

BURGER SUBDIVISION

OAHU

BURGER SUBDIVISION

OAHU

FEX: 09-08-07

AUG - 8 2007

**FINAL ENVIRONMENTAL ASSESSMENT**

FOR

**BURGER SUBDIVISION**

**Kawailoa, O'ahu, Hawai'i**

**Tax Map Key (1) 6-1-003: 001 & 032**

**JUNE 12, 2007**

**Accepting Agency::  
Department of Planning and Permitting  
650 South King Street, 7<sup>th</sup> Floor  
Honolulu, Hawai'i 96813**

**Prepared By:  
R. M. Towill Corporation  
420 Waiakamilo Road, Suite 411  
Honolulu, Hawai'i 96817-4941  
20722-0P**

OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL  
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**07 JUN 15 P3:18**

**DEPT OF PLANNING  
AND PERMITTING  
CITY & COUNTY OF HONOLULU**

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DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

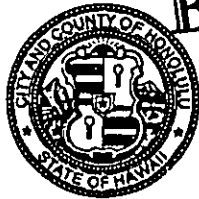
650 SOUTH KING STREET, 7TH FLOOR - HONOLULU, HAWAII 96813  
TELEPHONE: (808) 768-8000 - FAX: (808) 527-6743  
INTERNET: www.honolulu.gov - DEPT. WEB SITE: www.honolulu.dpp.org

*CLM Notice*

*SMA*

**BULLETIN**

MUFI HANNEMANN  
MAYOR



HENRY ENG, FAICP  
DIRECTOR

DAVID K. TANOUÉ  
DEPUTY DIRECTOR

2006/ED-9(as)

July 12, 2007

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

RECEIVED  
'07 JUL 16 P2:07  
OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

Dear Ms. Salmonson:

Subject: Finding of No Significant Impact (FONSI) Determination  
Chapter 25, Revised Ordinances of Honolulu

Applicant/Landowner: Burger Project Management, LLC  
Agent: R.M. Towill Corporation (Chester Koga)  
Location: 61-210 and 61-220 Kamehameha Highway - Kawaihoa  
Tax Map Key: 6-1-3: 1 and 32  
Request: Special Management Area Use Permit  
Proposal: To allow the consolidation and subdivision of two lots into 25 lots

The Department of Planning and Permitting has reviewed the comments received for the above project. We have determined that this project will not have significant environmental effects and have issued a Finding of No Significant Impact. Please publish this notice in the next available Environmental Notice.

We have enclosed a completed OEQC Publication Form and one (1) copy of the Final EA. If you have any questions, please contact Adrian Siu-Li of our staff at 768-8018.

Very truly yours,

*Henry Eng*  
Henry Eng, FAICP, Director  
Department of Planning and Permitting

HE:cs

Enclosure

cc: R.M. Towill  
Doc 551955

OEQC BULLETIN PUBLICATION FORM

AUG - 8 2007

- 1 Project Name: Burger Subdivision  
 Type of Document (circle one): Draft EA **Final EA** EIS prep notice draft EIS final EIS NEPA  
 check if applicable: \_\_\_\_\_ revised document \_\_\_\_\_ supplemental document  
 Legal Authority: Chapter 25, Revised Ordinances of Honolulu (ROH)  
 Agency determination: Finding of No Significant Impact  
 Applicable sections:  
 \_\_\_\_\_ use of state or county lands or funds \_\_\_\_\_ use of land in the Waikiki district  
 \_\_\_\_\_ use of conservation district lands \_\_\_\_\_ amendment to county general plan  
 \_\_\_\_\_ use of shoreline area \_\_\_\_\_ reclassification of conservation lands  
 \_\_\_\_\_ use of historic site or district \_\_\_\_\_ construction or modification of helicopter facilities
- 2 Island: Oahu  
 Judicial District: Waialua  
 Tax Map Key Number: 6-1-3: 1 and 32
- 3 Applicant or applicant agency: Burger Project Management LLC  
 Address: 1513 Sixth Street, Suite 101  
Santa Monica, CA 90401  
 Contact: \_\_\_\_\_ Phone: \_\_\_\_\_
- 4 Approving Agency (EAs) or Accepting Authority (EISs):  
Department of Planning and Permitting  
 Address: 650 S. King Street, 7<sup>th</sup> Floor  
Honolulu, HI 96813  
 Contact: Adrian Siu-Li Phone: 768-8018
- 5 Consultant: R.M. Towill Corporation  
 Address: 420 Waiakamilo Road, Suite 411  
Honolulu, HI 96817  
 Contact: Chester Koga Phone: 842-1133
- 6 Public Comment Deadline: \_\_\_\_\_
- 7. Permits required prior to implementation: Special Management Area Use Permit (Major), Grading Permit, Subdivision Permit, Building Permit, National Pollutant Discharge Elimination System, Construction Stormwater Permit, Individual Wastewater System Approval, Work within State Highway Rights-of-Way
- 8. Project Summary (name of file): burger.doc
- 9 Public Library Copy: Waialua Public Library (not required for final EAs)
- 10 This form was prepared by: Adrian Siu-Li Phone: 768-8018

RECEIVED  
 07 JUL 16 P2:07  
 OFFICE OF ENVIRONMENTAL  
 QUALITY CONTROL

Project Summary

The 7.30 acre site is zoned R-5 Residential District. The proposal involves the consolidation and subdivision of two lots into 25 lots, ranging in size from 7,500 square feet to 19,000 square feet. There are currently four single-family dwellings on the two lots. However, these four dwellings will be demolished and rebuilt for the applicant's use. The remaining lots will be sold.

DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

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



HENRY ENG, FAICP  
DIRECTOR

DAVID K. TANOUÉ  
DEPUTY DIRECTOR

2006/ED-9(as)

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cc: R.M. Towill  
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- check if applicable:  revised document  supplemental document
- Legal Authority: Chapter 25, Revised Ordinances of Honolulu (ROH)
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- Applicable sections:
- |  |  |
|--|--|
| <input type="checkbox"/> use of state or county lands or funds | <input type="checkbox"/> use of land in the Waikiki district                   |
| <input type="checkbox"/> use of conservation district lands    | <input type="checkbox"/> amendment to county general plan                      |
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# **FINAL ENVIRONMENTAL ASSESSMENT**

Prepared in Accordance with Requirements of Chapter 25, Revised Ordinances of Honolulu

## **BURGER SUBDIVISION Kawailoa, O'ahu, Hawai'i Tax Map Key (1) 6-1-003: 001 & 032**

**June 12, 2007**

**Burger Project Management LLC  
JAVentures, Inc.  
1513 Sixth Street, Suite 101  
Santa Monica, CA 90401**

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- A. Comments on Draft EA and Responses
- B. Individual Wastewater System Variance
- C. Archaeological Literature Review and Field Inspection, December 2006

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The first part of the report discusses the general situation of the country and the progress of the work. It is followed by a detailed account of the various projects and the results achieved. The report concludes with a summary of the work done and the plans for the future.

The work has been carried out in accordance with the programme of work approved by the Council of the League of Nations. It has been a most successful one and has resulted in the completion of a number of important projects. The results of this work are set out in the following chapters.

The first of these is the work done in the field of international law. This has been a most important one and has resulted in the completion of a number of important projects. The results of this work are set out in the following chapters.

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## PROJECT SUMMARY

Project:	Burger Subdivision
Landowner/Applicant:	Burger Project Management LLC 1513 Sixth Street, Suite 101 Santa Monica, CA 90401
Accepting Agency:	C&C of Honolulu, Department of Planning and Permitting
Agent:	R.M. Towill Corporation
Location:	Parcel 001: 61-210 Kamehameha Highway Parcel 032: 61-220 Kamehameha Highway
Tax Map Key:	Tax Map Key (1) 6-1-003: 001 & 032
Proposed Action:	Subdivision of two existing parcels into 25 lots, plus a roadway lot, drainage detention lot, and landscaping area
Land Area:	317,988 square feet/ 7.30 acres
Present Use:	Single family residences
State Land Use District:	Urban
North Shore Sustainable Communities Plan Land Use Designation:	Rural Community Boundary For Rural Residential Use
Present Zoning:	R-5 (5000)
Special Management Area:	75% of area within the SMA, 25% outside of SMA
Permits Required:	Special Management Area Permit, Building Permit, Grading Permit, National Pollutant Discharge Elimination System, and Work Within State Highways
Anticipated Determination:	Finding of No Significant Impact (FONSI)

## **SECTION 1 INTRODUCTION**

### **1.1 INTRODUCTION**

Burger Project Management LLC proposes the consolidation and resubdivision of two family properties in Kawaihoa into 25 lots ranging in size from 7,500 square feet to 19,000 square feet. **See Figure 1, Project Location.**

The subject property has been in the Burger family for generations and they have chosen this time to subdivide the property and allocate four lots to the heirs with the remaining being sold in the marketplace.

### **1.2 PROJECT LOCATION**

The proposed project is located on the north shore of the Island of O'ahu. The property is accessed from Kamehameha Highway. **See Figure 2, Tax Map Key.**

The project site is identified as Tax Map Key (TMK): (1) 6-1-003: Parcels 01 (5.715 ac.) and 32 (1.585 ac.), and is owned by Burger Project Management LLC. The project site is bordered to the northwest by Kamehameha Highway, open undeveloped lands to the northeast and south. The subject properties are bordered by seven (7) additional parcel in this small residential development. **See Figure 2.**

The project site is partially within the Special Management Area (SMA) as defined in Chapter 205A, Hawai'i Revised Statutes (HRS) and Chapter 25 of the Revised Ordinances of Honolulu (ROH). **See Figure 3, SMA Boundary Map.**

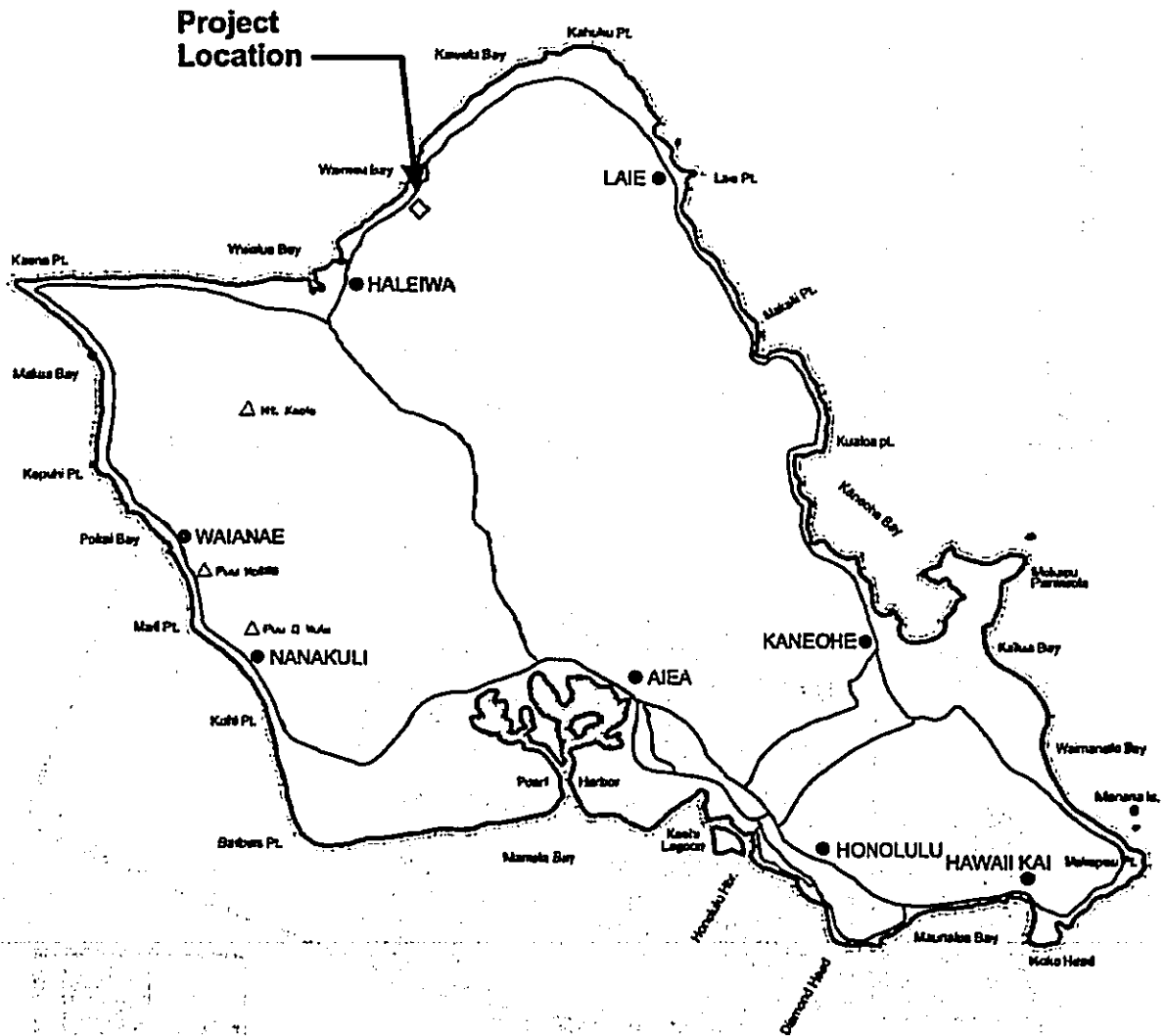
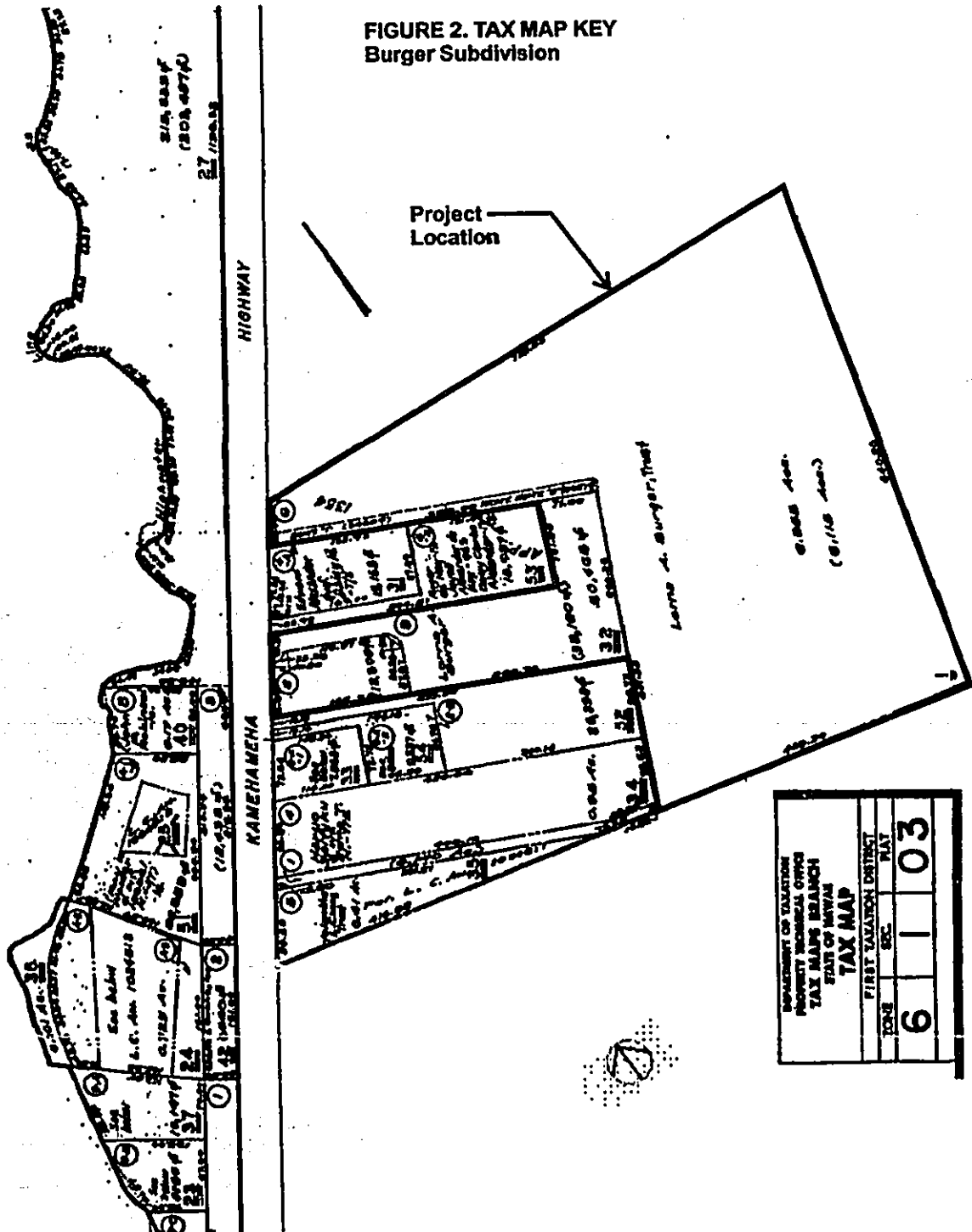


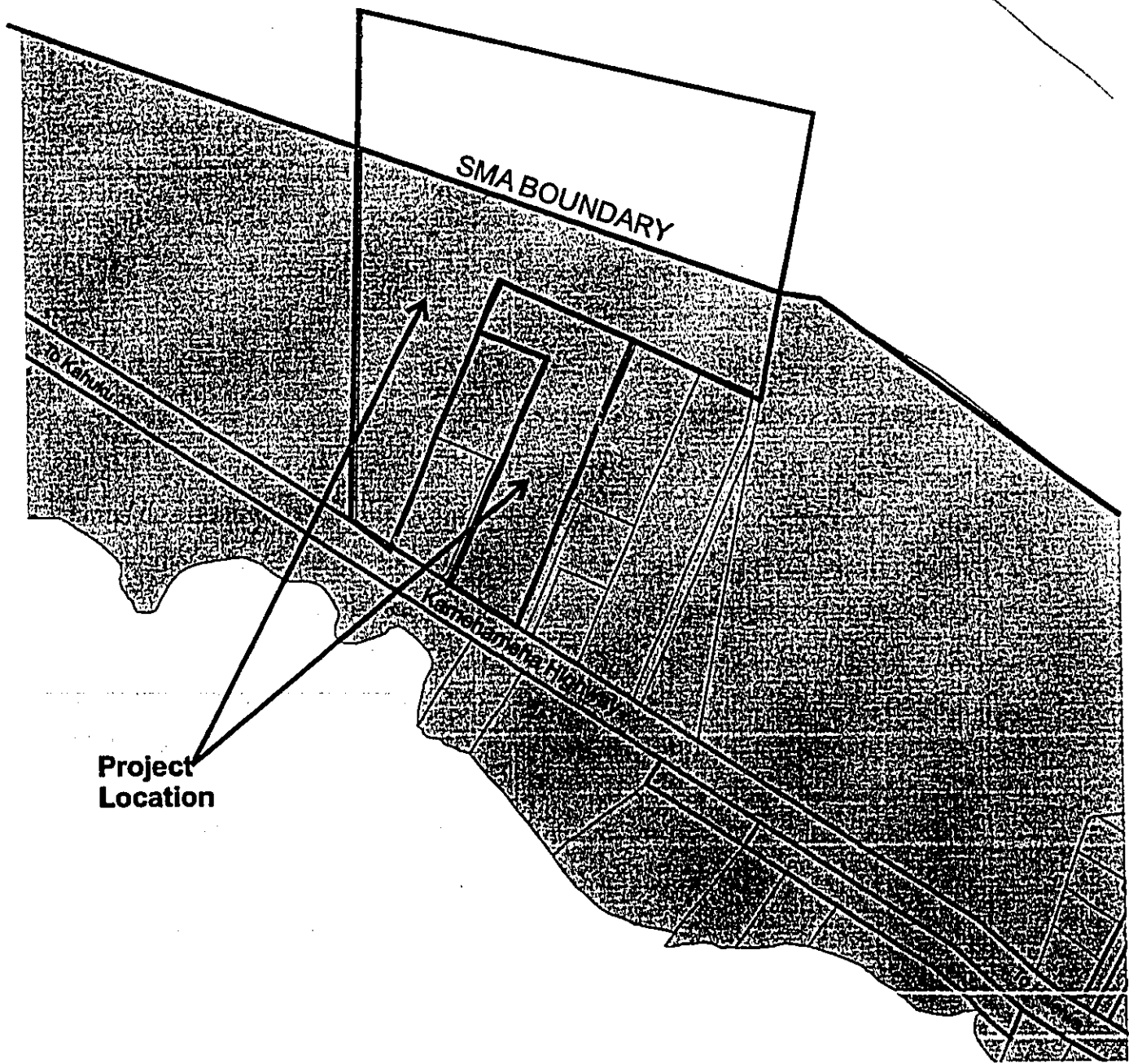
FIGURE 1  
 PROJECT LOCATION  
 BURGER SUBDIVISION  
 Kawaiioa, O'ahu, Hawai'i



R. M. TOWILL CORPORATION May 2006







**FIGURE 3  
SMA BOUNDARY MAP**

### **1.3 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT (EA)**

The purpose of this EA is 1) to inform interested parties of the proposed project, 2) disclose the potential for adverse environmental impacts, 3) identify measures proposed to sufficiently mitigate or ameliorate potential impacts, and 4) seek public comment on subject project. This EA further describes existing conditions at the project site and proposes mitigation measures to address potential adverse environmental impacts resulting of the proposed action.

This EA complies with Chapter 25, Revised Ordinances of Honolulu (ROH), which states that an EA shall be required as follows:

#### **Sec. 25-3.3 Procedural guidelines.**

- (a) All development within the special management area shall be subject to review by the agency under the provisions of this chapter. Such review shall be pursuant to the objectives, policies and guidelines set forth herein.
- (b) Consultation. Any applicant contemplating development within the special management area shall contact the agency for information regarding procedures and general information which may have a direct influence on the applicant's proposed development.
- (c) Assessment Requirements for Special Management Area Use Permits.
  - (1) Any proposed development within the special management area requiring a special management area use permit shall be subject to an assessment by the agency in accordance with the procedural steps set forth in HRS Chapter 343. The director may allow the assessment to be conducted concurrently with the processing of the application for a special management area use permit.

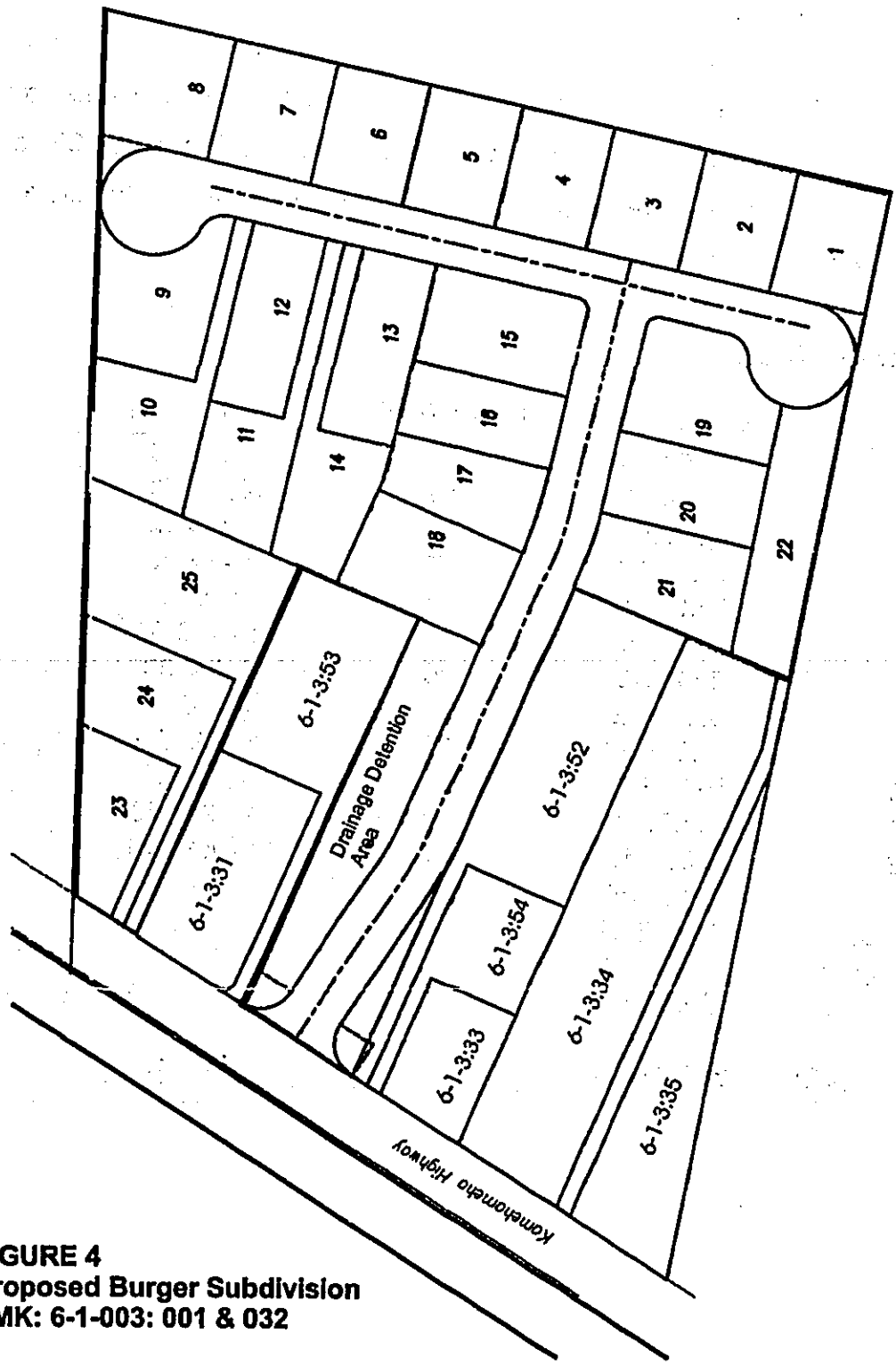
**SECTION 2  
PROJECT DESCRIPTION**

**2.1 PROPOSED ACTION**

The applicant proposes the consolidation and subdivision of two lots into 25 lots as shown in **Figure 4** and described in **Table 1**. One of the lots will be dedicated for a road to allow access. The lots range in size from 7,500 square feet to 19,000+ square feet. Individual lot owners will be responsible for home construction. The lots are sized as shown in Table 1.

**Table 1  
Lot Number and Sizes**

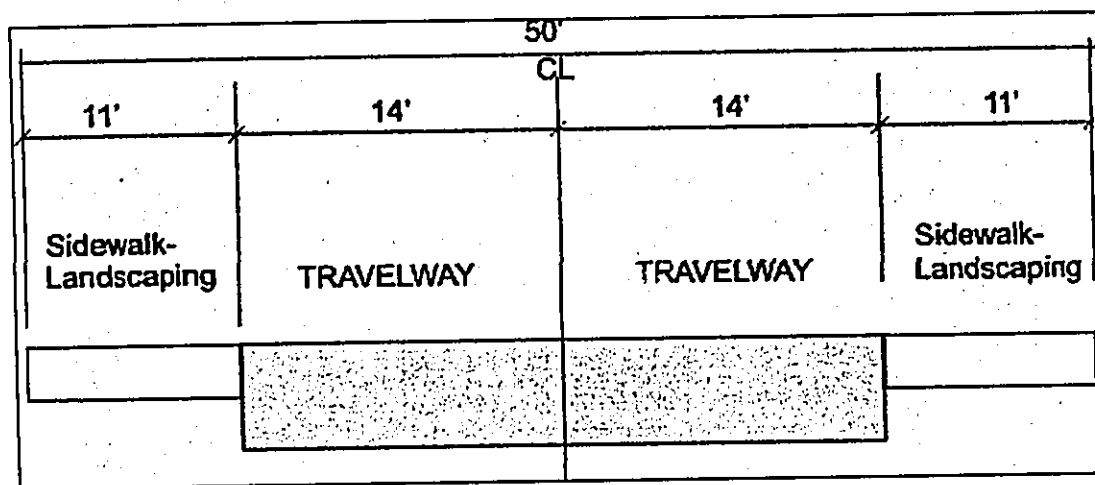
LOT NUMBER	AREA (S.F.)	LOT NUMBER	AREA (S.F.)
1	7,653.15	14	9,983.29
2	7,500.00	15	10,000.00
3	7,500.00	16	7,344.52
4	7,500.00	17	7,482.69
5	7,500.00	18	10,297.52
6	7,500.00	19	10,120.03
7	8,427.46	20	8,487.30
8	9,574.52	21	9,926.93
9	10,017.28	22	11,091.72
10	10,935.26	23	7,569.13
11	10,000.00	24	10,940.53
12	8,984.67	25	19,615.16
13	9,119.66		
Road Lot	64,433.32		
Drainage	15,931.03		
Landscape	2,552.83		
<b>Total Area (s.f.)</b>	<b>317,988.00</b>		<b>7.30 ac.</b>



**FIGURE 4**  
**Proposed Burger Subdivision**  
**TMK: 6-1-003: 001 & 032**

Access into the new subdivision will be via Kamehameha Highway. The 1,350 feet roadway lot provides for a 50 feet right-of-way which allows two 14-foot travel lanes, curb, gutters, sidewalk and landscaping strip (see Figure 5, Road Cross Section). The new subdivision road will be dedicated to the City and County of Honolulu. All utilities will be placed underground in accordance with subdivision regulations.

Figure 5. Roadway Cross Section



## 2.2 EXISTING SITE CONDITIONS

The existing parcels currently have four single family residences. With the implementation of the subdivision, the existing four residences will be demolished and four new homes constructed. The remaining lots will be sold in the marketplace. Figure 6 and Figure 7 are photographs of existing conditions.

- A. Water Service. The existing residences are served with municipal water service via a 6 and 4-inch water main. Requirements for new water meters, hydrants, and facility charges will be addressed during the project development phases. The Board of Water Supply has indicated that the present water system is adequate to serve the proposed project. Power and communications are provided via overhead lines along Kamehameha Highway.

Figure 6. Photographs of Existing Site Conditions



Figure 6A. View Towards Haleiwa Along Kamehameha Highway



Figure 6B. View Mauka (parcel 01 on left-side of photo)

Figure 7. Photographs of Existing Site Conditions



Figure 7a. View Mauka



Figure 7B. View Mauka Parcel 32



The existing fire service will be upgraded to provide on-site hydrants and mains.

