless, additional construction on the *pali* that is overly

visible from the coast may have a negative cumulative effect on the scenic view of Pali O Manuahi, a Traditional Cultural Property. Therefore, to avoid any potential negative effects, it is recommended that structures not be built on the *pali* face, but rather be limited to those portions of the study area that lie below the steep escarpment of the *pali*, as on the conceptual building pads illustrated on Figure 3.

2.3 Socioeconomic and Cultural

2.3.1 Socioeconomic

Environmental Setting

The South Kona district has undergone far less growth than other areas of West Hawai'i. It is still an area of largely farm dwellings and single family residences. This rural area is in many ways a microcosm of the Big Island, unlike urban, wealthy and newcomer-dominated North Kona. The census statistics (Table 2-1) for the island and the two census units closest to the property – Captain Cook and Honaunau-Napo'opo'o – are presented in Table 1.

Table 1
Selected Socioeconomic Characteristics

CHARACTERISTIC	Hawai'i Island	Captain Cook	Honaunau-Napo'opo'o
Total Population	148,677	3,206	2,414
Percent Caucasian	31.5	33.4	35.3
Percent Asian	26.7	31.6	17.5
Percent Hawaiian	9.7	7.9	12.8
Percent Two or More Races	28.4	27.7	29.8
Median Age (Years)	38.6	41.7	40.4
Percent Under 18 Years	26.1	26.2	25.1
Percent Over 65 Years	13.5	14.6	11.9
Percent Households with Children	21.3	21.5	31.8
Average Household Size	2.75	2.16	3.17
Percent Housing Vacant	15.5	23.2	5.4

Source: U.S. Bureau of the Census. May 2001. *Profiles of General Demographic Characteristics, 2000 Census of Population and Housing, Hawai'i*. (U.S. Census Bureau Web Page).

Impacts and Mitigation Measures

The subdivision will have very little impact on the greater socioeconomic environment. The action will create the potential to accommodate three households on the property instead of one, which under average South Kona household circumstances could increase the population by about six individuals. This increase is minor, even in the context of sparsely populated South Kona.

2.3.2 Archaeology and Historic Sites

Environmental Setting, Impacts and Mitigation Measures

The site is located within the Kealahou Bay Historic District. This district was established to protect the archaeological and historic values of the area by providing an extra level of review for projects that occur within its boundaries (see App. 2 for portion of the *Nomination Form for the National Register of Historic Places*). A number of historic sites are present in both the coastal areas, which were densely populated and exploited during prehistory and early history, as well as in the moist mauka areas, where productive systems of terraced fields are to some extent still present. These associations with Hawaiian history are reinforced by the tradition of diversified small-scale agriculture, which has left a landscape rich in fruit trees, flowers and scenic vistas of unspoiled coastline.

An archaeological survey of the property was conducted in 1984 by PHRI Inc. The field study determined that the majority of the property had been grubbed and graded. A few agricultural features were noted on an adjacent parcel, outside the area of effect of the proposed project. In March of 2001, Robert Rechtman, Ph.D., examined the study parcel. The findings presented in the earlier study were verified, and it was determined that subsequent grading had occurred. It was Rechtman's conclusion that no significant historic resources would be impacted by development of the proposed project. Dr. Rechtman submitted his report to the State Historic Preservation Division (SHPD), and in a letter of May 16, 2001, SHPD responded that they concurred with the finding that no significant historic sites are present on the property and that development of the subject parcel would have "no effect" on such sites (see App. 3 for letter report and response letter from SHPD).

Impacts

No historic sites are present on the property or would be affected by the proposed action or development that might result from it. The proposed project will not adversely affect the historic character of the area by inserting incongruous land uses or interfering with scenic public views.

Mitigation Measures

Although such finds are not expected on a site where heavy land disturbance has already occurred, if any artifacts, charcoal deposits, or human remains are discovered during construction, work will immediately cease and SHPD will be consulted to determine the appropriate mitigation.

2.3.3 Cultural Environment

2.3.3.1 Background

The material in this section is based upon a Cultural Impact Assessment (CIA) performed by Rechtman Consulting. The CIA is attached to this EA as Appendix 4, and is excerpted and paraphrased below.

The property is located at mid-elevations near Kealakekua Bay, an area celebrated in traditions and in modern history. The *makai* portion of the study parcel extends along the southern terminus of *Pali o Manuahi* into the Kealakekua Bay Historic District (Fig. 1). This district is listed in both the National Register of Historic Places (NRHP) and Hawaii Register of Historic Places (HRHP). Four areas of significance were recognized in the 1971 district nomination form: good preservation of prehistoric and early historic material remains; extensive documentation of local prehistoric culture by the earliest Western visitors; continuity of cultural tradition through time; and occurrence of significant cultural and historical events.

Kealakekua Bay was an important seaport during the early Historic Period, having been the site of numerous Western visitors, perhaps the most famous of which was Captain James Cook. It was at Kealakekua Bay that Cook was welcomed as a Lono incarnate and later killed. The pivotal battle of Moku'ohai, from which Kamehameha emerged victorious and began his unification conquest, was fought in the Kealakekua vicinity (Kamakau 1992). Culturally significant places within the district include the *heiau* of Puhina o Lono, Kamaiko, and Hikiau, the Moku'ohai battlefield and burial location, Pali Kapu o Keoua, Pali o Maunahi, and several former indigenous villages. At the time of Cook's visit in 1779, six coastal villages were described from north to south around the bay (Beaglehole 1967): Ka'awaloa, Kealakekua, Waipunaula, Kalama, Kahauloa, and Ke'ei.

At the time of its NRHP nomination this region not only contained excellent examples of coastal habitation and religious features, it also possessed well-preserved portions of the agricultural Kona Field System in its inland areas. The logs and journals of explorers, traders, and missionaries contain detailed descriptions of the agricultural fields in the Kona area during contact times (e.g., Ellis 1963, Ledyard 1963, Menzies 1920). The intactness of archaeological features associated with these field systems is inversely related to the extent of subsequent farming and ranching and varies greatly by *ahupua'a*.

Kelly (1983) documents substantial agricultural and cattle related enterprises in the region during the latter half of the nineteenth century and early 1900s. The more inland portions of Waipunaula Ahupua'a (in the vicinity of the project area) were intensively farmed and ranched from the late 1800s through the 1960s. The two archaeological surveys of the study parcel (see Appendix 3) did not identify intact field system features.

2.3.3.2 Waipunaula Ahupua'a

Over the generations, ancient Hawaiians developed a sophisticated system of land and resources management. By the time 'Umi-a-Liloa rose to rule the island of Hawai'i in ca. 1525, the island (*moku-puni*) was divided into six districts or *moku-o-loko* (cf. Fornander 1973-Vol. II:100-102). On Hawai'i, the district of Kona is one of the major *moku-o-loko*. The district of Kona itself extends from the shore across the entire volcanic mountain of Hualalai, and continues to the summit of Mauna Loa, where Kona is joined by the districts of Ka'u, Hilo, and Hamakua.

Kona, like other large districts on Hawai'i, was subdivided into *'okana* or *kalana* (regions of land smaller than the *moku-o-loko*, yet comprising a number of smaller units of land). The lands of Waipunaula, situated in an area now known as Kona Hema (South Kona), are part of an ancient subregion generally known as "*Ka-pali-lua*" (The-two-cliffs; describing the topographic features of the *kula* or lands of the mountain slope).

The *moku-o-loko* and *'okana* or *kalana* were further divided into manageable units of land, and were tended to by the *maka'ainana* (people of the land) (Malo 1951). Of all the land divisions, perhaps the most significant management unit was the *ahupua'a*. *Ahupua'a* are subdivisions of land that were usually marked by an altar with an image or representation of a pig placed upon it (thus the name *ahu-pua'a* or pig altar). In their configuration, the *ahupua'a* may be compared to wedge-shaped pieces of land that radiate out from the center of the island, extending to the ocean fisheries fronting the land unit. Their boundaries are generally defined by topography and geological features such as *pu'u* (hills), ridges, gullies, valleys, craters, or areas of a particular vegetation growth.

The *ahupua'a* were also divided into smaller individual parcels of land (such as the *'ili*, *ko'ele*, *mala*, and *kihapai*, etc.), generally oriented in a *mauka-makai* direction, and often marked by stone alignments. In these smaller land parcels the native tenants tended fields and cultivated crops necessary to sustain their families, and the chiefly communities with which they were associated. As long as sufficient tribute was offered and *kapu* (restrictions) were observed, the common people living in a given *ahupua'a* had access to most of the resources from mountain slopes to the ocean. These access rights were almost uniformly tied to residency on a particular land, and earned as a result of taking responsibility for stewardship of the natural environment, and supplying the needs of the *ali'i* (Kamakau 1961; Malo 1951).

Entire *ahupua'a*, or portions of the land were generally under the jurisdiction of appointed *konohiki* or lesser chief-landlords, who answered to an *ali'i-'ai-ahupua'a* (chief who controlled the *ahupua'a* resources). The *ali'i-'ai-ahupua'a* in turn answered to an *ali'i 'ai moku* (chief who claimed the abundance of the entire district). Thus, *ahupua'a* resources supported not only the *maka'ainana* and *'ohana* who lived on the land, but also contributed to the support of the royal community of regional and/or island kingdoms. This form of district subdividing was integral to Hawaiian life and was the product of strictly adhered to resources management planning. In this system, the land provided fruits and vegetables and some meat in the diet, and the ocean provided a wealth of protein resources. Also, in communities with long-term royal residents (like Kealakekua and Ka'awaloa just north of Waipunaula), divisions of labor (with specialists in various occupations on land and in procurement of marine resources) came to be strictly observed. This is the general cultural setting of the the *ahupua'a* of Waipunaula.

Waipunaula was actually two *ahupua'a* (Waipunaula iki and Waipunaula nui) that were combined as a result of the *Mahele*. The Waipunaulas were relatively small divisions that are truncated below the 3000-foot elevation by Kealakekua Ahupua'a (see Figure 8 of App. 4). In precontact Hawai'i, all land and natural resources within each *ahupua'a* were held in trust by the high chiefs (*ali'i 'ai ahupua'a* or *ali'i 'ai moku*). The use of lands and resources were given to the *hoa'aina* (native tenants), at the prerogative of the *ali'i* and their representatives or land agents (*konohiki*), who were generally lesser chiefs as well. In 1848, the Hawaiian system of land tenure was radically altered by the *Mahele 'Aina*. This change in land tenure was promoted by the missionaries and the growing Western population and business interests in the island kingdom. Generally these individuals were hesitant to enter business deals on leasehold land.

The *Mahele* (division) defined the land interests of Kamehameha III (the King), the high-ranking chiefs, and the *konohiki*. As a result of the *Mahele*, all land in the Kingdom of Hawai'i was placed in one of three categories: (1) Crown Lands (for the occupant of the throne); (2) Government Lands; and (3) *Konohiki* Lands (Chinen 1958; 1961). The "Enabling" or "Kuleana Act" (December 21, 1849) laid out the framework by which native tenants could apply for, and be granted fee-simple interest in "*kuleana*" lands, and their rights to access and collection of resources necessary to their life upon the land in their given *ahupua'a*.

The lands awarded to the *hoa'aina* (native tenants) became known as *kuleana*. All of the claims and awards (the Land Commission Awards or LCA) were numbered, and the LCA numbers remain in use today to identify the original owners of lands in Hawai'i. It is reported that the Kingdom-wide total amount of land awarded to *hoa'aina* equaled approximately 28,658 acres (Kame'eleihiwa 1992).

As a result of the *Mahele*, Waipunaula was retained as government land, subject to twelve *kuleana* claims for small residential and agricultural parcels near the coast and in the uplands, distant from the current study area. Many retained government lands were

commuted as grants to a variety of citizens of the Kingdom. Waipunaula was granted to Preston Cummings (Grant 867) in 1852. Cummings received many grants in the general Kealakekua area and also was a sheriff, storeowner, landlord and coffee farmer (Smith 1991). By the middle 1850s, Cummings seems to have been attempting to farm his Waipunaula lands. Because of the steepness of slope, the current study area would have been considered marginal in terms of agricultural productivity. Perhaps it is for this reason that by the 1880s the study area was part of the land acquired by H. N. Greenwell that eventually became part of the greater Kealakekua Ranch. Ranching activities (primarily low density grazing) continued in the area until the 1960s.

2.3.3.3 Oral-Historical Research

In addition to documentary sources, a variety of oral-historical sources were consulted to gain personal information and insight on the history and traditional associations of the specific project area.

Kumu Pono Associates (Maly and Maly 2001) conducted a very extensive archival and historical literature review and an oral-historical study on behalf of the Hawai'i State Department of Land and Natural Resources-Division of Forestry and Wildlife, *Na Ala Hele* Program. The study area encompassed the *ahupua'a* from Keauhou to Kealakekua and also included information about cultural and historical places south as far as Ke'ei *ahupua'a*. Interview data relating to the Pali Poko Road (i.e., the Old Government Road running below Napo'opo'o Road and providing access to the subject parcel) indicated a long history of ranching.

To obtain further information, Kumu Pono Associates was contacted directly because of their wealth of knowledge and experience with cultural studies in the region. They knew of no specific traditional or customary use of the project area, but did acknowledge that *Pali o Manuahi* is a named and storied place, and thus could be considered a traditional cultural property.

The Office of Hawaiian Affairs (West Hawai'i) (OHA) was also contacted; this agency had no specific records of traditional cultural places or practices for the current study area, but suggested that members of the local community be contacted. Appendix 4 provides details of consultation; to summarize, community members reiterated that portions of the current study area had been extensively grubbed in the late 1950s and 60s to improve pasture as part of Kealakekua Ranch; some also expressed concern that the *pali* escarpment above Kealakekua Bay is a sacred place and it would be culturally inappropriate to build further residences on the escarpment itself. Aside from *Pali o Manuahi*, no additional traditional or customary sites or practices were identified.

2.3.3.4 Identification of Cultural Resources, Practices, and Beliefs

A cultural impact assessment should identify “cultural resources, practices and beliefs” of a particular ethnic group. This implies that the resources, practices, and beliefs are “traditional” in the sense that they are part of an ethnic group’s identity. In the Hawai‘i Revised Statutes—Chapter 6E, and in the draft Hawai‘i Administrative Rules (draft HAR 13§13-275-2) that would govern the State Historic Preservation Division, a definition of Traditional Cultural Property is provided.

“Traditional cultural property” means any historic property associated with the traditional practices and beliefs of an ethnic community or members of that community for more than fifty years. These traditions shall be founded in an ethnic community’s history and contribute to maintaining the ethnic community’s cultural identity. Traditional associations are those demonstrating a continuity of practice or belief until present or those documented in historical source materials, or both.

The origin of the concept of *Traditional Cultural Property* is found in National Register Bulletin 38, published by the U.S. Department of Interior-National Park Service. “Traditional” as it is used, implies a time depth of at least 50 years, and a generalized mode of transmission of information from one generation to the next, either orally or by act. “Cultural” refers to the beliefs, practices, lifeways, and social institutions of a given community. The use of the term “Property” defines this category of resource as an identifiable place. Traditional Cultural Properties are not intangible, must have some kind of boundary; and are subject to the same kind of evaluation as any other historic resource, with one very important exception. By definition, the significance of Traditional Cultural Properties should be determined by the community that values them.

However, this definition of “Property” contains an inherent contradiction that complicates identification and evaluation, because it is precisely the concept of boundaries that runs counter to the traditional Hawaiian belief system. The sacredness of a particular landscape feature is often times cosmologically tied to the rest of the landscape as well as to other features on it. To limit a property to a specifically defined area may actually partition it from what makes it significant in the first place. However problematic the concept of boundaries may be, it is nonetheless the regulatory benchmark for defining Traditional Cultural Properties and assessing their validity. As the OEQC guidelines do not contain criteria for assessing the significance for Traditional Cultural Properties, the CIA adopted the State criteria for evaluating the significance of Historic Properties. To be significant, the potential Traditional Cultural Property must possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet one or more of the following criteria:

- A Be associated with events that have made an important contribution to the broad patterns of our history;
- B Be associated with the lives of persons important in our past;
- C Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value;
- D Have yielded, or be likely to yield, information important for research on prehistory or history;
- E Have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group's history and cultural identity.

Clearly, Traditional Cultural Properties are significant under Criteria E, and may be significant under multiple criteria.

The CIA identified no cultural practices that were on or are associated with the current study property. The study area was part of a larger property that has been in private ownership since 1852 (Grant 867 to P. Cummings), and access to the property seems to have been limited since that time (see Maly and Maly 2002:184). Given a long and continued history of agricultural and ranching land use on the property, coupled with the general absence of culturally and economically important indigenous species, it is likely that the project area was not a location of Hawaiian traditional or customary gathering anytime during the past 150 years.

One cultural resource, considered to be a traditional cultural property, was identified within the current study parcel: *Pali o Manuahi*. The nature of this resource and its associated cultural beliefs, along with an evaluation of its significance are presented below.

Pali O Manuahi

The 600-foot escarpment (*pali*) above Kealakekua Bay is perhaps the most prominent physiographic feature of the Historic District, and the *pali* itself is a historically and culturally significant landscape feature. The steeper western portion of the *pali*, in the *ahupua'a* of Ka'awaloa and Kealakekua, is today known by the name *Pali Kapu o Keoua*. The Sacred Cliff of Keoua was the subject of a narrative, by an unidentified author, published in the Hawaiian language newspaper *Ka Hoku o Hawai'i* and translated by Kepa Maly:

There are many famous storied places on the land from ancient times, many of their names given for famous chiefs of the land. On the uplands side of the monument to Captain Cook at Kaawaloa, is found Ka Pali o Keoua. Some people believe that this cliff is called this because of Keoua Kua Ahuula; that is not correct, his place of residence was not Kona, but Kau . . . The one for whom the cliff is named, is Keoua Nui, the one who is believed to be the true father of Kamehameha I.

This was a sacred cliff in ancient time. It was not right for the shadow of a commoner to fall upon the cliff. The punishment in ancient times, if a commoner should break this *kapu*, was death. The only good time for a person to travel at this place was when the sun rested atop the head (noon – midday; when the shadow retreated into the body), then one would be free to travel here.

Near this place are the bathing pool of Haliilua and the pit in which the bones of the chiefs are placed, known by the name, “Ka Lua o Hooaiku” (The Pit of Hooaiku). It was above here, at Ka Pali Kapu o Keoua, that Moho mistakenly ate the naau (intestines) of Captain Cook, thinking that it was the naau of a dog . . . (Maly and Maly 2001:23)

The eastern portion of the *pali*, in the *ahupua'a* of Kiloa and Waipunaula (within the current study area), is referred to as *Pali o Manuahi*. Naluahine (a native informant) pointed out this distinction to Theodore Kelsey during a boat trip from Keauhou to Ka'apuna lava flow on June 2, 1950:

Ke Alanui o Lono (The Road of Lono), from Kuapehu to Ka'awaloa. It is on the top of the cliff known as Pali o Manuahi (the part of the cliff on the other side of the rock in the sea named Ka-lepe-a-moa, near Cook's monument, is Ka Pali Kapu o Ke-o-ua . . . Ka-lepe-a-moa, the large stone in the sea dividing Ka Pali Kapu o Keoua from Ka Pali o Manuahi. (Maly and Maly 2001:311)

This *pali* is featured in a portion of *Ka'ao Ho'oniua Pu'uwai no Ka Miki* (The Heart Stirring Story of Ka Miki), a *mo'olelo* recorded over a four year period (1914-1917) in *Ka Hoku o Hawai'i*. In the story, it is told that it was the regular practice of these ghosts to travel a trail down the steep cliff of Manuahi from their home in Alanapo as they descended to the sea. Thus the name, Kealakekua (the path of the ghosts or gods) came about.. (Maly and Maly 2001:24-25)

Pali o Manuahi is also mentioned in the story of Lono-i-ka-makahiki (Kamakau 1992). A portion of the story relates how the legendary chief Lono unjustly kills his wife in a fit of jealousy, because several women that were envious of her beauty deceived the chief from a hidden position in the wilderness on the cliff of Manuahi.

The CIA evaluated *Pali o Manuahi* is evaluated as a significant Traditional Cultural Property under Criteria A, B, D, and E: Criterion A for its association with legendary and historical events that were documented and transmitted from one generation to the next; Criterion B for its association with the legendary/historical *ali'i* whose name the *pali* bears; Criterion D for research information that has been obtained and potentially could be obtained in the future, and Criterion E for the cultural value assigned to this resource by members of the past and present Hawaiian community.

2.3.3.5 Potential Impacts and Proposed Mitigation

The view plane looking *mauka* from the greater Kealakekua Bay area to *Pali o Manuahi* is a culturally important visual element in the Kealakekua Bay Historic District. Even though the current study area is at the extreme southern end of the *pali*, and even though there are existing dwellings in this view plane, additional construction on the *pali* that is overly visible from the coast will have a negative cumulative effect on this cultural resource. Therefore, to mitigate any potential negative effects, it is recommended that construction within the project area not take place on the *pali* face, but rather be limited to those portions of the study area that lie below the steep escarpment of the *pali*, as illustrated on Figure 3.