**B. Wastewater.** The project site is currently is not served by municipal sewer service and is located in the Critical Wastewater Disposal Area where no new cesspools will be allowed. Existing residences are currently served by private cesspools. Individual Wastewater Systems (IWS) are proposed for the individual residences in accordance with Chapter 11-62, Subchapter 3 (HAR). The individual systems are designed to accommodate up to 1,000 gallons per day per lot. The proposed IWS will be an aerobic system approved by the DOH. Because the IWS will be within the "no pass zone" a variance was sought from the DOH in accordance with Chapter 342D (HRS). Public Notice of the proposed variance was published on December 23, 2006. The draft findings and recommendations of the Department of Health in Appendix B. The principle condition attached to the variance is the requirement of having an Operations and Maintenance (O&M) agreement between the homeowner and a wastewater service provider whose task is to make repairs, replace parts, pump outs as required, and system testing. The were finalized on April 20, 2007 when the applicant acknowledged acceptance of the conditions of the variance. Final approval from DOH was provided on June 8, 2007. The IWS facility plans will be reviewed and approved by the DOH and the DPP.

**C. Drainage.** Stormwater from the site created by via impervious surfaces will be collected along the new road and detained on site via a landscaped detention basin that is approximately 15,931 square feet (see Figure 4). Existing stormwater from the existing and adjoining properties and the highway is conveyed under Kamehameha Highway via culverts or sheet flows across the highway to the ocean. Protection from construction storm water runoff will be addressed through the filing of a National Pollutant Discharge Elimination System, Notice of Intent Form C (NPDES NOI Form C) Construction Stormwater permit application administered by the State Department of Health (DOH). The NPDES permit application will include a Best Management Practices (BMPs) Plan to govern the road construction and utility installation phases of work to ensure proper treatment of storm water runoff to waters of the State. This will include

use of silt fences, berms, or retention basin, as required, to prevent untreated construction storm water runoff from entering State waters. This will include use of vegetative, structural, and management practices, as required, to prevent untreated construction storm water runoff from entering state waters. BMP measures typically applied to a project site include the following:

**Before Construction**

Erosion and sediment control measures will be in place and functional before earthwork may begin, and will be maintained throughout the construction period. Temporary measures may be removed at the beginning of the work day, but shall be replaced at the end of the work day.

**During Construction**

1. Clearing shall be held to the minimum necessary for grading, equipment operation, and site work.
2. Construction shall be sequenced to minimize the exposure time of cleared surface areas. Areas of one phase shall be stabilized before another phase can be initiated. Stabilization shall be accomplished by protecting areas of disturbed soils from rainfall and runoff by use of structural controls such as berms or sediment basins, or vegetative controls such as grass seeding or hydromulching.
3. Temporary soil stabilization with appropriate vegetation shall be applied on areas that remain unfinished. Permanent soil stabilization using vegetative controls shall be applied as soon as practicable after final grading.
4. All control measures shall be checked and repaired as necessary.
5. Maintenance and fueling of construction equipment and vehicles shall be performed only in designated areas. Sorbent and cleanup materials shall be placed in a conspicuous location to facilitate cleanup in the event of

inadvertent leaks or spills. Refueling and maintenance of vehicles and equipment shall not be permitted outside of designated refueling areas.

6. All liquid materials including petroleum, oils, and lubricants (POLs), solvents, and cleaners, shall be stored in sealable containers. No open containers for the storage of such materials will be permitted.

#### **After Construction**

Following construction, all equipment no longer necessary to the site will be removed. Construction debris and refuse will be disposed of at an approved facility that accepts construction and demolition debris waste by the contractor.

The NPDES permit application will be prepared in accordance with DOH regulations governing the protection of state waters in Chapter 11-54, Water Quality Standards, and Chapter 11-55, Water Pollution Control, Hawai'i Administrative Rules (HAR).

### **2.3 PROPOSED SCHEDULE**

The applicant proposes to proceed with the consolidation and subdivision of the subject parcels upon receipt of the SMA permit and building/site work permits.

## **SECTION 3 ALTERNATIVES**

### **3.1 ALTERNATIVES TO THE PROPOSED ACTION**

Alternatives to the proposed project that were considered include: (1) the No Action Alternative; (2) the Delayed Action Alternative; and (3) the Preferred Alternative. A description and assessment of each of these alternatives is provided below.

### **3.2 NO ACTION ALTERNATIVE**

The No Action Alternative proposes maintaining the status quo leaving the site unchanged. The No Action Alternative would preclude the potential for environmental impacts given that there would be no new buildings and no demand placed on additional municipal services. Taking no action would result in not meeting the desired objective of the owners to divide the land among the heirs. Because the No Action Alternative does not address the objectives of the heirs, it was rejected from further consideration.

### **3.3 DELAYED ALTERNATIVE**

This alternative proposes that consolidation and subdivision be postponed to a later time. Construction expenditures for the proposed project would be averted in the short-term but would eventually be required at a future date when the project is undertaken. Project costs at this future period in time are expected to be higher due to inflation and price escalation of labor and materials. The potential for environmental impacts associated with delay of the project are expected to be similar to the preferred alternative and would involve no significant adverse impacts. However, like the No Action Alternative, further delay would fail to address the objectives of the landowners. For these reasons, the Delayed Alternative is also rejected from further consideration.

### **3.4 PREFERRED ALTERNATIVE**

The Preferred Alternative is to proceed with the proposed consolidation of two existing lots and subdivision into 25 lots, plus the roadway, drainage, and landscaping lots as

shown in Figure 4. This alternative is the only alternative that meets the objectives of the owners. The proposed action also conforms with existing zoning regulations.

**SECTION 4  
DESCRIPTION OF THE AFFECTED ENVIRONMENT,  
IMPACTS AND MITIGATION**

**4.1 PHYSICAL ENVIRONMENT**

**4.1.1 CLIMATE**

The north shore of O'ahu has a mild subtropical climate which is characterized by abundant sunshine, persistent northeast tradewinds, relatively constant temperatures and moderate humidity. Mean monthly temperatures range from high-80° Fahrenheit (F) in the summer months, to high-70° F during the winter. The average annual rainfall for O'ahu is approximately 24 inches while the average annual rainfall for the Sunset Beach area is nearly 30 inches, with most of the rainfall occurring between the months of October and March.

The proposed project is not expected to have any effect on the existing climatic conditions.

**4.1.2 TOPOGRAPHY AND SOILS**

The project site is located on the north shore of O'ahu, mauka (landward) of the Kamehameha Highway. The site is approximately ½ mile south of Waimea Bay. The site slopes upward from Kamehameha Highway from 15 feet above mean sea level (msl) to 100 feet above msl. The average cross-slope is 8 percent along the bottom half of the property and 12 percent along the upper half of the property.

Soils information at the project site was obtained from the Soil Survey of Islands of Kaua'i, O'ahu, Maui, Moloka'i, and Lana'i, State of Hawai'i, as prepared by the U.S. Department of Agriculture, 1972. According to the Soil Survey, the soil association at the project site is classified as "Waialua Stony Silty Clay" (WIB) which is described as moderately well drained soils on alluvial fans on the island of O'ahu. They are nearly level to steep with moderate permeability, slow runoff and slight erosion hazard. The other soil type in the project area is "Kaena Stony Clay" which has the same characteristics as the Waialua Stony Clay soil.

The proposed project is expected to have no significant impact on the topography and soil conditions of the project site. The topography of the project area is sloped and soil disturbance will be initially limited to construction associated grading for the new roadway. Preparation of the site for establishment of the building foundations and landscaping of the areas immediately surrounding each house lot will be the responsibility of the lot owner. Owners of the individual lots will decide if their house is constructed with the contour of the land or if a graded area will be cleared. Construction plans and project activities will be subject to review and approval by the City DPP. This will include the preparation of an Erosion Control Plan (ECP) as part of the construction plans for the project. Erosion controls will be in accordance with the Rules Relating to Soil Erosion Standards and Guidelines, DPP, April 1999. Concerns relating to rocks falling from the adjacent property were not considered as the owners have not experienced rock fall in the over 50+ years of tenancy.

Protection from construction storm water runoff will be addressed through the filing of a National Pollutant Discharge Elimination System, Notice of Intent Form C (NPDES NOI Form C) Construction Stormwater permit application administered by the State Department of Health (DOH). The NPDES permit application will include a Best Management Practices (BMPs) Plan to govern the road construction and utility installation phases of work to ensure proper treatment of storm water runoff to waters of the State. This will include use of silt fences, berms, or retention basin, as required, to prevent untreated construction storm water runoff from entering State waters. The NPDES permit application will be prepared in accordance with DOH regulations governing the protection of state waters in Chapter 11-54, Water Quality Standards, and Chapter 11-55, Water Pollution Control, Hawai'i Administrative Rules (HAR).

No further mitigation measures beyond the use of specified erosion control measures and the BMPs Plan are anticipated to be required to address erosion. No mitigation is proposed for the potential occurrence of falling rocks at this time.

#### 4.1.3 SURFACE WATER

There are no surface water bodies at the project site. See Figure 1, Project Location. The project site is approximately 200 feet inland from the shoreline (see Figure 2, TMK Map).

Given the limited scope and scale of the project there is little to no potential for adverse impacts to surface water. The only potential source of impact is expected to be in the form of storm water runoff during periods of inclement weather. As indicated in Section 4.1.2, above, mitigation measures to address storm water runoff during roadway construction and utility installation will be practiced to address the potential for adverse impacts.

#### 4.1.4 FLORA/FAUNA

The project site is within an existing urbanized residential area that has been in use for several decades. No threatened or endangered flora or fauna are known to inhabit the site and the site was previously cleared. Several species of introduced avifauna are expected to be present at the project site and the surrounding region. These species include, but are not limited to the following:

Common Name	Scientific Latin
Common Indian Mynah	<i>Acridotheres tristis</i>
House Sparrow	<i>Passer domesticus</i>
Spotted or Lace-necked Dove	<i>Streptopelia chinensis</i>
Zebra Dove	<i>Geopelia striata</i>
Northern Cardinal	<i>Cardinalis cardinalis</i>
Red-crested Cardinal	<i>Paroaria coronata</i>
Red Vented Bulbul	<i>Pycnonotus cafer</i>
House Finch	<i>Carpodacus mexicanus</i>
Java Sparrow	<i>Padda oryzivora</i>

Seasonal visits by migratory avifauna that may occur in the region include the Pacific Golden-Plover (*Pluvialis fulva*) and Wandering Tattler (*Heteroscelus incanus*). Plovers are associated with open habitats such as lawns and fields. Tattler's commonly forage along streams, even in the interior of the island. However, no streams are present at the project site and the occasional presence of Tattlers would be transient and temporary.



Plover are the most abundant migrant in Hawai'i and much has been learned of their behavior as a consequence of intensive research over the past 20 years (Bruner 2001 and Johnson et al. 1981, 1989 and 2001). Neither the Plover or Tattler are designated rare or endangered.

Other mammal species present at the project site may include domestic cats, dogs, rats, and mice.

Plants at the project site are limited to common landscape plants and shade trees and introduced shrubs and ground cover. The predominant trees in the area are coconut palms.

#### **4.1.5 SCENIC AND VISUAL RESOURCES**

The project area is located in an area zoned for residential uses. The proposed site improvements will be consistent with the surrounding use of the land for the area which is rural residential.

The proposed construction of single family residences will not affect significant views as identified in the 1987 Coastal View Study and in the North Shore Sustainable Communities Plan. Significant ocean views near the project location are along Kamehameha Highway. However, the project site is located mauka of the highway and does not affect any existing view planes. Building heights will be limited to 25 feet in accordance with the Land Use Ordinance. The height limits imposed by the LUO will continue to afford views of the Ko'olau Mountain Range.

The proposed project is anticipated to have no visual impacts due to the residential nature of the project. The larger lots will also reduce the view of this residential subdivision giving it a more "rural" view. Building heights are limited by zoning to 25 feet. The retention of the mature trees on the property will further help to mitigate views of the homes. No further mitigation measures are anticipated or proposed.

#### **4.1.6 HISTORIC/ARCHAEOLOGICAL RESOURCES**

The proposed construction is within a disturbed area and on land that contains existing residential buildings. In December 2006, an Archaeological Literature Review and Field

Inspection of the subject project area was conducted by Cultural Surveys Hawai'i (Appendix C. SHPD indicated that the subject property is located in the vicinity of two archaeological sites (see attached letter from M. Chinen, July 7, 2006). Based on information provided by SHPD, the sites in question previously identified by McAllister (1933) and recorded in *Sites of O'ahu* (Sterling and Summers, 1978) are located approximately 600+ feet to the northeast of the project boundary. Within the bounds of the project area significant historic or archaeological resources were not observed at the project site because the land was previously cleared according to the owners. There were no surface signs of previous use such as rock piles or ground deformations within the project area, however, low walls were observed outside of the project boundaries. Claims of burials were not confirmed on the project site. Subsurface testing was not conducted as part of the study conducted.

Ground disturbance associated with this project during this phase of work will be limited to the development of the road. Should any unidentified deposits be uncovered during construction, work will cease in the immediate area and the State Historic Preservation Office (SHPO) will be contacted.

#### **4.1.7 NOISE**

The project site is located in an area comprised of residential and agricultural lots. Although the project will involve the generation of construction associated noise resulting from roadway construction, utility installation, and residence construction, it is expected to be temporary and short-term in duration. The predominant noise source is traffic along Kamehameha Highway.

Construction equipment is expected to include, but not be limited to, excavators, loaders, flatbed trucks, concrete mixers, concrete delivery trucks, cranes, welders and powered hand tools. All internal combustion equipment will be muffled in accordance with standard engine operating practices.

No further mitigation measures beyond the use of properly muffled engine equipment and limiting the hours of work are anticipated to be required.

#### **4.1.8 AIR QUALITY**

No information was collected on air quality. Because of the regular presence of trade winds and the rural setting of the site along the north shore of O'ahu, there is minimal air pollution. Construction activities are expected to have little to no potential for air quality impacts since the project will be of limited duration and where engine exhausts may be a source of potential air pollution, all internal combustion equipment will be governed in accordance with applicable state and county regulations.

During construction, fugitive dust could be generated that would be a nuisance source of air pollution. Where applicable, fugitive dust will be controlled with dust fencing and regular wetting of disturbed areas by the contractor. No further mitigation measures with regards to air quality are anticipated to be required.

#### **4.1.9 WATER QUALITY**

Water resources that may be potentially impacted by the project during construction activities are limited to the nearby shore and coastline from stormwater runoff and erosion. The subject properties are located in the "no pass zone," and therefore neither underground injection nor cesspools are allowed.

Work activities will involve earthwork to prepare the ground for the construction of the roadway and related landscaping. During this period unprotected open ground and locations used for the stockpiling of excavated soils may be subject to erosion from storm water runoff. This could result in short term increases in turbidity and siltation of coastal waters down gradient of the site.

As indicated in Section 4.1.2, protection from erosion and untreated storm water runoff will be addressed through the filing of an Erosion Control Plan (ECP) in accordance with the Rules Relating to Soil Erosion Standards and Guidelines, DPP, April 1999. A drainage report will be prepared for this project and submitted to DPP.

Protection from construction storm water runoff will be addressed through the filing of a NPDES NOI Form C Construction Stormwater permit application administered by the DOH in accordance with Chapter 11-54, Water Quality Standards, and Chapter 11-55, Water Pollution Control, HAR. Best Management Practices (BMPs) Plan to govern the

road construction and utility installation phases of work to ensure proper treatment of storm water runoff to waters of the State. This will include use of silt fences, berms, or retention basin, as required, to prevent untreated construction storm water runoff from entering State waters.

With the stated mitigation measures above, the proposed project is not anticipated to result in potential for adverse impacts to water quality.

#### **4.1.10 FLOOD HAZARD**

The subject property is located mauka of the Kamehameha Highway and is approximately 200 feet inland from the shoreline (shoreline to mauka edge of Kamehameha Highway). According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Map No. 15003C0020 F, dated September 30, 2004, portion of the project site is in an area designated as Zone AE and VE (see **Figure 8 Flood Map**). The Zone AE designation is used for areas located within the 100-year floodplain. The makai portion of the project is subject to coastal flooding. The base flood elevation is approximately 16 feet above mean sea level. The residential lots, except for one, have been placed outside of the floodplain. The base elevation at the highway boundary for this lot is approximately 16 feet. The elevation at back of this lot is approximately 22 feet.

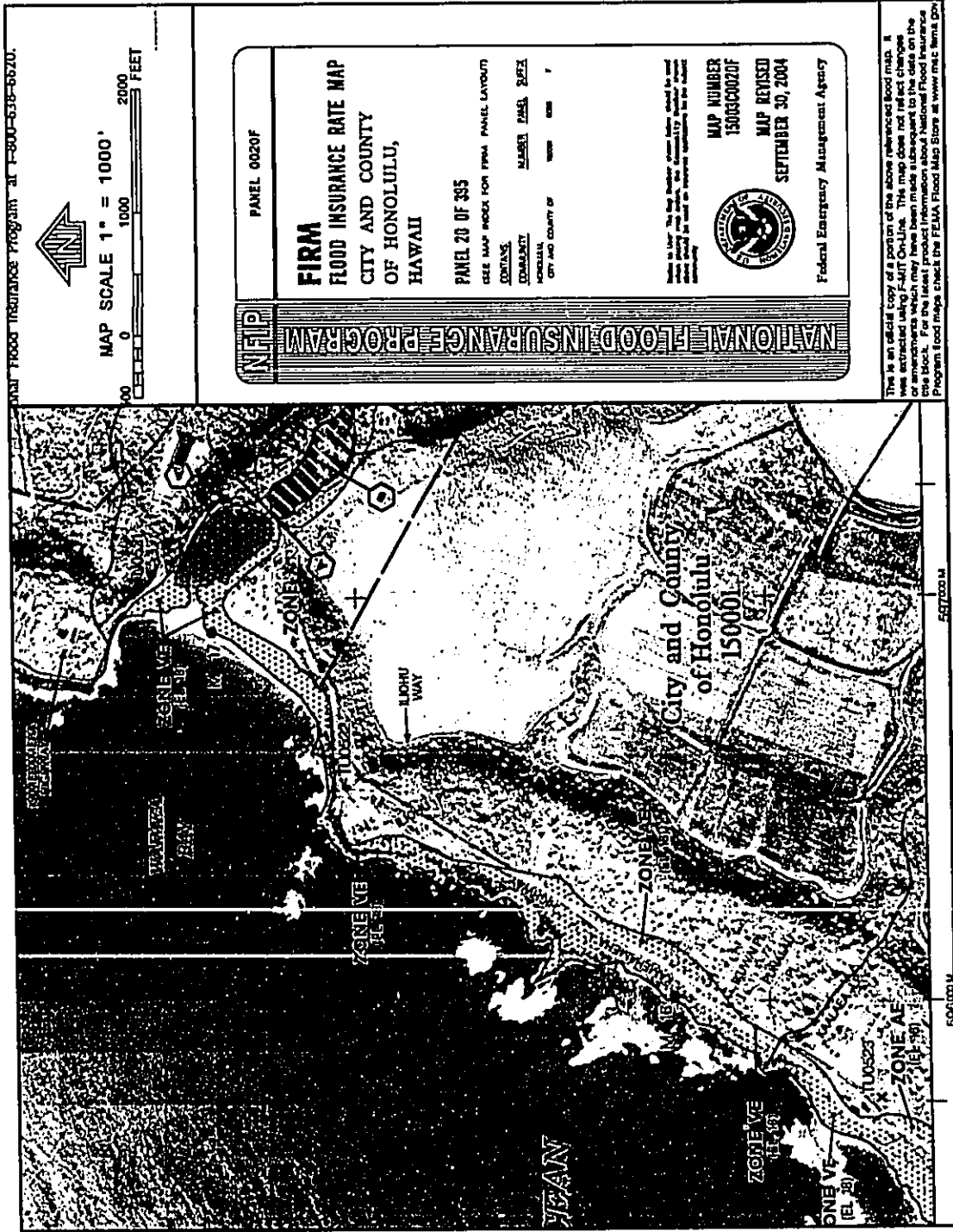
The proposed roadway improvement is not expected to be significantly impacted based on its location within the Zone AE and VE designations. The elevation at the roadway entrance is approximately 13+ feet. No mitigation is proposed.

#### **4.2 PUBLIC FACILITIES**

##### **4.2.1 ACCESS**

Vehicular access to the subject property will be provided by an entry roadway off of Kamehameha Highway (see **Figure 2, Site Plan**). The right-of-way for the project is 50 feet which will accommodate 2-14 feet travel lanes, and 11 feet on both sides for a sidewalk and a landscaping strip. The design of the road access is being coordinated with the State Department of Transportation. Under consideration is the development of a left turn lane and shoulder improvements. Further, the number of homes that can

Figure 8 Flood Map



have direct access to Kamehameha Highway will be limited to three as directed by the Department of Transportation.

During construction there will be temporary periods when access to the site will be restricted to maintain public safety. It is expected that this period of restricted access will be limited to the construction period and during non-peak periods. Further, during the construction of the subdivision street to Kamehameha Highway, warning signs and barriers will be installed. In the event that a lane closure is required, flagmen will be provided to facilitate traffic through the area.

#### **4.2.2 TRAFFIC AND ROADWAYS**

Construction of the proposed project is not expected to significantly impact the flow of traffic on Kamehameha Highway. Effects on transportation are expected to be short-term and will be experienced primarily during the initial and final stages of the project when construction equipment is moved to and from the project site. Occasional increases in construction traffic may result from the periodic movement of construction materials and when vehicles leave the site to remove debris. Construction activity is planned during the weekday daytime non-peak hours with no night or weekend work anticipated to be required.

As required, construction personnel will use flags or other appropriate signaling devices along Kamehameha Highway to maintain safety when construction vehicles must enter and leave the project site and when the connection to Kamehameha Highway is made. No further mitigation measures to address traffic are anticipated or proposed.

Once the project is developed with the 25 new residences each residence is anticipated to generate 2-4 trips per day per household (assumes 4-person household) for work, shopping, and recreation trips. This equates to 56-104 trips per day with 1/3 the trips being made during the morning and evening hours (assumes one person in household commutes to work). (Trip Generation, Institute of Transportation Engineers, 1997).

## **SECTION 5**

### **RELATIONSHIP TO STATE AND COUNTY LAND USE PLANS AND POLICIES**

#### **5.1 STATE LAND USE DISTRICT**

The project site and the surrounding area are within the State Urban District. No change in the State Land Use District is required to accommodate the proposed project.

#### **5.2 NORTH SHORE SUSTAINABLE COMMUNITIES PLAN**

The project site is designated for rural residential use in the North Shore Sustainable Community Plan (NSSCP, July 2000). The proposed project corresponds to this designation and will maintain the existing residential land use of the site. As stated in the NSSCP the subject project is within the Rural Community Boundary land use "is intended to contain the spread of development into significant agriculture and preservation areas. . . .the need for additional housing will be met primarily by "infill" development of existing vacant lands." The subject property is currently zoned R-5 and based on the zoning designation would potentially be allowed to 63 lots (316,811 square feet divided by 5,000). Within the residential provision of the NSSCP overall density for rural designation is between 5-8 units per acre or lots sizes between 5,000 to 20,000 square foot lots (NSSCP, Section 3.5.4). The proposed project has an average overall density of 3.6 units per acre. This lower density will continue the residential pattern observed along Kamehameha Highway. Further, except for the three new houses being built closest to the highway, the remainder of the project is setback away from the highway.

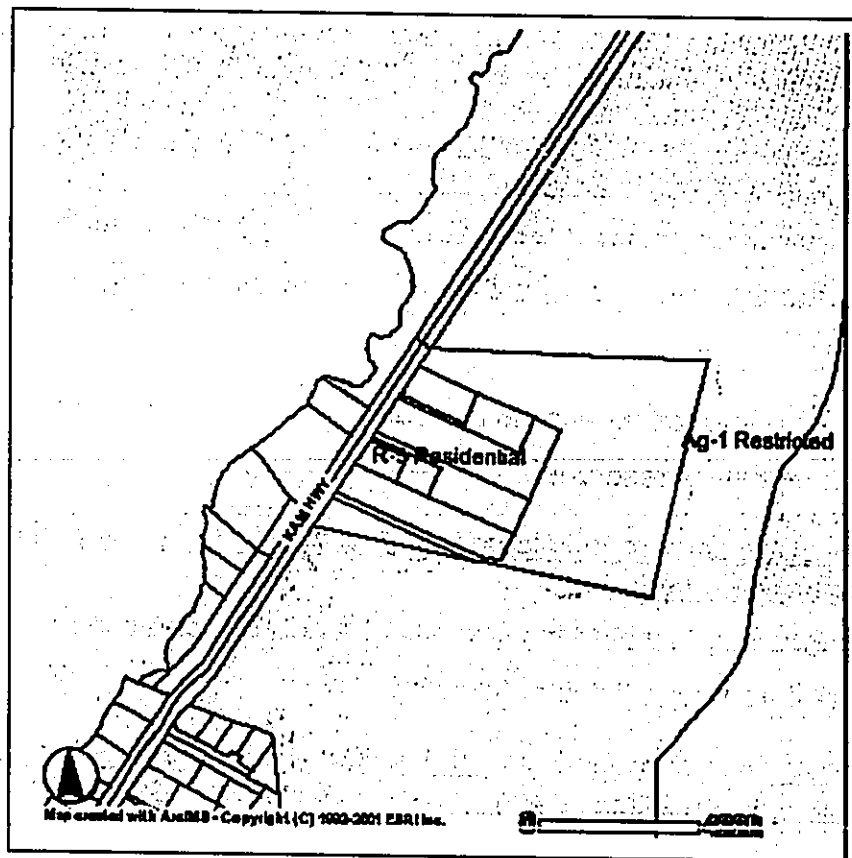
The Section 4 of the NSSCP addresses transportation in the region. The principal transportation corridor is Kamehameha Highway. No improvements are currently planned by the Department of Transportation in front of the subject project.

Kamehameha Highway is a two-laned facility without paved shoulders fronting the subject project. Kamehameha Highway is considered a Bike Route, however, only in Pupukea is there an improved bike facility separated from the highway. Municipal bus service is provided and a bus stop is located to the south of the subject project. The internal roadway will support bicycle use along the road of sidewalk.

### 5.3 CITY AND COUNTY OF HONOLULU - ZONING

The project site is designated R-5 (Residential District). See **Figure 9, Zoning**. The purpose of the residential district is to "allow for a range of residential densities. The primary use shall be detached residences." "The intent of the R-7.5, R-5 and R-3.5 districts is to provide areas for urban residential development." (Chapter 21, Sec. 21-3.70, Revised Ordinances of Honolulu (ROH)).

Figure 9. Zoning





The proposed subdivision is consistent with the R-5 zoning of the district which allows development on lots with a minimum of 5,000 square feet. Within the zoning district not more than 50 percent of the lot can be covered with buildings. Building heights in the district is 25-30 feet.

#### **5.4.1 SPECIAL MANAGEMENT, SECTION 25, ROH**

The potential effects of the proposed project were evaluated based on the review guidelines in Section 25, ROH. The following is a discussion of the applicability of the guidelines to the proposed improvements to the project:

- (a) All development in the Special Management Area shall be subject to reasonable terms and conditions set by the Council to ensure that:  
(a.1) Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas and natural reserves is provided to the extent consistent with sound conservation principles;

The proposed project does not involve construction that would impact access to the shoreline as the parcel is mauka of Kamehameha Highway (see **Figure 2, Project Location**).

The subject project will not affect access to publicly owned or used beaches, recreational areas or nature reserves.

- (a.2) Adequate and properly located public recreation areas and wildlife preserves are reserved;

The subject property is not located in proximity of a public recreation area or wildlife preserve and therefore no impact is anticipated.

- (a.3) Provisions are made for solid and liquid waste treatment disposition and management which will minimize adverse effects upon Special Management Area resources;

*Solid Waste.* Solid waste will be disposed of at an approved City and County of Honolulu refuse facility. Materials to be disposed include construction-related debris and expended building materials.

The impact to solid waste collection services will be primarily from demolition debris. Disposal of construction and demolition debris will be at a County-approved facility. No further mitigation measures are anticipated to be required.

*Liquid Waste.* Minimal liquid waste is expected to be generated. During construction, liquid waste will be limited to concrete wash out effluent and hydrotesting water. These construction-related liquid wastes will be handled in accordance with City and County of Honolulu and State Department of Health (DOH) regulations.

The project site is not serviced by municipal sewer service. Sanitary toilets will be used during construction and maintenance will be handled off-site in compliance with State and County regulations. Individual Wastewater System will be installed on each lot in accordance with DOH and DPP requirements.

(a.4) Alterations to existing land forms and vegetation; except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation or failure in the event of an earthquake.

The proposed improvements will involve alteration of existing land forms through grading. Modifications to existing land forms that will result from this project will not create conditions that would adversely affect water resources, scenic resources, or recreational amenities.

The area surrounding the project site is zoned for general agriculture and residential purposes. Therefore, the proposed project is not anticipated to significantly detract from existing scenic resources either within or surrounding the project site.

No adverse impacts to water resources are anticipated from construction of the project. In the short-term, runoff from construction areas will be handled through construction adherence to a construction Best Management Practices (BMPs) Plan to reduce soil loss and sediment discharges from work sites. Project activities will comply with DOH regulations as set forth in Chapter 11-54, Water Quality Standards, and Chapter 55, Water Pollution Control, HAR.

The Uniform Building Code (UBC) provides minimum design criteria to address potential for structural damage due to seismic disturbances. The UBC scale is rated from Seismic Zone 0 through 4, with 0 being the lowest level of potential seismic induced ground movement. The island of O'ahu has been designated within Seismic Zone 2A. To

mitigate the potential hazard from earthquakes, structural elements in this project will be built, at a minimum, in compliance with standards for UBC Seismic Zone 2A.

(b) No development shall be approved unless the Council has first found that:

(b.1) The development will not have any substantial, adverse environmental or ecological effect except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health and safety, or compelling public interest. Such adverse effect shall include, but not be limited to, the potential cumulative impact of developments, each one of which taken in itself might not have a substantial adverse effect and the elimination of planning options;

The proposed project is not anticipated to involve a substantial degradation of environmental quality. The area has long been developed as a low density rural residential area and is situated within an area zoned for residential uses. The proposed project will substantially involve the similar residential uses through the subdivision of the property and provide for infill housing at a density below that which is allowed by the LUO. The proposed project will be developed in phases where the first phase will entail the infrastructure improvements followed by home construction. This later activity will be carried out by the individual lot owners. There will be a net increase in the number of homes in this area but will continue to be within the guidelines for development as provided by the NSSCP.

(b.2) The development is consistent with the objectives and policies set forth in Section 25-3.1 and area guidelines contained in HRS Section 205A-26;

The project is in compliance with the objectives and policies set forth in Chapter 205A-2 and Chapter 205A-26, HRS. This application summarizes the proposed subdivision improvements and potential for adverse impacts in relation to the Special Management Area guidelines in Chapter 205A-26, SMA, and Chapter 25, ROH. The project area is not within the Shoreline Setback Area.

Section 5.4.2 of this Environmental Assessment, entitled "Coastal Zone Management, Chapter 205(A), HRS," references the project's compliance with the State's objectives and policies for the Coastal Zone.

(b.3) The development is consistent with the County General Plan, Development Plans and Zoning.

The O'ahu General Plan was initially adopted in 1977 and updated in 1992. The General Plan is a comprehensive statement of objectives and policies for the future development of O'ahu.

**A. Population**

The proposed project meets the population objectives:

- Objective A – To control growth of O'ahu's resident and visitor population in order to avoid social, economic, and environmental disruptions.
- Objective B – To plan for future population growth.
- Objective C – To establish a patter of population distribution that will allow the people to live and work in harmony.

The subject parcel was zoned for the use that is being proposed and therefore population impacts for this area was been considered in the General Plan.

**B. Natural Environment**

The proposed project meets the natural environment objectives:

- Objective A – To protect and preserve the natural environment.
- Objective B – To preserve and enhance the natural monuments and scenic view of O'ahu for the benefit of both residents and visitors.

The proposed project will be developed in accordance with applicable State and County regulations the required the protection of important natural and scenic features. Actions will be taken to ensure that stormwater erosion is controlled during construction. Further, drainage from the subject property will be further controlled on site via a detention basin.

**D. Physical Development and Urban Design**

- Objective A - To coordinate changes in the physical environment of O'ahu to ensure that all new developments are timely, well-designed, and appropriate for the area in which they will be located.

The proposed project is consistent with the Physical Development and Urban Design Objective A, which is to " The subject property is in an area zoned R-5, Residential.

(c) The Council shall seek to minimize where reasonable:

(c.1) Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon;

The project will not involve dredging, filling or alteration of the configuration of the shoreline.

(c.2) Any development which would reduce the size of any beach or other area usable for public recreation;

No beaches along the coastal shoreline will be reduced in size or obstructed from use by the proposed project.

(c.3) Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the Special Management Area and the mean high tide line where there is no beach;

The project will not reduce or impose restrictions upon public access to tidal and submerged lands, beaches, or portions of rivers and streams within the Special Management Area. The proposed improvements are well-above the mean high tide line, does not involve submerged lands, and will not block access along the shoreline. Public access to the shoreline will not be affected by the project.

(c.4) Any development which would substantially interfere with or detract from the line of sight toward the sea from the state highway nearest the coast;

The proposed subdivision is mauka of Kamehameha Highway and therefore will not substantially interfere with or detract from any existing line of sight toward the ocean from Kamehameha Highway.

(c.5) Any development which would adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.

Proposed subdivision will not result in changes to the existing land use. No adverse effects are anticipated to water quality, open water, fisheries or fishing grounds, wildlife habitats, or potential or existing agricultural uses of the land. As described, no adverse effects to water quality are expected to result from construction activities, or use of the new facility following completion of the project.

#### 5.4.2 COASTAL ZONE MANAGEMENT, CHAPTER 205(A), HRS

The State of Hawai'i has designated the Coastal Zone Management Program (CZMP) to manage the intent, purpose and provisions of Chapter 205(A)-2, HRS, as amended, for the areas from the shoreline to the seaward limit of the State's jurisdiction, and any other area which a lead agency (State Planning Office, Department of Land and Natural Resources) may designate for the purpose of administering the CZMP.

The following is an assessment of the project with respect to the CZMP objectives and policies as set forth in Chapter 205(A)-2, HRS:

##### 1. Recreational resources

Objective: Provide coastal recreational opportunities accessible to the public.

Policies:

A) Improve coordination and funding of coastal recreational planning and management; and

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

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

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

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

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

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

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

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

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

The proposed improvements will take place mauka of Kamehameha Highway and will not impact informal shoreline recreation and surfing areas located along Kamehameha Highway. The project will not alter existing shoreline areas. Formal recreation areas are located to the north of the subject project at Waimea Bay and at Pupukea. To the south, the closest recreation area is Haleiwa Beach Park.

Water quality will be protected during construction through the application of construction BMPs.

**2. Historic resources**

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

**Policies:**

**(A) Identify and analyze significant archaeological resources;**

**(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and**

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

No adverse impacts to historic or archaeological resources are expected from activities associated with construction of the new roadway.

The proposed will take place on formerly disturbed lands. Construction and excavation activities to establish the roadway and individual residences are anticipated to have similar ground disturbance impacts as previous uses. For this reason it is unlikely that significant historic or archaeological resources would remain present at the project site. However, because there is always the possibility of an inadvertent "find", should any unidentified human remains be uncovered during construction, work will cease in the immediate area and the State Historic Preservation Division (SHPD) will be contacted for appropriate instructions. As required, mitigative measures will be proposed and coordinated with SHPD.

No impacts to traditional or contemporary cultural practices are expected to result from the proposed improvements. The project site is dominated by common, introduced plant species that are not known to be identified with traditional gathering practices. Project activities will not diminish the availability of any plant type found at the project site for

use in cultural practices and project activities do not have the potential to disrupt access to coastal areas.

3. Scenic and open space resources

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

Policies:

(A) Identify valued scenic resources in the coastal zone management area;

(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural land forms and existing public views to and along the shoreline;

(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and

(D) Encourage those developments that are not coastal dependent to locate in inland areas.

The proposed improvements conform to the Coastal Zone Management Program, Objective 3, Scenic and Open Space Resources, which encourages the protection, preservation and, where desirable, restoration or improvement of the quality of coastal scenic and open space resources.

The proposed project will take place within an area mauka of Kamehameha Highway approximately 200 feet inland of the shoreline. The proposed subdivision is consistent with surrounding residential land uses.

4. Coastal ecosystems

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

Policies:

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

(B) Improve the technical basis for natural resource management;

(C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

(D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

(E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.



The proposed project is not expected to have any adverse effects on marine resources. Project activities do not involve alterations to stream channels or other water bodies or water resources. The project will not adversely affect marine and coastal resources.

During construction, BMPs will be employed to prevent potential pollutant (sediment) discharges into storm water runoff. Measures to prevent sediment discharges into storm water runoff during construction will be in place and functional before project activities begin and will be maintained throughout the construction period.

#### 5. Economic uses

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

#### Policies:

(A) Concentrate coastal dependent development in appropriate areas;

(B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

(i) Use of presently designated locations is not feasible;

(ii) Adverse environmental effects are minimized; and

(iii) The development is important to the State's economy.

The project is being developed on land presently used for residential purposes. The project has been assessed for social, visual, and environmental impacts in accordance with Chapter 25, ROH. With the implementation of the mitigation measures as outlined in this document, no adverse impacts are expected to result from this project.

#### 6. Coastal hazards

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

#### Policies:

(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;

(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;

(C) Ensure that developments comply with requirements of the Federal Flood

Insurance Program; and  
(D) Prevent coastal flooding from inland projects.

The subject property is located in Kailua on the north shore of O'ahu. According to the Federal Emergency Management Agency (FEMA), a portion of the project site is in an area designated as Zone AE. The Zone AE designation is used for areas within a designated floodplain. See Figure 8 Flood Map.

The development of the project will be in compliance with the requirements of the Federal Flood Insurance Program, the City and County of Honolulu Drainage, Grading and Development Standards for Flood Hazard Districts, and the City Land Use Ordinance, Section 21-9.10, Flood Hazard Districts.

7. Managing development

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

Policies:

(A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

(B) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and

(C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

The project site is located in the State Urban Land Use District and is zoned R-5, Residential. The proposed use of the property for residential purposes is a permitted use.

All improvement activities will be conducted in compliance with State and County environmental rules and regulations. This EA is prepared to identify and, where necessary, propose mitigation measures to address anticipated impacts from the construction and operation of the project. This document will be published for public review in compliance with procedures set forth in Chapter 25, ROH.

8. Public participation:

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

Policies:

- (A) Promote public involvement in coastal zone management processes;
- (B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and
- (C) Organize workshops, policy dialogues, and site-specific mitigation to respond to coastal issues and conflicts.

Public involvement in the project will consist of public hearings before DPP and the City Council as part of the SMA permit review process. Public notification of the proposed action will be provided in the Office of Environmental Quality Control (OEQC) publication, the Environmental Notice. See Section 8, Agencies, Organizations, and Individuals Consulted, for a list of agencies, organizations and individuals consulted. All written public comments will be provided a written response. Mitigation measures will be developed where appropriate to address issues and concerns raised during the public review of the project.

9. Beach protection:

Objective: Protect beaches for public use and recreation.

Policies:

(A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;

(B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

The proposed subdivision is located approximately 200 feet from the shoreline on the mauka side of Kamehameha Highway. The proposed improvements will be constructed inland of the shoreline setback (normally approximately 40 feet from the State Certified Shoreline). The proposed improvements are not expected to interfere with existing recreational or ocean recreational activities, nor interfere with natural shoreline processes.

**10. Marine resources**

**Objective: Promote the protection, use, and development of marine and coastal resources to assure their sustainability.**

**Policies:**

**(A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;**

**(B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;**

**(C) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;**

**(D) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and**

**(E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.**

The project does not involve research, education, or technological development related to the coastal and marine environments. No impacts to marine resources are anticipated.

**SECTION 6**

**NECESSARY PERMITS AND APPROVALS**

**6.1 CITY AND COUNTY OF HONOLULU**

Department of Planning and Permitting

Special Management Area Permit Application

Building Permit Application

Grading Permit Application

Subdivision Permit

**6.2 STATE OF HAWAII**

Department of Health

National Pollutant Discharge Elimination System Notice of Intent Form C

(NPDES NOI Form C) Construction Stormwater Permit Application (if  
construction project site activities are equal to or greater than 1 acre)

Individual Wastewater System Approval

Department of Transportation

Work within State Highway Rights-of-Way

## **SECTION 7**

### **CULTURAL IMPACT ASSESSMENT**

The potential for adverse impacts to traditional/cultural resources or practices at the proposed subdivision are not anticipated. The proposed project involves the consolidation and subdivision of two parcel into 25 single family lots.

Previous construction of existing single family uses has resulted in extensive ground disturbance and alteration of the existing landforms. Potential cultural uses and archaeological and cultural sites that may have once been present would have been discovered and recovered, or have been unfortunately destroyed. There are no known traditional or contemporary cultural sites or practices in use by individuals outside of the landowners.

There are no known plants on the property that are of significant importance for traditional or cultural uses.

The project site is located approximately 200 feet from the shoreline mauka of Kamehameha Highway. Public access to the shoreline is provided by the Kamehameha Highway located makai (seaward) of the project site. The project will not affect lateral shoreline access.

Further consultation to preempt the potential for adverse cultural impacts will also be provided with the distribution of this EA to agencies and the community for review in accordance with the parties identified in Section 8, Agencies and Organizations Consulted, of this document.

## **SECTION 8**

### **AGENCIES AND ORGANIZATIONS CONSULTED**

The following agencies, organizations, and individuals will be contacted during the environmental review process to disclose the environmental conditions of the site, the proposed undertaking, and the potential impacts and mitigation measures that will be applied to ensure against adverse impacts.

#### **8.1 CITY AND COUNTY OF HONOLULU**

Department of Planning and Permitting  
Honolulu Fire Department  
Board of Water Supply  
Honolulu Police Department  
Department of Design and Construction  
Department of Transportation Services

#### **8.2 STATE OF HAWAII**

Department of Land and Natural Resources  
Department of Transportation – Highways Division  
Department of Health

#### **8.3 FEDERAL GOVERNMENT**

U.S. Army Corps of Engineers

#### **8.4 ELECTED OFFICIALS, ORGANIZATIONS AND INDIVIDUALS**

Councilman Donovan M. Dela Cruz  
North Shore Neighborhood Board No. 27  
State Representative Michael Y. Magaoay  
State Senator Robert Bunda

#### **8.5 ORGANIZATIONS AND INDIVIDUALS**

Hawaiian Electric Company  
Hawaiian Telcom, Inc.  
Oceanic Cable  
Ms. Diane Anderson  
Ms. Mineko Zeidlhack  
Mr. David Bramlett  
Mr. Warren Scoville

## **SECTION 9**

### **SUMMARY OF IMPACTS AND SIGNIFICANCE DETERMINATION**

#### **9.1 SHORT TERM IMPACTS**

The construction contractor will enter and exit the project site from Kamehameha Highway. Potential for significant traffic impacts during construction are not expected based on the limited nature of work along the highway. As required, the contractor shall post signs and/or signal personnel to maintain safe traffic conditions at the entrance to the project site.

Short term generation of noise is expected during roadway construction activities and to a lesser extent from mobilization of vehicles and equipment. Construction equipment is expected to include, but not be limited to, an excavator, loader, flatbed trucks, concrete delivery trucks, cranes, welders and powered hand tools. All equipment will be muffled in accordance with practice and regulations governing the use of such equipment. The period of construction may be limited to after school hours, weekends, and/or during school holidays. Noise associated with construction will end upon completion of the project.

Dust and nuisance related problems are expected to be slight to insignificant because of the limited nature of work. The generation of any fugitive dust will be controlled with regular wetting of the soil by the contractor, as required.

Construction activities will temporarily expose soils on the property. Individual lot grading or improvements are not part of this proposed action. Potential for soil erosion will be mitigated through use of silt fences, berms and/or other applicable erosion control measures.

#### **9.2 LONG TERM IMPACTS**

No long term adverse impacts are anticipated. Upon completion of individual construction work, all equipment used on-site will be demobilized and all debris and waste materials disposed of at an approved County refuse facility. The proposed project will change the density of development in the area by increasing the number of



single family homes by 21 units. The overall change, however, will be within the prescribed limits of the NSSCP.

### **9.3 SIGNIFICANCE CRITERIA**

Based on significance criteria set forth in Hawai'i Administrative Rules, Title 11, Department of Health, Chapter 200, "Environmental Impact Statement Rules," the proposed project is not expected to have a significant impact on the environment. The recommended preliminary determination for the proposed project is a Finding of No Significant Impact (FONSI). The findings and reasons supporting this determination are summarized below.

**1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource**

The proposed project will not result in the loss of natural or cultural resources. There are no threatened or endangered flora or fauna species or habitat that are known to be present at the project site.

Given the use history of the subject property, historic or archaeological sites are not expected to be present.

**2. Curtails the range of beneficial uses of the environment**

Presently, the subject parcels are used for residential purposes. The proposed action does not curtail beneficial uses of the environment.

**3. Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 343, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders**

The proposed project is consistent with the environmental policies, goals and guidelines expressed in Chapter 343, HRS. Potential sources of adverse impacts have been identified and appropriate measures have been developed to either mitigate or minimize potential impacts to negligible levels.

4. Substantially affects the economic and social welfare of the community or state

The proposed project proposed the subdivision of two parcels into 25 residential lots. Economic benefits will accrue to the construction contractors involved. There will be a net increase of potentially 21 new families in the area.

The proposed action will result in temporary short-term employment by the contractor. This is not expected to substantially affect the economic welfare of the community or State.

5. Substantially affects public health

Factors affecting public health, including air quality, water quality, and noise levels, are expected to be only minimally affected, or unaffected by the proposed construction activity. Potential impacts will be mitigated in accordance with regulations of the State of Hawai'i, and City and County of Honolulu.

6. Involves substantial secondary impact, such as population changes or effects on public facilities

The proposed project will create 25 new residential lots that may result in the 25 new families moving into the area. The proposed action, based on the limited scale of work, is expected to have little to no substantial secondary or indirect impacts to the area population.

7. Involves a substantial degradation of environmental quality

Impacts to air and water quality, noise levels, natural resources, and land use associated with the planned improvements are anticipated to be minimal. Mitigation measures will be employed as practicable to further minimize potentially detrimental effects to the environment resulting from project activities. The proposed project does not involve substantial degradation of environmental quality.

8. Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions

The proposed project is not expected to cause adverse cumulative impacts to the environment nor involve a commitment for larger actions. The project is limited to the subdivision of two lots and does not include other parcels of land.

9. Substantially affects a rare, threatened or endangered species

There are no known rare, threatened or endangered plants or animal species on the subject property. Substantial impacts to rare, threatened or endangered species are not anticipated.

10. Detrimentially affects air or water quality or ambient noise levels

On a short-term basis, ambient air and noise conditions will be influenced by construction activities related to the proposed roadway improvements. The potential for adverse impacts will be short-term in duration and will be controlled by mitigation measures as described in this EA. Once the project is completed, air and noise in the project vicinity will be allowed to return to preconstruction conditions. Erosion control measures and other BMPs will be employed to prevent any storm water runoff associated with construction activities from entering State waters.

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

The subject property is located approximately 200 feet from the shoreline. The majority of the project area is located outside of an area determined by the Federal Emergency Management Agency to be outside of the 1-percent annual chance floodplain. The proposed subdivision will occur entirely within the existing project boundaries. The proposed action is not expected to be impacted by flood conditions.

The majority of the 25 lots (22 of 25) are also outside the tsunami evacuation zone as determined by the O'ahu Civil Defense Agency.

12. Substantially affects scenic vistas and viewplanes identified in county or state plans or studies

The 1987 Coastal View Study identifies intermittent ocean views along Kamehameha Highway fronting the project site. However, the project site is mauka of the highway and

therefore does not affect any existing views. The site improvements will not substantially affect any existing views from surrounding areas.

13. Requires substantial energy consumption

The proposed project will require the use of energy primarily in the form of petroleum-based fuels for construction vehicles and equipment. Electricity will also be required and may be provided by a generator or by direct connection to outlets provided on-site during construction. Other uses of energy use will be in the form of labor to complete the project. Upon completion of the project there will be no further requirement for use of construction associated energy.

Energy uses to support the new residences will be provided by existing electrical supply lines provided by the Hawaiian Electric Company (HECO).

**SECTION 10  
FINDINGS**

In accordance with the provisions set forth in Chapter 25, ROH, and Chapter 343, HRS, and the significance criteria in Section 11-200-12 of Title 11, Chapter 200, HAR, it is anticipated that the project will have no significant long term adverse impact to water quality, air quality, existing utilities, noise levels, social welfare, archaeological sites, or wildlife habitat. All anticipated construction impacts will be temporary and will not adversely impact the environmental quality of the area. It is expected that an Environmental Impact Statement (EIS) will not be required, and that a Finding of No Significant Impact (FONSI) will be issued for this project.

## REFERENCES

Department of Geography, University of Hawai'i, 1983. Atlas of Hawai'i, University of Hawai'i Press, Honolulu.

Department of Planning and Permitting, 2000. North Shore Sustainable Community Plan (ROH, Ch. 24, Article 8). City and County of Honolulu. State of Hawai'i.  
[http://www.co.honolulu.hi.us/refs/roh/24app\\_ns.htm](http://www.co.honolulu.hi.us/refs/roh/24app_ns.htm)

Federal Emergency Management Agency (FEMA), 2000. Federal Insurance Rate Map (FIRM), City and County of Honolulu. Map No. 15003C0020 E.

U.S. Department of Agriculture, 1972. Soil Survey of Islands of Kauai, O'ahu, Maui, Molokai, and Lanai, State of Hawai'i. U.S. Department of Agriculture, Soil Conservation Service and University of Hawai'i Agriculture Experiment Station, Washington, D.C.

O'ahu Civil Defense, Tsunami Evacuation Zones

**APPENDIX A**

**Comments Received on the Draft EA**

LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
STATE HISTORIC PRESERVATION DIVISION  
601 KAMOKILA BOULEVARD, ROOM 555  
KAPOLEI, HAWAII 96707

PETER T. YOUNG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA  
DEPUTY DIRECTOR - LAND

DEAN NAKANO  
ACTING DEPUTY DIRECTOR - WATER

CITY & COUNTY OF HONOLULU  
PLANNING DEPARTMENT  
13th Floor  
155 Ala Moana Blvd.  
Honolulu, HI 96813  
JUL 13 AM 11:48  
RECEIVED

July 7, 2006

Mr. Henry Eng  
Attn: Ms. Carrie McCabe  
Department of Planning and Permitting  
City and County of Honolulu  
650 South King Street, 7<sup>th</sup> Floor  
Honolulu, Hawai'i 96813

LOG NO: 2006.2352  
DOC NO: 0607CM04  
Archaeology

Dear Mr. Eng:

**SUBJECT: Chapter 6E-42 Historic Preservation Review [Private] –  
Burger Subdivision  
Kawailoa Ahupua'a, Waialua District, Island of Oahu  
TMK: (1) 6-1-003:001 & 032**

Thank you for the opportunity to review this proposal, which we received on June 13, 2006. According to your documents, which include a cover letter and a Draft Environmental Assessment (DEA), the proposed undertaking consists of the subdivision of two (2) existing parcels into twenty six (26) lots in advance of residential construction. Our review is based on records available at the State Historic Preservation Division (SHPD). No site inspection was conducted. *The main purpose of this letter is to recommend that an archaeological inventory survey with subsurface testing be conducted at the subject project area, should any future construction on these parcels take place.*

According to our records, no previous archaeological inventory survey has been conducted at the subject parcels, which are located in a historically-significant area. Several archaeological sites—including Hawaiian, Pre-contact burials (e.g., SIHP No. 50-80-01-3724), Kupopulu Heiau (SIHP No. 50-80-01-241)—are located in the immediate vicinity of the project area. In particular, we believe the mauka portions of parcel 032 may contain surface and/or subsurface sites. It is important to note that the burials designated Site 3724 were located on the mauka side of the Kamehameha Highway in loamy deposits (i.e., not in sandy, shoreline deposits).

Prior to any ground disturbance (e.g., grubbing and grading), we recommend that an archaeological inventory survey of the subject parcels be conducted, and be approved by our office, in order to determine the effect of the project on historic properties. Depending on the results of the inventory survey, additional reports and mitigation measures may be necessary.

According to Hawai'i Administrative Rules (HAR) 13-13-276, the inventory survey must include background research on not only the subject parcel but also the adjoining parcels. According to our rules, inventory survey must also include consultation with knowledgeable and relevant parties. We recommend consultation with Mr. Tom Lenchanko (Waha olelo 'Aha Kukaniloko), Ms. Linda Kaleo Paik (O'ahu



Mr. Eng  
Page 2

Burial Council, Waialua District representative), Mrs. Leimaile Quitevis, and the Office of Hawaiian Affairs.

Please contact Dr. Chris Monahan at (808) 692-8015 if you have any questions regarding this letter.

Aloha,



Melanie Chinen, Administrator  
State Historic Preservation Division

CM

cc: Mr. Lance Foster, OHA  
Mr. Tom Lenchanko, Waha olelo 'Aha Kukanihoko  
Ms. Linda Kaleo Paik, O'ahu Burial Council  
Mrs. Leimaile Quitevis  
Ms. Mineko Zeidlhack

420 Waiakamilo Road  
Suite 411  
Honolulu Hawaii 96817-4950  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



**R. M. TOWILL CORPORATION**  
SINCE 1930

Planning  
Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

August 23, 2006

Ms. Melanie Chinnen, Administrator  
Historic Preservation Division  
Department of Land and Natural Resources  
601 Kamokila Boulevard, Room 555  
Kapolei, Hawai'i 96707

Dear Ms. Chinnen:

**Draft Environmental Assessment (EA)  
Burger Subdivision  
Tax Map Key: (1) 6-1-3: 1 and 32**

The following is in response to your letter of July 7, 2006 regarding the subject project.

We acknowledge that the project is located to the southeast of Kupopolu Heiau, approximately 600+ feet. We have made inquiry to your Division with regard to learning the location of the burial mentioned in your letter but have not received a response.

As stated in the Draft EA, the owners have indicated that the land was previously cleared and there are no surface features (mounds or depressions) except for a rock wall that runs across the back of the property. As recommended, during clearing and grading actions, should historic or cultural features are discovered, your Division will be consulted.

Should you have additional comments please contact the undersigned.

Sincerely,

Chester Koga  
Project Coordinator

Cc: Burger PM LLC

LINDA LINGLE  
GOVERNOR OF HAWAII



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

CITY & COUNTY OF HONOLULU

DEPT. OF HEALTH

CHIYOME L. FUKINO,  
DIRECTOR OF HEALTH

06  
JUL 14 PM 1:13

In reply, please refer to  
EPQ-06-098

July 12, 2006

Mr. Henry Eng, Director  
City and County of Honolulu  
Department of Planning and Permitting  
650 South King Street, 7<sup>th</sup> Floor  
Honolulu, Hawaii 96813

Dear Mr. Eng:

**SUBJECT:** Draft Environmental Assessment  
Burger Subdivision  
TMK: (1) 6-1-003: 001, 61-210 Kamehameha Highway  
TMK: (1) 6-1-003: 032, 61-220 Kamehameha Highway  
Kawailoa, Oahu, Hawaii  
Reference Number: 2006/ED-9 (cm)

Thank you for allowing us to review and comment on the subject application. The document was routed to the various branches of the Environmental Health Administration. We have the following Wastewater Branch comments.

Wastewater Branch

We have reviewed the subject document which proposes to develop a subdivision of two (2) existing parcels into 26 lots, plus a roadway lot, drainage lot and landscaping area on 316,811 square feet of area (7.30 acres).

The subject project is located in the Critical Wastewater Disposal Area (CWDA) as determined by the Oahu Wastewater Advisory Committee where no new cesspools will be allowed.

We do have three (3) Sanitarian's Report of Cesspools for the addresses of 61-210 B Kamehameha Highway, 61-210 C Kamehameha Highway and 61-220 Kamehameha Highway. However, the vast majority of the project area lies in the No Pass Zone.

The assessment does not address wastewater disposal from the project. However we note that there is no municipal wastewater system in the area, nor any area set aside for a

Mr. Eng  
July 12, 2006  
Page 2

private wastewater treatment system. Thus, we conclude that on site wastewater systems will be utilized. In the no pass zone, the Department does not concur with onsite wastewater disposal as the zone was originally designated to protect groundwater resources.

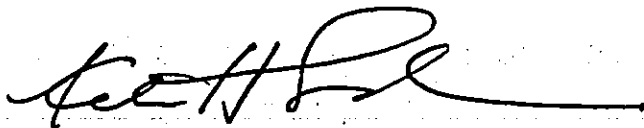
**Therefore, at this time, we cannot concur with the subject project.**

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater System." We reserve the right to review the detailed wastewater plans for conformance to applicable rules. Should you have any questions, please contact the Planning & Design Section of the Wastewater Branch at (808) 586-4294.

We strongly recommend that you review all of the Standard Comments on our website: [www.state.hi.us/health/environmental/env-planning/landuse/landuse.html](http://www.state.hi.us/health/environmental/env-planning/landuse/landuse.html). Any comments specifically applicable to this project should be adhered to.

If there are any questions about these comments please contact Jiakai Liu with the Environmental Planning Office at 586-4346.

Sincerely,



KELVIN H. SUNADA, MANAGER  
Environmental Planning Office

c: EPO  
WWB

420 Waiakamilo Road  
Suite 411  
Honolulu Hawaii 96817-4950  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



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Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

August 23, 2006

Mr. Kelvin H. Sunada, Manager  
Environmental Planning Office  
Department of Health  
P.O. Box 3378  
Honolulu, Hawai'i 96801-3378

Dear Mr. Sunada:

**Draft Environmental Assessment (EA)**  
**Burger Subdivision**  
**Tax Map Key: (1) 6-1-3: 1 and 32**

The following is in response to your letter of July 12, 2006 regarding the subject project.

We acknowledge that the project is located in a Critical Wastewater Disposal Area and a majority of the site is further located in the "no pass zone."

As stated in the Draft EA, the developer of the project proposes the use of individual wastewater treatment system (IWS) as provided by Chapter 11-62, Subchapter 3. The developer proposes a variance to this subchapter as provided by Chapter 342D, Hawai Revised Statutes. The developer is continuing his discussion with the Wastewater Branch.

Should you have additional comments please contact the undersigned.

Sincerely,

Chester Koga  
Project Coordinator

Cc: Burger PM LLC

**BOARD OF WATER SUPPLY**

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



June 19, 2006

MUFI HANNEMANN, Mayor

RANDALL Y. S. CHUNG, Chairman  
HERBERT S. K. KAOPUA, SR.  
SAMUEL T. HATA

RODNEY K. HARAGA, Ex-Officio  
LAVERNE HIGA, Ex-Officio

CLIFFORD P. LUM  
Manager and Chief Engineer

DONNA FAY K. KIYOSAKI  
Deputy Manager and Chief Engineer

DEPT. OF PLANNING  
AND PERMITTING  
CITY & COUNTY OF HONOLULU

06 JUN 21 09:09

RECEIVED

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

FROM: for *[Signature]* CLIFFORD P. LUM, MANAGER AND CHIEF ENGINEER

SUBJECT: SPECIAL MANAGEMENT AREA USE PERMIT (MAJOR), DRAFT  
ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED BURGER  
SUBDIVISION, 6-1-003: 001 AND 032, 2006/ED-9(cm)

Thank you for the opportunity to comment on the proposed subdivision.

The existing water system is presently adequate to accommodate the proposed subdivision. However, please be advised that this information is based upon current data and, therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of your building permit. The final decision on the availability of water will be confirmed when the building permit is submitted for approval.

The developer will be required to install the necessary water system improvements to serve the proposed subdivision. The construction drawings should be submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

If you have any questions, please contact Robert Chun at 748-5443.

420 Waiakamilo Road  
Suite 411  
Honolulu Hawaii 96817-4950  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



**R. M. TOWILL CORPORATION**  
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Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

August 23, 2006

Mr. Clifford P. Lum, Manager and Chief Engineer  
Board of Water Supply  
630 South Beretania Street  
Honolulu, Hawai'i 96813

Dear Mr. Lum:

**Draft Environmental Assessment (EA)  
Burger Subdivision  
Tax Map Key: (1) 6-1-3: 1 and 32**

The following is to acknowledge receipt of your letter of June 19, 2006 regarding the subject project indicating that water service in the area is adequate for the proposed subdivision.

Utility plans are currently being developed and will be submitted to your Department upon their completion.

We further acknowledge that Water System Facility charges will be applied to this project.

Should you have additional comments please contact the undersigned.