2.4 Public Facilities and Services

2.4.1 Public Roads

Existing Facilities

The property is accessed via a short segment of the "Old Government Road" (also called Pali Poko Road), which connects to Napo'opo'o Road (see Fig. 2). A two-lane, County facility, Napo'opo'o Road is the main route connecting State Highway 19 (the Hawaii Belt Road) and Kealakekua Bay. Traffic is generally light but steady on the road, which is used by both residents and visitors.

Impacts and Mitigation Measures

One driveway off the Old Government Road will serve all three lots. Plans for the driveway will be reviewed by the Hawaii County Department of Public Works. No adverse effect upon the structure or safety of Napo'opo'o Road is expected.

2.4.2 Public Utilities

Electrical power to the facility is supplied by on the island of Hawai'i is provided by Hawai'i Electric Light Company (HELCO), a privately owned utility company regulated by the State Public Utilities Commission, via their island-wide distribution network. As of 2000, HELCO

had a total of over 50,000 residential customers and more than 10,000 General Load, Commercial Cooking and Heating, Large Power Service, and Street Lighting accounts (Hawai'i County R&D: 2000). HELCO's distribution system principally of overhead (with limited underground) transmission lines. Overhead lines typically consist of 46 kilovolt (kV) or 12.47 kV primary circuits routed largely along highways and roadways. Electrical service is available at the property.

Telephone service for the island of Hawai'i is provided by Verizon Hawai'i and is available at the property.

An existing Hawaii County Department of Water Supply (DWS) 1-inch Type -A service lateral water line that accommodates a 5/8-inch meter is installed at the entrance to the property (see letter from Hawai'i County Department of Water Supply, App. 1a). The area is not served by sewer lines.

Impacts and Mitigation Measures

The proposed action would not have any substantial on existing telephone or electrical facilities or HELCO's ability to provide electricity. The subdivision will be configured as three "flag-lots" that will allow the two additional lots to front the existing 8-inch waterline along the Napo'opo'o Road (see Fig. 3)

At the appropriate time, lot owners will install individual wastewater treatment systems in conjunction with construction of individual homes in compliance with State Department of Health regulations

2.4.3 Public Services

Existing Services

The Hawai'i County Police Department (HCPD) has law enforcement jurisdiction throughout the entire island of Hawai'i. HCPD is headquartered in Hilo, with stations in Kea'au, Naalehu, Kealakehe, Kapa'au, Waimea and Laupahoehoe, and substations in Waikoloa and Pahoa. Administrative personnel and police officers total over 500.

The Hawai'i County Fire Department (HCFD) has fire protection jurisdiction throughout the entire island of Hawai'i. Firefighters must respond to emergency medical, hazardous condition, rescue, building fires, brush and other outdoor fires, and vehicle fires. Fire stations generally have three 24-hour shifts. HFD currently has a force of over 300 working as administrative personnel or as firefighters throughout the island. A fire station is present nearby in Captain Cook.

Public schools in the area include Honaunau Elementary School, Konawaena Elementary School, and Konawaena Intermediate and High School.

Impacts and Mitigation Measures

As the project involves the addition of only two more lots, any additional demands on public services are expected to be negligible. It is also important to note that the increased value of property from both subdivision and any improvements built upon the lots will generate additional County tax revenues.

2.5 Secondary and Cumulative Impacts

Secondary effects related indirectly to the subdivision are negligible. A population increase of about six will generate very slight additional demand on public facilities and services, which is compensated for by property tax contributions to the County. The proposed land use is similar to that of surrounding properties, which do not individually or jointly produce appreciable adverse environmental impacts.

Cumulative impacts may be defined as impacts on the environment which result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency or entity undertakes the action (Council on Environmental Quality 1997:v).

Of interest are plans for nearby properties. A number of large subdivisions and rezonings are expected to occur in South Kona over the next twenty years that will increase development-related impacts to the region. Of particular concern, if community input in recent hearings for such projects is an accurate gauge, are water quality, traffic, agricultural land, and historic sites.

The low-intensity land use proposed for the property, along with its location – more than 3,000 feet from the coast at elevations more than 400 feet above sea level – indicates that adverse water quality impacts are very unlikely. Although minimal levels of nutrients and other pollutants do enter the ground during irrigation or rainfall from any agricultural or residential land use, the natural filtration action of great depths of the soil and rock, coupled with low densities of land use, tend to diminish effects to unmeasurable levels.

It is difficult to forecast future traffic conditions in this part of South Kona. A major State highway (the Mamalahoa Bypass) is planned to eventually connect Keauhou to upper South Kona, terminating at Napo'opo'o Road. This will relieve traffic on the Mamalahoa Highway, but it may also induce greater total traffic in South Kona. There is potential – but no few plans or proposals – for larger developments in the region that might generate substantial traffic on all major roads in South Kona. Highway agencies will doubtless require new roads and improvements to existing roads and intersections as conditions of approvals for permits associated with such developments, as they occur. There do not appear to be any substantial rezonings or subdivisions in the planning stages that would generate appreciable impacts in terms of traffic in the upper Napo'opo'o Road

area. Moreover, the current draft of the Hawai'i County General Plan (in periodic revision) calls for expanded protection and reduced development for much of the existing agricultural and open-space land in South Kona. In any case, the very minor addition caused by an additional two households would not increase volumes on Napo'opo'o Road – which continues to operate at acceptable levels – by any appreciable amount.

The subdivision will not adversely affect agricultural land or practices. . Farming can be conducted on the property, to the extent feasible under the high-slope conditions that prevail over much of it. Similar land uses on properties with high land values abundantly surround the subject property. There will be no tendency for the construction of homes on the property to contribute to an increase in the value of agricultural land in the area to levels above which farming may be profitably conducted.

No archaeological historic sites are present on the property, but Pali o Manuahi has been evaluated as a Traditional Cultural Property. The main extent of this cliff is to the north, but a portion of it also rings the mauka portion of the property. Avoidance of the cumulative impact of numerous homes, utility lines and other structures defacing the view was a key objective in locating potential building pads. As proposed, on the less steep areas makai of the cliff, they would not protrude prominently into this viewplane.

2.6 Required Permits and Approvals

A Special Management (SMA) review by the County of Hawai'i Planning Department, including possible permits, will be required for any development on the property.

2.7 Consistency With Government Plans and Policies

2.7.1 West Hawaii Plan

The *West Hawaii Regional Plan* (Hawaii OSP 1989) represents an attempt to coordinate planning efforts among State agencies that have programs, facilities and other interests in the region. The basic purposes are to respond more effectively to emerging needs and critical problems, to coordinate Capital Improvements within a regional planning framework, and to provide guidance in State land use decision-making processes.

According to the Plan, the State “remains committed to protecting the coffee belt” and supports strategies “to protect productive agricultural land from urban encroachment and other conflicting land uses” (Ibid: 26-27). In the sense that the proposed subdivision would allow development of orchard tree crops such as macadamia nuts, coffee, flowers and papaya, it is consistent with the goals of the Plan.

2.7.2 Hawaii County General Plan

The *General Plan* for the County of Hawai'i is the document expressing the broad goals and policies for the long-range development of the Island of Hawai'i. The plan was adopted by ordinance in 1989. The *General Plan* is organized into thirteen elements, with policies, objectives, standards, and principles for each. There are also discussions of the specific applicability of each element to the nine judicial districts comprising the County of Hawai'i. Below are pertinent sections followed by a discussion of conformance. In recognition that the *General Plan* is currently in the final stages of a periodic update and is likely to be adopted soon, the following references include language from the revisions. Additions to the 1989 language are in bold and underlined, and deletions are bracketed.

ENVIRONMENTAL QUALITY GOALS

Define the most desirable use of land within the County that achieves an ecological balance providing residents and visitors the quality of life and an environment in which the natural resources of the island are viable and sustainable.

Maintain and, if feasible, improve the existing environmental quality of the island.

HISTORIC SITES GOALS

Protect, **restore**, and enhance the sites, buildings, and objects of significant historical and cultural importance to Hawaii.

[Access] **Appropriate access** to significant historic sites, buildings, and objects of public interest should be made available.

AGRICULTURAL LAND GOALS

Identify, protect and maintain important agriculture lands on the island of Hawaii.

Preserve the agricultural character of the island.

Zoning shall protect and maintain important agricultural lands from urban encroachment. New approaches to preserve important agricultural land shall be implemented by the County.

Agricultural land shall be used as one form of open space or as green belt.

Specific recommendations for the Kona District include:

- o The County shall protect important agricultural lands within the Kona Coffee Belt.

SCENIC BEAUTY GOALS

Protect, preserve and enhance the quality of areas endowed with natural beauty, including the quality of coastal scenic resources.

Protect scenic vistas and view planes from becoming obstructed.

Maximize opportunities for present and future generations to appreciate and enjoy natural and scenic beauty.

The proposed subdivision would not forestall agricultural use and is thus not inconsistent with the General Plan goals for Kona and in the area of agriculture. The proposed action maintains the environmental quality of the area, and does not affect agricultural pursuits on the surrounding properties. Scenic views are maintained and protected. Consistency with aspects of the General Plan related to scenic resources are discussed in Section 2.2.5, above.

PART 3: ANTICIPATED DETERMINATION

The Hawai'i County Planning Department has determined that the impacts from the proposed project will be minimal and that the project will not significantly alter the environment. It has therefore issued a Finding of No Significant Impact (FONSI).

PART 4: FINDINGS AND REASONS

Chapter 11-200-12, Hawaii Administrative Rules, outlines those factors agencies must consider when determining whether a project has significant effects:

1. *The proposed project will not involve an irrevocable commitment or loss or destruction of any natural or cultural resources.*

No archaeological resources are present on the property. Viewplanes of a natural feature that is considered a Traditional Cultural Property, Pali o Manuahi, would be protected by locating building pads in less steep areas of the project below the cliff. Flora and fauna are almost exclusively non-native. No natural or cultural resource would be irrevocably committed or lost by the proposed subdivision.

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

No restriction of beneficial uses would occur. The project would promote agriculture.

3. *The proposed project will not conflict with the State's long-term environmental policies.*

The project is environmentally benign and is consistent with all elements of the State's long-term environmental policies as expressed in Chapter 344, HRS, the broad goals of which are to conserve natural resources and enhance the quality of life. The project does not conflict with any aspect of this policy, and is consistent with those aspects maintaining small farms and rural lifestyles.

4. *The proposed project will not substantially affect the economic or social welfare of the community or State.*

No substantial effect, either adverse or beneficial, would occur as a result of the proposed subdivision, which will produce only very minor effects of any kind.

5. *The proposed project does not substantially affect public health in any detrimental way.*

Public health and safety will be maintained through adherence to subdivision requirements regarding water supply, wastewater treatment, roads, drainage, and fire protection. The project is carefully reviewed by a number of County agencies and must conform with their requirements.

6. *The proposed project will not involve substantial secondary impacts, such as population changes or effects on public facilities.*

No appreciable secondary impacts are associated with the subdivision.

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

The project would not degrade environmental quality.

8. *The proposed project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat.*

No rare, threatened or endangered species of flora or fauna are known to exist on the project site, which has long been graded for agriculture. No such species will be affected by any actions on the property.

9. *The proposed project is not one which is individually limited but cumulatively may have considerable effect upon the environment or involves a commitment for larger actions.*

The project is not related to other activities in the region in such a way as to produce adverse cumulative effects or involve a commitment for larger actions. There are no other nearby projects involving development-related impacts with which the impacts of the Alkire subdivision could accumulate.

10. *The proposed project will not detrimentally affect air or water quality or ambient noise levels.*

No substantial effects to air, water, or ambient noise would occur. Brief, temporary effects will occur during construction of homes and farm buildings, and longer effects will occur during farming activities, but such effects are an accepted part of the farming lifestyle of South Kona and are protected under the Right-to-Farm Act.

11. *The project does not affect an environmentally sensitive area such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal area.*

The project is not located near coastal or inland waters. A small area that is formally considered within a flood zone is present on the property. The Hawaii County Department of Public Works will determine whether an easement to preclude development of or alteration to this area is required. Although the proposed project is located in an zone exposed to seismic and volcanic hazard, there are no reasonable alternatives.

12. *The project will not substantially affect scenic vistas and viewplanes identified in county or state plans or studies.* No protected viewplanes in the area would be adversely impacted. Impacts to the viewplane of Pali o Manuahi from the coast would be avoided by siting housepads in appropriate locations below the pali.

13. *The project will not require substantial energy consumption.* A negligible level of energy input would be required for the construction that would likely ensue subdivision.

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

REFERENCES

- Beaglehole, J. 1967. *The Journals of Captain James Cook*. Cambridge: Hakluyt Society.
- Chinen, J. 1958. *The Great Mahele: Hawaii's Land Division of 1848*. Honolulu: University of Hawaii Press.
- _____ 1961. Original Land Titles in Hawaii. Privately published.
- Council on Environmental Quality (CEQ). 1997. *Considering Cumulative Effects Under NEPA*. Washington: CEQ.
- Ellis, W. 1963. *Journal of William Ellis*. Honolulu: Advertiser Publishing Co., Ltd.
- Fornander, A. 1973. *An Account of the Polynesian Race: Its Origin and Migrations*. Tokyo: Charles E. Tuttle Co., Inc.
- Gagne, W., and L. Cuddihy. 1990. "Vegetation," pp. 45-114 in W.L. Wagner, D.R. Herbst, and S.H. Sohmer, eds., *Manual of the Flowering Plants of Hawaii*. 2 vols. Honolulu: University of Hawaii Press.
- Giambelucca, T.W., Nullet, M.A., and T.A. Schroeder. 1986. *Rainfall Atlas of Hawaii*. Honolulu: Hawaii Department of Land and Natural Resources.
- Hawai'i County Department of Public Works. 1970. *Storm Drainage Standards*. Hilo.
- Hawa'i Office of State Planning. 1992. *West Hawaii Regional Plan*. Honolulu.
- Heliker, C. 1990. *Volcanic and Seismic Hazards on the Island of Hawaii*. Washington: U.S. GPO.
- Kamakau, S. 1992. *Ruling Chiefs of Hawaii*. Honolulu: Kamehameha Schools Press (2nd ed.).
- Kame'elehiwa, L. 1992. *Native Land, and Foreign Desires*. Honolulu: Bishop Museum Press.
- Kelly, M. 1983. *Na Mala O Kona: Gardens of Kona. A History of Land Use in Kona, Hawai'i*. Departmental Report Series 83-2. Department of Anthropology, B.P. Bishop Museum, Honolulu. Prepared for the Department of Transportation, State of Hawaii.
- Ledyard, J. 1863. *John Ledyard's Journal of Captain Cook's Last Voyage*. Edited by J. Munford, Oregon State University Press: Corvallis.
- Macdonald, G.A., A.T. Abbott, and F.L. Peterson. 1986. *Volcanoes in the Sea: The Geology of Hawaii*. 2nd ed. Honolulu: University of Hawaii Press.
- Malo, D. 1951. *Hawaiian Antiquities*. Honolulu, B.P. Bishop Museum.
- Maly, K., and O. Maly. 2001. *He Wahi Mo'olelo No Na 'Aina, A Me Na Ala Hele I Hehi 'Ia, Mai Keauhou A I Kealakekua, Ma Kona, Hawai'i*. Kumu Pono Associates Report HiAla40-061501. Prepared for Na Ala Hele Program Manager, State Division of Forestry and Wildlife, Hilo.

Menzies, A. 1920. *Hawaii Nei, 128 Years Ago*. The New Freedom Press: Honolulu. Edited by William F. Wilson.

Rosendahl, P. 1984. *Archaeological Field Inspection, Private Subdivision Development, Waipunaula, South Kona, Island of Hawaii (TMK:3-8-2-03:1)*. PHRI Report 106-030584. Prepared for Mr. Robert Emory, Captain Cook, Hawaii.

Sato, H.H. et al. 1973. *Soil Survey of Island of Hawaii, State of Hawaii*. Washington: U.S.D.A. Soil Conservation Service.

Smith, M. 1991. *Historical Overview: Kealahou Bay State Historical Park and Surrounding Area, South Kona, Island of Hawaii*. Department of Land and Natural Resources, Division of State Parks.

University of Hawaii at Manoa, Dept. of Geography. 1983. *Atlas of Hawaii*. 2nd ed. Honolulu: University of Hawaii Press.

U.S. Bureau of the Census. 1991. *1990 Census of Population, General Population Characteristics*. 1990 CP-1-13. Washington: GPO.

Wolfe, E.W., and J. Morris. 1996. *Geologic Map of the Island of Hawaii*. USGS Misc. Investig. Ser. Map I-2524-A.

APPENDIX 1A

COMMENT LETTERS

FROM AGENCIES AND ORGANIZATIONS

IN RESPONSE TO PRE-CONSULTATION

Harry Kim
Mayor



James S. Correa
Police Chief

County of Hawaii

POLICE DEPARTMENT

349 Kapiolani Street • Hilo, Hawaii 96720-3998
(808) 935-3311 • Fax (808) 961-8869

August 9, 2001

Mr. Ron Terry, Ph.D.
Geo Metrician
HC2 Box 9575
Keaau, Hawaii 96749

Dear Mr. Terry:

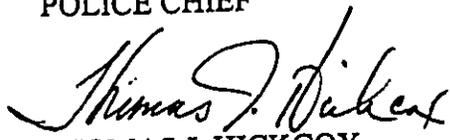
SUBJECT: ENVIRONMENTAL ASSESSMENT FOR SUBDIVISION OF ALKIRE
PROPERTY IN KEALAKEKUA BAY HISTORIC DISTRICT,
WAIPUNAULA, SOUTH KONA, ISLAND OF HAWAII
TMK: (3RD) 8-2-3:32

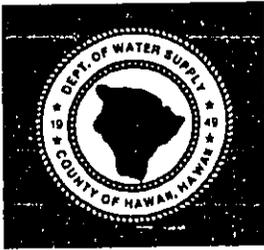
The development of a three-lot subdivision will not have any adverse effect on police services or traffic in the area.

Thank you for the opportunity to comment.

Sincerely,

JAMES S. CORREA
POLICE CHIEF


THOMAS J. HICKCOX
ASSISTANT POLICE CHIEF
FIELD OPERATIONS BUREAU



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

345 KEKUANAOA STREET, SUITE 20 • HILO, HAWAII 96720

TELEPHONE (808) 961-8050 • FAX (808) 961-8657

August 7, 2001

Ron Terry, Ph.D.
Geo Metrician
HC 2 Box 9575
Keaau, HI 96749

WATER AVAILABILITY REQUEST
APPLICANT: DENNIS ALKIRE
TAX MAP KEY: 8-2-003:032

We have reviewed your letter of August 1, 2001, and have the following comments.

Please be informed that water for the proposed subdivision can be made available from an existing 8-inch waterline along Napoopoo Road fronting the property.

For your information, pursuant to a previous subdivision action, an existing 1-inch Type-A service lateral that accommodates a 5/8-inch meter was installed at the entrance to the property.

Further, the subdivision should be configured in such a way that it will allow the two additional lots to front the existing 8-inch waterline along the Napoopoo Road and the required service laterals.

Should there be any questions, please call our Water Resources and Planning Branch at 961-8070.

Sincerely yours,

Milton D. Pavao, P.E.
Manager

WA:jh

...Water brings progress...

APPENDIX 1B

COMMENT LETTERS TO DRAFT EA

AND RESPONSES

BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. Box 621
HONOLULU, HAWAII 96809

NOV -8 2002

GILBERT S. COLOMA-AGARAN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ERIC T. HIRANO
DEPUTY DIRECTOR

LINNEL T. NISHIOKA
DEPUTY DIRECTOR FOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE
COMMISSION
LAND
STATE PARKS

Ron Terry
GeoMetrician Associates
HC 2 Box 9575
Keaau, Hawaii 96749

L-2816

Subject: Draft environmental assessment covering the Alkire
Subdivision, Waipunaula, South Kona, Hawaii

Dear Mr. Terry:

Please accept our apology in not responding to your request
sooner. A copy of your request was distributed within the Department.

Attached is a copy of the Division of Aquatic Resources comments.
The Department of Land and Natural Resources has no other comment to
offer at this time.

Should you have any questions, please contact Nicholas Vaccaro of
the Land Division, Support Services Branch at 587-0438.

Sincerely,

for DIERDRE S. MAMIYA
Administrator

cc: Land Board Member
OEQC
Hawaii County Planning Dept.

DEPARTMENT OF AQUATIC RESOURCES		
Director	✓	Suspense Date
COMMISSIONER		Draft Book
AD. MGR.	✓	People Contact
AD. MGR.		Conservation
SUPV. FWMS		Information
ENGRS		Permit/Assess
STATE PARKS		
AD. MGR.		Regulation
ENGRS		Regulation
SECRETARY		
OFFICE ASST		
FILED	02-910	



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

October 24, 2002

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

LD/NAV

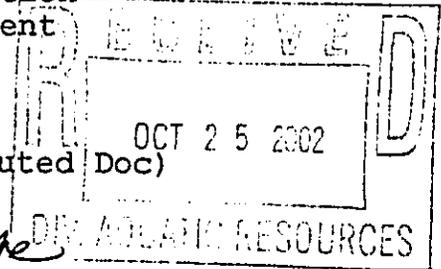
Ref.: ALKIRESUBDIVISION.CMT

L-2816

Suspense Date: 11/8/01

MEMORANDUM:

TO: XXX Division of Aquatic Resources (Distributed Doc)
**XXX Division of Forestry & Wildlife
**XXX Na Ala Hele Trails
XXX Division of State Parks (Distributed Doc)
Division of Boating and Ocean Recreation
**XXX Commission on Water Resource Management
Land Division Branches:
**XXX Planning and Technical Services
XXX Engineering Branch (Distributed Doc)
XXX Hawaii District Land Office (Distributed Doc)



FROM: *J* Dierdre S. Mamiya, Administrator
Land Division *Charles*

SUBJECT: Draft Environmental Assessment (DEA) covering the Alkire
Subdivision at Waipunaula, South Kona, Hawaii
Consultant: GeoMetrician Associates (Ron Terry)

Please review the subject DEA and submit your comments (if any) on Division letterhead within the time requested above.

Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0438.

**NOTE: One (1) copy of the DEA is available for your review in the Land Division Office, room 220.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

() We have no comments.

(X) Comments attached.

Signed: *D. Mamiya*

Date: *11/7/02*

SUSPENSE DATE: November 11, 2002

STATE OF HAWAII
Department of Land and Natural Resources
Division of Aquatic Resources

MEMORANDUM

To: William Devick, Administrator
From: Richard Sixberry, Aquatic Biologist
Subject: Comments on Draft Environmental Assessment

Comments Requested By: Dierdre Mamiya - Land Division

Date of Request: 10/24/02 Date Received: 10/25/02

Summary of Project

Title: Alkire Subdivision
Proj. By: Dennis Alkire
Location: Waipunaula, S. Kona, Hawaii

Brief Description:

The applicant proposes to subdivide a 16.316 acre parcel of land into 3 lots located makai of Napo'opo'o Road and Pali O Manuahi in South Kona, Hawaii. The site is located within the Kealakekua Bay Historic District.

Comments:

Significant long-term impacts adverse to aquatic resource values are not expected from the development activities proposed.

We suggest that construction activities be restricted to periods of minimal rainfall and areas denuded of vegetation which could be susceptible to erosion be appropriately stabilized to prevent any sedimentation entering Kealakekua Bay. Further, precautions shall be taken during construction to prevent debris, landscaping chemicals, eroded soil, petroleum products and other potential contaminants from flowing blowing or leaching into coastal waters.

Richard Sixberry
Aquatic Biologist



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

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

October 24, 2002

LD/NAV
Ref.: ALKIRESUBDIVISION.CMT

I-2816
Suspense Date: 11/8/01

MEMORANDUM:

TO: XXX Division of Aquatic Resources (Distributed Doc)
**XXX Division of Forestry & Wildlife
**XXX Na Ala Hele Trails
XXX Division of State Parks (Distributed Doc)
Division of Boating and Ocean Recreation
**XXX Commission on Water Resource Management
Land Division Branches:
**XXX Planning and Technical Services
XXX Engineering Branch (Distributed Doc)
XXX Hawaii District Land Office (Distributed Doc)

FROM: *J* Dierdre S. Mamiya, Administrator *Charlene*
Land Division

SUBJECT: Draft Environmental Assessment (DEA) covering the Alkire
Subdivision at Waipunaula, South Kona, Hawaii
Consultant: GeoMetrician Associates (Ron Terry)

Please review the subject DEA and submit your comments (if
any) on Division letterhead within the time requested above.

Should you need more time to review the subject matter, please
contact Nick Vaccaro at ext.: 7-0438.

****NOTE:** One (1) copy of the DEA is available for your review in the
Land Division Office, room 220.

If this office does not receive your comments on or before the
suspense date, we will assume there are no comments.

We have no comments.

Comments attached.

Signed: *M. G. Buck*

Date:

**MICHAEL G. BUCK, ADMINISTRATOR
DIVISION OF FORESTRY AND WILDLIFE**

OCT 28 2002

BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. Box 621
HONOLULU, HAWAII 96809

NOV 18 2002

GILBERT S. COLOMA-AGARAN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ERIC T. HIRANO
DEPUTY DIRECTOR

LINNEL T. NISHIOKA
DEPUTY DIRECTOR FOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE
COMMISSION
LAND
STATE PARKS

Ron Terry
GeoMetrician Associates
HC 2 Box 9575
Keaau, Hawaii 96749

L-2816

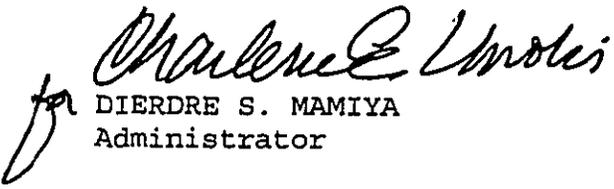
Subject: Draft environmental assessment covering the Alkire
Subidivision, Waipunaula, South Kona, Hawaii

Dear Mr. Terry:

Attached is a copy of our Hawaii District Land office response.
The Department of Land and Natural Resources has no other comment to
offer at this time.

Should you have any questions, please contact Nicholas Vaccaro of
the Land Division, Support Services Branch at 587-0438.

Sincerely,


DIERDRE S. MAMIYA
Administrator

Cc: Land Board Member



RECEIVED

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

October 24, 2002

LD/NAV
Ref.: ALKIRESUBDIVISION.CMT

L-2816
Suspense Date: 11/8/02

MEMORANDUM:

TO: XXX Division of Aquatic Resources (Distributed Doc)
**XXX Division of Forestry & Wildlife
**XXX Na Ala Hele Trails
XXX Division of State Parks (Distributed Doc)
Division of Boating and Ocean Recreation
**XXX Commission on Water Resource Management
Land Division Branches:
**XXX Planning and Technical Services
XXX Engineering Branch (Distributed Doc)
XXX Hawaii District Land Office (Distributed Doc)

RECEIVED
LAND DIVISION
HAWAII

2002 OCT 28 4 11:20 PM

FROM: *for* Dierdre S. Mamiya, Administrator
Land Division *Charlene*

SUBJECT: Draft Environmental Assessment (DEA) covering the Alkire
Subdivision at Waipunaula, South Kona, Hawaii
Consultant: GeoMetrician Associates (Ron Terry)

Please review the subject DEA and submit your comments (if any) on Division letterhead within the time requested above.

Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0438.

**NOTE: One (1) copy of the DEA is available for your review in the Land Division Office, room 220.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

We have no comments.

Comments attached.

Signed: *[Signature]*

Date: *11/13/02*

BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. Box 621
HONOLULU, HAWAII 96809

NOV 22 2002

GILBERT S. COLOMA-AGARAN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ERIC T. HIRANO
DEPUTY DIRECTOR

LINNEL T. NISHIOKA
DEPUTY DIRECTOR FOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
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CONVEYANCES
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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE
COMMISSION
LAND
STATE PARKS

L-2816

Ron Terry
GeoMetrician Associates
HC 2 Box 9575
Keaau, Hawaii 96749

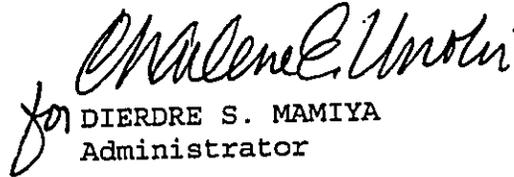
Subject: Draft environmental assessment covering the Alkire
Subdivision, Waipunaula, South Kona, Hawaii

Dear Mr. Terry:

Attached is a copy of the Commission on Water Resource Management comments. The Department of Land and Natural Resources has no other comment to offer at this time.

Should you have any questions, please contact Nicholas Vaccaro of the Land Division, Support Services Branch at 587-0438.

Sincerely,


for DIERDRE S. MAMIYA
Administrator

Cc: Land Board Member

RECEIVED



02 OCT 25 12:07 STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809
October 24, 2002

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

COMMISSION ON WATER
RESOURCE MANAGEMENT

LD/NAV
Ref.: ALKIRESUBDIVISION.CMT

L-2816
Suspense Date: 11/8/01

MEMORANDUM:

TO: XXX Division of Aquatic Resources (Distributed Doc)
**XXX Division of Forestry & Wildlife
**XXX Na Ala Hele Trails
XXX Division of State Parks (Distributed Doc)
Division of Boating and Ocean Recreation
**XXX Commission on Water Resource Management
Land Division Branches:
**XXX Planning and Technical Services
XXX Engineering Branch (Distributed Doc)
XXX Hawaii District Land Office (Distributed Doc)

FROM: *for* Dierdre S. Mamiya, Administrator *Charles*
Land Division

SUBJECT: Draft Environmental Assessment (DEA) covering the Alkire
Subdivision at Waipunaula, South Kona, Hawaii
Consultant: GeoMetrician Associates (Ron Terry)

Please review the subject DEA and submit your comments (if any) on Division letterhead within the time requested above.

Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0438.

**NOTE: One (1) copy of the DEA is available for your review in the Land Division Office, room 220.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

() We have no comments. () Comments attached.

Signed: _____

Date: _____

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



GILBERT S. COLOMA-AGARAN
CHAIRPERSON

BRUCE S. ANDERSON
MEREDITH CHING
CLAYTON W. DELA CRUZ
BRIAN C. NISHIDA
HERBERT M. RICHARDS, JR.

LINNEL T. NISHIOKA
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

November 18, 2002

TO: Dierdre Mamiya, Administrator
Land Division

FROM: Linnel T. Nishioka, Deputy Director
Commission on Water Resource Management (CWRM)

SUBJECT: Draft Environmental Assessment, Alkire Subdivision, Waipunaula, South Kona, Hawaii

FILE NO.: ALKIRESUBDIVISION.CMT

A handwritten signature in black ink, appearing to read "Linnel T. Nishioka".

Thank you for the opportunity to review the subject document. Our comments related to water resources are marked below.

In general, the CWRM strongly promotes the efficient use of our water resources through conservation measures and use of alternative non-potable water resources whenever available, feasible, and there are no harmful effects to the ecosystem. Also, the CWRM encourages the protection of water recharge areas, which are important for the maintenance of streams and the replenishment of aquifers.

- We recommend coordination with the county government to incorporate this project into the county's Water Use and Development Plan.
- We recommend coordination with the Land Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
- We are concerned about the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.
- A Well Construction Permit and/or a Pump Installation Permit from the Commission would be required before ground water is developed as a source of supply for the project.
- The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit from the Commission would be required prior to use of this source.
- Groundwater withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
- We are concerned about the potential for degradation of instream uses from development on highly erodible slopes adjacent to streams within or near the project. We recommend that approvals for this project be conditioned upon a review by the corresponding county's Building Department and the developer's acceptance of any resulting requirements related to erosion control.
- If the proposed project includes construction of a stream diversion, the project may require a stream diversion works permit and amend the instream flow standard for the affected stream(s).
- If the proposed project alters the bed and banks of stream channels, the project may require a stream channel alteration permit.
- OTHER:

Based on a review of USGS Quadrangle Map it does not appear that streams will be affected by this proposed subdivision.

If there are any questions, please contact David Higa at 587-0249.

geometrician
ASSOCIATES, LLC
integrating geographic science and planning

December 9, 2002

Dierdre S. Mamiya, Administrator
Land Division
Hawai'i State Dept. of Land and Natural Resources
P.O. Box 621
Honolulu HI 96809

Dear Ms. Mamiya:

**Subject: Draft Environmental Assessment for Alkire Subdivision,
Waipunaula, South Kona, TMK (3rd) 8-2-003:032**

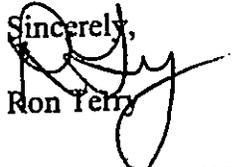
Thank you for your comment letters of November 8, 18 and 22, 2002, transmitting the comments of the various divisions of DLNR. We note that the Division of Forestry and Wildlife, the Division of State Parks and the Hawai'i District Land Office submitted "no-comment" responses. Below are our responses to the divisions with substantive comments.

1. *Division of Aquatic Resources.* DARS noted that although significant long-term adverse impacts to aquatic resources are not expected, it recommended certain mitigation activities, in particular, "that construction activities be restricted to periods of minimal rainfall and areas denuded of vegetation which could be susceptible to erosion be appropriately stabilized to prevent any sedimentation entering Kealahou Bay. Further, precautions shall be taken during construction to prevent debris, landscaping chemicals, eroded soil, petroleum products and other potential contaminants from flowing, blowing or leaching into coastal waters." The applicant fully intends to comply with these mitigation measures, and furthermore understands the obligation to comply with all requirements of the Chapter 10, *Erosion and Sedimentation Control*, of the Hawai'i County Code. All development-generated runoff shall be disposed of on-site and shall not be directed toward any adjacent properties. Language affirming this need to protect water quality through these means has been added to the Final EA.

2. *Commission on Water Resource Management.* CWRM noted that no streams would appear to be affected by the project and recommended coordination with the County government to incorporate the project in the County's Water Use and Development Plan. Project planners have closely coordinated with the County Department of Water Supply throughout the EA-process and will continue to do so during the subdivision process.

Again, thank you for coordinating your agencies' comments. If you have any questions about the project, please contact me at 982-5831.

Sincerely,


Ron Terry

phone: (808) 982-5831 • fax: (808) 966-7593 • HC 2 Box 9575, Keaau, Hawaii 96749 • rterry@interpac.net

BENJAMIN J. CAYETANO
GOVERNOR



GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENT QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

November 19, 2002

Mr. Christopher Yuen, Director
Planning Department, County of Hawaii
101 Pauahi Street, Suite 3
Hilo, Hawaii 96720

Dear Mr. Yuen:

Subject: Draft Environmental Assessment for the Alkire Subdivision, Hawaii

Thank you for the opportunity to review the draft environmental assessment. We have the following comments.

1. The project is located close to Kealakekua Bay. What is the extent of grading for the project? What specific mitigation measures are planned to reduce storm water run-off from entering the bay?
2. Please describe the nature and extent of agricultural activity in the proposed agricultural subdivision. Will potable water be used for agricultural irrigation? Please consider other alternatives such as use of non-potable water and water conservation measures.
3. Please describe the possible wastewater treatment systems that will be used and consult with the Department of Health concerning its appropriateness.
4. Please consult with adjacent neighbors.

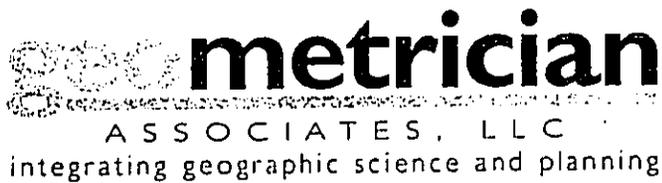
If you have any questions please call Jeyan Thirugnanam at 586-4185.

Sincerely,

A handwritten signature in cursive script, appearing to read "Genevieve Salmonson".

Genevieve Salmonson
Director

c: Dennis Alkire
Ron Terry



December 9, 2002

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

Dear Ms. Salmonson:

**Subject: Draft Environmental Assessment for Alkire Subdivision,
Waipunaula, South Kona, TMK (3rd) 8-2-003:032**

Thank you for your comment letter on the Draft EA, dated November 19, 2002, and addressed to Christopher J. Yuen, Director, Hawai'i County Planning Department. In answer to your specific comments:

1. *Kealakekua Bay and mitigation for grading.* In response to comments from your office and the Hawai'i State Division of Aquatic Resources, the Final EA has been modified to state that "construction activities shall be restricted to periods of minimal rainfall and areas denuded of vegetation which could be susceptible to erosion shall be appropriately stabilized to prevent any sedimentation entering Kealakekua Bay. Further, precautions shall be taken during construction to prevent debris, landscaping chemicals, eroded soil, petroleum products and other potential contaminants from flowing, blowing or leaching into coastal waters. In compliance with County policy, all development-generated runoff shall be disposed of on-site and shall not be directed toward any adjacent properties. All development shall comply with all requirements of the Chapter 10, *Erosion and Sedimentation Control*, of the Hawai'i County Code."

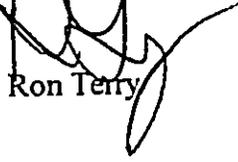
2. *Agricultural nature and extent; use of water.* The nature of the crops and/or livestock will be determined by the individual owners. Other than catchment water, which is very limited in supply due to the semi-arid climate, there are no sources of non-potable water. It is expected that any agriculture conducted on the property will require minimal use of water and/or will utilize catchment water because of the expense of irrigating with potable water.

3. *Wastewater Treatment.* We have coordinated with the Department of Health during the preparation of the EA. According to their comment letter of November 26, 2002, the project is located in a non-critical wastewater area and as long as there is a minimum of 10,000 square feet per lot, an Individual Wastewater System (as proposed in the Draft EA) can be constructed on site to treat and dispose of domestic wastewater. As stated in Section 2.4.2 of the Draft EA, at the appropriate time, lot owners will install individual wastewater treatment systems in conjunction with construction of individual homes in compliance with the regulations of the State Department of Health, which will have the opportunity to review wastewater plans.

4. *Consultation with neighbors.* The cultural impact assessment author consulted with a number of local residents as part of background research for the project. In addition, the PUD process will involve notification of all property owners/lessees within 500 feet of any boundary of the property.

Again, thank you for your comment. If you have any questions about the project, please contact me at 982-5831.

Sincerely,


Ron Terry

DEPARTMENT OF PUBLIC WORKS
COUNTY OF HAWAII
HILO, HAWAII

DATE: November 20, 2002

Memorandum

TO : Christopher J. Yuen, Planning Director
Planning Department

Ron Terry
GeoMetrician Associates

FROM : Galen M. Kuba, Division Chief *JK*
JK Engineering Division

SUBJECT : SMA Use Permit Application (SMAA 02-45)
Draft Environmental Assessment DEA
Applicant: Dennis Alkire and David Knittle
Alkire Subdivision at Waipunaula
Location: Waipunaula, S. Kona, HI
TMK: 3 / 8-2-003:032

We reviewed the subject application and our comments are as follows:

BUILDING

1. Buildings shall conform to all requirements of code and statutes pertaining to building construction.

DRAINAGE

1. All development generated runoff shall be disposed of on-site and shall not be directed toward any adjacent properties.
2. The applicant shall be informed that if they include drywells in the subject development, an Underground Injection Control (UIC) permit may be required from the Department of Health, State of Hawaii.
3. A drainage study shall be prepared, and the recommended drainage system shall be constructed meeting with the approval of DPW.
4. South Kona Watercourse No. 5 affects the subject parcel as designated by the Flood Insurance Rate Map (FIRM), dated September 18, 1988. Any new construction or substantial improvements within the 100-year inundation area as shown in the South Kona Flood Hazard Analysis or other more detailed topographic study will be subject to the requirements of Chapter 27 - Flood

Control, of the Hawaii County Code. A detailed topographic map should be required prior to any development near the flood hazard area.

EARTHWORK

1. All earthwork and grading shall conform to Chapter 10, Erosion and Sediment Control, of the Hawaii County Code.
2. The applicant should consult with the Natural Resources Conservation Service, formerly known as, Soil Conservation Service).
3. The applicant shall comply with chapter 11-55, Water Pollution Control, Hawaii Administrative Rules, Department of Health, which requires an NPDES permit for certain construction activity.

ROADWAYS

1. The existing Old Government Road, fronting the subject property, is not paved and is not maintained by the County. Improvement to the standards of the Subdivision Code would require realignment, widening and moderation of the grade.
2. Napoopoo Road, the County road serving the subject property is classified as a collector on the General Plan. It has a 20-ft. wide pavement within an approximate 50-ft. right-of-way. It is substandard based on width, alignment and roadside hazard clearances.
3. Access to Napoopoo Road, including the provision of adequate sight distances, should meet with the approval of DPW. Install street lights, signs and markings meeting with the approval of the DPW, Traffic Division.

Should there be any questions concerning this matter, please feel free to contact Kiran Emler of our Kona Engineering Division office at 327-3530.

KE

copy: Director, Office of Environmental Quality Control
ENG-HILO/KONA
PLNG-KONA



December 9, 2002

Galen Kuba, Engineering Division Chief
Hawai'i County Department of Public Works
101 Pauahi Street, Suite 7
Hilo HI 96720

Dear Mr. Kuba:

**Subject: Draft Environmental Assessment for Alkire Subdivision,
Waipunaula, South Kona, TMK (3rd) 8-2-003:032**

Thank you for your comment letter on the Draft EA, dated November 20, 2002, and addressed to Christopher J. Yuen, Director, Hawai'i County Planning Department. In answer to your specific comments:

BUILDING

1. *Construction to comply with current code.* All new building construction will comply with all applicable code requirements.

DRAINAGE

1. *All development-generated runoff shall be disposed of on-site and shall not be directed toward any adjacent properties.* The owners understand the need to comply with this County policy. This information has been added to the Final EA in Section 2.2.1.