Sincerely,

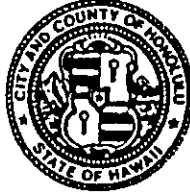
Chester Koga  
Project Coordinator

Cc: Burger PM LLC

POLICE DEPARTMENT  
**CITY AND COUNTY OF HONOLULU**

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

MUFU HANNEMANN  
MAYOR



OUR REFERENCE BS-DK

June 9, 2006

BOISSE P. CORREA  
CHIEF

GLEN R. KAJIYAMA  
PAUL D. PUTZULU  
DEPUTY CHIEFS

DEPT. OF PLANNING  
AND PERMITTING  
CITY & COUNTY OF HONOLULU

06 JUN 13 AIO 51

RECEIVED

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

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

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT  
BURGER SUBDIVISION, KAWAIILOA, OAHU, HAWAII  
TAX MAP KEY: (1) 6-1-003: 001 AND 032

Thank you for the opportunity to review and comment on the subject project.

This project should have no significant impact on the facilities or operations of the Honolulu Police Department.

If there are any questions, please call Major Michael Tamashiro of District 8 at 692-4253 or Mr. Brandon Stone of the Executive Bureau at 529-3644.

BOISSE P. CORREA  
Chief of Police

By *A/AC Kenneth Ammons*  
KARL GODSEY  
Assistant Chief of Police  
Support Services Bureau

*Serving and Protecting with Aloha*



420 Waiakamilo Road  
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Honolulu Hawaii 96817-4950  
Telephone 808 842 1133  
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**R. M. TOWILL CORPORATION**  
SINCE 1930

Planning  
Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

August 23, 2006

Chief Boisse P. Correa  
Honolulu Police Department  
801 South Beretania Street  
Honolulu, Hawai'i 96813

Dear Chief Correa:

**Draft Environmental Assessment (EA)  
Burger Subdivision  
Tax Map Key: (1) 6-1-3: 1 and 32**

This letter acknowledges receipt of your letter of June 9, 2006 regarding the subject project indicating that the subject project would have not significant impacts.

Should you have additional comments please contact the undersigned.

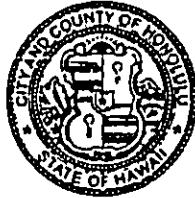
Sincerely,

Chester Koga  
Project Coordinator

Cc: Burger PM LLC

HONOLULU FIRE DEPARTMENT  
**CITY AND COUNTY OF HONOLULU**

636 SOUTH STREET • HONOLULU, HAWAII 96813  
TELEPHONE: (808) 723-7139 • FAX: (808) 723-7111 • INTERNET: www.honolulufire.org



June 29, 2006

MUFI HANNEMANN  
MAYOR

DEPT. OF PLANNING  
AND PERMITTING  
CITY & COUNTY OF HONOLULU

06 JUL -3 P2:46

RECEIVED  
KENNETH G. SILVA  
FIRE CHIEF  
ALVIN K. TOMITA  
DEPUTY FIRE CHIEF

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

**FROM: KENNETH G. SILVA, FIRE CHIEF**

**SUBJECT: REQUEST FOR SPECIAL MANAGEMENT AREA USE PERMIT (MAJOR)  
DRAFT ENVIRONMENTAL ASSESSMENT  
BURGER SUBDIVISION  
61-210 AND 61-220 KAMEHAMEHA HIGHWAY  
KAWAILOA, OAHU, HAWAII  
TAX MAP KEYS: 6-1-003: 001 AND 032**

In response to your letter of June 7, 2006, regarding the above-mentioned project, the Honolulu Fire Department (HFD) reviewed the material you provided and requires that the following be complied with:

1. Provide a fire apparatus access road for every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction when any portion of the facility or any portion of an exterior wall of the first story of the building is located more than 150 feet (45 720 mm) from a fire apparatus access road as measured by an approved route around the exterior of the building or facility. (1997 Uniform Fire Code, Section 902.2.1.)
2. Provide a water supply, approved by the county, capable of supplying the required fire flow for fire protection to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed or moved into or within the county.

On-site fire hydrants and mains capable of supplying the required fire flow shall be provided when any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building. (1997 Uniform Fire Code, Section 903.2, as amended.)

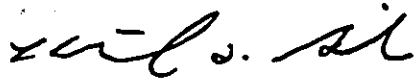
Henry Eng, FAICP, Director

Page 2

June 29, 2006

3. Submit civil drawings to the HFD for review and approval.

Should you have any questions, please call Battalion Chief Lloyd Rogers of our Fire Prevention Bureau at 723-7151.



KENNETH G. SILVA  
Fire Chief

KGS/SK:bh

420 Waiakamilo Road  
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**R. M. TOWILL CORPORATION**  
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Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

August 23, 2006

Mr. Kenneth Silva, Fire Chief  
Honolulu Fire Department  
636 South King Street  
Honolulu, Hawai'i 96813

Dear Chief Silva:

**Draft Environmental Assessment (EA)  
Burger Subdivision  
Tax Map Key: (1) 6-1-3: 1 and 32**

The following is in response to your letter of July 29, 2006 regarding the subject project.

1. In accordance with the Fire Code, access to every house lot by fire fighting apparatus will be provided.
2. The project site will be provided with a water system and hydrants that can supply the required water flow for fire fighting purposes.
3. Plans for the project will be submitted to your Department for review when they are available.

Should you have additional comments please contact the undersigned.

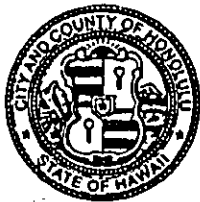
Sincerely,

Chester Koga  
Project Coordinator

Cc: Burger PM LLC

DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET, 7<sup>TH</sup> FLOOR • HONOLULU, HAWAII 96813  
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MUFI HANNEMANN  
MAYOR

HENRY ENG, FAICP  
DIRECTOR

DAVID K. TANQUE  
DEPUTY DIRECTOR

2006/ED-9(cm)

August 3, 2006

Mr. Chester Koga  
Project Manager  
R.M. Towill Corporation  
420 Waikamilo Road, Suite 411  
Honolulu, Hawaii 96817

Dear Mr. Koga

Re: Draft Environmental Assessment  
Burger Subdivision  
61-210 and 61-220 Kamehameha Highway - Haleiwa  
Tax Map Keys 6-1-3:1 and 32

We have reviewed the Draft Environmental Assessment (DEA) for the proposed Burger Subdivision and offer the following comments:

1. Several mapping clarifications should be made in the Final Environmental Assessment (FEA).
  - a. The property line defining the southern portion of tax map key 6-1-03: 01 is incorrect. Revise all applicable maps/plan views.
  - b. Figure 4: Clearly show all neighboring properties and label each w/ their respective tax map keys.
  - c. Section 4.1.10 (Flood Hazard). This section states that the residential lots have been placed outside of the floodplain. This is inconsistent with Figure 4.
  - d. Clearly show the location of the properties on Figure 8 (Flood map).
2. The number of lots and layout of the proposed subdivision could be subject to change depending on the requirements from State DOT which controls access and improvements to Kamehameha Highway, and State DOH which has jurisdiction over the private individual sewage disposal systems. Applicant should also seek comments from those agencies.

Mr. Chester Koga  
August 3, 2006  
Page 2

3. Page 12, Section 2.2 states that Individual Wastewater Systems (IWS) are proposed for the individual residences and that the IWS facilities will be reviewed and approved by the DOH and DPP. Page 27 also discusses IWS. The majority of the proposed subdivision is located in the No Pass Zone. Describe how the wastewater will be addressed for the subdivision.
4. Page 16 states that the project is expected to have no significant impact on topography and soils as only construction related grading work will be done. Describe the existing slopes and how the property will be divided, and which parcels will require building on slopes.
5. The FEA shall describe whether the property mauka of Parcel 1 contains any potential rockfall hazards. If hazards do exist, address mitigation measures.
6. Page 18, Section 4.1.5 Scenic and Visual Resources states that the proposed project is anticipated to have no visual impacts due to its location and the current educational use of the property. This section appears unrelated to the discussion. How much of this section is remnant from another document and how much pertains to this project? Describe how the subdivision will maintain scenic views and achieve a rural residential community as envisioned in the NSSCP.

Indicate if there are any natural landforms in the area that will be affected by the proposed subdivision. Page 27 of the DEA indicates that proposed improvements will involve alteration of existing landforms through grading.

7. Page 18, Section 4.1.6 Historic/Archeological Resources is inadequate. Presently, four (4) residences are located on the two (2) parcels, and significant archeological resources exist on adjacent parcels. Page 31 states that it is unlikely that significant resources exist as the property has been disturbed through past residential development. The FEA should provide an archeological survey of the entire area.
8. Page 20, Section 4.1.9 Water Quality addresses only storm water and runoff during construction. Describe how the project will address storm water and runoff once the parcels are developed and the percolating properties of soil lost to paved roadways and other uses. Page 27, Section 5.4.1 Special Management, Section 25, ROH also discusses only construction-related mitigative measures to prevent adverse effect to water resources and scenic and recreational amenities. Page 29 asserts that no adverse effects to water quality are expected to result from construction activities or use of the new facility following completion of the project. Describe measures to prevent degradation of water resources and neighboring scenic and recreational amenities that may result from the development, paving and occupation of the proposed subdivision.
9. The DEA needs to address drainage impacts as a result of the proposed development. A drainage report will be required at a later date.

Mr. Chester Koga  
August 3, 2006  
Page 3

10. Page 23, Section 4.2.2 Traffic and Roadways addresses only construction related traffic and access impacts. Describe anticipated traffic impacts and daily trips once the parcels are subdivided and developed, and estimate daily car trips and demand for left hand turns into the subdivision.
11. Reference to the "North Shore Sustainable Development Plan" on the Project Summary page and Section 5.2 of the DEA should be corrected. The correct title is "North Shore Sustainable Communities Plan (SCP)". Section 5.2 of the Draft EA refers to an April 2000 version of the North Shore SCP. For future reference, the final adopted North Shore SCP is dated July 2000.

The Project Summary page and Section 5.2 of the DEA incorrectly notes that the North Shore SCP land use designation is Rural. The FEA should state that the subject property is within a Rural Residential area on the North Shore SCP Land Use Map and is within the Rural Community Boundary. It should also be noted that the subject property's current SCP land use designation is not a site-specific designation, but rather an illustration of text policies.

The FEA should discuss how the proposed action is consistent with the relevant planning principles and guidelines contained in the North Shore SCP that pertain to residential communities (Section 3.5.2 and 3.5.3.2 of the North Shore SCP). Furthermore, the overall density of the proposed action (3.57 units per acre) should be consistent with the North Shore SCP's density guideline for rural residential areas (5 to 8 units per acre). Lot sizes under the proposed action should also be consistent with the North Shore SCP which calls for lot sizes in Rural Residential areas to range from 5,000 square-feet to 10,000 square-feet.

The North Shore SCP contains a general policy pertaining to residential communities that states that there should be sufficient capacity provided within the Rural Community Boundary to accommodate existing and future housing needs (Section 3.5.1 of the North Shore SCP). Furthermore, the North Shore SCP contains a planning principle which encourages compact development in the region's residential communities (Section 3.5.2 of the North Shore SCP). Promoting compact development in or adjacent to existing built areas helps to preserve components of the rural landscape such as agricultural resources, open space, views, and natural resources. These forms of development also provide for more cost-effective and efficient infrastructure development and are more conducive to alternative modes of transportation such as biking and walking. Given the above, density and lot sizes of new residential development in Rural Residential areas should follow guidelines set forth in the North Shore SCP.

The FEA should address how the subdivision of two (2) lots into 26 lots with more homes will achieve the rural character established within the North Shore SCP. There should be discussion in the FEA on whether the proposed subdivided lots that are greater than 10,000 square-feet will be further subdivided given the subject property's R-5 zoning.

Mr. Chester Koga  
August 3, 2006  
Page 4

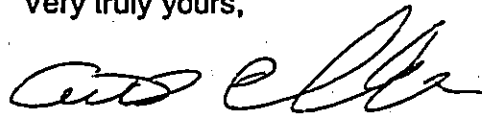
The North Shore SCP contains a policy pertaining to transportation systems that states that new residential and commercial development in the North Shore should be approved only if the State Department of Transportation and the City Department of Transportation Services certify that adequate transportation access and services can be provided (Section 4.1.5 of the North Shore SCP). These agencies should be consulted and the adequacy of transportation access and services to the proposed project should be discussed in the FEA.

The North Shore SCP contains a principle pertaining to transportation systems that emphasizes accessibility from residential streets to bus routes, parks, schools, and commercial centers. The principle also states that roadways should be designed to facilitate bicycle and pedestrian travel (Section 4.1.6). The FEA should discuss how the proposed project is consistent with this principle.

12. Page 28 describes the area as an urban area and states that no substantial degradation of environmental quality will result as the project will substantially involve the similar residential uses and have minimal impact on environmental or ecological uses. Describe how the replacement of four (4) residences with 26 lots will be similar residential uses that will not impact environmental or ecological uses.
13. Page 31 refers to construction of the new administration building. This appears to be remnant language from another document. Revise this section and include only those portions which address the current project.
14. Page 44 of the DEA states that the subject property is located outside of the tsunami evacuation zone as determined by the Oahu Civil Defense Agency (OCDA). Please confirm this with the OCDA since it appears that a portions of both Parcel 1 and Parcel 32 are within the tsunami evacuation zone.

Thank you for the opportunity to comment on the DEA. If you have any questions, please contact Carrie McCabe of our staff at 527-5349.

Very truly yours,



For Henry Eng, FAICP, Director  
Department of Planning and Permitting

HE:pl

G:/landuse/posseworkingdirectory/carrie/2006/correspondence/Burger comments-dpp.com



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Photogrammetry  
Surveying  
Construction Management

August 23, 2006

Mr. Henry Eng, FAICP, Director  
Department of Planning and Permitting  
650 South Beretania Street, 7<sup>th</sup> Floor  
Honolulu, Hawai'i 96813

Dear Mr. Eng:

**Draft Environmental Assessment (EA)  
Burger Subdivision  
Tax Map Key: (1) 6-1-3: 1 and 32**

The following is in response to your letter of August 3, 2006 regarding the subject project.

1. **Mapping Clarification**
  - a. Boundary maps will be revised.
  - b. Owners of adjoining parcels shown in Figure 4 will be included.
  - c. Figure 4 and Figure 7 will be adjusted to show the same flood limits.
2. **Number of Lots.** The number of lots is being adjusted based on comments received on the Draft EA. The Department of Transportation is limiting the number of lots that can have direct access to Kamehameha Highway, as an example. A new plan will be submitted as part of the Final EA.
3. **Individual Wastewater System.** We acknowledge that the project site is located within the "no pass zone" and therefore groundwater injection is not allowed. However, we are in consultation with the Wastewater Branch of the Department of Health (DOH) and is pursuing the use of an aerobic treatment system allowed in accordance with Chapter 11-62, Hawai'i Administrative Rules (HAR), and through the approval of a variance in accordance with Chapter 342D, Hawai'i Revised Statutes (HRS). The application is pending DOH review and approval.
4. The project is planned for the development of the roadway and utilities only. The grade of the access road is between 8 and 12 percent. Individual homeowners will decide whether to build on a graded pad, or to build with the contours of the land.
5. The potential for rockfall is present, however, no specific mitigation is proposed. The exposed rock-face is on an adjoining property.

6. The discussion relating to Scenic Resources will be revised to reflect existing site conditions.
7. The owners have represented that the land was previously cleared and that there are no surface features, except for a rock wall that run across the back of the project. Because of their previous actions, they believe that an inventory survey will not serve their interest. Archaeological resources identified by the Historic Preservation Division are located more than 600 feet to the northeast. The owners have represented that if during infrastructure development historic or cultural features are discovered, the SHPD will be contacted.
8. Runoff from the project site following the development of the project site will be addressed through the creation of a detention basin. The detention basin will address additional flows resulting for the creation of additional impervious surface. The existing flow will continue to sheet flow across the property.
9. A drainage report will be prepared as part of the project plans and will be submitted to DPP for review along with proposed erosion control plans.
10. Traffic impacts associated with the project are twofold: during construction and post-construction. Construction impacts are anticipated to be temporary. However, once the project is developed with the 26 new residences each residence is anticipated to generate 2-4 trips per day per household (assumes a 4 person household) for work, school, shopping, social and recreation trips. This equates to 56-104 trips per day with 1/3 the trips being made during the morning and evening hours (assumes one member of the family commuting to work). The remainder of the trips will be local trips for recreation, social events, and shopping. Trip generation was determined by guidance provided by the Institute of Transportation Engineers (1997).

Preliminary consultation with the Department of Transportation include the limiting of the number of lots with direct access to Kamehameha Highway and the provision of a left-turn lane at the project site although not warranted.

11. References to the North Shore Sustainable Communities Plan (NSSCP) will be corrected in the Final EA and how the project addresses the objectives of the Plan will be discussed. We concur with your analysis in stating that the proposed project is within the guidelines stated in Section 3.5.2 and 3.5.3 of the NSSCP.

We would like to note that the property proposed for development is zoned R-5, however, the proposed project does not contain lots smaller than 7,500 square feet. The use of larger lots will help achieve a more rural character by having the homes built further apart.

Mr. Henry Eng, FAICP, Director  
Department of Planning and Permitting  
Page 3


12. The Draft EA stated that the area is in an urban zone due to its State land use Urban designation. The two parcel proposed for development is part of an area that was subdivided into 10 lots (mauka of Kamehameha Highway) with single family homes on each lot. On the ocean-side of Kamehameha Highway across this project area are another 5 lots with single family homes. The zoning for the area is R-5 that allows the development of single family homes on a minimum lot size of 5,000 square feet.

The proposed development will be on lands that have been formerly cleared and therefore are not known to be a habitat for engendered plant or animal species and therefore will not of itself cause environmental or ecological harm. Should public policy for the area change, then the character of the area will also change.

13. References to an administration building will be corrected.
14. Prior to the publication of the Final EA, the O'ahu Civil Defense will be consulted on the location of the tsunami evacuation zone.

Should you have additional comments please contact the undersigned.

Sincerely,



Chester Koga  
Project Coordinator

Cc: Burger PM LLC

July 22, 2006

To:  
Dept. of Planning and Permitting  
650 S. King St.  
Honolulu, Hawaii 96813

From:  
Mineko Zeidlhack  
61-222 Kamehameha Hwy.  
Haleiwa, Hawaii 96712

RE: Comments for the Draft EA Burger Subdivision  
Kawailoa, Hawaii  
TMK: (1) 6-1-003 001 & 032

Aloha,

Thank you for the opportunity to comment.

Fig. 1 Project Location - This is a very old map. One would hope when planning a project the most up to date information would be used.

5.4.2.6 Referencing flood map Fig. 7 which should be Fig. 8.

What other inaccuracies possibly exist?

4.1.6 Historical/Archeological Resources.

Only 3 sentences were dedicated to this section. I feel as though more attention should be given to this section. I received a copy of a letter from the Dept. of Land and Natural Resources stating the existence of the Kupopulu Heiau and also Pre-contact burials. With the possibility of petroglyphs scattered throughout the area I strongly ask for an on site survey. I cannot believe a construction crew with heavy equipment would be able to identify any artifacts before any damage is done or if it would even be noticed.

4.1.9 Water Quality

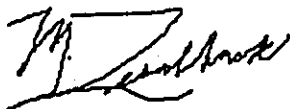
Measures should be taken to prevent any disturbance of the environment. Although it is Stated in the DEA "short term increase of turbidity and siltation of coastal waters" no matter how short it will have a long term effect on the coastal environment.

4.2.1 Vehicular Access

With the proposal of 26 new homes and the average of 2 cars per household and an already busy Kamehameha hwy. This shows the potential not only for more traffic jams but, an increase in hazards. I recently had the opportunity to speak with a representative from the Dept. of Transportation at which time I was told a letter had been sent from the department stating that there would have to be a deceleration/turn in lane from both directions.

When my husband and I bought our home we choose this area to be in the country. This is the belief many residents have on the North Shore. With every development that gets built a little more is lost. Not only is the land effected but, a toll is also taken on the coastline/marine life. I ask that extra precautions be taken to minimize detrimental effects on the environment. Is this project consistent with the North Shore Sustainable Community Plan?

Thank you for your time.



Mineko Zeidlhack

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Honolulu Hawaii 96817-4950  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



**R. M. TOWILL CORPORATION**  
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Surveying  
Construction Management

August 23, 2006

Ms. Mineko Zeidlhack  
61-222 Kamehameha Highway  
Haleiwa, Hawai'i 96712

Dear Ms. Zeidlhack:

**Draft Environmental Assessment  
Burger Subdivision  
Tax Map Key: (1) 6-1-3: 1 and 32**

The following is in response to your letter of July 22, 2006 regarding the subject project.

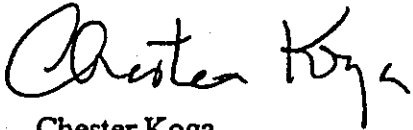
1. **Project location map.** This map is intended to provide general location and not as a detailed map of the island of O'ahu.
2. **References to Figure 7 and 8 will be changed.**
3. **Historical/Archaeological Resources Response.** We have also contacted the State Historic Preservation Division to get specific information on the location of Kupopolu Heiau and find that the site is located a significant distance to the northeast of the project boundaries. Further, the burials are also not within close proximity of the project site. The owners have indicated that the site was previously cleared and no known historic features were identified. As stated in the Draft EA, should historic or cultural features be uncovered during construction, the Historic Preservation Division will be contacted.
4. **Water Quality Response.** The proposed project will include stormwater detention as part of the project's design, however, this will be limited to a short-duration as allowed by County standards. Flooding of Kamehameha Highway will continue until that portion of the highways is improved.
5. **Vehicle Access Response:** The proposed project will not significantly add to the traffic on Kamehameha Highway. The owners are in discussion with the Department of Transportation to consider turn lanes into the project.

Ms. Zeidlhack  
Page 2

The proposed development is consistent with current zoning (R-5) and development plans (rural residential) for the area and except for the lack of a municipal wastewater system, the infrastructure in the area is able to support this project. The zoning for the subject project area was in place prior to your acquiring your property and can appreciate your desire for keeping a rural atmosphere.

Should you have additional comments please contact the undersigned.

Sincerely,



Chester Koga  
Project Coordinator

Cc: Burger PM LLC



July 22, 2006

To: Henry Eng 527-5041  
Dept of Planning and Permitting • Towill Corp.  
650 South King Street  
Honolulu, Hawai'i 96813  
Fax: 842-1937

From:  
Diane Anderson  
61-669 Kamehameha Hwy  
Haleiwa, Hawai'i 96712

RE:  
Comments for the Draft EA  
BURGER SUBDIVISION  
Kawailoa, Oahu, Hawai'i  
TMK: (1) 6-1-003: 001 & 032

ALOHA,

Thank You for the opportunity to comment.

SECTION 1

1.3 The purpose of the Draft EA to inform interested parties of the proposed project has not been met. An additional 30-60 comment period is needed to comment on this Draft EA since the neighbors and surrounding communities have not be adequately informed. Please inform us if this is possible.

25-3.3 ( c) It is important for DPP to hold a PUBLIC HEARING on this project and preferably on the NORTH SHORE prior to the acceptance of a FINAL EA. Please inform us when this will be scheduled.

SECTION 2

2.2 The existing residences now served and the surrounding residences are already experiencing very low water pressure so how will so many new residences possibly have adequate water service with a 6 and 4 inch main?

Regarding the electrical power, this too is overloaded as it is now. We just had a power failure for 3 hours 2 nights ago due to over use. How will there be adequate power for so many more new residences?

The Individual waste water systems (IWS) will need to blast through rock for the systems to work and this this cause major run off? How will this be mitigated, especially so close to the ocean?

SECTION 3

ALTERNATIVES

3.2 NO ACTION ALTERNATIVE

This is the only responsible alternative until adequate infrastructure needs are built.



-2-

**3.2 Cont.**

Although the objectives of the heirs will not be met, it is irresponsible for our government to allow such high density and huge increase in the number of homes to be built with inadequate roads, water, electric power, fire, police, hurricane shelters and inconsistency of surrounding residences in the area. Anyone who does not believe that up to additionally 45 cars entering and exiting onto this already heavily congested 2 land highway, and will not produce a significant impact which cannot be mitigated without a new lane, does not live in this area. Although the zoning is currently R-5, one glance at the assessed value of this property clearly indicates that there has be a major error in value. The taxes on this size property should have been 20-30 times the value currently assessed. Why is this? The heirs should be able to rebuild their homes and not place a burden on the surrounding community for the potential profit they seek. It is pure and simple greed. In addition, the project is inconsistent with the current Sustainable Community Plan for the North Shore. Additional housing was to be located in or next to Haleiwa or Waialua towns. How is this project consistent with our N.S. Sustainable Community Plan?

**SECTION 4****4.2.2 TRAFFIC and ROADWAYS**

During and AFTER the construction, the additional proposed traffic will have a significant impact on already weekend gridlock traffic and the community deserves to know what mitigation measures will be in place. Why is the developer not required to put in an additional lane on Kam Hwy?

**SECTION 5****5.4.1**

(a.3) The land is hard solid rock. IWS will have adverse effects on the environment and cause major runoff. How will this be mitigated adequately?

(b.1) This proposed project WILL have substantial adverse effects on the environment and surrounding communities. The proposed project density does not clearly outweigh the communities concerns specifically due to our inadequate infrastructure such as roads, water, electricity, police, fire, hurricane shelters.

(b.3) This project is NOT consistent with the N.S. Sustainable Community Plan. Any future development of homes shall be built next to Haleiwa or Waialua Towns. In addition, the proposed density is completely out of character with the surrounding number of homes.

**SECTION 7****CULTURAL IMPACT ASSESSMENT**

This half hearted attempt of less than a one page assessment in such a sensitive area next to a major Hawaiian Temple is completely inadequate. And this coming from people of supposed Hawaiian ancestry? It is shameful. Why is not a full blown Cultural Impact Statement being required in such a rich historical area next to Waimea Valley?

Submitted  
by:

Diane M. Anderson

420 Waiakamilo Road  
Suite 411  
Honolulu Hawaii 96817-4950  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



**R. M. TOWILL CORPORATION**  
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Photogrammetry  
Surveying  
Construction Management

August 23, 2006

Ms. Diane Anderson  
61-669 Kamehameha Highway  
Haleiwa, Hawai'i 96712-1308

Dear Ms. Anderson:

**Draft Environmental Assessment  
Burger Subdivision  
Tax Map Key: (1) 6-1-3: 1 and 32**

The following is in response to your letter of July 22, 2006 regarding the subject project.

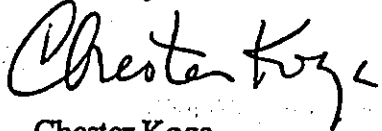
1. **Section 1**  
Response: The official comment period will closed July 24. However, the owners will consider and address concerns beyond the comments period. The Department of Planning and Permitting (DPP) will be scheduling a public hearing in the community as part of the Special Management Area permitting process. Date and time to be determined.
2. **Section 2.**  
Response. Regarding water pressure. The Board of Water Supply has indicated that there is sufficient water and water pressure. Regarding electrical power. We have not gotten a response from Hawaiian Electric to indicate that there is insufficient power in their system to support this project. Regarding soil profile of the area. Preliminary response from the project's geotechnical engineer indicate that there is no need for "blasting through rock." A special study will be conducted to ascertain soil permeability and pavement design parameters.
3. **Section 3.**  
Response. The propose development is consistent with current zoning (R-5) and development plans (rural residential) for the area and except for the lack of a municipal wastewater system, the infrastructure in the area is able to support this project.

Ms. Diane Anderson  
Page 2

4. Section 4  
Response: Traffic and roadway. The proposed project will not significantly add to the traffic on Kamehameha Highway. The owners are in discussion with the Department of Transportation to consider turn lanes into the project.
5. Section 5.  
Response. See response for #2 and #3 above.
6. Section 7.  
Response. The project site is not located in close proximity to the "Hawaiian Temple" that is located closer to Waimea Valley. The project site was previously cleared and there are no remaining surface features reported by the owners. The owners have not entertained or denied access to the property for cultural practices.

Should you have additional comments please contact the undersigned.

Sincerely,



Chester Koga  
Project Coordinator

Cc: Burger PM LLC

2006/EI-06-1815

David A. Bramlett  
61-100 Iliohu Way  
Haleiwa, HI 96712-1308  
808-637-8059

DEPT. OF PLANNING  
AND PERMITTING  
CITY & COUNTY OF HONOLULU

06 JUL 24 2006  
P 2:40

RECEIVED

Mr. Henry Eng  
Director, Department of Planning and Permitting (DPP)  
650 S. King St.  
Honolulu HI 96813

Dear Mr. Eng:

On May 23, 2006, Mr. Chester Koga of R.M. Towill Corporation gave a presentation to the North Shore Neighborhood Board with regard to the proposed development of the seven acre Burger property (Burger Project Management LLC/Kawailoa) on Kamehameha Highway, mauka, approximately midway between Waimea Bay and Chun's Reef. Mr. Koga gave the presentation at the request of DPP because the developer will need a Special Management Area (SMA) permit because of the property location.

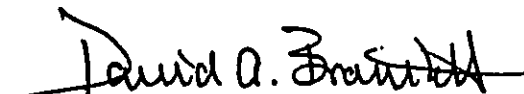
Based on the questions asked of Mr. Koga, and on his tentative and incomplete answers, I request DPP include these questions and concerns in its deliberations on whether or not to issue an SMA permit, and what conditions should be attached should there be a decision to award the SMA permit. Additionally, I ask these questions also be considered in determining the adequacy of the draft EA.

Questions and concerns:

- (1) Given the existing traffic congestion on Kamehameha Highway in the proposed development area, is the highway adequate to handle the increased entry and exits required for an additional 26 houses in such a small area? If not, what provisions must be required for safety and to lessen the congestion.
- (2) Is the plan for wastewater management adequate, given the nature of the soil and the history of heavy runoff from the high ground mauka of the proposed development? If not, what should be required?
- (3) Given the existing problems of heavy runoff from the high ground, which occasionally partially floods Kamehameha Highway in the proposed development area, is there an adequate drainage plan to handle the increased runoff after construction is complete? If not, what should be required?

Thank you for your time and consideration.

Sincerely,



David A. Bramlett  
Resident, 61-100 Iliohu Way

420 Waiakamilo Road  
Suite 411  
Honolulu Hawaii 96817-4950  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



**R. M. TOWILL CORPORATION**  
SINCE 1930

Planning  
Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

August 23, 2006

Mr. David A. Bramlett  
61-100 Iliohu Way  
Haleiwa, Hawai'i 96712-1308

Dear Mr. Bramlett:

**Draft Environmental Assessment  
Burger Subdivision  
Tax Map Key: (1) 6-1-3: 1 and 32**

The following is in response to your letter of July 22, 2006 regarding the subject project.