2. *If drywells included in the subject development, an Underground Injection Control (UIC) permit may be required from the State Department of Health.* The owners will comply with all applicable regulations of the State Department of Health related to the UIC program.

3. *Drainage study to be prepared meeting with approval of DPW.* The owners will comply with all applicable DPW regulations and policies related to drainage as part of the subdivision process.

4. *South Kona Watercourse No. 5.* The owners are aware of the presence of the Special Flood Hazard Area and plan no construction in or near this zone, as discussed in Section 2.2.1 of the Draft EA. They will comply with all DPW requests for information concerning this flood channel during the subdivision process.

EARTHWORK

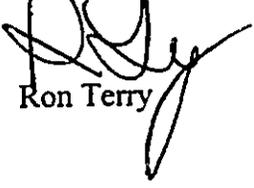
1. *Earthwork Activity shall conform to Chapter 10, Hawai'i County Code. All earthwork activity shall so conform. This information has been added to the Final EA in Section 2.2.1.*
2. *Applicant shall consult with NRCS. The necessity to consult with NRCS will be determined during the subdivision process, per applicable DPW regulations and policies.*
3. *Applicant to comply Chapter 11-55, Water Pollution Control, Hawai'i Administrative Rules, which may require an NPDES permit. The owners will comply with Chapter 11-55, HAR, as necessary, prior to construction.*

ROADWAYS

1. *Existing Old Government Road improvement would require realignment, widening and moderation of grade. The owners will comply with all DPW regulations and policies related to roadways as part of the subdivision process.*
2. *Napo'opo'o Road is substandard. The owners are aware of the condition of Napo'opo'o Road.*
3. *Napo'opo'o Road access to meet with DPW approval, including street lights, signs and markings. The owners will comply with all DPW regulations and policies related to roadway access and improvements as part of the subdivision process.*

Again, thank you for your comments. If you have any questions about the project, please contact me at 982-5831.

Sincerely


Ron Terry

BENJAMIN J. CAVETANO
GOVERNOR OF HAWAII



BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801

In reply, please refer to:
File:

02-277/epo

November 26, 2002

Mr. Ron Terry
GeoMetrician Associates
HC 2 Box 9575
Keaau, Hawaii 96749

Dear Mr. Terry:

Subject: Draft Environmental Assessment (DEA)
Alkire Subdivision, Waipunaula, South Kona, Hawaii
Tax Map Key: (3) 8-2-003:032

Thank you for the opportunity to review and comment on the subject proposal. The DEA was routed to the various branches of the Environmental Health Administration. We have the following comments:

Wastewater Branch (WWB)

The project area is located in the non-critical wastewater disposal area. As long as there is a minimum of 10,000 square feet per lot, an Individual Wastewater System (IWS) can be constructed on-site to treat and dispose of domestic wastewater.

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems." We reserve the right to review the detailed wastewater plans for conformance to applicable rules.

If you have any questions, please contact the Wastewater Branch at (808) 586-4294.

Noise, Radiation and Indoor Air Quality (NRFAQ) Branch

All project activities shall comply with the Administrative Rules of the Department of Health, Chapter 11-46, on "Community Noise Control."

Mr. Ron Terry
November 26, 2002
Page 2

If you have any questions, please contact the NRIAQ at (808) 586-4701.

Sincerely,



GARY GILL
Deputy Director
Environmental Health Administration

c: WWB
NRIAQ

geometrician
ASSOCIATES, LLC
integrating geographic science and planning

December 9, 2002

Gary Gill, Deputy Director
Environmental Health Administration
Hawai'i State Department of Health
P.O. Box 3378
Honolulu HI 96801

Dear Mr. Gill:

**Subject: Draft Environmental Assessment for Alkire Subdivision,
Waipunaula, South Kona, TMK (3rd) 8-2-003:032**

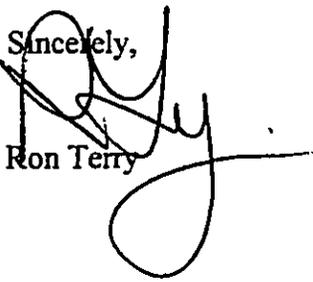
Thank you for your comment letter dated November 26, 2002, on the Draft EA. In answer to your specific comments:

1. *Wastewater.* As noted in your letter and in Section 2.4.2 of the Draft EA, regulations allow Individual Wastewater Systems in compliance with the requirements of the State Department of Health to be constructed on site to treat and dispose of domestic wastewater. The owners understand the need for DOH review of the wastewater plans.

2. *Community Noise Control.* The Final EA has been amended in Section 2.2.4 to state that all project activities shall comply with the Administrative Rules of the Department of Health, Chapter 11-46, on "Community Noise Control."

Again, thank you for your comment. If you have any questions about the project, please contact me at 982-5831.

Sincerely,


Ron Terry

APPENDIX 2

**NOMINATION FORM FOR THE
NATIONAL REGISTER OF HISTORIC PLACES**

Form 10-300
(July 1969)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

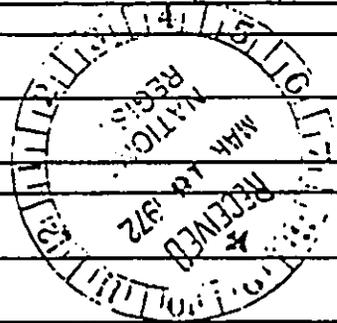
(Type all entries - complete applicable sections)

STATE:	Hawaii
COUNTY:	Hawaii
FOR NPS USE ONLY	
ENTRY NUMBER	DATE

1. NAME
COMMON: Kealakekua Bay Historical District
AND/OR HISTORIC:

2. LOCATION
STREET AND NUMBER: Vicinity of Kealakekua Bay, Hawaii Island
CITY OR TOWN:

STATE	CODE	COUNTY:	CODE
Hawaii	15	Hawaii	001



3. CLASSIFICATION

CATEGORY (Check One)	OWNERSHIP	PUBLIC ACQUISITION	STATUS	ACCESSIBLE TO THE PUBLIC
<input checked="" type="checkbox"/> District <input type="checkbox"/> Site <input type="checkbox"/> Building <input type="checkbox"/> Structure <input type="checkbox"/> Object	<input type="checkbox"/> Public <input type="checkbox"/> Private <input checked="" type="checkbox"/> Both	<input type="checkbox"/> Public Acquisition: <input checked="" type="checkbox"/> In Process <input type="checkbox"/> Being Considered	<input checked="" type="checkbox"/> Occupied <input type="checkbox"/> Unoccupied <input type="checkbox"/> Preservation work in progress	Yes: <input checked="" type="checkbox"/> Restricted <input type="checkbox"/> Unrestricted <input type="checkbox"/> No

PRESENT USE (Check One or More as Appropriate)

<input type="checkbox"/> Agricultural	<input checked="" type="checkbox"/> Government	<input type="checkbox"/> Park	<input type="checkbox"/> Transportation	<input type="checkbox"/> Comments
<input type="checkbox"/> Commercial	<input type="checkbox"/> Industrial	<input checked="" type="checkbox"/> Private Residence	<input checked="" type="checkbox"/> Other (Specify)	
<input type="checkbox"/> Educational	<input type="checkbox"/> Military	<input type="checkbox"/> Religious	Unused	
<input type="checkbox"/> Entertainment	<input type="checkbox"/> Museum	<input type="checkbox"/> Scientific	Pasture	

4. OWNER OF PROPERTY
OWNER'S NAME: Multiple private ownership and State of Hawaii
STREET AND NUMBER:
CITY OR TOWN: STATE: CODE

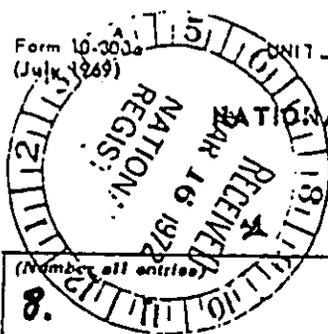
5. LOCATION OF LEGAL DESCRIPTION
COURTHOUSE, REGISTRY OF DEEDS, ETC.: Bureau of Conveyances, Department of Land and Natural Resources
STREET AND NUMBER: 465 South King Street
CITY OR TOWN: Honolulu STATE: Hawaii CODE: 15

6. REPRESENTATION IN EXISTING SURVEYS
TITLE OF SURVEY: Statewide Inventory by Hawaii Register of Historic Places #10-47-7000
DATE OF SURVEY: ongoing Federal State County Local
DEPOSITORY FOR SURVEY RECORDS: Hawaii Register of Historic Places, Division of State Parks
STREET AND NUMBER: 465 South King Street
CITY OR TOWN: Honolulu STATE: Hawaii CODE: 15

SEE INSTRUCTIONS

STATE: COUNTY: ENTRY NUMBER: DATE: FOR NPS USE ONLY

Form 10-303a
(July 1969)



UNIT -- STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Continuation Sheet)

STATE Hawaii	
COUNTY Kealakekua Bay	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE

Hawaiian cultures by their initial extended contact with one another.

In later decades, missionaries and whalers brought more far-reaching changes in the life of the people, though they apparently remained more Hawaiian than did those in most other areas of early intensive contact. In the latter half of the 19th century, kuleana (small land parcels) properties were established and non-Hawaiians moved into the area as elements of the old culture were slowly left behind. During the first half of the present century, Kaawaloa was abandoned and Napoopoo (the area of the original village of Kekua) became a small modern town. In these two 20th century trends, as in other features of the entire cultural sequence, Kealakekua is a representative example of the course of Hawaiian history as a whole.

Set against the background of this continuous culture tradition are historical events and culture patterns that are unique to Kealakekua Bay yet serve to illuminate overall Hawaiian history. In this respect, the importance of the bay area lies not only in its stature as an island capital but also in the relative completeness of the evidence of the pre- and post-contact patterns of the economic, social, political and religious systems of the settlements around the bay. These patterns are evident in both the material remains and the abundant ethnohistoric literature.

The written history of Kealakekua Bay begins scarcely a year after that of the Hawaiian group as a whole. The historical events that include the worship of Cook as Lono, a Hawaiian god, and later his death at Kaawaloa ensure for Kealakekua Bay a place in the history of the Pacific. It was here also that Cook and his men became acquainted with Kalaniopuu, the last of the old ruling chiefs of Hawaii Island, and with Kamehameha, who was to become the first King of all the islands. During the following fifty years, Kealakekua was the scene of important events in the war of succession between the forces of Kamehameha and those of the sons of Kalaniopuu, such as the important battle of Mokuohai. It was also the scene of the departure of Opukahaia, a young Hawaiian boy, on his journey to America which was the beginning of missionary interest in Hawaii, early contact with whaleships, and the establishment of the first mission house in the South Kona District at Kaawaloa.

The State of Hawaii also recognizes the value of Kealakekua Bay and has been acquiring the lands around the bay to protect it from further encroachments by modern society. The Department of Land and Natural Resources contracted for a study of the Kealakekua Bay area in 1968. The results of the study were published in 1969 in the South Kona Coast Historic and Recreation Area, Island of Hawaii by Thomas Creighton and George Walters.

7. DESCRIPTION

CONDITION	(Check One)				
	<input type="checkbox"/> Excellent	<input checked="" type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Deteriorated	<input type="checkbox"/> Ruins
	(Check One)		(Check One)		
	<input checked="" type="checkbox"/> Altered	<input type="checkbox"/> Unaltered	<input type="checkbox"/> Moved	<input checked="" type="checkbox"/> Original Site	

DESCRIBE THE PRESENT AND ORIGINAL (If known) PHYSICAL APPEARANCE

Kealakekua Bay is located in about the middle of the Kona Coast on the western side of Hawaii Island. This sheltered bay lies at the foot of a steep cliff and is bordered by flat shelves of vegetation covered lava at each end. The northern shelf, Kaawaloa, contains the major concentration of archaeological and historical sites for it was abandoned in the 19th century. The southern shelf now supports the small town of Napoopoo and most of the sites have been destroyed except for Hikiau heiau. The attached aerial photograph provides the best introduction to the topography of the Kealakekua Bay area. It is significant that this bay is the most sheltered of all areas on Hawaii Island and this provides the basic reason why it was the center of contact and later commerce between the Hawaiians and Europeans.

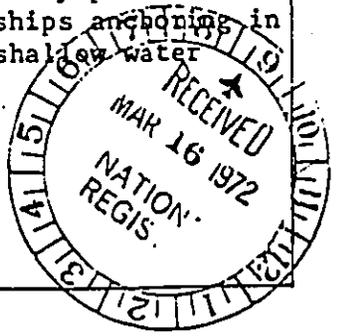
Kaawaloa today contains a multitude of remains of this contact period, undoubtedly overlying pre-contact structures and deposits. Preliminary mapping work has been accomplished for about one half of this area and shows a virtual maze of standing walls, platforms, historic house foundations, refuse pits and religious structures such as heiau and shrines. Most of these features are in good condition and promise to have some of the highest research potential in all of Hawaii, particularly when the wealth of descriptive material is considered.

Lying behind Kaawaloa is the sloping tableland of the Kona Coast and the extensive Kona field system. This field system is only partially within the native land divisions in which coastal Kealakekua Bay is located, for it extends for a total of some 18 miles along the Kona coast. It is about three miles in width, running from just back of the coast up to about the 2,500 foot elevation. The field system is composed of a series of interlocking earthen and rock field boundaries, presenting the appearance of a giant network from the air. This field system has been extensively studied and archaeological and historical data are available to interpret its significance and function in relation to coastal sites, although more should be done to specifically treat the interpretation of Kealakekua Bay.

The southern side of Kealakekua Bay was the scene of a major part of early contact, particularly that by the crew of Captain Cook. The heiau (Hikiau) where elaborate ceremonies took place in honor of Captain Cook is still in existence, although altered by "reconstruction" a few decades ago. However, sufficient graphic material exists to enable its proper reconstruction in the future.

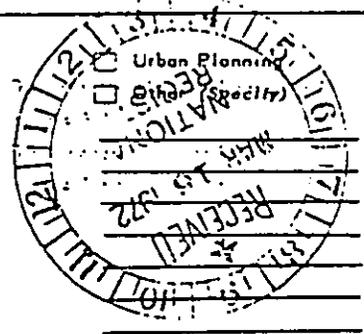
The bay itself has been designated as a marine preserve owing to its extensive and pristine marine resources. Underwater archaeology may prove fruitful here for certainly debris and equipment from the many ships anchoring in the bay could be found if they were deposited in the more shallow water surrounding the edges of the bay.

SEE INSTRUCTIONS



SEE INSTRUCTIONS

3. SIGNIFICANCE			
PERIOD (Check One or More as Appropriate)			
<input type="checkbox"/> Pre-Columbian	<input type="checkbox"/> 16th Century	<input checked="" type="checkbox"/> 18th Century	<input type="checkbox"/> 20th Century
<input type="checkbox"/> 15th Century	<input type="checkbox"/> 17th Century	<input checked="" type="checkbox"/> 19th Century	<input checked="" type="checkbox"/> (x) pre-contact
SPECIFIC DATE(S) (If Applicable and Known)			
AREAS OF SIGNIFICANCE (Check One or More as Appropriate)			
<input type="checkbox"/> Aboriginal	<input type="checkbox"/> Education	<input checked="" type="checkbox"/> Political	<input type="checkbox"/> Urban Planning
<input checked="" type="checkbox"/> Prehistoric	<input type="checkbox"/> Engineering	<input type="checkbox"/> Religion/Philosophy	<input type="checkbox"/> (Specify)
<input checked="" type="checkbox"/> Historic	<input type="checkbox"/> Industry	<input type="checkbox"/> Science	
<input type="checkbox"/> Agriculture	<input type="checkbox"/> Invention	<input type="checkbox"/> Sculpture	
<input type="checkbox"/> Architecture	<input type="checkbox"/> Landscape	<input type="checkbox"/> Social/Humanitarian	
<input type="checkbox"/> Art	<input type="checkbox"/> Architecture	<input type="checkbox"/> Theater	
<input checked="" type="checkbox"/> Commerce	<input type="checkbox"/> Literature	<input type="checkbox"/> Transportation	
<input type="checkbox"/> Communications	<input type="checkbox"/> Military		
<input type="checkbox"/> Conservation	<input type="checkbox"/> Music		
STATEMENT OF SIGNIFICANCE			
<p>Kealakekua Bay is one of the most important historical and archaeological areas in Hawaii. Besides its notoriety as the place of the landing and death of Captain Cook in 1779, the bay offers a cultural continuity not found in other areas of the Hawaiian chain.</p> <p>The significance of Kealakekua Bay can be summed up in four general areas: (1) preservation of material remains, (2) abundance of written sources, (3) continuity of cultural tradition through time, and (4) occurrence of significant cultural and historical events. Kealakekua Bay's isolated position has allowed much in the way of material remains to be preserved to the present day. These remains consist of portable artifacts, such as tools or fishhooks, non-portable archaeological artifacts, such as ancient house platforms and heiau (religious temples), historical buildings and other cultural debris.</p> <p>That we know so much about the material remains and what they signify is due to the fact that Kealakekua Bay is the area in which first lengthy contacts were made with the native Hawaiians and much was written about the people, culture, and towns by men in Cook's expedition. (Journals of Cook, Clerke, King, Ledyard, Samwell and Surgeon Ellis). Kealakekua Bay is unique in that it contains archaeological remains--structures and artifacts built in Hawaii before the influence of Western Man--but, these remains have historical information describing and outlining them written by the first group of Western men to have contact with these islands.</p> <p>It is presently unknown exactly when the area was first settled, as is the sequence of pre-contact Hawaiian culture history at Kealakekua Bay. It is known, however, that by the time the Europeans arrived in 1779, large villages existed at Kaawaloa and Kekua on the shores of Kealakekua Bay. These were supported by extensive agricultural fields lying behind the bay as well as by the bountiful sea. The villages around Kealakekua Bay were major centers of political and religious power in the Kona District at the time of European contact, and this power extended into the post-contact period. These settlements were subjected to the most intense acculturation forces in all of Hawaii prior to the turn of the 19th century and still contain the keys to enlarge our understanding of the extent and nature of the changes wrought in both European and</p>			



9. MAJOR BIBLIOGRAPHICAL REFERENCES

The Historical Significance of Kealakekua Bay--a Brief Resume. MS., Department of Land and Natural Resources, Division of State Parks. 1968.

The Archaeology of Kealakekua Bay. Soehren and Newman. Department of Anthropology, Bishop Museum and Department of Anthropology, University of Hawaii. 1968.

An Intensive Survey of the Northern Portion of Kaawaloa, Kona, Hawaii. Hommon. MS., Bishop Museum. 1969.

An Intensive Survey of the Southern Portion of Kaawaloa, Kona, Hawaii. Hommon and Crozier. MS., Bishop Museum. 1970.

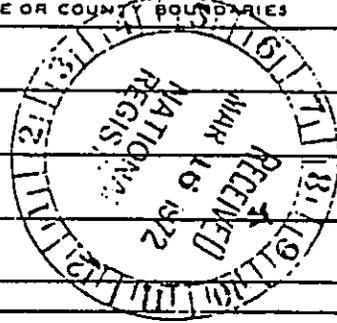
10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY			O R	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES		
CORNER	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	
NW	Degrees Minutes Seconds 19° 29' 00"	Degrees Minutes Seconds 155° 56' 47"		Degrees Minutes Seconds	Degrees Minutes Seconds	
NE	19° 29' 57"	155° 55' 40"				
SE	19° 27' 54"	155° 53' 54"				
SW	19° 27' 12"	155° 55' 40"				

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: **375 acres**

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE



11. FORM PREPARED BY

NAME AND TITLE: **B. Jean Martin, Archaeologist**

ORGANIZATION: **Hawaii Register of Historic Places** DATE: **Sept. 30, 1971**

STREET AND NUMBER: **465 S. King Street**

CITY OR TOWN: **Honolulu** STATE: **Hawaii** CODE: **15**

12. STATE LIAISON OFFICER CERTIFICATION	NATIONAL REGISTER VERIFICATION
<p>As the designated State Liaison Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service. The recommended level of significance of this nomination is:</p> <p>National <input checked="" type="checkbox"/> State <input type="checkbox"/> Local <input type="checkbox"/></p> <p>Name: <u><i>Sunao Kido</i></u></p> <p>Title: <u>Chairman and Member</u></p> <p>Date: <u>March 3, 1972</u></p>	<p>I hereby certify that this property is included in the National Register.</p> <p>_____ Chief, Office of Archeology and Historic Preservation</p> <p>Date: _____</p> <p>ATTEST:</p> <p>_____ Keeper of The National Register</p> <p>Date: _____</p>

SEE INSTRUCTIONS

DOCUMENT CAPTURED AS RECEIVED

SEE INSTRUCTIONS

UNITED STATES DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
 PROPERTY PHOTOGRAPH FORM

(Type all entries - attach to or enclose with photograph)

STATE	
Hawaii	
COUNTY	
Hawaii	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE

1. NAME			
COMMON: Kealakekua Bay Historical District			
AND/OR HISTORIC:			
2. LOCATION			
STREET AND NUMBER:			
Vicinity of Kealakekua Bay, Hawaii Island			
CITY OR TOWN:			
STATE:	CODE	COUNTY:	CODE
Hawaii	15	Hawaii	001
3. PHOTO REFERENCE			
PHOTO CREDIT: Agatin T. Abbott			
DATE OF PHOTO: 1969			
NEGATIVE FILED AT:			
Hawaii Institute of Geophysics, Honolulu, Hawaii.			
4. IDENTIFICATION			
DESCRIBE VIEW, DIRECTION, ETC.			
Kealakekua Bay looking north. The village of Napoopoo lies on the north end of the Conspicuous roadway on the right side of the photo. Kaawaloa flat is the shelf protruding into the north side of the Bay.			



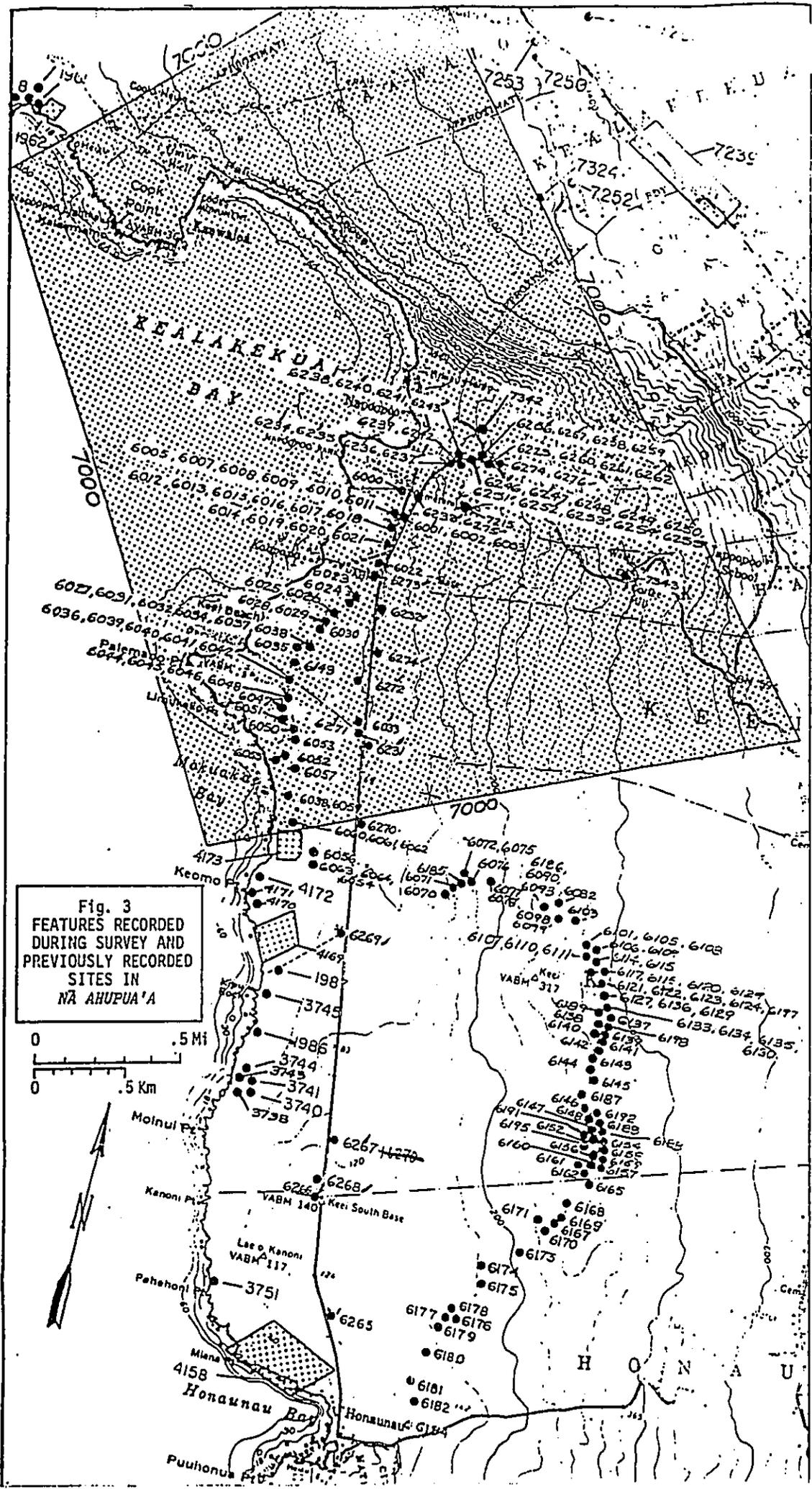
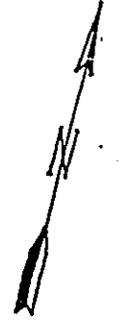
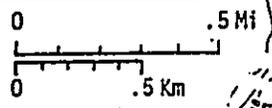


Fig. 3
FEATURES RECORDED
DURING SURVEY AND
PREVIOUSLY RECORDED
SITES IN
NĀ AHUPUA'A



APPENDIX 3

ARCHAEOLOGICAL LETTER REPORT

AND SHPD CONCURRENCE

RECHTMAN CONSULTING
HC 1 Box 4149 • Kea'au, Hawai'i 96749
phone: (808) 966-7636 • (808) 966-6235
toll free fax: (800) 406-2665 • e-mail: brechtman@aol.com

March 12, 2001

RC-0057

Dennis Alkire
Alkire Architects
P.O. Box 561
Lihue, HI 96766

Dear Mr. Alkire:

At your request, Rechtman Consulting conducted an archaeological investigation for a roughly 16-acre parcel in Waipunaula Ahupua'a, South Kona, Island of Hawai'i (TMK:3-8-2-03:32) (Attachment A). A search of the archives at the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) revealed that the current study parcel was surveyed in 1984 prior to its subdivision out of TMK: 3-8-2-03:1. The earlier survey (Rosendahl 1984) is included here as Attachment B. Their field study documented that the bulk of the property had been grubbed and graded. A few agricultural features were noted in the area above the *pali* on current TMK:3-8-2-03:1, outside of the current project area. The recommendation of the earlier study was that "full archaeological clearance be granted for the subject parcel" (Rosendahl 1984:4). The county apparently accepted this recommendation as the subdivision was executed, and structures built. The current study area has one structure on it as well as a small avocado orchard.

On March 7, 2001, Robert B Rechtman, Ph.D. examined the study parcel. The findings presented in the earlier study relative to grubbing and grading were verified. In addition, it appears that portions of the study parcel were further graded subsequent to the earlier Rosendahl (1984) study. It is my current conclusion that development of the study parcel will not impact significant historic resources. This conclusion is considered tentative until DLNR-SHPD provides concurrence.

Thank you for the opportunity to provide you with these services. Should you have any questions, or would like further information please feel free to contact me.

Sincerely:

Bob Rechtman, Ph.D.
Principal Archaeologist

Cc: Patrick McCoy, Hawai'i Island Archaeologist, DLNR-SHPD

Reference Cited

Rosendahl, P.H.
1984 Archaeological Field Inspection, Private Subdivision Development, Waipunaula, South Kona, Island of Hawaii (TMK:3-8-2-03:1). PHRI Report 106-030584. Prepared for Mr. Robert Emory, Captain Cook, Hawaii.

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



GILBERT S. COLOMA-AGARAN, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DEPUTIES
JANET E. KAWELD
LINNEL NISHIOKA

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

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

May 16, 2001

Dr. Bob Rechtman
Rechtman Consultant Services, Inc.
HC1, Box 4149
Kea`au, Hawaii 96749

LOG NO: 27490 ✓
DOC NO: 0105PM10

Dear Dr. Rechtman:

**SUBJECT: Letter Report on Archaeological Assessment of a 16-Acre Parcel
Waipunaula, South Kona, Hawaii Island
TMK: 8-2-03:32**

Thank you for submitting your letter report of March 21, 2001, for our review and comment. We apologize for the delay in our response.

An archaeological field inspection of the subject parcel (previously designated TMK 8-2-03:1) was undertaken in 1984 by Dr. Paul Rosendahl and Mr. Alan Walker of PHRI. The 1984 field inspection indicated that most of the property had been grubbed and graded. Some isolated remnants of the Kona Field System were found on rocky outcrops that had not been bulldozed. PHRI evaluated these remains as having little significance and recommended archaeological clearance to the County of Hawaii.

The parcel was subsequently subdivided and developed. The site inspection you conducted on March 7, 2001, confirmed the findings of the PHRI inspection and showed that significant land alteration has taken place since 1984. Based on the results of your assessment, we agree that no significant historic sites are on the parcel, and further development of the subject parcel will have "no effect" on such sites.

If you should have any questions about this project please contact our Hawaii Island archaeologist, Patrick McCoy (692-8029).

Aloha,

DON HIBBARD, Administrator
State Historic Preservation Division

PM:jk

c. Chris Yuen, Hawaii County Planning Department
Hawaii County Department of Public Works

APPENDIX 4

CULTURAL REPORT

Cultural Impact Assessment for the
Subdivision and Development of
TMK:3-8-2-03:32

Waipunaula Ahupua'a
South Kona District
Island of Hawai'i



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August 2002



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Cultural Impact Assessment
for the Subdivision and Development
of TMK:3-8-2-03:32

Waipunaula Ahupua'a
South Kona District
Island of Hawai'i



Contents

INTRODUCTION	1
PROJECT AREA DESCRIPTION AND PROPOSED SUBDIVISION ACTION	4
INTERPRETIVE CONTEXTS	5
Kealakekua Bay Historic District	5
Waipunaula Ahupua'a	8
ORAL-HISTORICAL RESEARCH	11
Summary of Prior Oral-Historical Studies	11
Consultation Associated with the Current Study	16
IDENTIFICATION OF CULTURAL RESOURCES, PRACTICES, AND BELIEFS	17
Pali o Manuahi	18
POTENTIAL IMPACTS AND PROPOSED MITIGATION	21
REFERENCES CITED	23

Figures

1. Project area location.	2
2. Portion of TMK:3-8-2-03 showing study area.	3
3. Looking north from Nāpo'opo'o Road to <i>Pali o Manuahi</i> and project area.	4
4. View of coastline from study area.	4
5 Existing structure on study parcel.	5
6. Boundary of the Kealakekua Bay Historic District and study area (after Smith 1991).	6
7. Village locations around Kealakekua Bay, recorded by Samwell (Beaglehole 1967:1175).	7
8. The <i>ahupua'a</i> of the greater Kealakekua Bay area.	9
9. Pali Poko Road along the <i>mauka</i> border of the study area.	11
10. J.S. Emerson Field Book Sketch; Book 256:71 (State Survey Division).	12
11. Portion of Register Map 1281 showing Pali Poko Road and study area (dated 1891).	13
12. Prominent features of the Kealakekua Bay area (after Smith 1991).	19
13. Subdivision plans and potential house site areas.	22

INTRODUCTION

At the request of Greg Mooers, on behalf of his client, Dennis Alkire, Rechtman Consulting, LLC conducted a Cultural Impact Assessment for a roughly 16-acre parcel in Waipuna'ula Ahupua'a, South Kona District, Island of Hawai'i (TMK:3-8-2-03:32) (Figure 1). The *makai* portion of the study parcel extends along the southern terminus of *Pali o Manuahi* into the Kealahou Bay Historic District (listed in both the National Register of Historic Places and the Hawai'i Register of Historic Places) and the *mauka* property boundary is the old *Pali Poko* Road (Figure 2). The property has been inventoried for archaeological sites on two occasions, first when it was subdivided out of a larger parcel (TMK: 3-8-2-03:1) in 1984 (Rosendahl 1984) and then again in 2001 (Rechtman 2001) as part of the current development planning. The recommendation of the 1984 study was that "full archaeological clearance be granted for the subject parcel" (Rosendahl 1984:4). The county accepted this recommendation as the subdivision was executed, and structures built. The current study area has one structure on it as well as a small avocado orchard. No archaeological resources were observed on the subject parcel during the 2001 study (Rechtman 2001).

This Cultural Impact Assessment is intended to accompany an Environmental Assessment compliant with Chapter 343 HRS, as well as fulfilling the requirements of the County of Hawai'i Planning Department and the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) with respect to permit approvals for subdivision and development activities. This study has been prepared in accordance with the Office of Environmental Quality Control (OEQC) *Guidelines for Assessing Cultural Impacts*, adopted by the Environmental Council, State of Hawai'i, November 19, 1997.

This report begins with a description of the general project area and the proposed subdivision action. This is followed by a discussion of the significance of the Kealahou Bay Historic District and background archival information for Waipuna'ula Ahupua'a. It is within these contexts that the significance of any identified cultural resources, practices, or beliefs are to be understood. Oral-historical information, some previously documented (Maly and Maly 2001), is used to identify and interpret culturally significant properties (and any associated practices and beliefs) within the current study area. One traditional cultural property is identified, and the potential impacts to this resource are discussed along with possible mitigation measures.

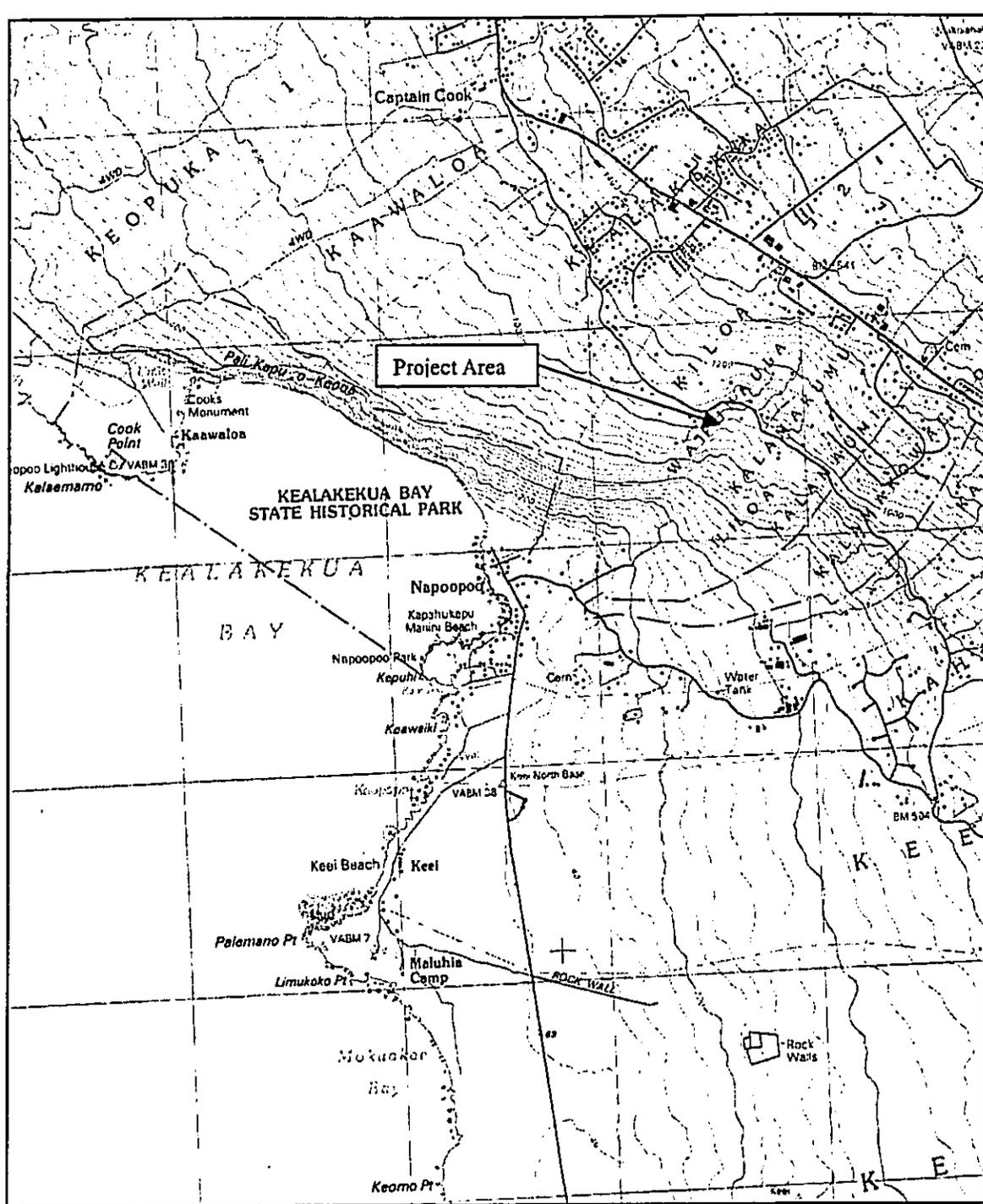


Figure 1. Project area location.

PROJECT AREA DESCRIPTION AND PROPOSED SUBDIVISION ACTION

The project area is situated at an elevation ranging from about 400 feet to 950 feet along the eastern extreme of *Pali o Manuahi* (Figure 3). The terrain is fairly steep throughout the parcel, although it sits in a notched portion of the *pali*, which provide for some areas that are more level than others. The vegetation cover is primarily introduced weeds and grasses.

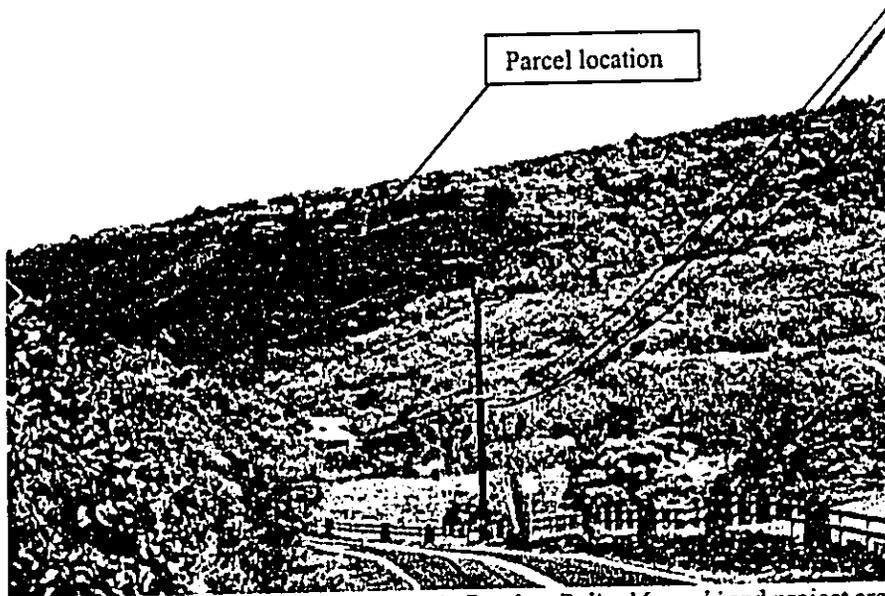


Figure 3. Looking north from Nāpo'opo'o Road to *Pali o Manuahi* and project area.

The slope of the project area has a southwestern aspect with views of Palemano Point (Figure 4). A one-room shack currently exists on the parcel (Figure 5), as does a small avocado orchard. Past historic land use included agriculture and ranching.

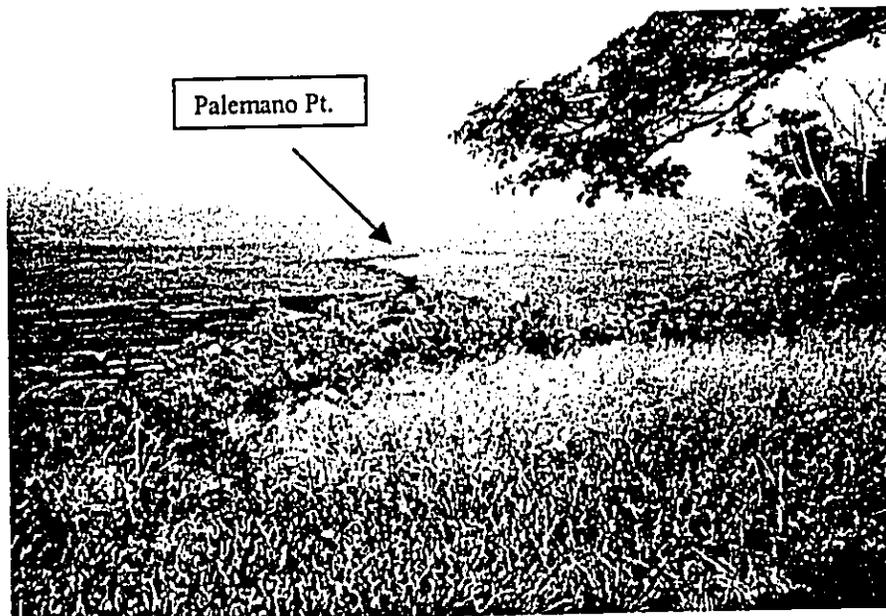


Figure 4. View of coastline from study parcel.