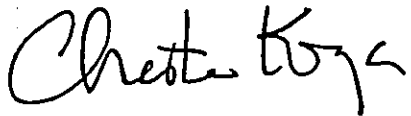
1. Is the highway adequate to handle the increased entry and exits?  
Response: Kamehameha Highway has adequate capacity during most times of the day. There are occasions when the movement of vehicles is hindered due to events such as surfing meets, traffic accidents, etc. In order to facilitate traffic movement at the project site, the owner is in consultation with the Department of Transportation to determine if turn lanes will facilitate the flow of traffic.
2. Is the plan for wastewater management adequate?  
Response: The project designers are in consultation with the Department of Health to plan for individual wastewater systems for the project. This is the preferred method of wastewater disposal. The soil carrying capacity will be considered in the design. Stormwater from the project site will be addressed via onsite detention.
3. Existing problems of heavy runoff from the high ground which occasionally floods Kamehameha Highway?  
Response: The proposed development will incorporate onsite detention of stormwater, however, this will be limited to a short-duration as allowed by County standards. Flooding of Kamehameha Highway will continue until that portion of the highways is improved.

Mr. David A. Bramlett

Page 2

Should you have additional comments please contact the undersigned.

Sincerely,



Chester Koga  
Project Coordinator

Cc: Burger PM LLC



**APPENDIX B**

**Individual Waste Water System Variance**

LINDA LINGLE  
GOVERNOR OF HAWAII



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

CHIYOME LEINAALA FUKINO, M.D.  
DIRECTOR OF HEALTH

In reply, please refer to:  
EMD / WB

June 8, 2007

WW 241 FINAL DEC CL

**CERTIFIED MAIL 7005 1160 0001 8381 4496  
RETURN RECEIPT REQUESTED**

Mr. John H. Alderson  
4391 Kahala Avenue  
Honolulu, Hawaii 96816

Dear Mr. Alderson:

**Subject: Variance Application No. WW 241 Docket No. 06-VWW-30  
Proposed Development of 25 Three (3) Bedroom Lots  
16 Lots are Proposed to be Less Than 10,000 sf and  
9 Lots are Proposed to be Greater Than 10,000 SF  
Proposed Use of Treatment Individual Wastewater Systems  
61-210 Kamehameha Highway, Waimea, Oahu, Hawaii 96712  
TMK: (1) 6-1-003: 001, 032 and 035 7.30 acres**

Please find enclosed the Department of Health's Decision and Order regarding the above mentioned application for variance request which was **GRANTED** on **June 6, 2007** for **five (5)** years. We are enclosing for your information the Findings of Fact and Conclusions of Law.

Please note the variance conditions and if there are any questions relative to the variance, please do not hesitate to contact Mr. Harold Yee, Chief of the Wastewater Branch at our telephone 586-4294, fax 586-4300.

Sincerely,

  
FCR THOMAS E. ARIZUMI, P.E. CHIEF  
Environmental Management Division

Enclosures: Final Decision and Order  
Findings of Fact and Conclusions of Law

c: Clean Water Branch  
Environmental Planning Office  
Safe Drinking Water Branch  
Sanitation Branch  
Wastewater Branch - Oahu Staff Engineer  
Board of Water Supply  
C&C of Honolulu - Department of Planning & Permitting 7<sup>th</sup> Floor  
Oahu Neighborhood Board # 27 - North Shore  
Applicant - Burger Project Management, LLC  
Mr. Harold Nagato, Best Industries, USA





4. The variance shall be null and void if the developers are unable to obtain the necessary City and County of Honolulu subdivision approvals such that the project can proceed.
5. The variance is valid for a period not to exceed five (5) years after which, the developer or the Association of Lot Owners must apply for a variance renewal.
6. The developer and subsequent lot owners agree that no further subdivision of the lots will be undertaken.

DATED: Honolulu, Hawaii, June 6, 2007

FOR

  
THOMAS E. ARIZUMI, P.E., CHIEF  
Environmental Management Division

**APPENDIX C**

**Archaeological Literature Review and Field Inspection, December 2006**

---

**Archaeological Literature Review and Field Inspection for  
An Approximately 7-Acre Project Area at  
Kawailoa Ahupua'a, Waialua District, O'ahu  
TMK: [1] 6-1-003: 001 and 032**

**Prepared for  
R. M. Towill Corporation**

**Prepared by  
Hallett H. Hammatt, Ph.D.  
and  
David W. Shideler M.A.**

**Cultural Surveys Hawai'i, Inc.  
Kailua, Hawai'i  
(Job Code: Kawai 2)**

**December 2006**

---

**O'ahu Office  
P.O. Box 1114  
Kailua, Hawai'i 96734  
Ph.: (808) 262-9972  
Fax: (808) 262-4950**

**[www.culturalsurveys.com](http://www.culturalsurveys.com)**

**Maui Office  
16 S. Market Street, Suite 2N  
Wailuku, Hawai'i 96793  
Ph: (808) 242-9882  
Fax: (808) 244-1994**

---

## Management Summary

Reference	Archaeological Literature Review and Field Inspection for An Approximately 7-Acre Project Area at Kawaihoa Ahupua'a, Waialua District, O'ahu TMK: [1] 6-1-003: 001 and 032
Date	November 2006
Project Number (s)	CSH job code KAWAI 2
Investigation Permit Number	Cultural Surveys Hawai'i operates under permit # 0605 from the State Historic Preservation Division
Project Location	TMK [1] 6-1-003:001 & 032 located on the north shore of O'ahu on the east ( <i>mauka</i> ) side of Kamehameha Highway approximately 0.5 miles southwest of Waimea Bay
Land Jurisdiction	Private, understood as owned by the Burger Trust
Project Description	It is our understanding subdivision into single-family house lots is contemplated
Project Acreage	7.274 acres
Fieldwork Effort	2 archaeologists spent a total of 8-archaeologist hours in the project area
Effect Recommendation	In the course of the study it was ascertained that the project had been subject to a Chapter 6E-42 review by the State Historic Preservation Division. In that review letter (July 7, 2006; Log No 2006.2352; Doc No 0607CM04) an Archaeological Inventory Survey with subsurface testing is recommended.

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## Section 1 Introduction

---

### 1.1 Project Background

Cultural Surveys Hawai'i was approached by R. M. Towill to carry out an archaeological study of this approximately 7.274-acre parcel at Kawaihoa, Waialua, O'ahu (Figures 1-4). It is our understanding that the desired level of study at this time is an archaeological literature review and field inspection. This study is not intended to meet the requirements of an inventory-level survey per the rules and regulations of the State Historic Preservation Division/Department of Land and Natural Resources (SHPD/DLNR). However, the level of work was intended to be sufficient to address site types, locations, and allow for future work recommendations. This study would be directly applicable to an Archaeological Inventory Survey if such work is to be undertaken in the future. The literature review and field inspection were to include this report detailing research methods and any finds.

### 1.2 Scope of Work

The agreed upon scope of work for this archaeological literature review and field inspection was to include the following:

1. Historical research to include the study of archival sources, historic maps, Land Commission Awards and previous archaeological reports to construct a history of land use and to determine if archaeological sites have been recorded on or near this property.
2. A field inspection of the project area to identify any surface archaeological features and to investigate and assess the potential for impact to such sites. This assessment will identify any sensitive areas that may require further investigation or mitigation before the project proceeds.
3. Preparation of a report to include the results of the historical research and the fieldwork with an assessment of archaeological potential based on that research, with recommendations for further archaeological work, if appropriate. It will also provide mitigation recommendations if there are archaeologically sensitive areas that need to be taken into consideration.

### 1.3 Environmental Setting

#### 1.3.1 Natural Environment

The project lands (Figures 1 – 4) generally resemble a mirror image “E” with three narrow limbs (driveways and easement) extending inland (east) from Kamehameha Highway coalescing in a large roughly rectangular eastern (*mauka*) portion of the project lands. The project area has a roughly east/west length on the north side of approximately 723 feet and on the south side of approximately 873 feet. The east edge of the project is approximately 640 feet long. The project area is understood to include two parcels TMK [1] 6-1-003:001 of approximately 6.115 acres and TMK [1] 6-1-003:032 of approximately 50,465 square feet for a total area of approximately 7.274 acres.

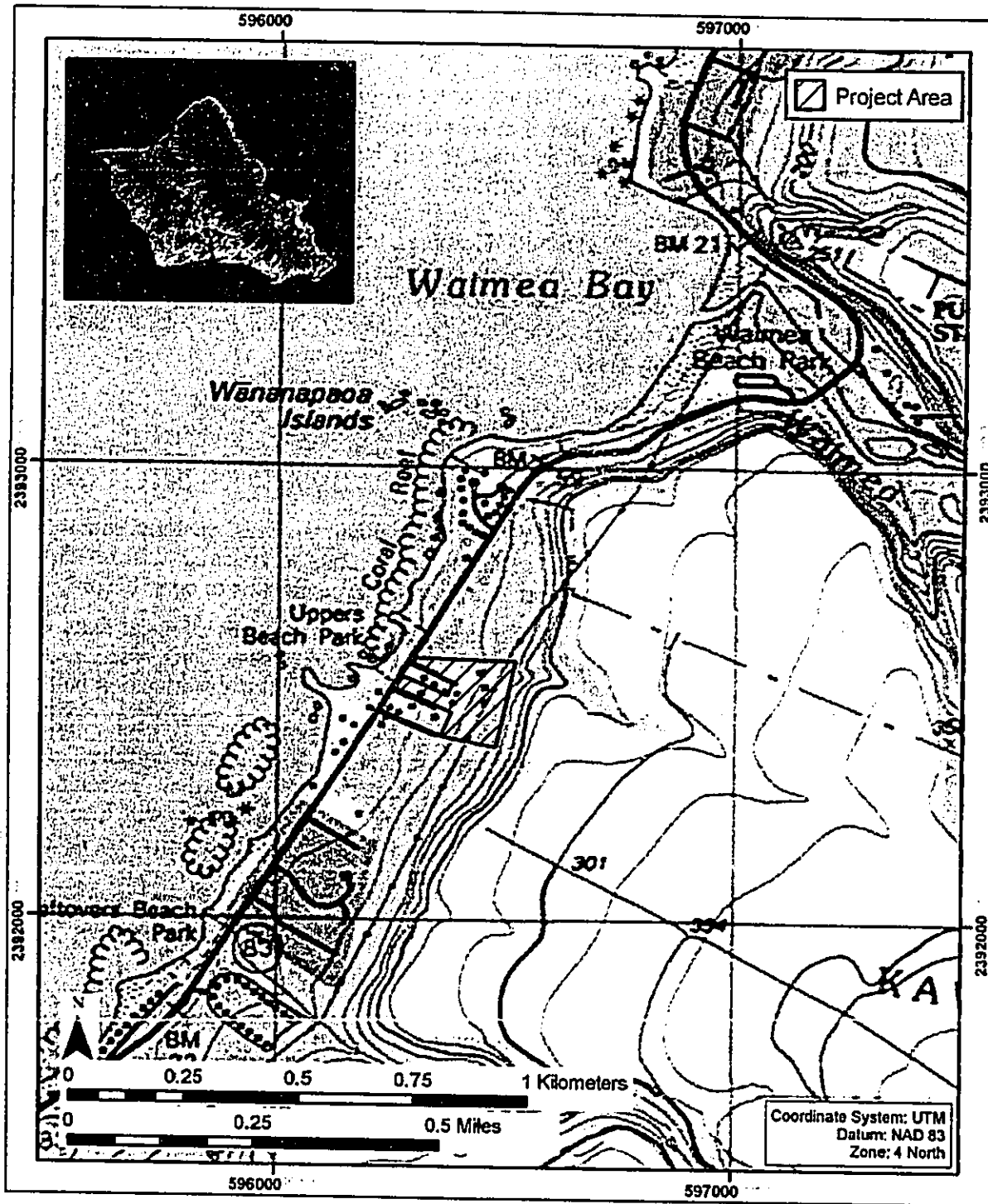


Figure 1. U.S. Geological Survey map showing the project area

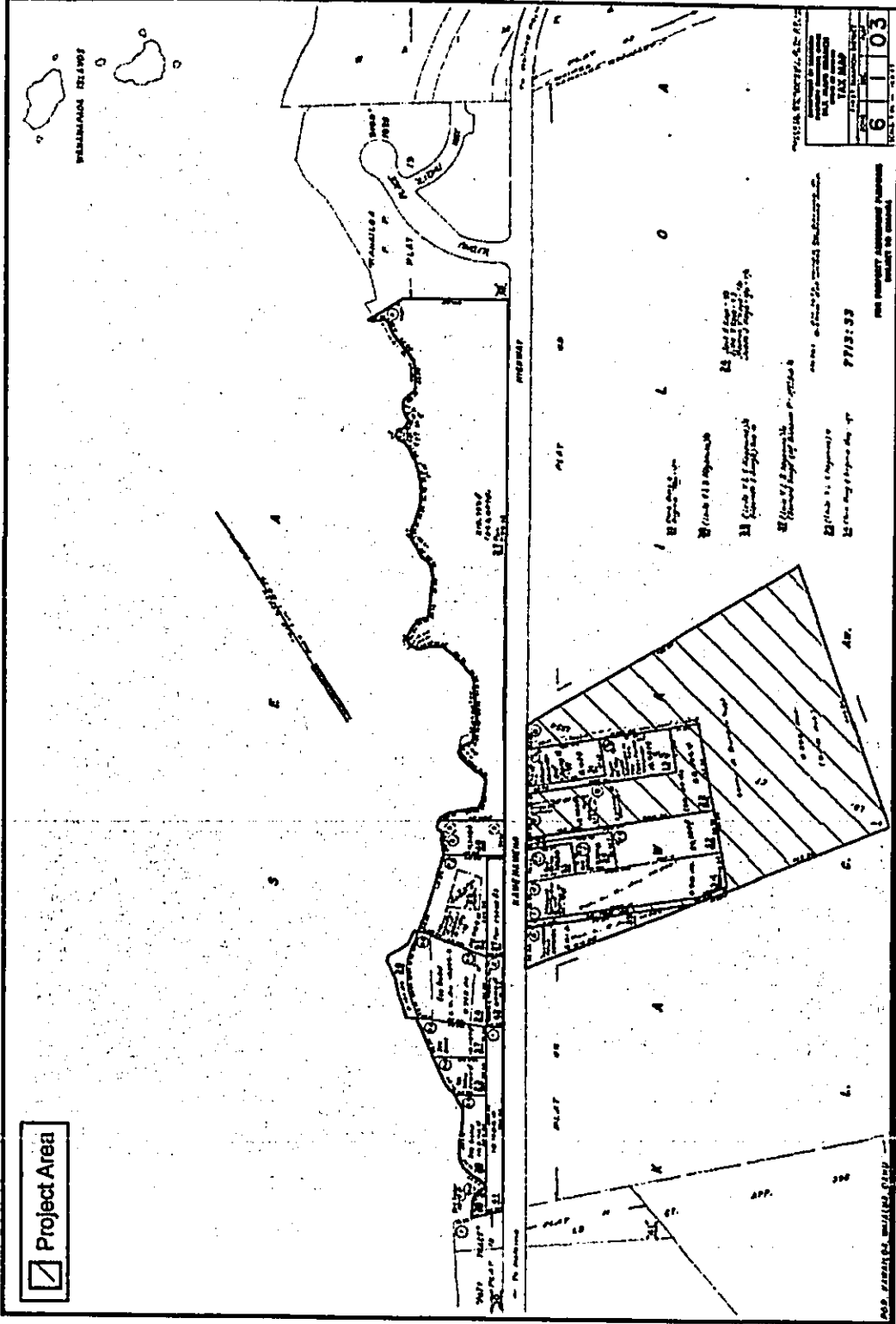


Figure 2. Tax Map Key (TMK) plat 6-1-003 showing the project area

Archaeological Literature Review and Field Inspection for a 7-Acre Project Area at Kawailoa, Waialua, O'ahu

TMK: [1] 6-1-003: 001 and 032

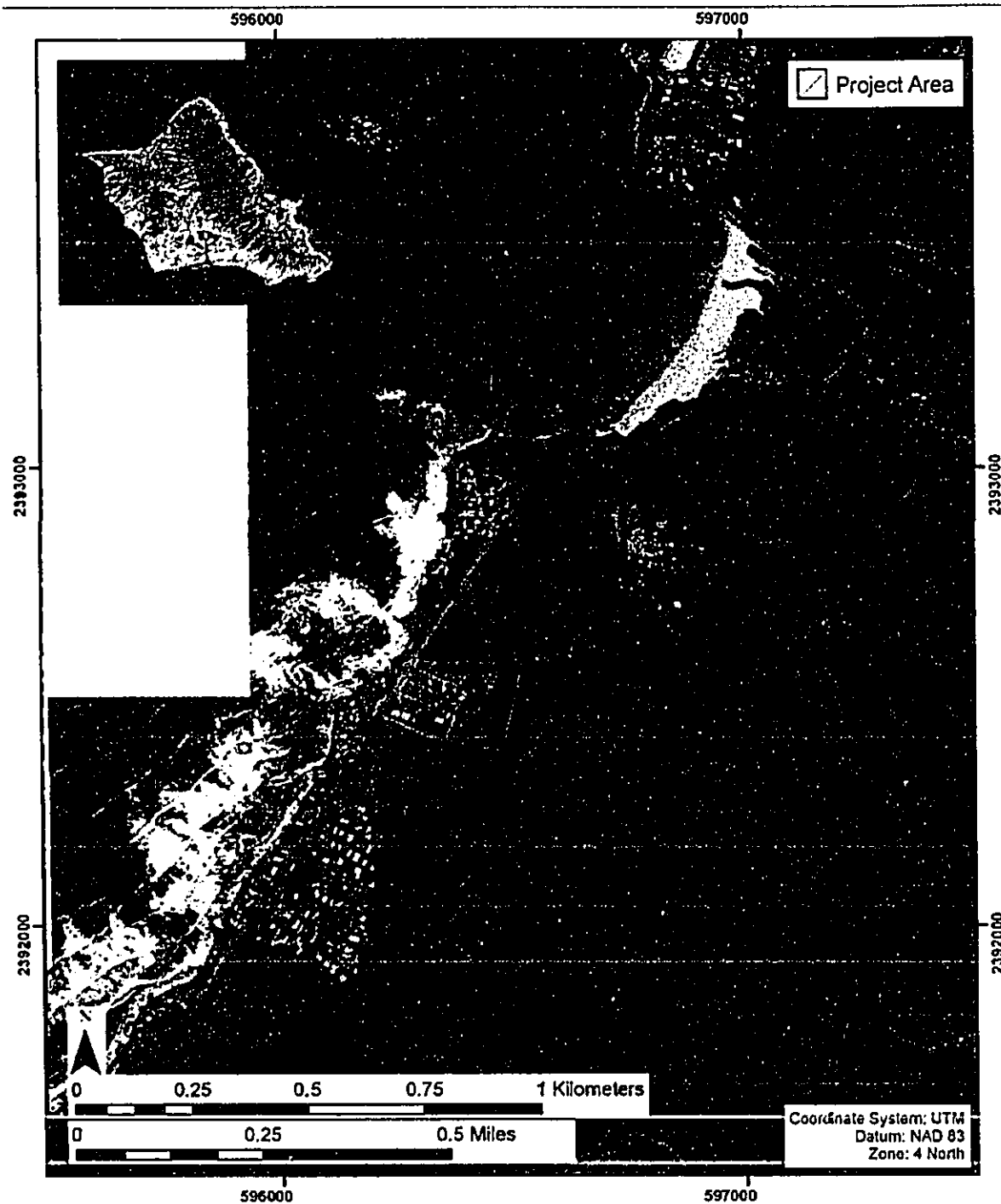


Figure 3. Aerial photograph showing the general location of the project area



Figure 4. Aerial photograph showing the project area

Archaeological Literature Review and Field Inspection for a 7-Acre Project Area at Kawailoa, Waialua, O'ahu

The project area lies approximately 150 feet from the sea with an elevation of approximately 30 feet above mean sea level at the northwest corner rising to an elevation of approximately 150 feet along the east side. The slope is relatively gentle in the western 80% or so of the project area but then rises more steeply as it ascends the talus slope of the cliff (*pali*) that rises nearly vertically 150 feet to the east of the project area.

The soils within the project lands (Figure 5) are fairly evenly divided between Kaena clay 2 to 6 percent slopes (KaB) in the north central portion of the project area and Waialua stony silty clay 3 to 8 percent slopes (WIB) present in the northwest and northeast corners and southeast portion of the project lands (Foote et al. 1972). Rockland (rRK) extends just east of the east side of the project lands ascending a steeply rising scarp.

Much of the project area is within lawns and landscaping associated with well-established residences. Undeveloped portions of the project area are dominated by *koa haole* and tall exotic grasses with some Chinese banyan, night blooming cereus, Christmas-berry, and autograph tree. The vicinity of the eastern edge of the project area at the base of steep and high cliff seems much wetter because of the shading effect of the cliff line and possibly ground water seepage with octopus trees and *Iaua'e* fern present.

The project area receives between 1,000 and 1,500 mm (38 to 57 inches) of rain per year, falling mostly during the winter months (Giambelluca et al. 1986). That rainfall was sufficient for traditional Hawaiian non-irrigated agriculture.

The tsunami evacuation zone lies near Kamehameha Highway near the northwest corner of the project lands extending inland from Kamehameha Highway to the southwest.

### 1.3.2 Built Environment

The project area lies on the inland (east side) of Kamehameha Highway – the major (and only) vehicular artery servicing the north shore of the island of O'ahu. There are two large exclusions (consisting of TMK [1] 6-1-003: 034 & 052 and TMK [1] 6-1-003: 031 & 053) on the west side of the project area that are developed as single-family homes with attendant lawns and landscaping. The west central portion of the project area (TMK [1] 6-1-003:032) appears to include two separate single-family homes with attendant lawns and landscaping. In the northeast corner of the project area are what appear to be two separate single-family homes with attendant lawns and landscaping.

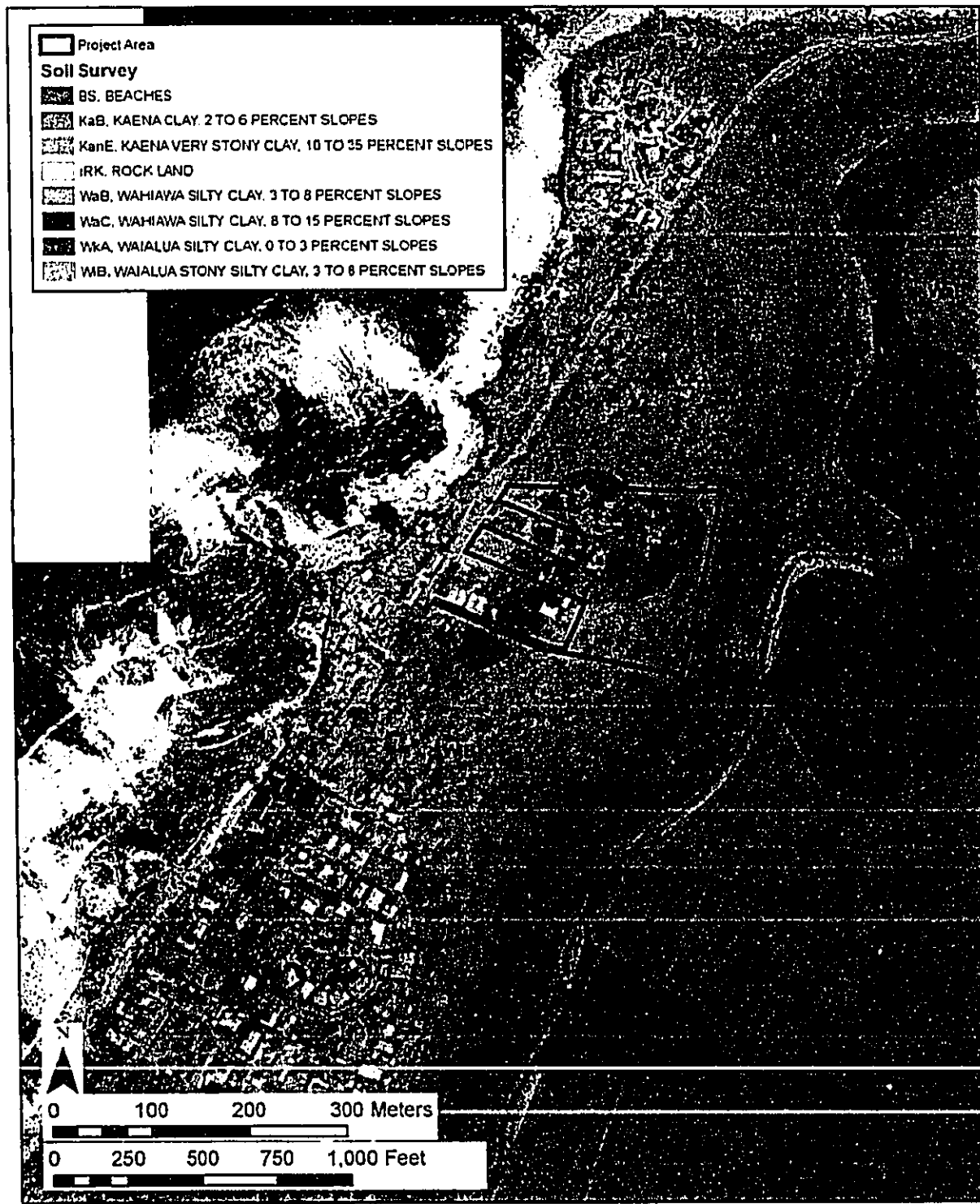


Figure 5 Soils map showing project area



## Section 2 Methods

### 2.1 Literature Review

Background research was conducted at the State Historic Preservation Division library and Cultural Surveys Hawai'i's own extensive library and map collection. Land Commission Award data (Appendix A) was obtained from the Waihona aina web site and Land Court Application Data was obtained from the City and County web site. A copy of SHPD Chapter 6E-42 correspondence dated July 7, 2006 (Appendix B) was supplied by a neighbor.

### 2.2 Consultation

No formal cultural consultation was undertaken in the course of this study. We note that the SHPD Chapter 6E-42 correspondence dated July 7, 2006 was copied to Mr. Lance Foster of the Office of Hawaiian Affairs, Mr. Tom Lenchanko of Waha'ōlelo 'Aha Kukaniloko and Ms. Linda Kaleo Paik of the O'ahu Island Burial Council among others. Two neighbors were informally queried regarding their knowledge of historic properties in the vicinity (see Section 6.2). Ms. Pi'ilani Chang of the State Historic Preservation Division was contacted for further information regarding a burial in the vicinity referred to in the SHPD Chapter 6E-42 correspondence dated July 7, 2006.

### 2.3 Field Work

Two archaeologists from Cultural Surveys Hawai'i, David Shideler M.A. and Todd Tulchin, B.A. conducted a field inspection of the project lands on November 17, 2006 under the overall supervision of Hallett H. Hammatt Ph.D. Approximately 8 archaeologist-hours were spent within the project lands during the field inspection.

The undeveloped portions of the project area are dominated by *koa haole* and tall exotic grasses with expanses of thorny night blooming cereus. The seaward majority of the project area appears to have been very extensively bulldozed in the distant past. As is often the case such bulldozing has given rise to exceedingly thick vegetation. Because of the extensive, dense, 8-foot high grass ground visibility in much of this previously bulldozed land is poor. The exotic grass is so dense, in places, that as one forces one's way through the grass the bent over grass supports one's weight. Not only can you not see the ground you are some few tens of centimeters above the ground. Thus identification of any possible low-lying historic properties as may have escaped bulldozing becomes problematic. Ground visibility in the inland, un-bulldozed portion of the project area was generally fair to good.

## Section 3 Historical Background Research

The project area is located within the *ahupua'a* of Kawailoa ("the long water" [Pukui 1974]) in the district of Waialua on the northern side of O'ahu (Figures 1-3). This traditional land unit is bordered by the *ahupua'a* of Waimea to the northeast, the *ahupua'a* of Pa'ala'a to the southwest, the Ko'olau Range to the east, and the ocean to the northwest. From the Ko'olau Mountains, Kawailoa extends down slope with the southern boundary at 'Opae'ula Stream and the northeastern boundary along the ridge between Kamananui and Kaiwiko'ele Streams.

Clues to the history of land use and activity within the *ahupua'a*, and the project area, are found in preserved records, including journals, government records, scholarly studies, memoirs, archaeological studies, maps, historic photographs, and oral histories. The earliest records present glimpses of landmarks and events within Kawailoa and the Waialua district; however, by the middle decades of the 19th century, it is possible to focus more precisely on the project area as documentation becomes more abundant and specific.

### 3.1 Pre-Contact to 1800

The significance of the district of Waialua and the *ahupua'a* of Kawailoa in the consciousness of native Hawaiians are suggested in the numerous traditions associated with the district and *ahupua'a*. Samuel Kamakau, the pioneering 19th-century Hawaiian historian who was himself born in Waialua, identifies the district as the site of a significant event in the consolidation of chiefly power in the islands:

For the 28 generations from Hulihonua [the first man in the ancient Hawaiian past] to Wakea, no man was made chief over another. During the 25 generations from Wakea to Kapawa, various noted deeds are mentioned in the traditions and well-known stories. Kapawa was the first chief to be set up as a ruling chief. This was at Waialua, Oahu; and from then on, the group of Hawaiian Islands became established as chief-ruled kingdoms...(Kamakau 1964:3).

The Waialua district's material abundance would have made it a focus of population and *ali'i* residence:

Waialua, on its seaward slopes, was as generously endowed with water as any area on Oahu. Much of the gently sloping and level land was formerly covered with wet-taro terraces. And beyond there was a great spread of *kula* land with red soil which was ideal terrain for sweet potato planting. The Wai'anae range gave this area a rich hinterland. Waialua had a fine bay with a broad beach, and there were several fishponds...Altogether this was the most bounteously endowed area on the sunset coast [of O'ahu] (Handy and Handy 1972:466-7).

The presence of no less than eleven temples, several of *luakini* class and therefore associated with ruling chiefs, testifies to the importance of these lands to the Hawaiian chiefs. The political importance of the district, of course, was grounded

in the system of agricultural and aquacultural production, notably the extensive taro irrigation complexes and 'Uko'a and Loko'ea fishponds (Kirch 1992:19).