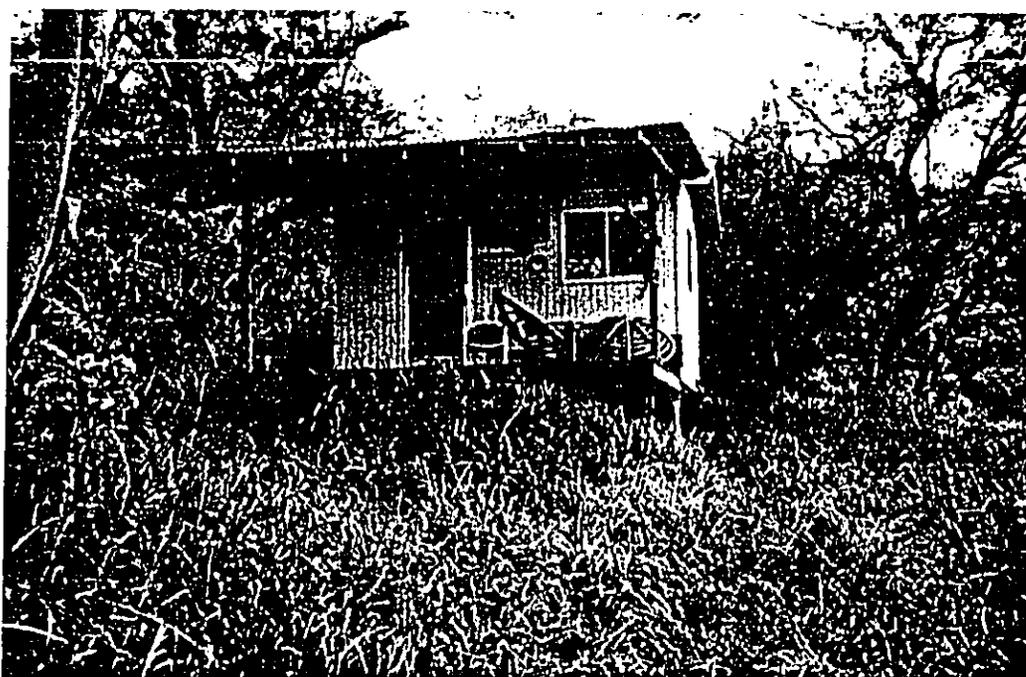


Figure 5. Existing structure on study parcel.

The current proposed development plans call for subdividing the parcel into three lots for environmentally friendly single-family residential structures. The current owners plan to retain one of these lots for their own use.

INTERPRETIVE CONTEXTS

Kealakekua Bay Historic District

The study area is situated at the inland most extent of the Kealakekua Bay Historic District (Figure 6). This district is listed in both the National Register of Historic Places (NRHP) and Hawaii Register of Historic Places (HRHP). Four areas of significance were recognized in the 1971 district nomination form: Good preservation of prehistoric and early historic material remains; extensive documentation of local prehistoric culture by the earliest Western visitors; continuity of cultural tradition through time; and occurrence of significant cultural and historical events.

Kealakekua Bay was an important seaport during the early Historic Period, having been the site of numerous Western visitors, perhaps the most famous of which was Captain James Cook. It was at Kealakekua Bay that Cook was welcomed as a Lono incarnate and later killed for his cosmological faux pas (Sahlins 1985). The pivotal battle of Moku'ōhai, from which Kamehameha emerged victorious and began his unification conquest, was fought in the Kealakekua vicinity (Kamakau 1992). Culturally significant places within the district include the *heiau* of Puhina o Lono, Kamaiko, and Hikiau, the Moku'ōhai battlefield and burial location, Pali Kapu o Keōua, Pali o Maunahi, and several former indigenous villages. At the time of Cook's visit in 1779, six coastal villages were described from north to south around the bay (Beaglehole 1967), Ka'awaloa, Kealakekua, Waipuna'ula, Kalama, Kahauloa, and Ke'ei (Figure 7). It is estimated that collectively these villages contained 350 to 380 houses (Smith 1991).

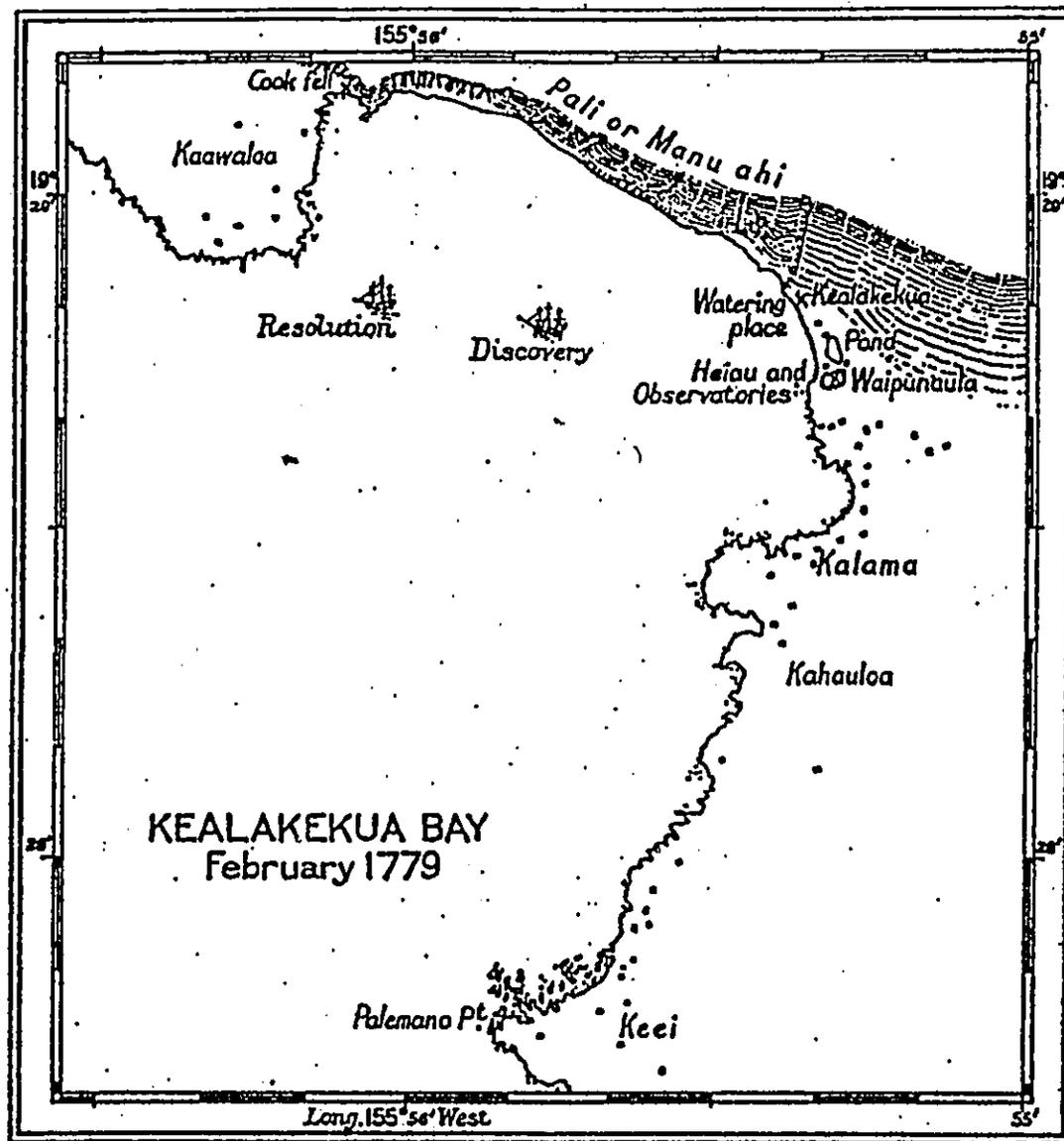


Figure 7. Village locations around Kealahou Bay, recorded by Samwell (Beaglehole 1967:1175).

At the time of its NRHP nomination this region not only contained excellent examples of coastal habitation and religious features, it also possessed, in its inland areas, well-preserved portions of the agricultural Kona Field System. The logs and journals of explorers, traders, and missionaries contain detailed descriptions of the agricultural fields in the Kona area during contact times (i.e., Ellis 1963, Ledyard 1963, Menzies 1920). The intact nature of archaeological features associated with these field systems is directly related to the extent of any subsequent farming and ranching that may have occurred, and varies greatly by *ahupua'a*. Kelly (1983) documents substantial agricultural and cattle related enterprises in the region during the latter half of the nineteenth century and early 1900s. As will be discussed, the more inland portions of Waipunaula *Ahupua'a* (in the vicinity of the project area) were intensively farmed and ranched from the late 1800s through the 1960s. The two archaeological surveys of the study parcel (Rechtman 2001; Rosendahl 1984) did not identify intact field system features.

Waipunaula Ahupua'a

Over the generations, ancient Hawaiians developed a sophisticated system of land and resources management. By the time 'Umi-a-Liloa rose to rule the island of Hawai'i in ca. 1525, the island (*moku-puni*) was divided into six districts or *moku-o-loko* (cf. Fomander 1973-Vol. II:100-102). On Hawai'i, the district of Kona is one of the major *moku-o-loko*. The district of Kona itself, extends from the shore across the entire volcanic mountain of Hualālai, and continues to the summit of Mauna Loa, where Kona is joined by the districts of Ka'ū, Hilo, and Hāmākua. One traditional reference to the northern and southern-most coastal boundaries of Kona tells us of the district's extent:

Mai Ke-ahu-a-Lono i ke 'ā o Kani-kā, a hō'ea i ka 'ūlei kolo o Marukā i Kaulanamauna e pili aku i Ka'ū!—From Keahualono [the Kona-Kohala boundary] on the rocky flats of Kanikū, to Kaulanamauna next to the crawling (tangled growth of) 'ūlei bushes at Marukā, where Kona clings to Ka'ū! (*Ka'ao Ho'oniua Pu'uwai no Ka-Miki in Ka Hōkū o Hawai'i*, September 13, 1917; Translated by K. Maly)

Kona, like other large districts on Hawai'i, was subdivided into *'okana* or *kalana* (regions of land smaller than the *moku-o-loko*, yet comprising a number of smaller units of land). The lands of Waipunaula, situated in an area now known as Kona Hema (South Kona), are part of an ancient subregion generally known as "*Ka-pali-lua*" (The-two-cliffs; describing the topographic features of the *kula* or lands of the mountain slope). The *moku-o-loko* and *'okana* or *kalana* were further divided into manageable units of land, and were tended to by the *maka'āinana* (people of the land) (Malo 1951). Of all the land divisions, perhaps the most significant management unit was the *ahupua'a*. *Ahupua'a* are subdivisions of land that were usually marked by an altar with an image or representation of a pig placed upon it (thus the name *ahupua'a* or pig altar). In their configuration, the *ahupua'a* may be compared to wedge-shaped pieces of land that radiate out from the center of the island, extending to the ocean fisheries fronting the land unit. Their boundaries are generally defined by topography and geological features such as *pu'u* (hills), ridges, gullies, valleys, craters, or areas of a particular vegetation growth.

The *ahupua'a* were also divided into smaller individual parcels of land (such as the *'ili*, *kō'ele*, *māla*, and *kīhāpai*, etc.), generally oriented in a *mauka-makai* direction, and often marked by stone alignments. In these smaller land parcels the native tenants tended fields and cultivated crops necessary to sustain their families, and the chiefly communities with which they were associated. As long as sufficient tribute was offered and *kapu* (restrictions) were observed, the common people, who lived in a given *ahupua'a* had access to most of the resources from mountain slopes to the ocean. These access rights were almost uniformly tied to residency on a particular land, and earned as a result of taking responsibility for stewardship of the natural environment, and supplying the needs of the *ali'i* (Kamakau 1961; Malo 1951).

Entire *ahupua'a*, or portions of the land were generally under the jurisdiction of appointed *konohiki* or lesser chief-landlords, who answered to an *ali'i-'ai-ahupua'a* (chief who controlled the *ahupua'a* resources). The *ali'i-'ai-ahupua'a* in turn answered to an *ali'i 'ai moku* (chief who claimed the abundance of the entire district). Thus, *ahupua'a* resources supported not only the *maka'āinana* and *'ohana* who lived on the land, but also contributed to the support of the royal community of regional and/or island kingdoms. This form of district subdividing was integral to Hawaiian life and was the product of strictly adhered to resources management planning. In this system, the land provided fruits and vegetables and some meat in the diet, and the ocean provided a wealth of protein resources. Also, in communities with long-term royal residents (like Kealakekua and Ka'awaloa just north of Waipunaula), divisions of labor (with specialists in various occupations on land and in procurement of marine resources) came to be strictly adhered to. It is in this general cultural setting, that we find the *ahupua'a* of Waipunaula.

Waipunula was actually two *ahupua'a* (Waipunaula iki and Waipunaula nui) that were combined as a result of the *Māhele*. The Waipunaulas were relatively small divisions that are truncated below the 3000-foot elevation by Kealakekua Ahupua'a (Figure 8). In precontact Hawai'i, all land and natural resources (within all *ahupua'a*) were held in trust by the high chiefs (*ali'i 'ai ahupua'a* or *ali'i 'ai moku*). The use of lands and resources were given to the *hoa'āina* (native tenants), at the prerogative of the *ali'i* and their representatives or land agents (*konohiki*), who were generally lesser chiefs as well. In 1848, the Hawaiian system of land tenure was radically altered by the *Māhele 'Āina*. This change in land tenure was promoted by the missionaries and the growing Western population and business interests in the island kingdom. Generally these individuals were hesitant to enter business deals on leasehold land.

The *Māhele* (division) defined the land interests of Kamehameha III (the King), the high-ranking chiefs, and the *konohiki*. As a result of the *Māhele*, all land in the Kingdom of Hawai'i was placed in one of three categories: (1) Crown Lands (for the occupant of the throne); (2) Government Lands; and (3) *Konohiki* Lands (Chinen 1958; 1961). The "Enabling" or "Kuleana Act" (December 21, 1849) laid out the framework by which native tenants could apply for, and be granted fee-simple interest in "*kuleana*" lands, and their rights to access and collection of resources necessary to their life upon the land in their given *ahupua'a*.

The lands awarded to the *hoa'āina* (native tenants) became known as "*Kuleana* Lands." All of the claims and awards (the Land Commission Awards or LCA) were numbered, and the LCA numbers remain in use today to identify the original owners of lands in Hawai'i. It is reported that the Kingdom-wide total amount of land awarded to *hoa'āina* equaled approximately 28,658 acres (Kame'eleihiwa 1992).

As a result of the *Māhele*, Waipunaula was retained as government land, subject to twelve *kuleana* claims for small residential and agricultural parcels near the coast and in the uplands, distant from the current study area. Many retained government lands were commuted as grants to a variety of citizens of the Kingdom. Waipunaula was granted to Preston Cummings (Grant 867) in 1852. Cummings received many grants in the general Kealakekua area; and among other things, was an early sheriff, storeowner, landlord in the Nāpo'opo'o area, and coffee farmer (Smith 1991).

The *Māhele* and Land Grant programs of the Kingdom were accompanied by rapid growth in land-based business interests. Large landowners (including *Konohiki* and foreign residents) pursued the establishment of formal boundaries on their land holdings, in order to protect their private property "rights." In 1862, a Commission of Boundaries (the Boundary Commission) was established in the Kingdom of Hawai'i to legally set the boundaries of all the *ahupua'a* that had been awarded as a part of the *Māhele*. Subsequently, in 1874, the Commissioners of Boundaries were authorized to certify the boundaries for lands brought before them (Alexander 1891).

The primary informants for the boundary descriptions were old native residents of the area being discussed. The oldest informants were born around 1795, by association with events described at the time of their birth, and the youngest, born around 1820. The native witnesses usually spoke in Hawaiian, and their testimony was translated into English and transcribed as the proceedings occurred.

Lands that were retained as government lands were not directly subject to boundary testimony, thus any information about such lands is contained in the testimony of adjacent lands. Such is the case for Waipunaula, with only a passing comment in the boundary testimony from Kealakekua and Ka'awaloa:

Boundary Commission Testimony for Kealakekua and Ka'awaloa (Volume 1A:286-7)

Kahula^k Sworn

I was born at Kahauloa South Kona Hawaii at the time of Peleleu [ca. 1795—the making and sailing of the great canoe fleet to Oahu], and have always lived there. Am a kamaaina of Kona and know the lands of Kealakekua and Kaawaloa and part of their boundaries. Cummings land ends at a place called Nahuina, in the edge of the woods where Kealakekua and Kiloa roads meet and Kiloa bounds Kealakekua and Waipunaula (also owned by Cummings) there Kalamakumu bounds Kealakekua; the boundaky line being the road into the woods, there is an *iwi aina makai mai* [boundary wall running from the shoreward side] running into the edge of the woods thence to Kalamakapala . . .

By the middle 1850s, Cummings seems to have been attempting to farm his Waipunaula lands. Because of the steepness of slope, the current study area would have been considered marginal in terms of agricultural productivity. Perhaps it is for this reason that by the 1880s the study area was part of the land acquired by H. N. Greenwell that eventually became part of the greater Kealakekua Ranch. Ranching activities (primarily low density grazing) continued in the area until the 1960s.

ORAL-HISTORICAL RESEARCH

This section presents a summary of prior oral-historical studies in the vicinity of the current project area and documents the limited consultation conducted as part of the current project.

Summary of Prior Oral-Historical Studies

Kumu Pono Associates (Maly and Maly 2001) conducted a very extensive archival and historical literature review and an oral-historical study on behalf of the Department of Land and Natural Resources-Division of Forestry and Wildlife, *Na Ala Hele* Program. The study area encompassed the *ahupua'a* from Keauhou to Kealakekua, and also included information about cultural and historical places south as far as Ke'ei Ahupua'a. Of relevance to the current study are interview data relating to Pali Poko Road. This former government cart road (also called Nāpo'opo'o Cart Road) provided access from Nāpo'opo'o Landing to the upper main government road; and as previously stated forms the *mauka* boundary of the current study area (Figure 9).



Figure 9. Pali Poko Road along the *mauka* border of the study area.

The construction of Pali Poko Road began in 1851 and was completed in 1853. In March of 1851, the Reverend J. F. Pogue (Kealakekua Mission) reported:

Another road has been commenced, extending from the Bay to the interior, this is a cart road [the Nāpo'opo'o Cart Road completed 1853]. This road may soon be completed & when finished will be a great improvement, as well as a convenience to persons doing business in the Bay [Kealakekua]. As there has not been heretofore a cart road from the interior to the Bay . . . (Pogue Ms. 1851:1-2 cited in Maly and Maly 2001:211)

This road is also depicted in the field drawings that accompany J. S. Emerson's 1884 coastal survey (Figure 10) and on Register Map No. 1281, dated 1891 (Figure 11).

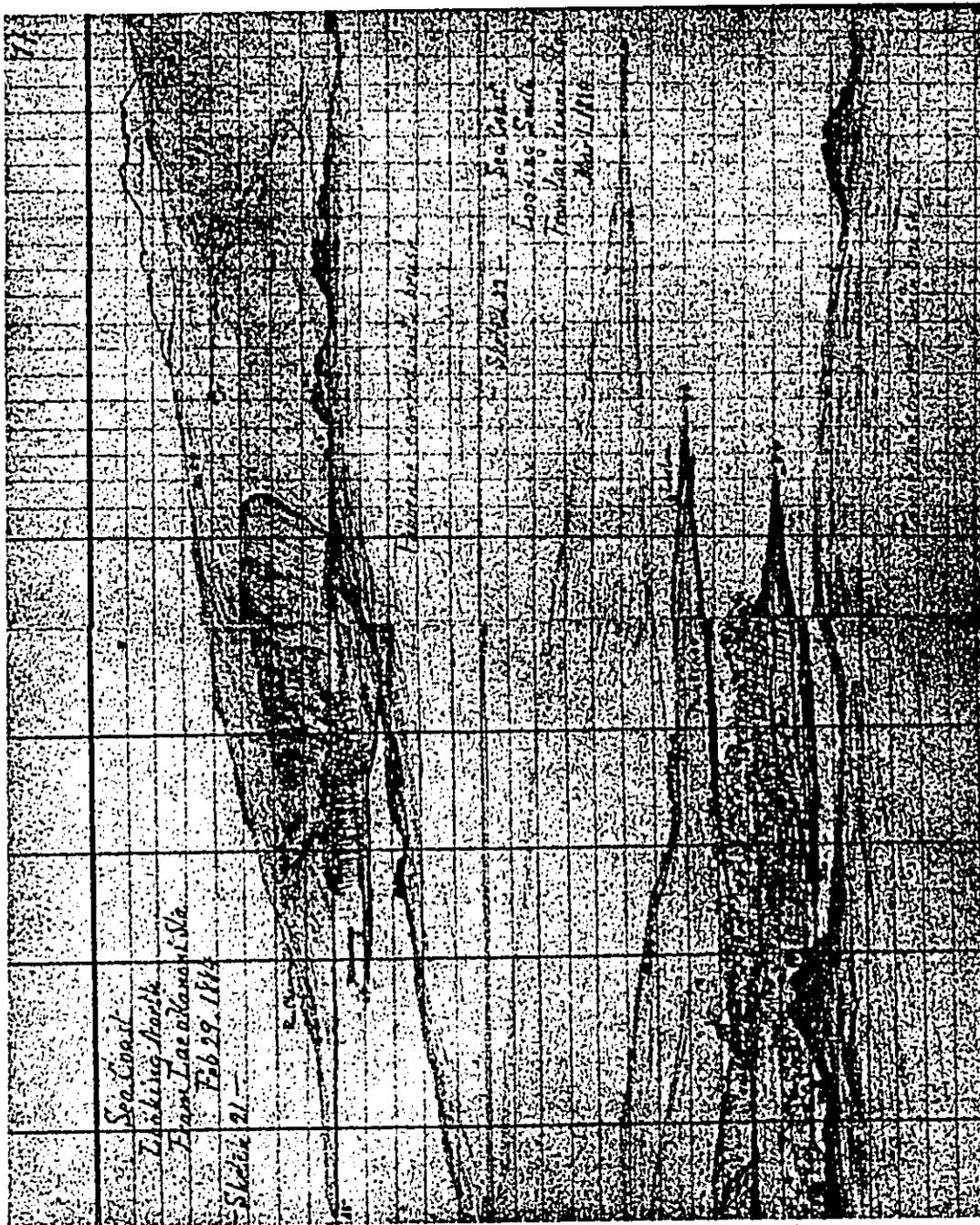


Figure 10. J.S. Emerson Field Book Sketch; Book 256:71 (State Survey Division).