Further evidence of the importance of the *ahupua'a* of Kawaihoa and events occurring there is revealed in the recounting of the fate of the O'ahu Chief Elani. In 1783, forces of the Maui Chief Kahekili gained control of O'ahu by defeating the island's *mōhī* Kahahana. Kahekili, following an unsuccessful rebellion against the Maui invaders, killed Elani father of Kahahana, and other O'ahu chiefs. Elani's body was left to decompose on a ledge at Pua'ena Point three miles to the southwest of the present project area:

The place became known as Kahakakau Kanaka. As the odor came to the sands at Haleiwa they became known as Maeaea; the point on the other side became known as Kupava. (McAllister 1933:141-142)

Samuel Kamakau records that Kawaihoa also figured in the fate of Hu'eu, one of Kahekili's Maui chiefs, who had been installed at Waialua. While Kahekili and the other Maui chiefs had been warned of the O'ahu chiefs plot, and escaped, "Hu'eu, who was living at Ka'owakawaka, Kawaihoa, in Waialua, was killed on one of the Kaloa nights while his guards were asleep" (Kamakau 1992:138).

In 1794, Ka'eokūlani recruited the "warriors of Waialua and Wai'anae" to make war on his nephew Kalanikūpule, then ruler of O'ahu (Kamakau 1992:168); by December 1794 Ka'eo had been killed and his forces were defeated. Kalanikūpule would himself be deposed the following year when the invading Hawai'i Island forces of Kamehameha prevailed at the Battle of Nu'uuanu in April 1795. Apparently the Waialua District was spared direct involvement in the battles associated with Kamehameha's conquest. However, Kamehameha's hegemony on O'ahu would have immediate consequences for the district during the first decades of the 19th century.

### 3.2 1800 to 1850

The Hawaiian Islands began exporting sandalwood to the Orient shortly after 1800 and the commerce flourished until the supply dwindled in the mid-1830's. Waialua was a region of importance in the sandalwood trade. The demands put on the *maka'āinana* (commoners) to harvest wood for trade caused many fields to become fallow and unused.

Trade in sandalwood was the strict monopoly of the *ali'i* beginning with Kamehameha. At the height of the sandalwood boom, Kamehameha was buying foreign ships, including six vessels between 1816 and 1818, to transport his own wood to the Orient (Kuykendall 1965:87). When Kamehameha bought the schooner *Columbia* in 1817, it was paid for with sandalwood from Kaua'i and from the districts of Waimea and Wai'anae on O'ahu (Kuykendall 1965:88). Peter Corney, the chief officer on the *Columbia*, describes the prodigious operations the sandalwood trade demanded on O'ahu's north shore. In an account of a voyage in March 1818 from Honolulu to Waimea Bay Corney reported:

Next day we sailed for Whymea bay, on the west end of the island, to get another cargo of wood. In our passage we touched at Wyeni (Waiana), and took on board some wood and hogs. We lay here for a few days, and then sailed along the shore for Whymea...where we took on board a full cargo of wood in thirty-six hours -

more than 200 canoes employed in bringing it off, day and night. (Corney 1896:89-90)

After Kamehameha's death in 1819, Liholiho (Kamehameha II) allowed his chiefs to share in the trade, resulting in an unrestrained demand on the stocks of the wood and upon the energies of the *maka'ainana* who did the harvesting. Already in October 1817, a Russian visitor noted on O'ahu: "There are now many fields left uncultivated, since the natives are obliged to be cutting sandalwood" (Barratt 1988:218).

During the same decades that commercial ventures were forcing changes upon the Hawaiian landscape, western missionary interests were establishing their foothold in the islands. The American Board of Commissioners for Foreign Missions, headquartered in Boston, sent its first company of missionaries to the Hawaiian Islands in 1819, leaving Boston on October 23rd aboard the brig *Thaddeus*. By the 1820s, the Protestant missionaries had established close links with the *ali'i*. From July to August 1826, Ka'ahumanu and an entourage consisting of up to 300 persons conducted a proselytizing tour around O'ahu. Rev. Hiram Bingham's account of the proceedings at Waialua suggests the extent of the missionaries inroads in the district:

*A very large concourse of people assembled on the Lord's day, for public worship in the open air. To the listening throngs I endeavored to proclaim the great salvation...*

After the Sabbath we examined and encouraged, and partially supplied with books, the incipient schools established there under the particular patronage of Lydia Namahana and Gideon Laanui, to whom the district belonged. There were found under Maiao and his assistant teachers, four hundred and ninety-five male and female pupils, and under Kaoo, one hundred and sixty-four, amounting together to six hundred and fifty-nine pupils, chiefly men and women. (Bingham 1847:295-296)

Though 'Uko'a and Loko'ea Ponds were included with the *ahupua'a* of Kawailoa, it appears however, as Sahlins (1992) points out, that "these lands were part of and administered from Kamananui the *ahupua'a* which was still the political center of Waialua" (Sahlins 1992:95). As late as 1815, Kamehameha's rights to the fishponds were still in effect, and were mentioned by Whitman who was visiting the area in September of 1815.

Whitman, describes 'Uko'a Pond as "the property of the King and no fish are allowed to be taken out of it without his orders, and there had not at this time been any taken out for several years" (1979:78). Paralleling the general decline of sovereign powers, the royal rights to Waialua's famous fish ponds seem to have declined thereafter, the benefits falling more to the Ka'ahumanu lords of the land and the de facto control to the resident chiefs Pi'ia and La'anui, who were able to integrate these lands into their *ahupua'a*. With this consolidation, Kawailoa displaced Kamananui as the leading settlement of Waialua. La'anui would soon confirm the change by making the lower Anahulu River the ritual center also: in 1830 he built a *luakini* (chiefly temple) there, that is, the first Protestant church in Waialua (Sahlins 1992:95-96).

La'anui was living at Kawailoa in 1832 (Namahana had died in 1829) when the Rev. John S. Emerson (1800-1867) and his wife arrived at Waialua Bay to establish a mission station in the Waialua district; Emerson reported in a letter:

The wind was against us as we entered the harbor at Waialua, and we were obliged to "beat in." As soon as we approached the land, Laanui, our chief, came alongside in a canoe to welcome us, presenting us with a good watermelon, of which we ate freely and were at once relieved of our seasickness. (Emerson 1928:55)

Emerson gave the name Hale'iwa ("home of the frigate bird") to their settlement. Emerson's son, John Pomeroy Emerson, recounts an episode revealing the authority La'anui possessed within Waialua:

The new [meeting] house [at Waialua] was opened for the first time for dedication and public worship on September 25th, 1833, and Dr. Judd, Mr. Bingham and Mr. Brinsmade, a merchant, came from Honolulu for the occasion. When they got to the meeting with my father, they found an immense crowd of natives filling every part of the house and others crowding around all the windows and doors, utterly unable to enter. 'Truly the Spirit of God is here working on the hearts of this people, who are hungering for instruction,' thought my father. Dr. Judd, who had been in the country four years longer than he, began to ask questions, and found that Laanui had issued positive commands that everyone in the entire district of Waialua should attend this service under threat of severe penalty...When Laanui had filled the meeting-house with the crowd of people standing, he ordered them to sit down on the floor packed together as close as possible, but a great many were still compelled to stand outside. After the services were over, Dr. Judd and my father kindly explained to Laanui that he should not force his people to attend church in that way... (Emerson 1928:88-89)

It is possible to estimate the population comprising "everyone in the entire district of Waialua" in 1833. Censuses taken by Protestant missionaries throughout the Hawaiian Islands beginning in 1831 provide the earliest documentation of the size of the native population after the first decades of western contact. During the first census of O'ahu Island in 1831-1832, a total population of 2,640 was recorded in the Waialua District, comprising only 8.8% of the entire island population of 29,745 (Schmitt 1977:12). By the census of 1835-1836, the Waialua population had dropped to 2,415, comprising 8.6% of the O'ahu Island population of 27,798 (Schmitt 1977:38). These early censuses do not record the specific Kawailoa Ahupua'a population figures.

By the time Protestant missionaries were establishing their presence in Waialua in the 1830's, the sandalwood trade that had driven commerce in the Hawaiian Islands had collapsed. However, new enterprises were emerging to fill the void and activity at Waialua would continue apace. In October of 1819, two whale ships had anchored in the Hawaiian Islands. During the next decades, other whale ships would follow, as the islands became a victualing and layover base in the mid-Pacific. Supplies of beef, fresh and salted, and produce were in demand; and a trade in hide and tallow was also developing. As had happened during the years of the

sandalwood trade, authority to commandeer valued goods from the commoners of Waialua was vested in the chiefs:

The variety, as well as amount of things being appropriated from Waialua by the ruling chiefs is impressive. The letters of Gideon La'anui speak of ocean fish taken in sweeps as well as great quantities of fish shipped from the old royal ponds of 'Uko'a and Lokoea, of dry cooked taro—*pai'ai*--as well as *poi*, of sweet potato, breadfruit, shrimp, goats and pigs, timbers of different kinds, chickens, oranges and lemons - and often cash money. (Kirch and Sahlins 1992:145)

### 3.3 Māhele Documentation

Toward the mid-19th century, the Organic Acts of 1845 and 1846 initiated the process of the Māhele — the division of Hawaiian lands —, which introduced private property into Hawaiian society. In 1848 the crown, the Hawaiian government, and the *ali'i* (royalty) received their land titles. The majority of Waialua was awarded to Victoria Kamāmalu, sister of Alexander Liholiho (King Kamehameha IV) and Lot Kamehameha (King Kamehameha V). The overall *ahupua'a* of Kawailoa was awarded to Kamāmalu (Land Commission Award 7713 'Āpana 33).

*Kuleana* awards for individual parcels within the *ahupua'a* were subsequently granted in 1850. These awards were presented to tenants - native Hawaiians, naturalized foreigners, non-Hawaiians born in the islands, or long-term resident foreigners - who could prove occupancy on the parcels before 1845 (Apple 1978:45). More than 140 Land Commission Awards (LCAs) for individual parcels were recorded in Kawailoa Ahupua'a.

Of the *kuleana* claims made in Waialua District only "the people of Kawailoa and Pa'ala'a saw through their claims before the Commission" (Sahlins: 1992:18). Information from Māhele documents indicates that the majority of these parcels comprise taro *lo'i* and *kula* with associated house lots.

Figure 6 shows five parcels — LCA 8345 to Kekaukua, LCA 10246 to Maloiki (Moloiki), LCA 10256 to Makali, LCA 10772 to Pelapela and LCA 10971 to Wahinehune — located near the present project area. Documents associated with the five awards give clues to the character of land use within and nearby the present project area in the mid-1850s (Table 1 and Appendix A). Though the testimonies recorded by the claimants and their witnesses are sometimes ambiguous, the *kuleana* data indicates a settlement pattern where households had multiple parcels (i.e. 'āpana) in different geographical locations, with the immediately coastal 'āpana being the house lots and the further inland *kula* lands and *pali wauke* lands allowing for a range of subsistence activities particularly dry land sweet potato cultivation.

It seems clear that the present project lands were agricultural lands for the cultivation of sweet potatoes claimed by Maloiki (Moloiki) in 1848 as parcel ('Āpana) 1 of Land Commission Award 10246 (see Appendix A). This project land was called Kawaewa'a but appears to have also been called Ko'olauhale (Koalauhale) the name of Maloiki's house lot that was located just to the west of the southwest corner of the present project area on the *makai* side of the present Kamehameha Highway (presently developed for a modern home, see Figure 9). The general vicinity went by the name of Kapaeloa. The boundaries encompassing Maloiki's 4 *māla 'uala* (sweet potato patches) are given as follows:

Table 1. Kawaioloa Land Commission Awards Near Project Area

Claim #	Claimant	'Ii	Land Use
8345	Kekaukua (Kaakaukua)	Kapaeloa, Ulumalu, Pahoa, Hau	cattle pasture, squid fishery 4 <i>māla</i> <i>'uala</i>
10246	Maloiki (Moloiki)	Koolauhale (Koalauhale), Kawaewaa The <i>ahupua'a</i> name is apparently understood by the transcriber as "Kapaeloa" rather than Kawaioloa	Moloiki claimed a house lot on the seaward side of the <i>ala aupuni</i> (present day Kamehameha Hwy. and a <i>māla 'uala</i> on the <i>mauka</i> side (present project area)
10256	Makali	Kaalaea, Kapaeloa	3 <i>māla 'uala</i>
10772	Pelapela	Kawaioloa uka, Poonahoahoa, Kapaeloa	pali <i>wauke, hala</i> , 3 <i>māla 'uala</i>
10971	Wahinehune	Kapaeloa, Amanui	3 <i>māla 'uala, lo 'i</i> at Waimea

Maloiki (Moloiki) (*'Āpana*) 1 of Land Commission Award 10246 boundaries*'Āpana* 1:*Mauka, pali**Wai'anae*, land of Wahinehune*Makai*, land boundary wall*Ko'olauloa*, land of Nakuia.

It may be noted in passing that Maloiki understood that his land was contiguous on the southwest (*Wai'anae*) side with Wahinehune's land (the 1900 map shows a gap between the two land holdings; Figure 6). It seems probable that Maloiki understood his lands as extending further east to the cliff or *pali* that he cites as the eastern (*mauka*) edge. We know of no record of Nakuia's land but it seems probable that this was an area of sweet potato gardens on the northeast side of Maloiki's land and that Nakuia either never filed a claim or his claim was rejected. At some point these kuleana claims on the northeast and southwest sides of the present project area were lumped with Kamāmalu's Land Commission Award 7713 *'Āpana* 33 (Figure 10). No details are supplied for this parcel of 4 sweet potato patches other than that there was a land boundary wall on the seaward side. This would appear to be shown as extant along the southwest portion of the project area in the 1919 map (Figure 7). A remnant of this wall is believed to still exist on the seaward side of exclusion parcel 6-1-003:034. Notably there is no reference to walls delineating the north and south sides of the land claim. It may be that the wall/alignments documented on these sides in the present study were constructed later (to demarcate the awarded land) or it may be that these wall/alignments were so informal that Maloiki did not think of them as formal walls.

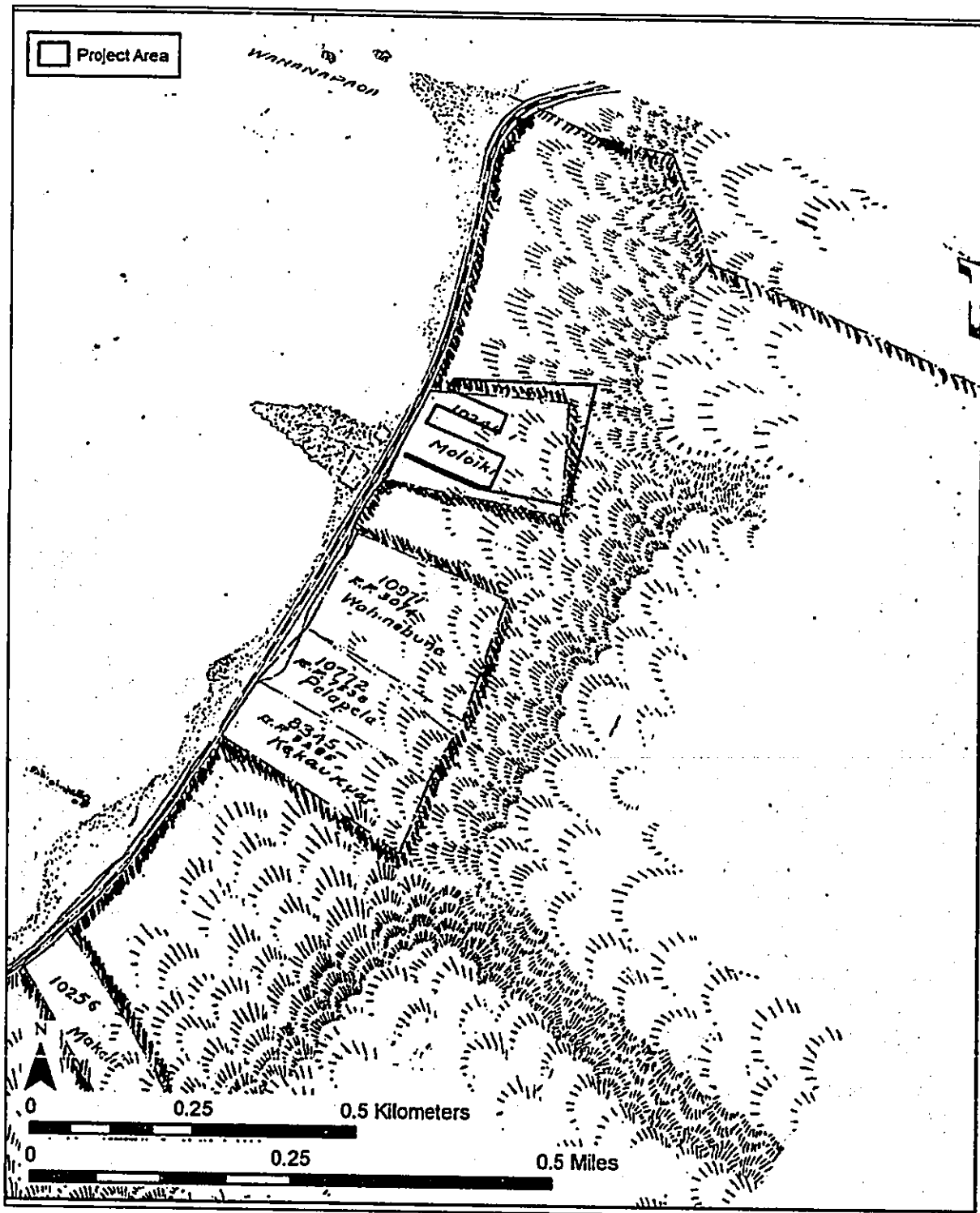


Figure 6. Portion of 1900 Waiialua Agricultural Map Showing Location of Project Area and O.R. &L. Railroad Right of Way



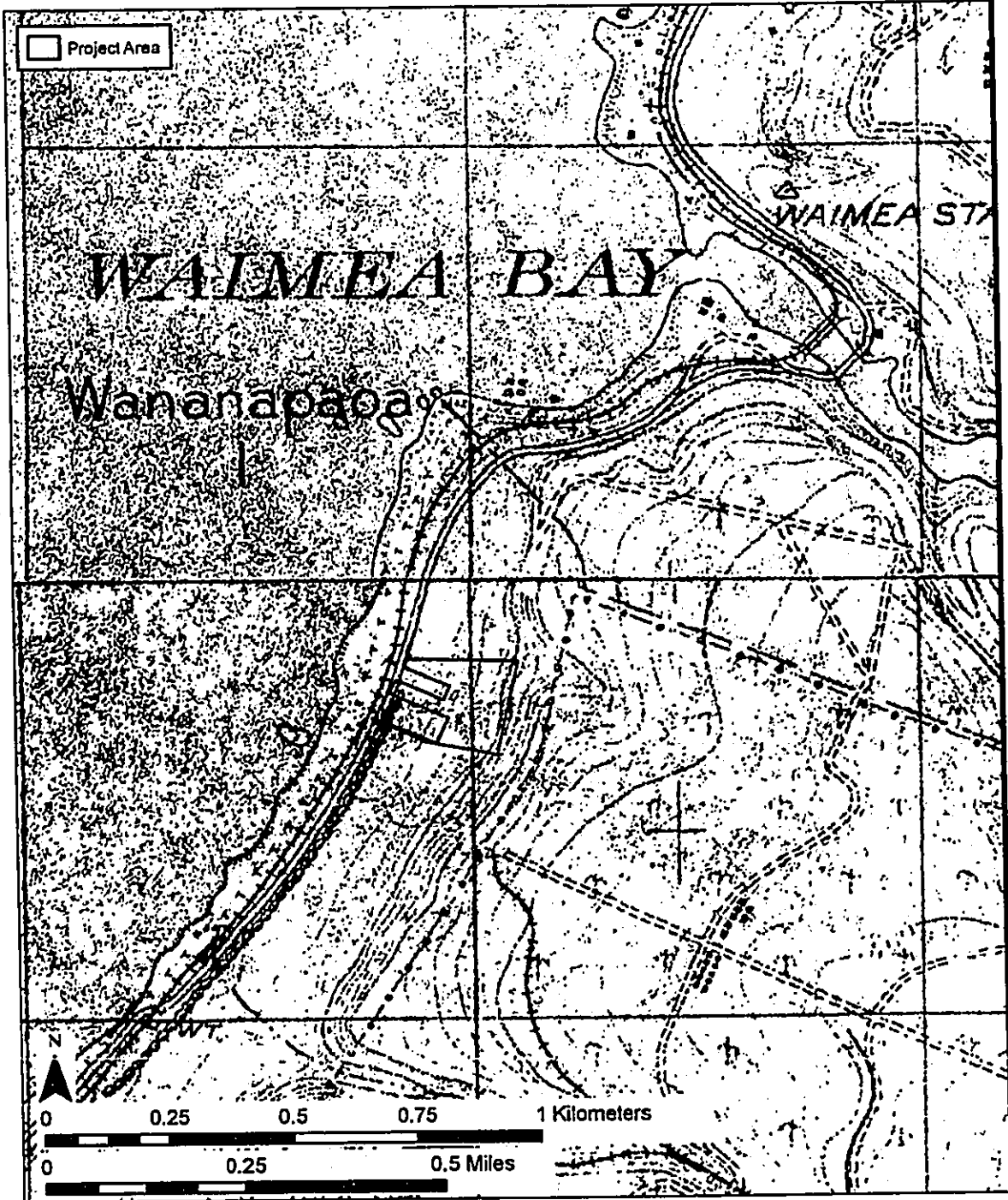


Figure 7. 1919 Fire Control map showing project area with wall in southwest corner, OR&L railroad along the *makai* side of present Kamehameha Highway, and extensive sugar cane fields and plantation camp on table lands just to the east of the project area accessed by an unimproved switchback road just to the north of the project area

### 3.4 1850 to 1900

The whaling industry in the Pacific Ocean reached its peak in 1859. Prices for whale oil collapsed five years later. Since the 1840's, the Hawaiian economy had been dependent primarily on supplying whale ships during their long layovers in the islands. With the dwindling number of arriving ships during the 1860's, the many residents of districts like Waialua, which had been dependent on the victualing trade, migrated to Honolulu and other parts of O'ahu.

Government censuses during the second half of the 19th century document the diminishing population of the Waialua District and, presumably, Kawaihoa Ahupua'a. In 1853 a total of 1,126 persons was recorded in Waialua. Nineteen years later, in 1872, the total district population had dropped to 851 (Schmitt 1977:12-13).

During the second half of the 19th century, following the death of Victoria Kamāmalu in 1866, Kawaihoa Ahupua'a was passed on to successive members of the *ali'i*:

[Kamāmalu's] entire estate was inherited by her father, Kekūanao'a. He died two years later and the estate went to Kekūanao'a's son Lota Kapuāiwa, who by that time reigned as Kamehameha V...Kapuāiwa died intestate in 1872, whereupon Ruta Ke'elikōlani, Kapuāiwa's half-sister, petitioned for and received in 1873 the entire estate...By 1883, Ruta Ke'elikōlani died, leaving all of her estate to her cousin Bernice Pauahi Bishop (Kame'eleihiwa 1992:309-310).

The Kamehameha Schools presently retains ownership of most of the *ahupua'a*.

The diaries of Robert C. Perkins, an entomologist and ornithologist, who collected specimens at Kawaihoa in 1892-1893, reveal aspects of life in the *ahupua'a* near the end of the 19th century:

The end of 1892 and early months of 1893 were not very favorable for collecting, the weather being generally wet in the mountains and there were three big spates of the mountain streams, these did very much damage to the system of flumes belonging to the Chinese of the district on more than one occasion during the winter months. (Perkins 1892-1893)

The "Chinese of the district" Perkins mentions were the rice growers who had settled after fulfilling their contracts with the sugar plantations that had brought them to the Hawaiian Islands (the first Chinese contract laborers had arrived in 1852). The islands were well positioned for rice cultivation. A market for rice in California had developed as increasing numbers of Chinese laborers immigrated there since the mid-19th century. Similarly, as Chinese immigration to the islands also accelerated, a domestic market opened:

By 1876 there was still a considerable amount of former taro land available for rice farming. The great demand for rice land brought disused taro patches into requisition - especially because water rights attached to them...

As the demand for rice continued, it became profitable to bring into use land hitherto unused. The land most easily rendered fit for rice cultivation was swamp or marsh land of which there was a large amount in the islands...At Waialua on

Oahu, about three hundred acres of swamp land were reclaimed for rice farming (Coulter and Chun 1937:11).

In 1892, there were 180 acres under cultivation of rice in the Waialua District; these rice fields were located in the ahupua'a of Mokulē'ia, Kamananui and Kawailoa (Coulter and Chun 1937:12,21). The immigrant Chinese may account for the rise in the Waialua District population during the last quarter of the 19th century; Government censuses record populations of 939 in 1878, 1,265 in 1884 and 1,286 in 1890 (Schmitt 1977:13). Rice cultivation would have no direct impact within the project area, which appears to have been abandoned as a locus of habitation and dry land cultivation.

Robert Perkins' diaries also reveal that Kawailoa and Waialua had become a favorite haunt of hunters:

At this time Waialua was much visited by sportsmen of Honolulu, as great numbers of golden plover were scattered over the forehills and along the coast. The native wild duck was common on the ponds and there were a good many pheasants amongst the lantana on the plains, but still more on the dry forehills below the forest and within this, before the trees became continuous or dense. At intervals during the day the plover habitually resorted to the ponds near the coast, usually in small flocks at a time, and were shot from blinds...Some of the men that I met at Waialua were very fine shots and on their weekend visits made large bags of duck and plover. In the mountains there were a few wild chicken and here and there some wild turkeys...

Thick forests, no doubt, once came down at least to 700 feet, for there were many traces of fires, some very old and some comparatively recent. Great herds of wild pigs may sometimes be seen crossing the flats between the gulches, where they chiefly hide. I counted 42 in one lot, of different sizes, from the largest boar with great tusks to pigs only half grown. High up in the dense forest I occasionally came on a solitary old boar in the soft fern. These do not run away when one comes on them suddenly, but, if one is only a few yards distant and stands still, they will walk very slowly away, looking back at one...(Perkins 1892-93).

By the 1890's, hunters and other visitors to Waialua could have reached there by train from Honolulu. The Oahu Railway and Land (O.R.&L.) Company, organized by Benjamin Dillingham in 1889, connected outlying areas of O'ahu to Honolulu. The O.R.&L. railroad right of way was located on the northwest boundary of the project area, along Kamehameha Highway (Figure 6). During the last decade of the 19th century, the railroad would reach from Honolulu to Pearl City in 1890, to Waianae in 1895, to Waialua in 1898, and to Kahuku in 1899 (Kuykendall 1967:100). Capitalizing on the increasing numbers of visitors to the north shore of O'ahu, who journeyed on his railroad, Dillingham opened the two-story Hale'iwa Hotel at Waialua Bay in 1899. The hotel's name - Hale'iwa - eventually identified the area above the bay and the "town" there, which then comprised only the hotel, a church and a courthouse.

The development of the railroad also spurred the development of large-scale sugar farming in Waialua. Sugarcane had been first cultivated at Waialua earlier in the century by the missionary John Emerson who constructed a small mill to produce sugar and molasses. During subsequent

decades, other missionaries and western entrepreneurs continued expanding sugar cultivation in the district though still on a small-scale. Benjamin Dillingham, pursuing new business for his railroad, persuaded Castle & Cooke to lease Waialua land already under cultivation of sugar. In 1898, Castle & Cooke organized the Waialua Agricultural Company and soon began a program of land purchases and leases to increase the plantation's capacity. In relation to the current project area, however, the development of the railroad probably had the most direct cultural impact.

### 3.5 1900 to 1940s

Waialua Agricultural Company, later named Waialua Sugar Company, continued to expand during the first decades of the 20th century, eventually reaching more than 12,000 acres, including a large portion of Kawaihoa Ahupua'a, which was leased from the Bishop Estate. Kawaihoa became the site of one of the three camp units (the other two were Halemano and Waialua) into which the plantation was divided. Kawaihoa camp comprised housing and social and recreational facilities for the workers of the adjacent fields and their families. Based on available data the project area was not utilized for sugar cane cultivation but 200 yards north of the northeast corner of the project area a switchback road ascended to the upper tablelands allowing development of sugarcane fields that extended to within approximately 200 yards to the east of the project area (Figure 7). A linear camp for cane workers was established at the intersection of two cane haul roads at 354-foot elevation approximately a quarter mile southeast of the southeast corner of the present project area and appears to have lasted from prior to 1919 until after 1943 (Figures 7, 8 and 11). Although, quite close as the crow flies, the steep *pali* separated cane operations from the present project area.

The expansion of the sugar plantation is reflected in government censuses of the early 1900's. While in 1896 there were only 1,349 persons recorded in Waialua District, subsequent censuses recorded 3,285 persons in 1900, 6,083 in 1910, 7,641 in 1920, and 8,129 in 1930 (Schmitt 1977:13-14).

Following the Japanese attack and the United States' entrance into World War II, December 7th, 1941, Hale'iwa and the surrounding area was subjected to major infrastructure improvements associated with military activity. Military records indicate the construction of bunkers, housing and storage buildings, as well as improvements to the Hale'iwa Auxiliary Field facilities (Borthwick et al 1998). These improvements in turn created the demand for labor, services, and associated constructions, which led to a further increase in population.

In 1942, Thomas Kirkwood Clarke applied for a Land Court Application (Land Court Application 1354; Figure 10) to subdivide 5 lots from his holdings at the present project area. At that time parties with the family name Chong held two lots in the southwest corner of Maloiki's former lands. Several reconfigurations followed in subsequent Land Court Applications.

### 3.6 1950s to Present

The war in the Pacific had been over less than a year when the Hawaiian Islands were devastated by a tsunami (tidal wave) that left at least 150 people dead and caused more than \$25 million in property damage. On April 1, 1946, an earthquake off the Aleutian Islands at about

2:00 a.m. (Hawaiian time) generated the tsunami that reached the islands about four hours later.