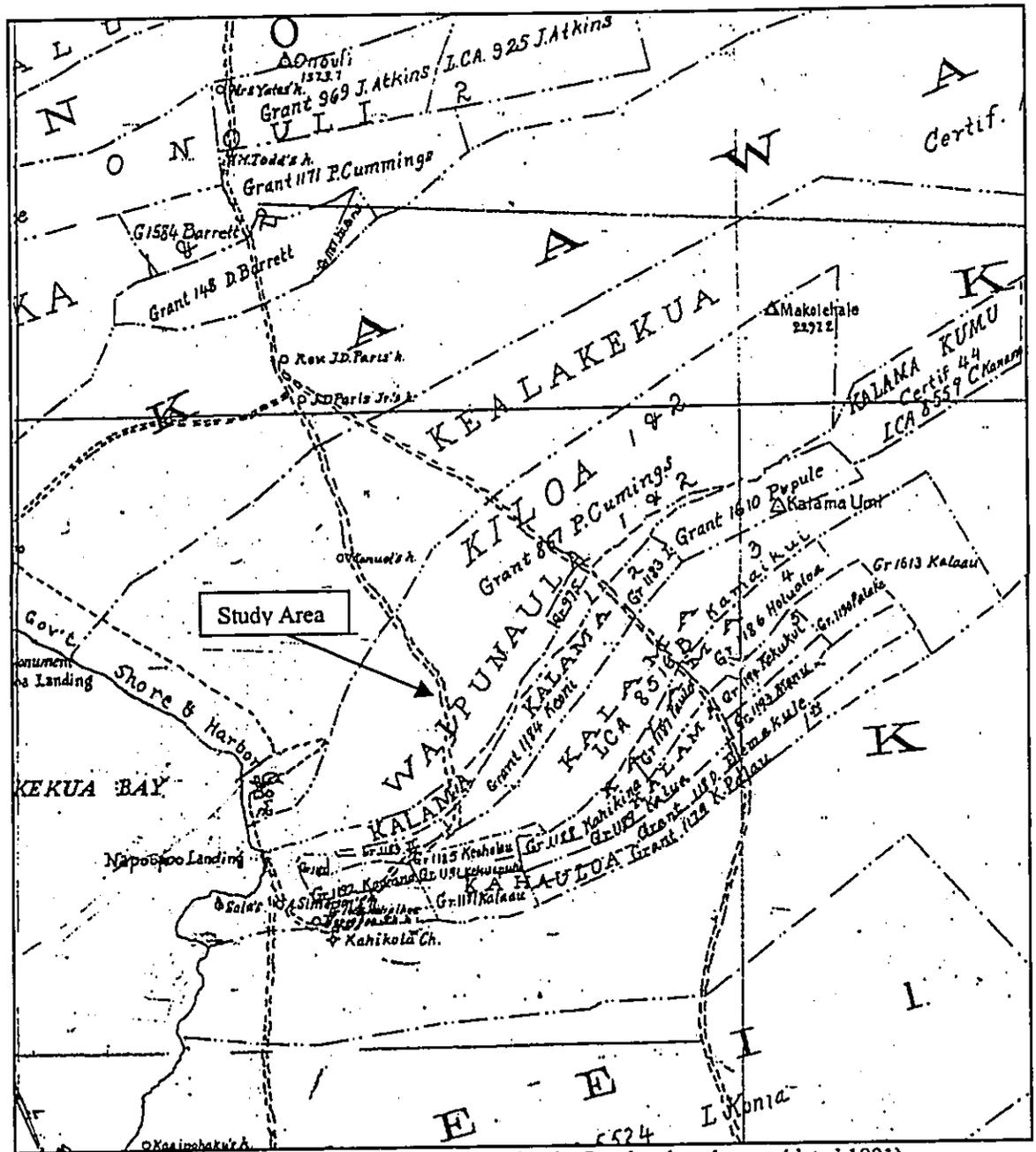


Figure 11. Portion of Register Map 1281 showing Pali Poko Road and study area (dated 1891).

Two interviewees in the Maly and Maly (2001) study with longtime historical connections to the area discussed the nature and use of the road. Pertinent excerpts from interviews with Sherwood Greenwell and Billy Paris are presented below.

Sherwood Robert Holdsworth Greenwell was born in 1919, and has resided in Kona most of his life. Two branches of Sherwood's family (Holdsworth and Greenwell) have resided in Hawaii for more than 151 years, and both branches of the family were granted Royal Patents on lands . . . extending from Hōkūkano to Kalukalu. Sherwood's grandfather, Henry Nicholas Greenwell, also purchased and leased tracts of land extending [from] Keauhō to Kealakekua . . . The lands were developed and managed as part of the larger Greenwell Ranch operation . . . The Greenwell family has played an important role in the history of land use and community development in Kona. Between the 1860s and 1891 (the time of his death) H. N. Greenwell served the Hawaiian Kingdom in a number of capacities (including Land Agent, School Superintendent, Road Supervisor, and Postmaster, etc.) . . . following [his] death the ranch continued to operate as one large holding, under Elizabeth C. Greenwell, and her eldest sons, William H., Authur L., and Francis R. Greenwell. In the 1920s (following the death of W. H. Greenwell), the ranch holding was divided into three parcels. Authur L. Greenwood, Sherwood's father, inherited and managed the Kealakekua section [lands until his death in 1951 . . . Sherwood and his siblings continued ranching operations in Ka'awaloa-Kealakekua section lands until 1986. While growing up, Sherwood traveled the land with his father and elder Hawaiian ranch hands, and has himself become known as an are historian. (Maly and Maly 2001:A-48)

Transcript excerpts from Sherwood Greenwell interview (February 9, 2001):

Kepā Maly: Yes. You'd also mentioned when I mentioned Bruner, and I said, "So the engineer, road surveyor?" He laid out the *mauka* road and stuff and you mentioned Pali Poko Road where would you place Pali Poko Road? [pointing to various locations on map]

Sherwood Greenwell: Hmm. [looking at Register Map 1281]

Kepā Maly: Here's Paris, here's the road goes down to Nāpo'opo'o the old road.

Sherwood Greenwell: Hmm. Here's Salas' church, this must be . . . Here's Kāhikolu okay. This present road comes this way.

Kepā Maly: Yes.

Sherwood Greenwell: Over here and comes back.

Kepā Maly: Yes.

Sherwood Greenwell: Down this way, doesn't come down this road. This is what I think is called Pali Poko road.

Kepā Maly: So this was the old cart road actually . . .

Sherwood Greenwell: Right.

Kepā Maly: That was laid out in the 1850s.

Sherwood Greenwell: Yes. Boy, some of this in here is steep and narrow, big boulders I can't see that a cart ever made it through there.

Kepā Maly: Oh no, that's what I understand but they had tried . . . they were trying particularly for Kuapehu and to get *mauka* access to come up from Nāpo'opo'o landing, come around. Now this road has since been closed and the newer alignment?

Sherwood Greenwell: Well it ends here.

Kepā Maly: Okay.

Sherwood Greenwell: This goes across this way.

Kepā Maly: At Kīloa boundary, basically?

Sherwood Greenwell: Yes. This comes down here in fact we have a little piece of land in here that's land locked in a way because that road is about that far away [gesturing inches – chuckling]. A piece of land.

Kepā Maly: [opens Register Map 1595, to see if it might extend far enough *mauka*] I guess this isn't enough. Here's the Kīloa boundary, but it doesn't go up far enough. This is the Nāpo'opo'o vicinity map.

Sherwood Greenwell: Yes. This is the present road coming in here and this goes up by the church in there.

Kepā Maly: Yes.

Sherwood Greenwell: This still is evident through here.

Kepā Maly: Yeah, portions of that there. When did you first . . . you were raised here, lived here all your life. When did you first start going out into the field and what were some of the things that you were doing when you would go out?

Sherwood Greenwell: My first reminiscences of this was when we still shipped down here at Nāpo'opo'o. Getting up at about two thirty in the morning and getting ready. I must have been six years old, probably before I went to school. Probably six years old. We came down to where Gregory Henriques' house is.

Kepā Maly: Yes.

Sherwood Greenwell: At Kealakekua House it was called, my grandfather called it Kina's Garden and right next to it was the shipping pen. Had big stone walls around it, the cattle were brought down from *mauka* and were held there over night. The next morning they would be driven out and down the old road to Nāpo'opo'o and we went down this . . .

Kepā Maly: Pali Poko?

Sherwood Greenwell: Pali Poko road and came down in through here. The holding pen, where they were held over night was up here.

Kepā Maly: On top of the *pali*?

Sherwood Greenwell: Yes.

(Maly and Maly 2001:A-56-57)

William "Billy" Johnson Hawawakaleoonamanuonakanahahele Paris Jr., was born in 1922, and raised in Lehu'ula (Kāināliu). He is descended from Hawaiian and Caucasian families who have resided in Kona since at least the time of Kamehameha I, and shares ties with many native Hawaiian families and lands of the Keauhou-Kealakekua study area. (Maly and Maly 2001:A-299)

Transcript excerpts from Billy Paris interview (March 16, 2001):

Billy Paris: That's right, a little south of there. Then it goes down on a diagonal and it hits this Alanui [pointing to the old Ka'awaloa trail, passing Nāwāwā] . . . The trail, the thing that's significant to me was the Pali Poko Trail. Pali Poko is the one you cut . . . You know, when you go to Nāpo'opo'o, you look up, on the south side, the south edge of the *pali*, right *makai* of the house with the blue roof, that trail goes right down *mauka* side of that house.

Kepā Maly: That house is Henriques?

Billy Paris: No, Henriques is just before this new house. This thing looks like, when we get a Kealakekua earthquake, 'auwē! [chuckling] I think that house [chuckling] . . .

Kepā Maly: Yes, that's what I was telling Onaona, I think that house is going right down the cliff.

Onaona Maly: 'Ae.

Billy Paris: Ka-boom [gestures down the cliff]!

[Mrs. Paris joins us - greetings - recorder off and then back on]

Kepā Maly: [continuing discussion of Pali Poko Road] . . . I believe it's the one that came down, and then rounded out to Nāpo'opo'o?

Billy Paris: It comes down to the Nāpo'opo'o road, and where the church is.

Kepā Maly: Yes, Kepulu?

Billy Paris: Kepulu came straight down to the *pali* then around, and came down.

(Maly and Maly 2001:A-305-306)

Consultation Associated with the Current Study

To obtain information specific to the current study area Kumu Pono Associates was contacted because of their wealth of knowledge and experience with cultural studies in the region. They knew of no specific traditional or customary use of the project area, but did acknowledge that *Pali o Manuahi* is a named and storied place, and thus could be considered a traditional cultural property.

The Office of Hawaiian Affairs (West Hawai'i) (OHA) was also contacted; they had no specific records of traditional cultural places or practices for the current study area, but suggested that members of the local community be contacted. Following the OHA suggestion several attempts were made to contact Ernest Henriques, all of which were unsuccessful. A brief phone conversation was conducted with Sherwood Greenwell, who provided information about *Pali Poko Road*, and explained that portions of the current study area had been extensively grubbed in the late 1950s and 60s to improve pasture as part of Kealakekua Ranch.

In a recent legal proceeding, OEQC recognized the organization Malama Pono Kealakekua as an affected citizens group that must be consulted in the Environmental Assessment process relative to development of the State Park at Kealakekua Bay. Thus, Malama Pono Kealakekua was deemed an appropriate organization to contact with respect to the current project. This organization has a cultural committee composed of *kūpuna* of the area. The chair of the cultural committee is Gordon Leslie. Mr. Leslie was informally interviewed at his residence at Manini Beach along the southern shore of Kealakekua Bay. During the interview, a map of the area was consulted and the subject property was visible looking upslope from Mr. Leslie's front yard. Mr. Leslie expressed concern that the *pali* escarpment above Kealakekua Bay is a sacred place and it would be culturally inappropriate to build residences on the escarpment itself. He recognized that houses are already present in this view plane, but suggested that further construction will only add to the existing impact to this sacred place. Mr. Leslie said that he would bring the issue up at a meeting of the cultural committee of Malama Pono Kealakekua to see if any other information was known specific to the current study area. In a follow-up phone conversation, there were no additional traditional or customary sites or practices identified.

IDENTIFICATION OF CULTURAL RESOURCES, PRACTICES, AND BELIEFS

To comply with guidelines, a cultural impact assessment should identify "cultural resources, practices and beliefs" of a particular ethnic group. This implies that the resources, practices, and beliefs are "traditional" in the sense that they are part of an ethnic group's identity. In the Hawai'i Revised Statutes—Chapter 6E, and in the draft Hawai'i Administrative Rules (draft HAR 13§13-275-2) that would govern the State Historic Preservation Division, a definition of Traditional Cultural Property is provided.

"Traditional cultural property" means any historic property associated with the traditional practices and beliefs of an ethnic community or members of that community for more than fifty years. These traditions shall be founded in an ethnic community's history and contribute to maintaining the ethnic community's cultural identity. Traditional associations are those demonstrating a continuity of practice or belief until present or those documented in historical source materials, or both.

The origin of the concept of Traditional Cultural Property is found in National Register Bulletin 38 published by the U.S. Department of Interior-National Park Service. "Traditional" as it is used, implies a time depth of at least 50 years, and a generalized mode of transmission of information from one generation to the next, either orally or by act. "Cultural" refers to the beliefs, practices, lifeways, and social institutions of a given community. The use of the term "Property" defines this category of resource as an identifiable place. Traditional Cultural Properties are not intangible, they must have some kind of boundary; and are subject to the same kind of evaluation as any other historic resource, with one very important exception. By definition, the significance of Traditional Cultural Properties should be determined by the community that values them.

It is however with the definition of "Property" wherein there lies an inherent contradiction, and corresponding difficulty in the process of identification and evaluation, because it is precisely the concept of boundaries that runs counter to the traditional Hawaiian belief system. The sacredness of a particular landscape feature is often times cosmologically tied to the rest of the landscape as well as to other features on it. To limit a property to a specifically defined area may actually partition it from what makes it significant in the first place. However offensive the concept of boundaries may be, it is nonetheless the regulatory benchmark for defining Traditional Cultural Properties and assessing their validity. As the OEQC guidelines do not contain criteria for assessing the significance for Traditional Cultural Properties, this study will adopt the state criteria for evaluating the significance of Historic Properties. To be significant the potential Traditional Cultural Property must possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet one or more of the following criteria:

- A Be associated with events that have made an important contribution to the broad patterns of our history;
- B Be associated with the lives of persons important in our past;
- C Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value;
- D Have yielded, or is likely to yield, information important for research on prehistory or history;
- E Have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group's history and cultural identity.

Clearly, Traditional Cultural Properties are significant under Criteria E, and may be significant under multiple criteria.

As a result of the current study there were no cultural practices identified that were or are associated with the current study property. The study area was part of a larger property that has been in private ownership since 1852 (Grant 867 to P. Cummings), and access to the property seems to have been limited since that time (see Maly and Maly 2002:184). Given a long and continued history of agricultural and ranching land use on the property, coupled with the results of a recent botanical survey (Terry 2001), which documented the general absence of culturally and economically important indigenous species, it is likely that the project area was not a location of Hawaiian traditional or customary gathering anytime during the past 150 years.

One cultural resource, considered to be a traditional cultural property, was identified within the current study parcel: *Pali o Manuahi*. The nature of this resource and its associated cultural beliefs, along with an evaluation of its significance are presented below.

Pali o Manuahi

The 600-foot escarpment (*pali*) above Kealakekua Bay is perhaps the most prominent physiographic feature of the Historic District (Figure 12); and the *pali* itself is a historically and culturally significant landscape feature. The steeper western portion of the *pali*, in the *ahupua'a* of Ka'awaloa and Kealakekua, is today known by the name *Pali Kapu o Keoua*. The Sacred Cliff of Keoua was the subject of a narrative, by an unidentified author, published in the Hawaiian language newspaper *Ka Hōkū o Hawai'i* and translated by Kepā Maly:

There are many famous storied places on the land from ancient times, many of their names given for famous chiefs of the land. On the uplands side of the monument to Captain Cook at Kaawaloa, is found Ka Pali o Keoua. Some people believe that this cliff is called this because of Keoua Kua Ahuula, that is not correct, his place of residence was not Kona, but Kau . . . The one for whom the cliff is named, is Keoua Nui, the one who is believed to be the true father of Kamehameha I.

This was a sacred cliff in ancient time. It was not right for the shadow of a commoner to fall upon the cliff. The punishment in ancient times, if a commoner should break this *kapu*, was death. The only good time for a person to travel at this place was when the sun rested atop the head (noon – midday; when the shadow retreated into the body), then one would be free to travel here.

Near this place are the bathing pool of Haliilua and the pit in which the bones of the chiefs are placed, known by the name, "Ka Lua o Hooaiku" (The Pit of Hooaiku). It was above here, at Ka Pali Kapu o Keoua, that Moho mistakenly ate the naau (intestines) of Captain Cook, thinking that it was the naau of a dog . . . (Maly and Maly 2001:23)

also challenged priests whose dishonorable conduct offended the gods of ancient Hawai'i. Ka-Miki and Maka-'iole were empowered by their ancestress Ka-uluhe-nui-hihi-kolo-i-uka (The great entangled growth of *uluhe* fern which spreads across the uplands), who was one of the myriad of body forms of the goddess Haumea, the earth-mother, creative force of nature who was also called Papa or Hina. Among her many nature-form attributes were manifestations that caused her to be called upon as a goddess of priests and competitors. (Maly and Maly 2001:24)

As part of their training, Ka-uluhe-nui-hihi-kolo-i-uka sent Ka-Miki and Maka-'iole to collect 'awa for a ceremony. The brothers traveled from Kalama'ula on Hualālai to the cliff of Manuahi overlooking Kealakekua Bay (*Ka Hōkū o Hawai'i* April 2, 1914):

Ka-Miki and Maka-'iole traveled from Kalama'ula to the cliff of Manuahi, to gather some of the famous 'awa that grew in the plantation of Manu'a at Ka'awaloa. The 'awa *kapu o Manu'a* (sacred 'awa [*Piper methysticum*] gardens of Manu'a) grew amongst a grove of 'iliahi (sandalwood) trees. The variety of 'awa was an 'awa *hiwa* called *mo'i* (a black, long stalked 'awa), and the fragrance of the 'iliahi permeated the 'awa and cliffs upon which it grew.

After gathering some of the 'awa, Ka-Miki and Maka-'iole descended to Ka-lepe-a-moa and looked down to the shore at Ka'awaloa. There, they saw an old woman unfolding a *moena makali'i* (finely woven mat) and a *kapa 'ō'ūiholowai* [a highly valued *kapa* from of Puna], which were possessions of her chiefess. This woman, Hāi'ilua, was the attendant of the sacred chiefess Manuahi.

The cliff of Manuahi, also called Ka-pali-poko-o-Manuahi (or Palipoko) was named for the chiefess. The spring Hāi'ilua there at the base of the cliff was named for the old woman, attendant to the chiefess.