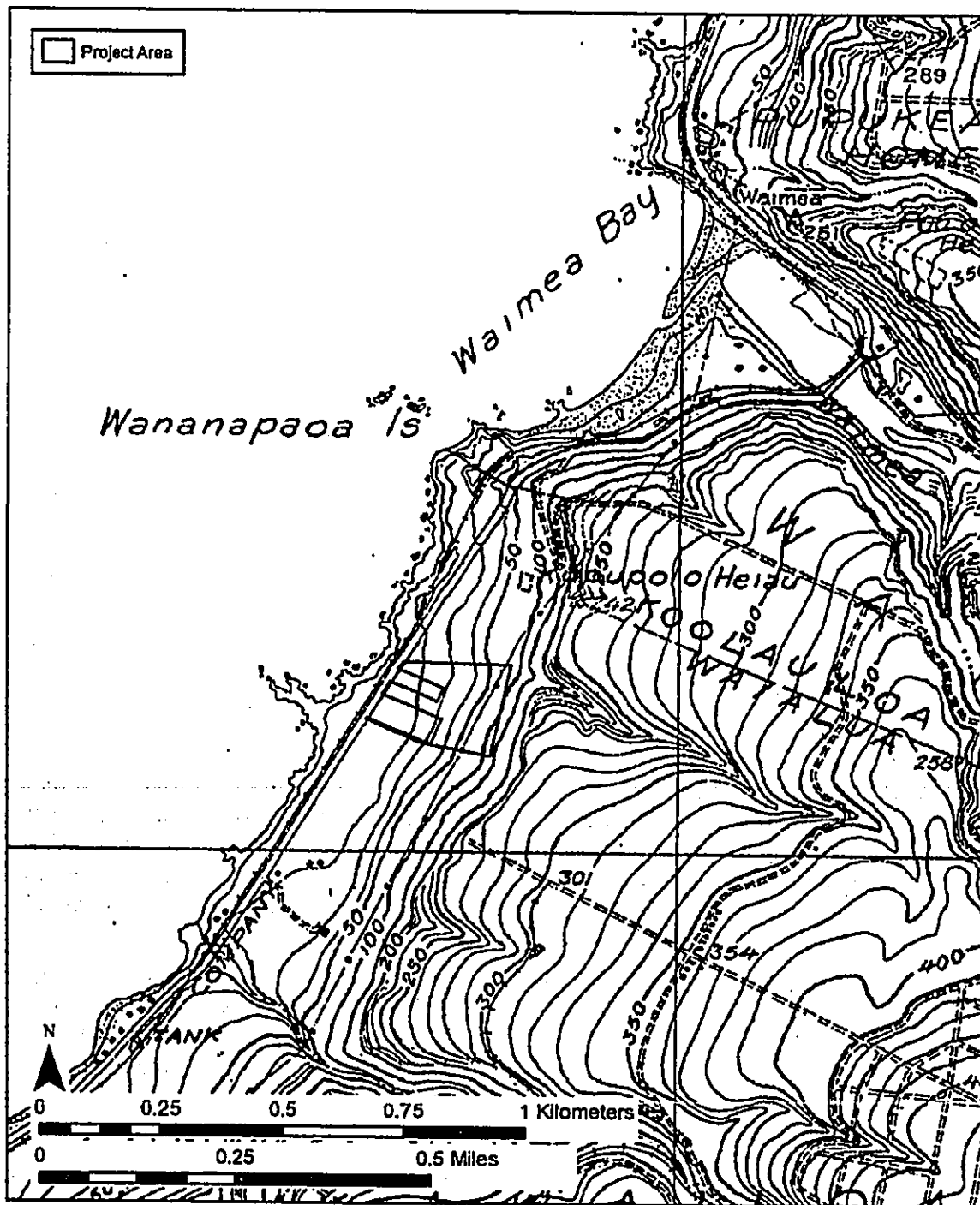


Figure 8. Portion of 1929 USGS Hale'iwa Map showing location of project area

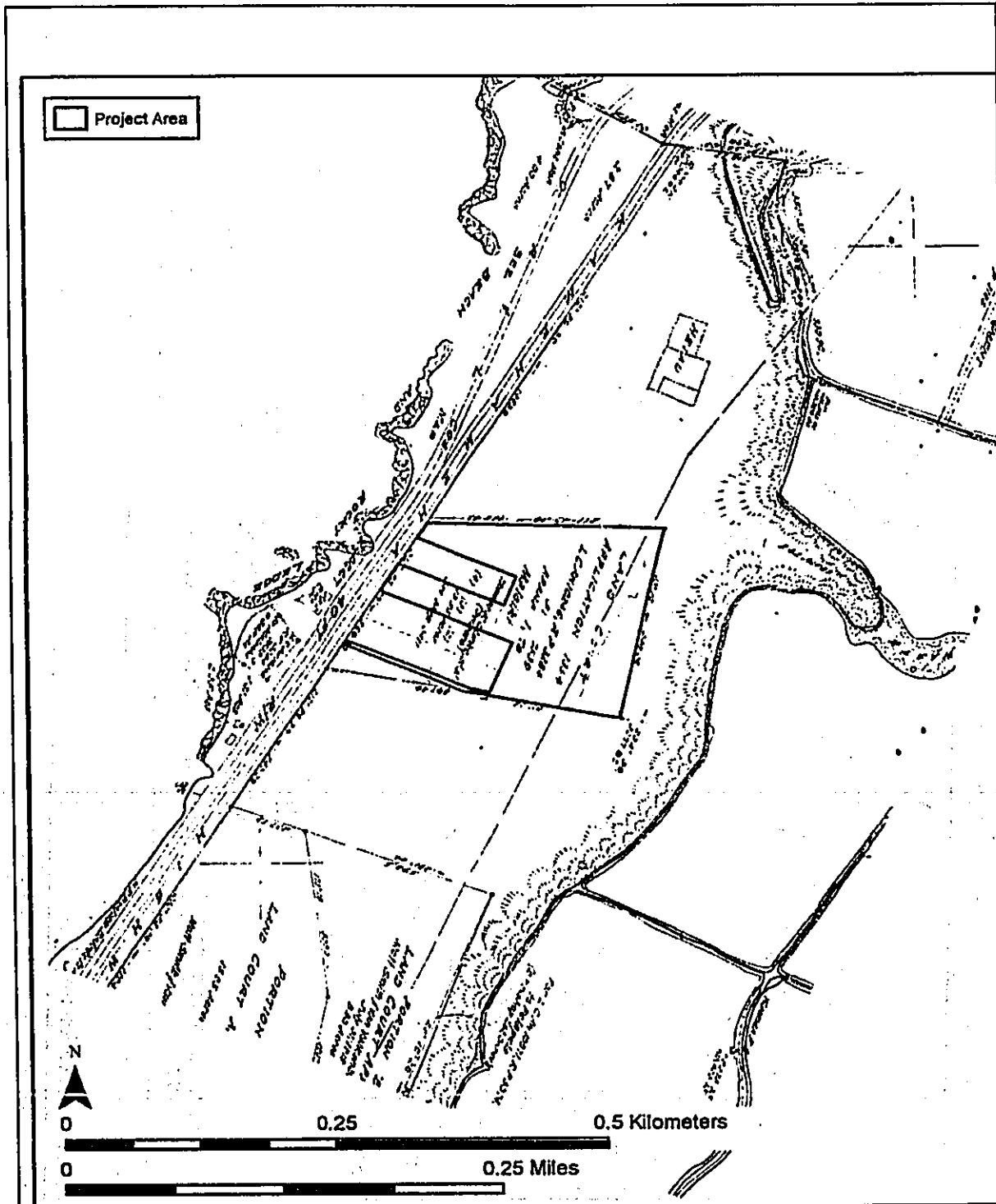


Figure 9. 1939/1942 W. P. Thompson Historical Map for Bernice P. Bishop Estate showing project area

Archaeological Literature Review and Field Inspection for a 7-Acre Project Area at Kawailoa, Waialua, O'ahu

TMK: [1] 6-1-003: 001 and 032

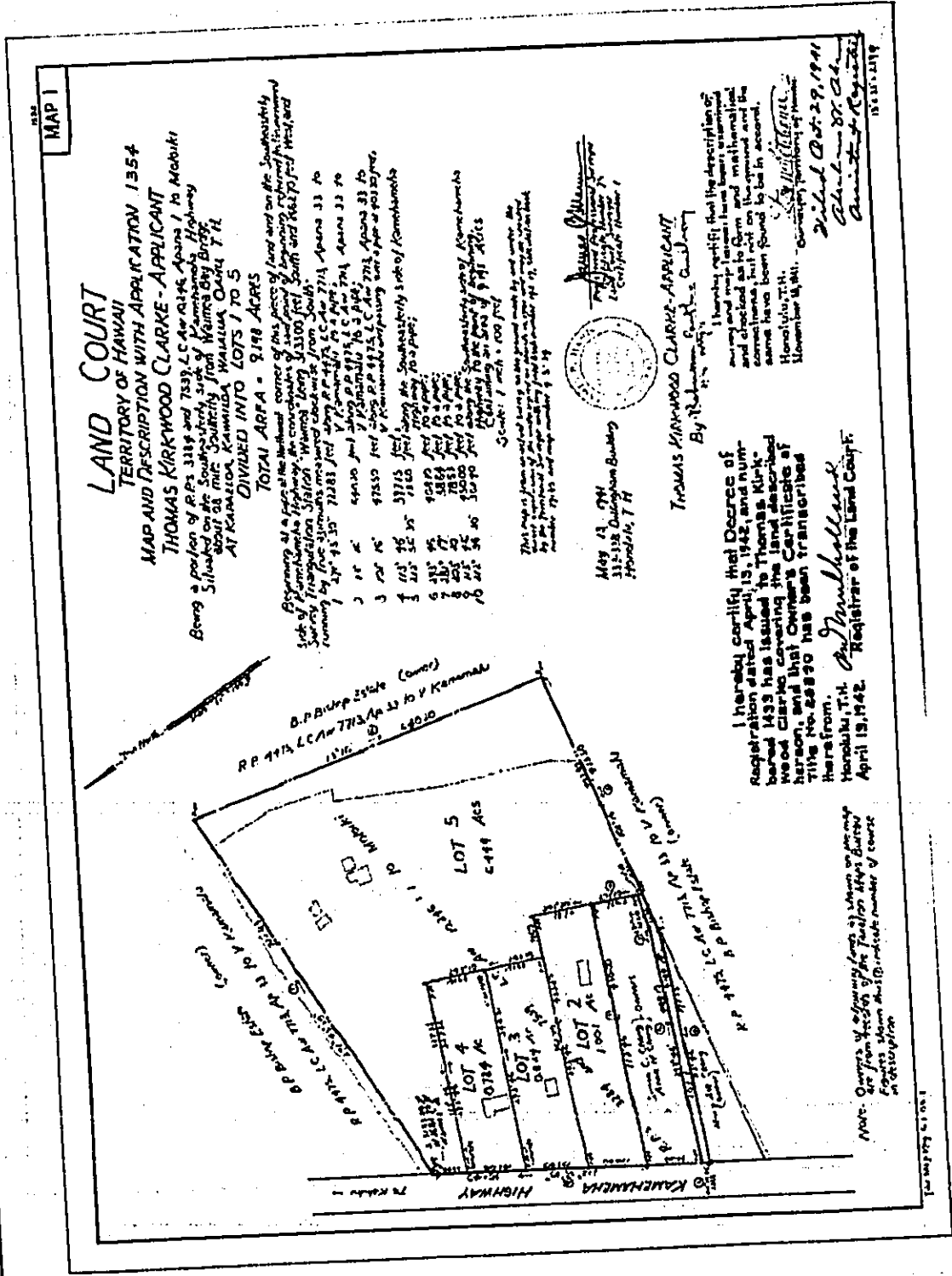


Figure 10. Land Court Application map 1942

Archaeological Literature Review and Field Inspection for a 7-Acre Project Area at Kawaihoa, Waialua, O'ahu  
TMK: [1] 6-1-003: 001 and 032

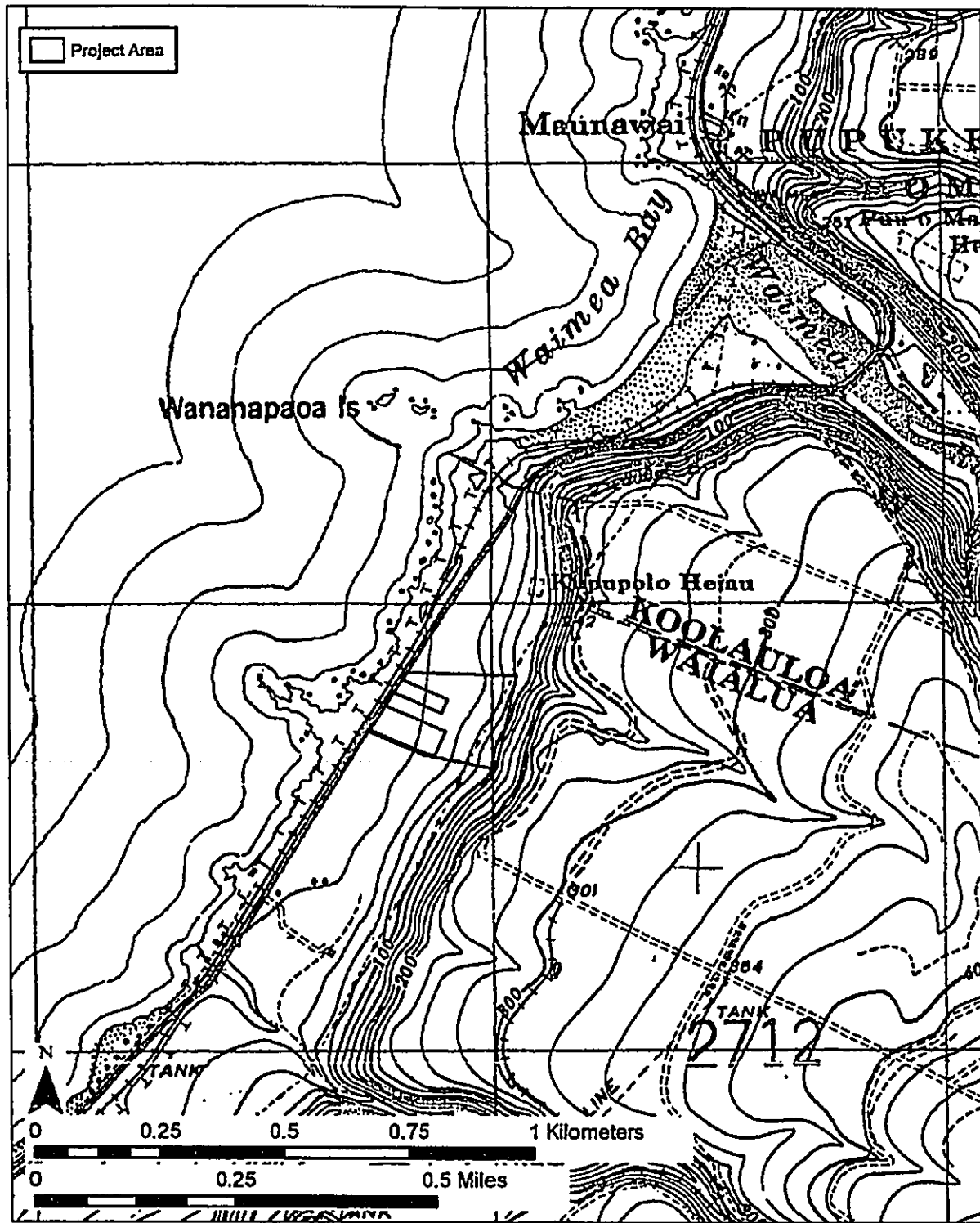


Figure 11. 1943 War Department map



The severity of the tidal waves varied at different locales along the islands' coasts. At Waialua Bay, the waves ranged from 10 to 11 feet above sea level; further along the coast between Waialua and Waimea bays, wave heights of 19 and 17 feet above sea level were recorded (Shepard et al 1950:418,421).

The O.R. & L. Company ceased operating its rail line in 1947. The Hale'iwa Hotel, which the U. S. Army had used as a recreation facility during the war, closed in 1952.

The Dairymen's Association farm moved to Kawailoa in 1957. Two years later, the Dairymen's Association became Meadow Gold Dairies Hawai'i. The farm relocated again in 1990 to its current home in Waimanalo.

## Section 4 Previous Archaeological Research

### 4.1 McAlister Designated Sites at Kawaihoa

The B.P. Bishop Museum archaeologist J. Gilbert McAllister identified 13 sites (sites 230 and 233 to 244) at Kawaihoa Ahupua'a in the course of his fieldwork c. 1931. These are related below with reference to their location to the present study area.

#### 4.1.1 Site 230 Two Stones Known as *Mo'o*

McAllister (1933:141) relates:

Two stones known as *mo'o*, on either side of the Anahulu Stream above the old Haleiwa Seminary. One was named Poo o Moo and the other was known as Wawae o Moo. They are in no way different from ordinary stones and can not be distinguished from other stones in the vicinity unless pointed out by one of the Hawaiians.

These stones were located approximately 3 miles southwest of the present project area. McAlister's Sites 231 and 232 are understood to be in Pa'ala'a Ahupua'a to the southwest.

#### 4.1.2 Site 233 Loko Ea Fishpond

McAllister (1933:141) relates:

A small fresh water pond covering 2.5 acres, still in use [c. 1931] The present pond is divided from a small stream, into which its outlets (*makaha*), open by a stone and earth embankment. Its other sides are formed by the natural contours of the land.

Loko Ea fishpond is located approximately 3 miles southwest of the present project area.

#### 4.1.3 Site 234 Puaena Point Waialua

McAllister (1933:141-142) relates:

At the death of Elani, who was greatly beloved by his people, his body was placed on a ledge of rocks near Puaena Point, where it was allowed to decompose. The place became known as Kahakakau Kanaka. As the odor came to the sands at Haleiwa they became known as Maeaea; the point on the other side became known as Kupava. Hookala tells me that at this same place, if there was no one to care for the body of a commoner after his death, the corpse was placed on these rocks. The fluids from the decaying body would seep into the sea and attract sharks, which the people killed.

The Pua'ena Point site area is located approximately 3 miles southwest of the present project area.

#### 4.1.4 Site 235 Stone with Curative Powers

McAllister (1933:142) relates:

Partially covered by the sands of the beach and continually washed by the tides is a smooth, oval-shaped stone about 2 feet high and 4 feet long which represents a woman known as Puaena who came in the following of Pele from Tahiti. For its curative powers the stone was famous, and Hawaiians came to visit it from all parts of O'ahu. Seaweed was placed on the stone and a petition for aid addressed to it before the injured part was touched to the stone. If the ceremony was properly performed, the cure would be certain to follow. People also came to Puaena to inquire about the prosperity of the times and were answered through the medium of dreams.

The Pua'ena stone is located approximately 3 miles southwest of the present project area.

#### 4.1.5 Site 236 Ukoa Fishpond

McAllister (1933:142) relates:

One of two Waialua ponds; still in use. It is a long narrow fresh-water pond, approximately a mile in length, most of it now overgrown with weeds. Laniwahine was the goddess (moo) of Ukoa and lived there with her brother Puihula. Between the pond and the sea was a tunnel through which Laniwahine passed when she wished to bathe in the ocean. Offerings were left for her on a stone, located near Pump Number 4 of the Waialua Agricultural Company. The site of this stone was marked for many years by a dead tree which was not removed because of its association with Laniwahine. Now neither stone nor tree is to be found.

This is the pond to which Lehuanui was sent by Oahunui to obtain fish. Here Lehuanui and his retainers found "the fish packed thick at the *makaha* and were soon busily engaged in scooping out, cleaning and salting them."

'Uko'a Fishpond is located approximately 2.25 miles southwest of the present project area.

#### 4.1.6 Site 237 Iliilikea Heiau

McAllister (1933:142) relates:

Destroyed in 1916 by W. Harpham for the Waialua Agricultural Company. Thrum describes it as: "Of two divisions 75 feet by 267 feet, its walls well defined, though in ruins." Only a few large rocks indicate the former site, which is now covered with cane

'Ili'ilikea Heiau was located approximately ½ mile inland from the coast, approximately 2 miles southwest of the present study area.

**Site 238, Pu'upea Heiau, Punanue Point.**

McAllister (1933:142) relates:

The old Hawaiians of the region have only a hazy recollection of the site of Puupea heiau. This site, which may be the heiau, is located on the beach not more than 50 feet from the water. The south end, which appears to have been approximately 100 feet wide and 250 feet long, was a level sand paved inclosure 1 foot higher than the outside and has two large stones measuring 13 by 10 feet by 6 feet high almost in the center. The wall on the sea side, which is about all that remains, is composed of a single row of stones standing on end and averaging from 2 to 3 feet in height. These are probably only the large foundation stones of a wall that was much higher. The smaller stones have been removed. The erect stones are nearly in a straight line for a distance of 250 feet. Then the wall begins to meander. It is of waterworn stones piled and faced to a height of 3 to 4 feet. At the base are large stones similar to the upright stones. The walls seem to end at a large pile of stones on the Haleiwa side of the Frank Wright place. The north end probably contained a number of small inclosures. The Cooper house is built right in the midst of the site, of which but little remains.

According to McAllister, Pu'upea Heiau was located on Punanue Point, *makai* (northeast) of Kamehameha Highway approximately 1.5 miles southwest of the present project area.

**4.1.7 Site 239 Akua Stone Punanue**

McAllister (1933:143) relates:

A small, smooth stone, standing erect, is said to be an *akua* with the probable name of Punanue. It measures 1.1 feet high and 07 foot at the base. Bits of waterworn lava and coral surround the stone, which is said to have been undisturbed. There is also a "frog stone" in the vicinity, which some old Hawaiians told the owner of the property was sacred. He does not remember who the Hawaiians were, and as frogs were unknown on these islands, the appellation of "frog stone" can hardly be taken as authentic or significant. None of the old Hawaiians I talked with had heard of the stone.

The *Akua* stone was located near Punanue Point, *makai* (northeast) of Kamehameha Highway approximately 1.5 miles southwest of the present project area.

**4.1.8 Site 240 Kohokuwelowelo, Dwelling place of kahuna**

McAllister (1933:143-144) relates:

The commoner never approached the oval shaped elevation upon which the site is located, and had the utmost fear and respect for the place. To the north, west and south the approach is steep, in places precipitous, but to the east the slope is more gradual forming a dip between the site and the higher elevation farther eastward. The remains consist of a series of connecting terraces, some partially enclosed, usually of dirt flooring, but with a number of what were probably small rock

platform. The walls are irregular in height and width, mostly of rough lava stones, but there is a surprising amount of waterworn material and some old coral in the walls. According to Thrum that is "...where Kaopulupulu, the famous priest and his son, are said to have made a short stay in crossing through Waialua." About 200 feet on the sea side of Kohokuwelowelo and at a lower elevation are walls, not more than 2 feet high, which inclose an area 30 by 38 feet. The west interior has a 12-foot stone pavement.

McAllister supplies an annotated plan view map of the site. This "former dwelling place" of kahunas was located near Puanue Point, on the *mauka* (southeast) side of Kamehameha highway approximately 1.5 miles southwest of the present project area.

#### 4.1.9 Site 241 Kūpopolo Heiau

McAllister (1933:143-146) relates:

Kūpopolo Heiau around the bluff from Waimea Bay about 300 feet from the road in the level area between the road and the bluff in the land known as Kawailoa. A two-terraced rock-paved structure 266 feet long by 110 feet maximum width, with a rather heavy stone wall dividing the two terraces. The heiau was visited and described by Thrum in 1905 and is practically in the same condition today [c. 1930] except that "The central third part of each [of the two main terraces] was well leveled off with small flat and broken stones filling in the chinks while those in the end of each division were in a loose and confused state." This difference in paving was also noted by Emory in 1921 when he visited the site. There is now no noticeable difference in the paving of the terraces, except that in certain portions, as in the southwest corner, it is more disturbed than in other places. Now the eastern half of the northern division is dirt-paved, though this may have been caused by a wash from the adjoining bluff. Pits now located on the terraces were probably made by relic hunters.

McAllister goes on to supply an extensive description of the heiau from Thrum and supplies an annotated plan view map of the site. Kūpopolo Heiau is located approximately 0.25 miles north of the present project area.

#### 4.1.10 Site 242 Stone in a rock shelter above Kūpopolo Heiau

McAllister (1933:146) relates:

In the rock shelter just above the heiau known as Kūpopolo lived two old men. One planted *awa* (*Piper methysticum*), and the other sweet potatoes. At harvesting time the man who planted the *awa* said to the other, "My *awa* will be very fine, but there should be fish to eat." The other agreed that he would like fish to go with his potatoes, which were ready to be harvested. So they went in a canoe and cast their nets, only to bring up a stone. Many times they cast, but always they brought up only the same stone until, tired and discouraged, they returned to their shelter to sleep. Each had a dream and one woke up and said to the other, "I had a

very strange dream. The stone we caught in our nets is a man and he wants to be brought to land, for it is very cold in the sea."

"That is strange," said the other, "the dream is very familiar, for I had the same dream; and if we get him we will have many fish."

So that day they again went out and in casting their nets again brought up the same stone, which they carefully brought to shore and placed on the land. Then they returned to their nets and caught more fish than they could bring back. They then had a big feast of potatoes, *awa*, and fish and again fell into a sound sleep. This time they dreamed that the stone would like *awa*. Upon awaking they immediately brought the drink to the stone for they knew that the stone was a god and its wishes should be fulfilled. According to Mrs. Anne Keahipaka, from whom I heard this legend, the stone was called Kaneaukai.

This rockshelter is located approximately 0.25 miles north of the present project area.

#### 4.1.11 Site 243 Sacred stone known as Kaahakii

McAllister (1933:146) relates:

This tongue-shaped stone, with only the tip protruding above the ground, can still be seen [c. 1931] close to the sea side of the present road southwest of Waimea Bay. When the road was regraded in 1930 the stone was left untouched by the workmen, though on either side the earth was cut away. Thus the stone is somewhat more exposed than formerly.

There used to be another sacred stone in this vicinity. When the railroad was being built and the men were blasting the stone stood erect and apparently caused the death of three workmen. The stone could not be pulled over, but had to be carried away. According to Hookala, this stone was a *kupua*, which he defined as a stone belonging to a particular region.

This sacred stone was located approximately 0.25 miles north of the present project area.

#### 4.1.12 Site 244 Fishing shrine sea side of the railroad north of Kupopolo Heiau

McAllister (1933:146-147) relates:

This is a shrine which probably formerly inclosed the akua stone known as Kaneaukai (Site 242). Hookala tells me that the fishing shrine was known as Keahu o Hapuu. According to Emerson, Kehu-o-hapuu is the name of the bluff on the Waialua side of Waimea Bay.

The shrine is rectangular in shape, 47 by 38 feet, interior dimensions, with heavy surrounding walls 6 feet wide and from 4 to 6 feet high. The wall on the mountain side appears to have had a small ledge both inside and out 2 feet wide and 1 foot above the floor. There was also a small ledge 3 feet wide on the outside of the wall

on the sea side. On the north end, outside was a rock paved terrace 10 feet wide. There is a break in this wall, which may have been an entrance at one time. Adjoining the northeast wall is a terrace of rocks 14 by 21 feet. In the interior of the southwest wall is a small irregular ledge 2 feet higher than the floor and 2 feet lower than the top of the wall. Near the mountainside of the shrine is an outcrop of lava some 20 feet high, with two portions of walls, following the irregular edge of the height.

According to Hookala, a black suckling pig was brought before the akua stone in the ceremonies preceding the opening of the tapu days. Evidently it was not necessary to kill the pig, for when it was placed before the stone it "stood and shivered, and dropped dead."

This fishing shrine is located approximately 0.25 miles north of the present project area.

Thus while none of McAllister's sites lies in the immediate vicinity of the present project area, his sites 241 to 244 all lie at a distance of about a quarter mile to the northeast.

#### 4.2 Recent Archaeological Studies at Kawailoa Ahupua'a

Kawailoa Ahupua'a has been the subject of intensive archaeological, historical, and paleo-environmental studies in recent years (Figure 12 and Table 2). Anahulu Valley and the lowlands around Waialua Bay were the focus of studies initiated in the 1970's. The "Anahulu Valley Project" as it was called, "joined archival ethnography with field archaeology, so as to construct an integrated history of Anahulu Valley" (Kirch 1992:1). The data from the project was presented in the two volumes of *Anahulu the Anthropology of History in the Kingdom of Hawai'i* (Kirch and Sahlins 1992).