From their vantage point they also heard the beating of drums and voices calling aloud. They looked down to the shore of Heakeakua at Kealakekua, where they saw the sacred temple of Hikiau. The ghosts were beating the temple drum, diving from the cliffs and playing all manner of games, and their voices were calling out from Heakeakua. It was the regular practice of these ghosts to travel a trail up the steep cliff of Manuahi from their home in 'Alanapō as they descended to the sea. Thus the name, Kealakekua (the path of the ghosts or gods) came about. As the 'elpaio birds of the forest began announcing the start of the new day Ka-Miki and Maka-'iole returned to Kalama'ula with the 'awa of Manu'a. (Maly and Maly 2001:24-25)

Pali o Manuahi is also mentioned in the story of Lono-i-ka-makahiki (Kamakau 1992). This portion of the story relates how the legendary chief Lono unjustly kills his wife in a fit of jealousy, because several women that were envious of her beauty deceived the chief from a hidden position in the wilderness on the cliff of Manuahi:

Lono-i-ka-makahiki was a son of Keawe-nui-a-'Umi, and was chief of Ka-'u and Puna. He was sole ruler over those two districts on Hawaii. He was married to a chiefess, named Ka-iki-lani-kohe-pani'o, who was descended from Laca-nui-kau-manamana. To them were born sons, Keawe-hanau-i-ka-walu and Ka-'ihi-kapu-mahana. They became ancestors of chiefs and commoners. Lono was a chief who did not heed the advice of his priests and counselors, and so his wisest counselors deserted him and sought a better lord. Thus did Lanahu-'imi-haku and others leave him to seek a lord who listened and heeded advice. They sought another lord and dwelt with Ka-'ihi-kapu-a-Ku'ihewa on Oahu, with the hope that he was a righteous chief who listened to all that the priests and counselors taught him.

While Lono lived with his wife, Ka-iki-lani, he proved to be a bad-tempered chief, who was jealous of his wife because of her beauty, and frequently gave her a beating. They left Ka-'u and lived at Kealakekua, Kona, with other chiefs from Ka-'u. One day Lono was playing checkers (konane) on a large flat stone in a big coconut-leaf shed with the chiefs and chiefesses, including Ka-iki-lani. Each tried his skill with pebbles on the board of Pa'oa. There were some people there who wished to tease because they disliked the chiefess and were jealous of the beauty of her face and form. They thought of finding a cause for her to be killed by being beaten. If they should be questioned they were [some distance away] on the cliff of Manuahi. They listened in the wilderness and called out, "O chiefess Ka-iki-lani of Puna, the youth of the dark cliff of Hea sends you his regards." Ka-iki-lani heard them and began to talk loudly, "That goes forward, this flees. The white is removed, the black wins." But the mischief-makers still called loudly, making mention of her lover, in this manner, "O Ka-iki-lani, beautiful chiefess of Puna, your lowly lover Hea-a-ke-koa sends his regards." Lono and the chiefs heard, and so did all the people who were gathered there, inside and outside of the shed. Lono grasped a block of wood and cruelly beat his wife, unmercifully smiting her to death. (Kamakau 1992:47-48)

As a Traditional Cultural Property, *Pali o Manuahi* is evaluated as significant under Criteria A, B, D, and E: Criterion A for its association with legendary and historical events that were documented and transmitted from one generation to the next; Criterion B for its association with the legendary/historical *ali'i* who's name the *pali* bares; Criterion D for research information that has been obtained and potentially could be obtained in the future, and Criterion E for the cultural value assigned to this resource by members of the past and present Hawaiian community.

POTENTIAL IMPACTS AND PROPOSED MITIGATION

The view plane looking *mauka* from the greater Kealakekua Bay area to *Pali o Manuahi* is an important visual element to the Kealakekua Bay Historic District. Even though the current study area is at the extreme southern end of the *pali*, and even though there are existing dwellings in this view plane, additional construction on the *pali* that is overly visible from the coast will have a negative cumulative effect on this cultural resource. Therefore, to mitigate any potential negative effects, it is recommended that construction within the project area not take place on the *pali* face, but rather be limited to those portions of the study area that lie below the steep escarpment of the *pali* (Figure 13).

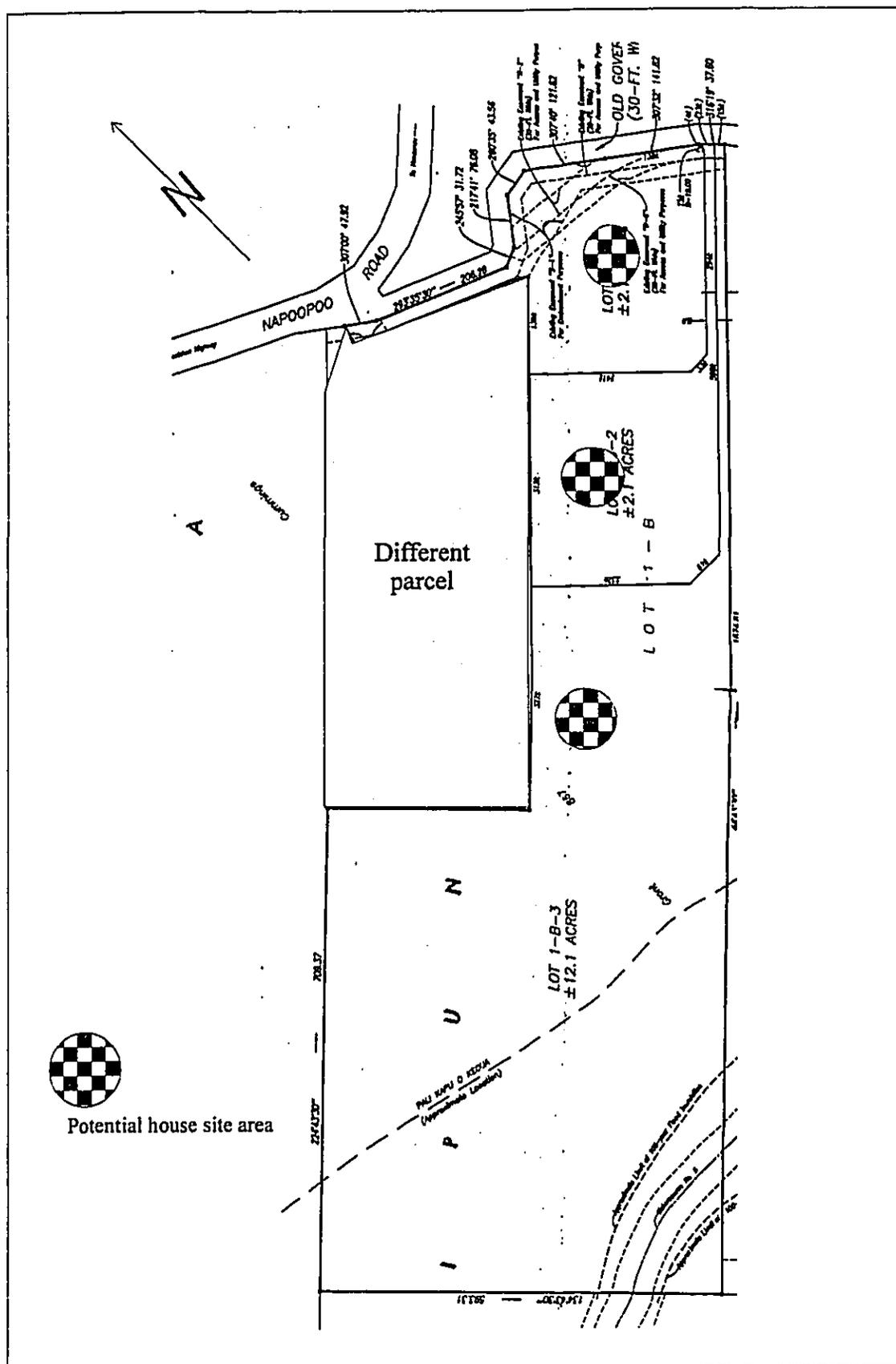


Figure 13. Subdivision plans and potential house site areas.

REFERENCES CITED

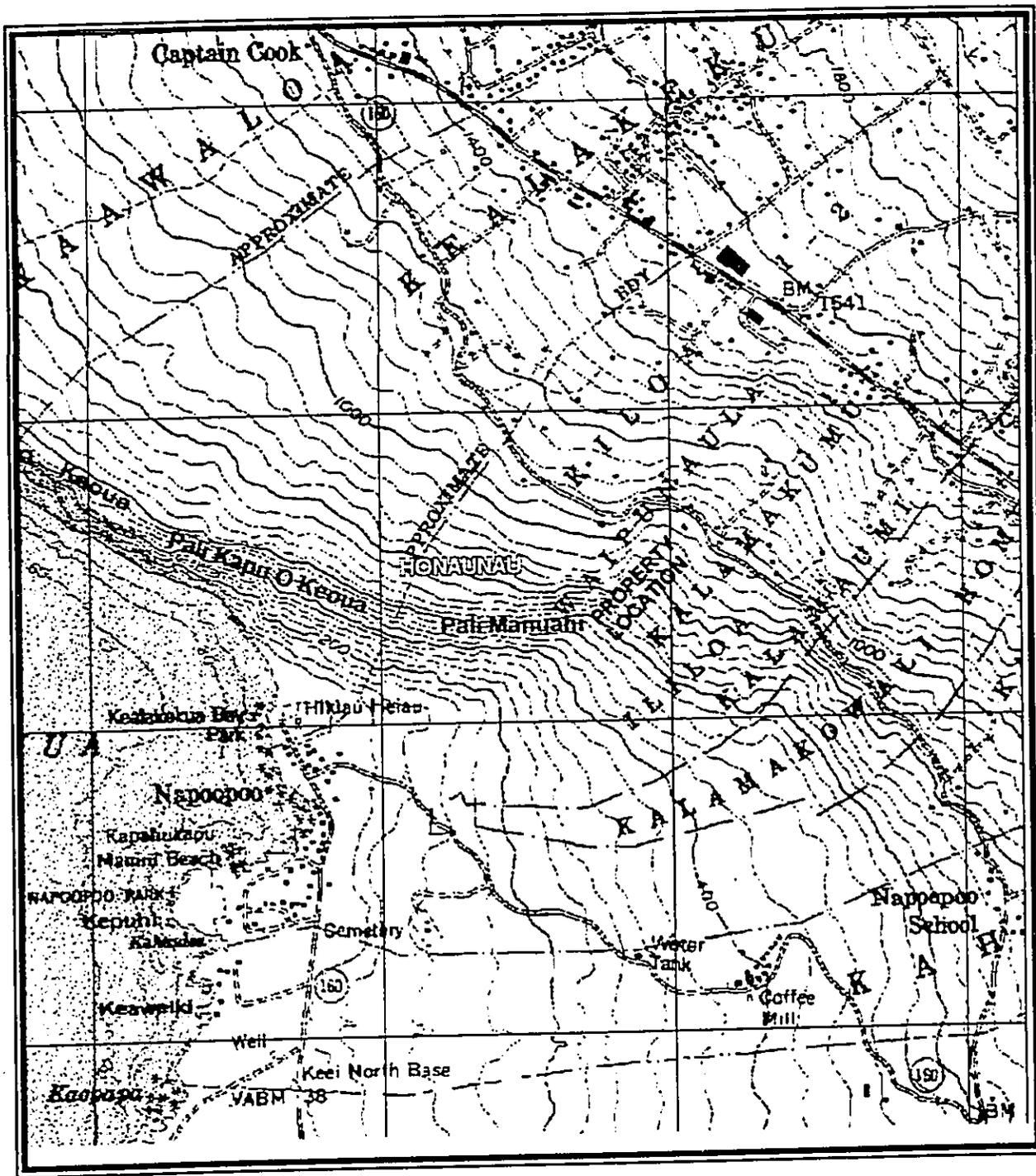
- Alexander, W.
1891 *A Brief History of Land Titles in the Hawaiian Kingdom. Hawaiian Almanac and Annual for 1891.* Honolulu. T.G. Thrum.
- Beaglehole, J.
1967 *The Journals of Captain James Cook.* Cambridge: Hakluyt Society.
- Chinen, J.
1958 *The Great Mahele: Hawaii's Land Division of 1848.* Honolulu: University of Hawaii Press.
1961 *Original Land Titles in Hawaii.* Privately published.
- Ellis, W.
1963 *Journal of William Ellis.* Honolulu: Advertiser Publishing Co., Ltd.
- Fornander, A.
1973 *An Account of the Polynesian Race: Its Origin and Migrations.* Tokyo: Charles E. Tuttle Co., Inc.
- Kamakau, S.
1992 *Ruling Chiefs of Hawaii.* Honolulu: Kamehameha Schools Press (second edition).
- Kame'eleihiwa, L.
1992 *Native Land, and Foreign Desires.* Honolulu: Bishop Museum Press.
- Kelly, M.
1983 *Na Mala O Kona: Gardens of Kona. A History of Land Use in Kona, Hawai'i.* Departmental Report Series 83-2. Department of Anthropology, B.P. Bishop Museum, Honolulu. Prepared for the Department of Transportation, State of Hawaii.
- Ledyard, J.
1863 *John Ledyard's Journal of Captain Cook's Last Voyage.* Edited by J. Munford, Oregon State University Press: Corvallis.
- Malo, D.
1951 *Hawaiian Antiquities.* Honolulu, B.P. Bishop Museum.
- Maly, K., and O. Maly
2001 *He Wahi Mo'olelo No Nā 'Āina, A Me Nā Ala Hele I Hehi 'Ia, Mai Keauhou A I Kealakekua, Ma Kona, Hawai'i.* Kumu Pono Associates Report HiAla40-061501. Prepared for Nā Ala Hele Program Manager, State Division of Forestry and Wildlife, Hilo.
- Menzies, A.
1920 *Hawaii Nei, 128 years Ago.* The New Freedom Press: Honolulu. Edited by William F. Wilson.
- Rechtman, R.
2001 Letter report for field inspection TMK:3-8-2-03:32, Waipunaula Ahupua'a. Rechtman Consulting Report RC-0057. Prepared for Mr. Dennis Alkire, Līhue.

- Rosendahl, P.
1984 Archaeological Field Inspection, Private Subdivision Development, Waipunaula, South Kona, Island of Hawaii (TMK:3-8-2-03:1). PHRI Report 106-030584. Prepared for Mr. Robert Emory, Captain Cook, Hawai'i.
- Sahlins, M.
1985 *Islands of History*. The University of Chicago Press: Chicago.
- Smith, M.
1991 Historical Overview: Kealakekua Bay State Historical Park and Surrounding Area, South Kona, Island of Hawaii. Department of Land and Natural Resources, Division of State Parks.

APPENDIX 5

FIGURES

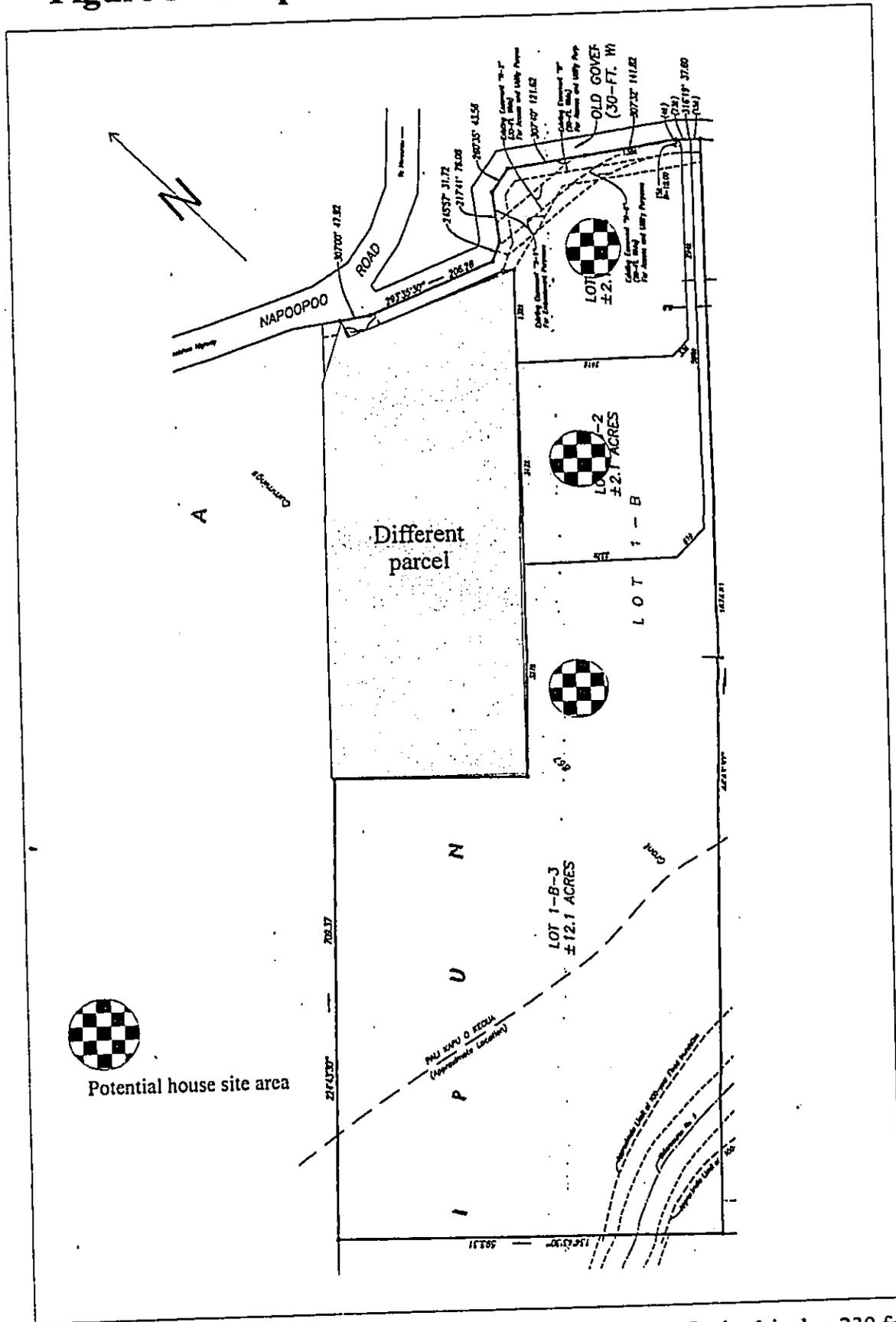
Figure 1 Location Map



Source: USGS Honaunau 7.5-minute quad, copyright De Lorme

Scale: 1:18,800

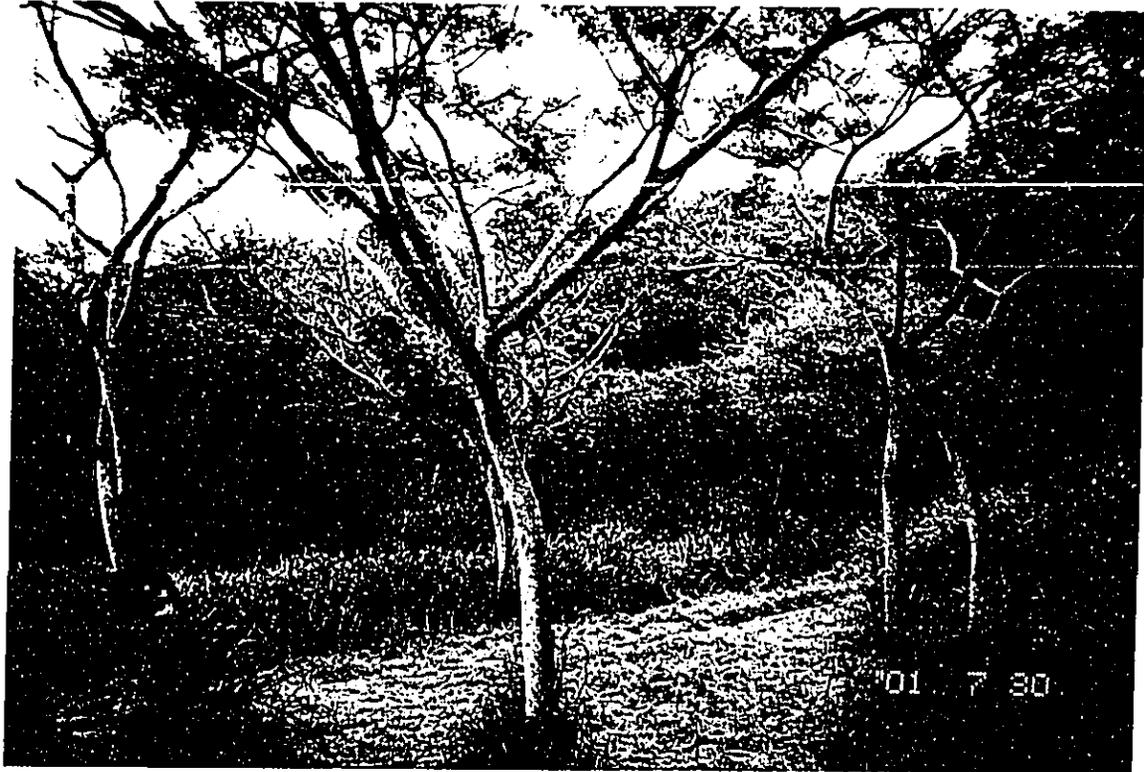
Figure 3 Proposed Subdivision Plan Layout



Source: Appendix 4. from Project Plans

Scale: 1 inch = 230 feet

Figure 4 Project Site Photos



Mid-property. near a proposed building pad. with Pali o Manuahi in background



View from mid-property towards Palemano Point. with Kealakekua Bay at right