The Anahulu Valley Project focused on sites in the mid and upper valley and included extensive background research concerning all of Waialua. The study documented the expansion into the inland areas of Kawailoa, ca. fourteenth century, as evidence by temporary camps within rock shelters in Anahulu Valley (Kirch 1992:165). Land use during this "Expansion Period (i.e. ca. A.D. 1100-1650) "appears to have been of a very low intensity, focused on the exploitation of native birds (both land birds and nesting seabirds), and other stream and forest products, with some limited shifting cultivation" (Kirch 1992:165). Subsequently occupation of the rock shelters became permanent though land use was still focused on shifting cultivation and forest product extraction. It was not until the occupation of O'ahu by Kamehameha's forces in A.D. 1804 that land use changed dramatically with permanent house sites replacing rock shelters and irrigated taro terrace complexes replacing shifting cultivation. (Kirch 1992:165)

Though no evidence of early occupation (i.e. colonization, A.D. 300-600, or developmental, A.D. 600-1100, period) was found within mid or upper Anahulu Valley, Kirch suggested that because of the "abundant marine resources at Waialua it is likely that initial Polynesian settlement of this area dates back to the early developmental or colonization period" (Kirch 1992:165). Additional evidence that Waialua Bay was probably occupied relatively early comes from "a small basalt adze of distinctive form eroding from a disturbed midden deposit at Hale'iwa Beach Park" (Kirch 1992:14). The adze form was previously only known from "the two earliest Hawaiian sites..." and "the presence of this early adze form at Waialua may thus

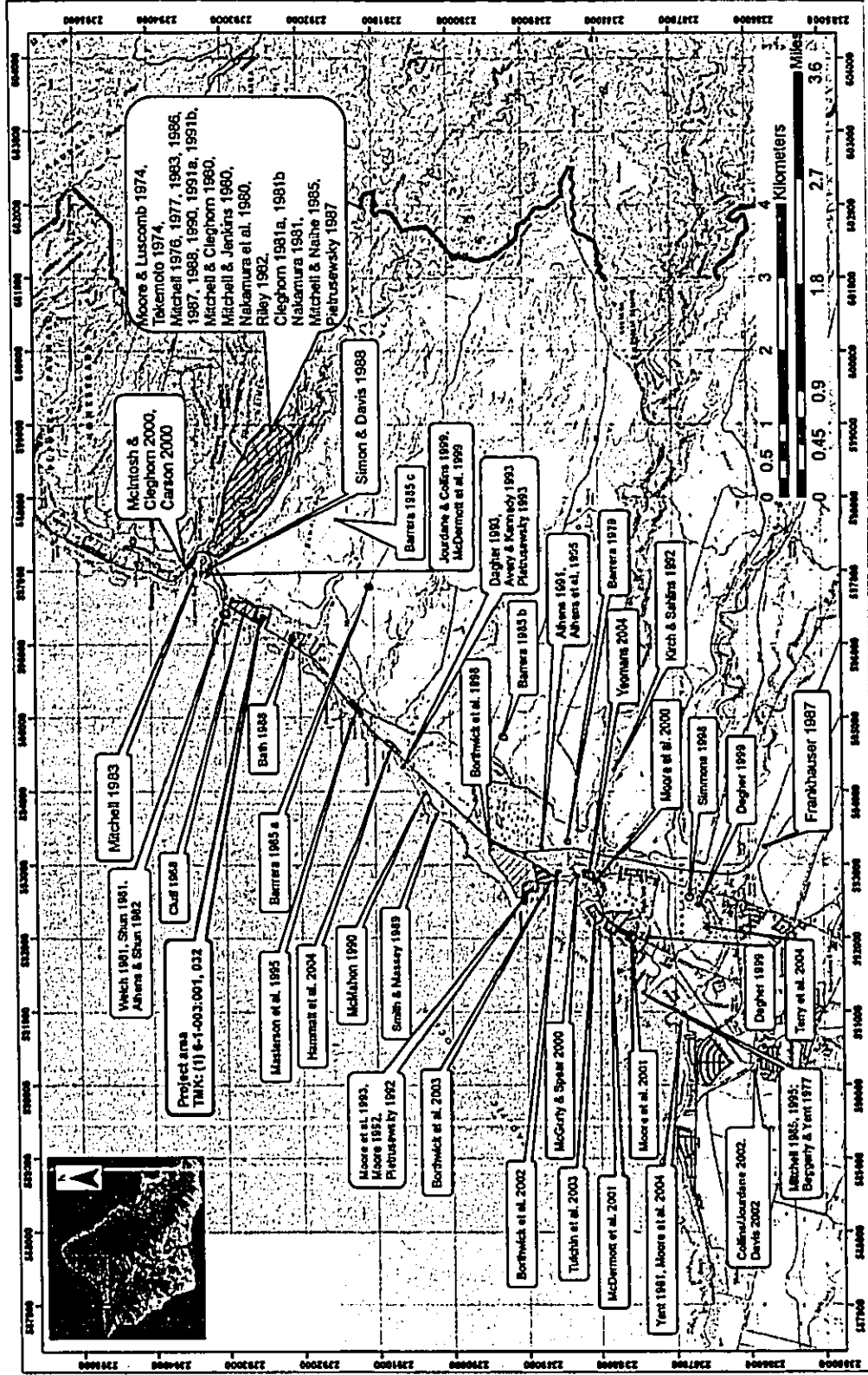


Figure 12. 1999 USGS Map Showing Locations of Previous Archaeology and Current Project Area



Table 2. Previous Archaeological Studies at Kawaihoa Ahupua'a

Author(s)/ Date	Nature of Work	Location	Findings
McAllister 1933	Island-wide survey	Kawaihoa Ahupua'a	Identified 13 sites at Kawaihoa Ahupua'a :
Cluff 1968	Preliminary Archaeological Surface Survey	Kūpopolo Heiau and Adjacent Area	<i>Heiau</i> , <i>akua</i> stone, petroglyphs, cave and a semi circular enclosure
Kirch 1974	Archaeological Fieldwork Report	Anahulu Valley	Brief (5 pg.) documentation of Anahulu excavations
Moore and Luscomb 1974	Archaeological Survey	Lower Waimea Valley	Documents sites in lower Waimea valley
Takemoto, 1974	History of Waimea Valley	Waimea Valley	Provides a general history of Waimea valley
Mitchell 1976	Archaeological Survey and Renovation Report	Waimea Valley, Site D7-33	Discusses several sites in Waimea valley
Mitchell 1977	Archaeological Survey and Restoration Report	Waimea Valley, Site D7-26	Discusses wall complex with mounds in Waimea valley
Barrera 1979	Cultural Resources Survey	Hale'iwa Bypass Road Vicinity	Discusses 5 sites: 50-80-04-1439 historic artifact scatter, -1440 wall remnant, -1441 ag. terrace complex, -1442 Emerson homestead, -1443 "old church"
Mitchell and Cleghorn 1980	Interpretive Plan (Second Quarterly Report of the Archaeological Consultations With Waimea Falls Park)	Kauhale Kahiko Site (Site 50-Oa-D7-33), Waimea Falls Park	Development of interpretive plan for previously identified archaeological sites
Mitchell and Jenkins 1980	Addendum to 1977 Report, Archaeological Survey, and Restoration	Waimea Valley, Site D726Z	Discusses site in Waimea valley
Nakamura, Mitchell, Cleghorn and Riley, 1980	An Interpretation of the Historical Evidence; Interpretive Plan	Site (50-OA-D7-33), The Ahupua'a of Waimea	Discusses site in Waimea valley

Author(s)/ Date	Nature of Work	Location	Findings
Riley 1980	First Quarterly Progress Report Archaeological consultations Waimea Falls Park	Waimea Falls Park	Development of interpretive plan for previously identified archaeological sites
Sinoto, 1980	Archaeological Reconnaissance Survey	Haleiwa Residential Subdivision, Waialua, 13.9 acres TMK 6-1-04:23, 58 & 77	No significant finds
Cleghorn 1981a	Third Quarterly Progress Report Archaeological Consultations Waimea Falls Park	Waimea Falls Park	Development of interpretive plan for previously identified archaeological sites
Cleghorn 1981b	Fourth Quarterly Progress Report of the Archaeological Consultations With Waimea Falls Park	Waimea Falls Park	Basically a research design
Nakamura 1981	Study of the Historical Evidence	Ahupua'a of Waimea, O'ahu (particularly Waimea Falls Park)	Presents historical background on Waimea Ahupua'a
Welch, 1981	Archaeological Reconnaissance Survey	Two Parcels on the South Side of Waimea Bay 8.55 acres	Same study area as Shun 1981 & Athens & Shun 1982; Documents 11 sites incl. <i>heiau</i> , sacred stone, water hole, railroad bed, enclosure, rock shelters, etc.
Shun 1981	Phase I Archaeological Investigations	Two Parcels on the South Side of Waimea Bay	Same study area as Welch 1981 & Athens & Shun 1982; Presents testing results at 50-80-01-2484, - 2485, -2486 (traditional midden and artifacts)
Athens and Shun 1982	Archaeological Investigations and Mapping	Near Waimea Bay	Same study area as Welch 1981 & Shun 1981; Presents testing results "wealth of Artifactual material" incl. Nēnē-like bone

Author(s)/ Date	Nature of Work	Location	Findings
Hommon, 1982	Archaeological Reconnaissance Survey	Portions of the Waialua-Haleiwa Wastewater Facilities System (Kawailoa Beach to Mokuī'ia Beach	Provides brief summary of sites in greater Waialua - Hale'iwa area; describes site 50-80-04-3400 enclosure remnant by Kawailoa Waste Water Treatment Plant
Mitchell 1983	Documentation of Skeletal and Cultural Remains Exposed by High Surf	Waimea Beach Park, O'ahu. (TMK 6-1-01:3	Human remains and historic debris (Site 50-80-01-3736 exposed by surf erosion
Barrera, 1985a	Archaeological Survey	Kawailoa at Proposed Well Location	No significant finds
Barrera, 1985b	Archaeological Survey	Ukoa, at Proposed Well Location	No significant finds
Barrera, 1985c	Archaeological Survey	Waimea, at Proposed Well Location	No significant finds
Mitchell and Naihe 1985	Archaeological Survey	TMK:6-1-02:5, Waimea Falls Park	Documents numerous sites in Waimea Valley
Mitchell 1986	Mo'olelo O Waimea, O'ahu AD 1090 - 1978: The History of Waimea	Waimea	Presents historical background
Mitchell 1987	An Archaeological Survey, Excavation and Restoration Report	Hale o Lono Heiau in Waimea Site 50-Oa- D7-23	Reports work on <i>heiau</i> adjacent to present park parking lot
Pietrusewsky 1987	Osteological study	Waimea Bay Cave Burial, (TMK 6-11-02:2, 1 por. 25, state # 80-01-4062,	Includes police report and forensic identification report.  Report not seen; location of burial cave at Waimea Valley uncertain, site # 50-80-01-4062
Bath, 1988	Report on Hale'iwa Burials	Site 80-01-3724, Hale'iwa	Report not found in SHPD files; burials reported as at TMK [1] 6- 1-011:20 approx. 400 m southwest of present project area

Author(s)/ Date	Nature of Work	Location	Findings
Mitchell 1988	<i>Oli Mo'olelo o Waimea</i>	Waimea	Presents historical background on Waimea Ahupua'a
Simons and Davis 1988	A Locality Report on a Previously Unreported Archaeological Site	Waimea, west bank of stream where meets bay	Documents cultural deposit incl. historic artifacts, midden & fire-cracked rocks
Smith, and Masse 1989	Burial Removal report	61-795 Papailoa Road, Kawaiiloa, TMK [1] 6-1-004:093	Report not seen; human remains recovered by SHPD at Papailoa Road, given Site # 50-80-04-3956
McMahon, 1990	Burial Recovery	Site 50-80-04-4240. TMK: 6-1-04:81 Papailoa Road	Report not seen; human remains at Papailoa Road given Site # 50-80-04-4240
Mitchell 1990	Archaeological Survey and Addendum to B. P. Bishop Museum Report Ms 052974 of 1974	Site OA-50-D7-12 A-G, Waimea Valley	Details work at site in Waimea Valley
Mitchell 1991a	Archaeological Survey	North Valley of Waimea, Site OA-50-D7-60 to 78	Documents numerous sites in North Valley of Waimea
Mitchell 1991b	Summary of an Archaeological Survey and Testing	Waimea Falls Park, North Valley, Site D7-12	Details work at site in Waimea Valley
Moore, 1992	Addition Inventory Survey with Subsurface Testing	TMK 6-2-01:4,5,6,8.	Reports 4 burials and a midden deposit; more details in Moore et al. 1993
Pietruszewsky, 1992	Osteological Study of Human Remains	Hale'iwa Beach Park [1] 6-2-01:4,5,6,8	Sites 50-80-04-4594 and -4595 (see Moore, 1992 and Moore et al. 1993)
Pfeffer, and Hammatt 1992	Defines areas of possible historic preservation concern	Waialua to Kahuku Power Line (well inland)	Concerns expressed for Waimea Valley but not for <i>mauka</i> Kawaiiloa
Athens, 1993	Archaeological Subsurface Inventory Survey	Hale'iwa Bypass Road Construction, Wetland Area Near 'Uko'a Pond	Preliminary testing at 'Uko'a Pond followed up on in Athens et al. 1995

Author(s)/ Date	Nature of Work	Location	Findings
Avery, and Kennedy 1993	Archaeological Report Concerning Inadvertent Discovery and Monitoring	61-669 Kamehameha Highway, TMK 6-1- 10:006, Kawaihoa	Follow up to Dagher 1993, burial site -4670 had a MNI of 3 individuals. Post-1933 pit toilet documented
Dagher, 1993	Report on Inadvertent Discovery of Human Skeletal Remains	61-669 Kamehameha Highway, TMK: 6-1- 10:006	Site -4670 had a MNI of 3 individuals followed up on in Avery, and Kennedy 1993
Moore, Kennedy, and Brennan 1993	Archaeological Inventory Survey With Subsurface Testing Report	Hale'iwa Beach Park Extension. Located at TMK: 6-2-01:4,5,6, and 8 in Kawaihoa	Identified site 50-80-04-4589 a house site with 5 features, McAllister's site 235 a curative stone, burial sites -4593 to -4595, site 4590 fire pits, -4600 pit & posthole, and -4601 posthole & charcoal lens
Pietruszewsky, 1993	Osteological report on Human Femur find	Laniakea Beach TMK [1] 6-1-10:18	Report not seen; appears to be remains documented by Dagher, 1993 and Avery, and Kennedy 1993
Athens, Ward Blinn and Tomonari- Tuggle 1995	Paleoenvironmental Investigations	'Uko'a Pond	Retrieved a 7.25 m core "providing a nearly continuous sedimentary record for the past 8,000 years." documenting rapid decline of lowland forest c. AD 950
Masterson, Borthwick and Hammatt 1995	Archaeological Reconnaissance Survey	Proposed Chun's Reef Support Beach Park 3 acres	Discussion of conflicting evidence for identification of Pu'upea Heiau
Borthwick, Colin, Chiogioji and Hammatt 1998	Archaeological Inventory Survey and Subsurface Testing Report	140-acre parcel (TMK 6-1-4:23, 58 and 6-2-1:1,10)	8 sites incl. WWII sites -5641, - 5642, -5643; a burial -5495; historic trash dump -5644; cultural layer -5661; Pua'ena stone -5644

Author(s)/ Date	Nature of Work	Location	Findings
Jourdane and Collins 1999	Report Documenting Inadvertent Discovery of Skeletal Remains	Waimea Bay Beach Park	1 set of probably pre-contact human remains by Beach Park bathhouse (followed -up by McDermott et al. 1999)
McDermott, Medeiros and Hammatt 1999	Report Documenting the Disinterment of an Inadvertently Discovered Human Burial	(State Site # 50-80- 01-5764) at Waimea Bay Beach Park	1 set of probably pre-contact human remains (follow-up to Jourdane and Collins 1999)
Carson 2000	Archaeological Investigations for the Kamehameha Highway Waimea Bay Emergency Rockfall Remediation Project,	Cliffs Above Kamehameha Highway at Waimea Bay	6 rockshelters including 4 sets of human remains, traditional and historic cultural material
McIntosh and Cleghorn 2000	Archaeological Investigations for the Kamehameha Highway Waimea Bay Emergency Rockfall Remediation Project	Kamehameha Highway Waimea Bay	Traditional and historic cultural deposits, 2 human burials
McGerty and Spear 2000	Archaeological Inventory Survey	TMK: 6-2-03: POR. 6 and 9 Kawailoa,	6 test trenches excavated identifying site 5795 a series of charcoal deposits and burn events and site 5839 a stacked boulder wall
Yeomans 2001	Archaeological Data Recovery	Site 50-80-01-5795 TMK 6-2-03:por. 6 & 9	Focus on documentation of stratigraphic chronology with report of date of AD 1210-1670 with Layer VI believed to pre-date AD 1210

Author(s)/ Date	Nature of Work	Location	Findings
Borthwick, Perzinski and Hammatt 2002	Archaeological Inventory Survey Report	Proposed North Shore Skateboard Park, Kawaihoa, (TMK:6-2-3:17, 19, 20, 22, and 38	3 sites identified OR&L right-of- way site 50-80-04-5791, a basalt boulder water tank foundation, site 50-80-04-5915 and a subsurface cultural layer site 50-80-04-5916
Berdy, Elmore, Moore, and Kennedy 2002	Archaeological Inventory Survey Report	TMK:5-9-23:1 & 5- 9-24:1 (por.) and 6-1- 02:22 (por) in Pūpūkea and Waimea 1.25 acres	No significant sites
Borthwick, Yorck, Bush and Hammatt 2003	Archaeological Inventory Survey Report	Hale'iwa Beach Park, Kawaihoa, (TMK 6-2- 01: por.2)	6 test trenches excavated but no significant finds, monitoring program recommended
Hammatt, Freeman, Souza and Borthwick 2004	Archaeological Inventory	Proposed Laniakea Beach Support Park, TMK 6-1-05:14 por.; 3 acres	9 backhoe trenches, no significant finds, recommends avoidance or monitoring of sandy areas

indicate a colonization or early developmental period occupation in the Waialua area" (Kirch 1992:14).

Studies related to the Hale'iwa bypass highway were initiated in the late 1970's. The initial survey of alternatives resulted in the identification of five sites, 50-80-04-1439, -1440, -1441, -1442 and -1443. Additionally three previously recorded sites, -229 Kawaipuolo spring, -233 Loko'ea fishpond, and site -236 'Uko'a pond were also documented (Barrera 1979:4). Subsurface testing indicated, "that the subsurface cultural materials were deposited during relatively recent clearing of the surrounding area" (Barrera 1979:29). Site -1440 refers to a stacked stone wall remnant of unknown function, though it may have represented the remains of a larger structure. Site -1441 refers to presently utilized *lo'i*-type terraces, though at the time of the survey, cultivation of hasu, or lotus root, was the dominant crop. Site -1442 designates the former homestead of the missionary John S. Emerson on the south side of Anahulu River. Site -1443 refers to the remains of "an old church" on the north side of Anahulu stream.

'Uko'a Pond, State Site 50-80-04-236 was the subject of paleo-environmental research by IARI Inc. (Athens et al. 1995). The study, related to the Hale'iwa Bypass Highway project, consisted of analyzing core samples from the 'Uko'a Pond wetlands. Coring investigation of 'Uko'a Pond revealed up to 18 stratigraphic layers in three fully analyzed cores (Athens et al. 1995). Paleo-environmental studies associated with 'Uko'a Pond (Site 50-80-04-236) were conducted "to evaluate archaeological resources and mitigate adverse impacts caused by construction of the Hale'iwa Bypass Road through archaeologically sensitive wetlands" (Athens et al. 1995:1). A total of four sediment cores were collected with three being fully analyzed.

The study provides discussions on environmental changes, "for the past 8,000 years or so" as evidenced by pollen and diatom analysis, sediment accumulation rates and charcoal particle counts. The pollen analysis culminated in dividing up the entire sequence into four zones, A-D, with Zone A the earliest "period from 7500 to 3400 years B.P.", Zone B "from 3400 to 1600 years B.P.," Zone C "dating from 1000 to 500 years B.P." and Zone D "the last 500 years" (Athens et al. 1995:118-119). In general, the pollen record indicates that: (1) the first two zones, A and B, are "characterized by an abundance of arboreal types;" (2) throughout Zone C (1000 to 500 B.P.) there is a distinct decline "and in many cases extirpation from the record of all arboreal pollen types." This indicates "the lowland forest evidently becomes entirely replaced by an open scrub land in perhaps no more than 300 years. On a calendrical time scale this change begins to appear in the pollen record about A.D. 950. The nature of the change, which has been similarly documented in other pollen cores on O'ahu, is strongly suggestive of a causal relation with the advent of the Polynesian colonization of Hawai'i". The pollen record for the last 500 years, Zone D, was so poorly preserved that "information concerning this zone is not available" (Athens et al 1995:119).

The presence of particle charcoal within the cores was suggested to be evidence of fires utilized in the 'Uko'a watershed area to clear forested lands for agriculture. The presence of charcoal was somewhat unexpected, as previous coring on O'ahu had "not yielded particle charcoal records" (Athens et al 1995:119). Based on the particle charcoal analysis, occupation of the Kawaihoa area appears significantly earlier than previously thought: "the charcoal particle evidence suggests occupation of this area probably by about A.D. 800, and both the charcoal particle and pollen evidence strongly indicate occupation definitely by A.D. 950. This finding, in effect, pushes back the previously accepted date of initial occupation of Kawaihoa by some four centuries at a minimum" (Athens et al 1995:121).

The study at 'Uko'a pond provided evidence of the change in the environmental conditions over a span of roughly 8000 years. Particle charcoal and pollen records strongly suggested human evolved impacts to the 'Uko'a watershed ca A.D. 850 and definitely by A.D. 950. The dates are suggestive of forest clearing in the 'Uko'a watershed related to initial Polynesian occupation of the Kawaihoa area of the Waialua region. Accumulation rates for sedimentation were calculated suggesting that the steepest rate of accumulation occurred about 2200 years B.P., well prior to the settlement of the Hawaiian Islands. It was concluded, however, that:

...the sediment accumulation curve drops steeply just when Polynesian impacts and upland erosion would be expected to be at their most severe. The 'Uko'a Pond data, therefore, certainly do not support a model of anthropogenic erosion leading to coastal infilling and progradation. The fact that the upward trend starts at 2200 years B.P. is suggestive of sea level change as the governing process. This, as was discussed earlier, is just the time that the high sea stand of the mid-Holocene is thought to have reached its modern level and stabilized in Hawai'i. The sediment accumulation curve, therefore, may only represent the process of coastal sediments reaching a new equilibrium state (in terms of erosion and deposition) in response to changed sea level conditions (Athens et al 1995).

In 1993 Archaeological Consultants Inc. conducted an inventory survey with extensive subsurface testing for the expansion of Hale'iwa Beach Park (Moore et al 1993). During the



survey, two surficial sites (Site 50-80-04-4589, historic house site; McAllister's Site -235, a stone), two intact and four partial burials (Sites 50-80-04-4593, 4594 and 4595), three fire pits (Site 50-80-04-4590 Feature A - C), and a posthole and charcoal lens (Site 50-80-04-4601 Features A and B) were encountered.

Radiocarbon analysis from contents of three separate fire pits (Site 4590 Features A-C) yielded "age ranges of between 1399 and 1672 A.D." (Moore et al 1993:82). The three fire pits which were from different localities and "different stratigraphic zones" throughout the project area, were assigned the single state site number (4590) because "of the contemporaneous ages obtained for these fire pits" (Moore et al 1993:69). Additionally the other subsurface feature, postholes, a pit and a charcoal lens, though not specifically dated were suggested to "represent a temporary habitation site from the prehistoric or early historic period" (Moore et al 1993:69-70).

The three burial sites included the remains of six individuals. Site -4595 contains the remains of four individuals. The remaining two burials (sites 4593 and 4594) were isolated from the multiple burial site, both located at least 35 meters from site 4595. Based on "the remains of six individuals in a 10.0 meter stretch of the coast line" additional burials were deemed possible "though excavation indicated that the likely distribution of these possible sites is in the form of scattered, isolated burials" (Moore et al. 1993:77, 82).

The beach park expansion project area was also the location of mid-1800's *kuleana* house lots. Sahlins referred to the location as containing "a coastal settlement of at least eleven families" (Sahlins 1992:176). However, no evidence of "any deposits that could be associated with these house lots" were observed due to "disturbances including subsurface pavements, broken and displaced bedrock slabs, inversions of stratigraphy, and a subsurface cesspool" (Moore et al. 1993:83).

Cultural Surveys Hawai'i conducted an archaeological inventory survey with subsurface testing on a 140-acre parcel within Kawailoa Ahupua'a at Pua'ena Point (Borthwick et. al 1998). A surface survey and 44 backhoe test pits were executed to gain a better understanding of previous activities, both historic and pre-contact. Sites encountered during the survey included remnants of World War II-era structures and bunkers (Sites 50-80-04-5641, -5642, and -5643), an historic trash dump (Site -5644), a buried cultural layer (site -5661) and one human burial (Site -5495). The burial was encountered during backhoe testing in a shallow pit in the location of a former *kuleana* house lot. The absence of a coffin or historic artifacts, apparently flexed position of the remains and proximity to other known burials (Sites -4593, 4594 and 4595) presumed to be traditional Hawaiian pre-contact burials (Moore et al 1993), suggests that site -5495 is a traditional Hawaiian burial as well.

Burials have been documented in the Hale'iwa Beach Park expansion project area, as detailed earlier (Moore et al 1993). Additional burials in Kawailoa in sandy deposits were inadvertently discovered across from the former Meadow Gold dairy in a house lot off of Kamehameha Highway. The inadvertent finds, from footing trenches for a house, consisted of the disturbed remains of three individuals that were assigned state site 50-80-04-4670 (Avery and Kennedy 1993, Dagher 1993). The examination of the footing trenches indicated that no further burials were present and no burial specific features were noted. "No stratigraphic associations could be made due to the nature of the backhoe disturbance and no in situ human remains were found" (Avery and Kennedy 1993: 1).

Scientific Consultant Services Inc. conducted an archaeological inventory survey with six backhoe trenches just south of Loko'ea Pond, approximately 250 m south of the current project area. During the survey two sites were identified: State Site 50-80-04-5795, a series of charcoal deposits and burn events; Site 5839, a stacked basalt boulder wall. One charcoal sample was submitted "resulting in the radiocarbon date, at two sigma, of A.D. 1420-1530" (McGerty and Spear 2000:37) which represents a pre-Contact cultural deposit.

Cultural Surveys Hawai'i, Inc. carried out an archaeological inventory survey for 5 parcels totaling 3.4 acres for the proposed Hale'iwa Beach Park Skate Park (Borthwick et al. 2002). Three sites were identified and documented during the survey including a segment of the O.R. & L. railroad right-of-way (State Site 50-80-04-5791), a basalt boulder structure (State Site 50-80-04-5915), and a subsurface cultural layer (State Site 50-80-04-5916). The basalt boulder structure was interpreted as a foundation for above-ground wooden water tanks related to the O.R. & L. railroad, which subsequently was modified for a variety of functions (e.g. cattle barrier, lot delineation, plantings). The subsurface cultural layer (Site -5916) is a poorly defined mixed strata containing modern to early 1900's trash with sparse charcoal flecking. The mixed strata rest upon gleyed deposits.

Cultural Surveys Hawai'i conducted an archaeological inventory survey with subsurface testing at Hale'iwa Beach Park for wastewater improvements (Borthwick et al. 2003). The inventory survey fieldwork focused on the specific areas of the proposed wastewater improvements.

Six test excavation trenches were completed with a backhoe, with a CSH archaeologist monitoring and directing all excavation activities. No significant cultural deposits were encountered. However, the layer (Strata III) underlying landscaping soils, was recorded as being the original sandy surface prior to beach park construction. Though no evidence of burials or subsurface cultural layers was encountered, based on the proximity to other burials and cultural layers, monitoring was recommended.

In summary, the historical and archaeological research concerning Kawailoa details changing settlement patterns from ca. A.D. 900 through modern times. Based on particle charcoal and pollen analysis, initial occupation of the Kawailoa area is thought to have occurred ca. A.D. 800 and definitely by A.D. 950 (Athens et al 1995). These dates coincide with the "Developmental Period, A.D 600-1100" (Kirch 1992), which Kirch had suggested based on Waialua's favorable environment as well as an early adze type found within Hale'iwa Beach Park. Research indicates early coastal settlement with movements inland for forest clearing for swidden agriculture and procurement of the abundant forest resources (e.g. birds, timber, plants, etc.). Dates based on particle charcoal and pollen resources derived from three cores within 'Uko'a pond tend to suggest early occupation (A.D. 800-950), though the next earliest radiocarbon dates for Kawailoa cluster around A.D. 1400-1600 (Moore et al 1993; McGerty and Spear 2000; McDermott et al 2000). Previous archaeological research indicates that the resource rich coastal strip and natural ponds with associated taro *lo 'i* around the perimeter was likely populated by ca. A.D. 950 and definitely by A.D. 1400. This suggests that subsurface pre-contact deposits are highly probable. Mid-1800's documentation including LCA testimonies indicates that permanent habitations associated with *kuleana* were also present in the vicinity of Laniākea Beach in 1848, likely reflecting a continued occupation of the lands around the project area.

### 4.3 Finds Near the Present Study Area

The Kūpopolo Heiau area inland of Kamehameha highway and approximately 600 feet north of the northeast corner of the present study area was reported on by McAllister and also in a 1968 study by Cluff. McAllister describes the *heiau*, a cave and a god stone in some detail (see Sections 4.1.9 and 4.1.10 of the present study). Cluff also documents the *heiau*, cave and god stone as well as two areas of petroglyphs, a stone enclosure, and historic artifacts recovered in the vicinity. The landowner and lease holders expressed a willingness to donate these lands to the State of Hawai'i subject to certain conditions but the state has not seen fit to follow through.

McAllister describes another *heiau*, Kehu-o-hapu'u (see Sections 4.1.11 and 4.1.12 of the present study) and associated site on the seaward side of Kamehameha Highway just north of Kūpopolo Heiau. This area was studied by the Bishop Museum (Welch 1981, Shun 1981, Athens & Shun 1982) and produced an abundance of artifacts and faunal material indicating both intense Hawaiian activity and significant time depth.

The Bath (1988) burial finds are discussed below.

### 4.4 Burials Near the Present Project Area

Most of the burials reported from Kawaihoa Ahupua'a follow the general pattern for O'ahu of interment in coastal Jaucas sand deposits. These include finds seaward of Kamehameha Highway at 3 different locations at coastal Waimea Bay (Mitchell 1983, Jourdane and Collins 1999, McDermott et al. 1999, McIntosh and Cleghorn 2000) and finds at three different locations between Laniakea Beach Park on the north and Kawaihoa Beach to the south (Smith & Masse 1989, McMahon 1990, Dagher 1993, Avery and Kennedy 1993).

Human remains in cliff caves at Waimea have been reported (Sterling and Summers 1978:130-131, Pietrusewsky 1987, Carson 2000) and are again a part of a widespread pattern of interment in caves in *pali*.

A seemingly anomalous burial find report was reported by Joyce Bath of the SHPD (1988) for human remains (Site 50-80-01-3724) at TMK [1] 6-1-011:20 on the inland side of Kamehameha Highway approximately 400 m southwest of the present project area. This report was searched for at the SHPD Kapolei library, and SHPD staff was queried about the study, but the study was not actually seen by the authors of this study. We note that this stretch of coast tends to be rocky and lacking in Jaucas sand deposits as is the coast in the immediate vicinity of the project area. Whether this burial find was truly anomalous, or whether burial in terrigenous soils was a pattern where Jaucas sand beach deposits were not available, is unclear at this time.

## Section 5 Predictive Model

The historic background and previous archaeological research sections indicate that the current project area located within the coastal zone of Kawaihoa Ahupua'a has a high potential of containing significant sub-surface historic properties. Previous construction activities in the immediate vicinity of the current project area have encountered human burials and cultural layers (Avery & Kennedy, 1993; Moore et al, 1993).

Literary research in the form of legendary and traditional accounts, as well as LCA records indicated that the coastal zone of Kawaihoa contained a density of habitation sites in the pre-contact period.

Based on the review of background literature, anticipated finds within the project area could include both pre- and post-contact subsurface cultural layers and human burials.

## Section 6 Results of Fieldwork

Two archaeologists from Cultural surveys Hawaii9, David Shideler M.A. and Todd Tulchin, B.A. conducted a field inspection of the project lands on November 17, 2006 under the overall supervision of Hallett H. Hammatt Ph.D. Approximately 8 archaeologist-hours were spent on-site during the field inspection.

### 6.1 Field Observations

The project area was accessed from the northern residential driveway extending southeast off of Kamehameha Highway. Preliminary reconnaissance confirmed the layout shown in the aerial photograph (Figure 4) with approximately one-half of the project area being previously developed into house lots with large areas of lawn and landscaping. There are two major residential developments within the project area. In the northeast corner are two residential compounds understood to have been leased as residences of long-standing. A Hawaiian woman residing in the older house with the Virgin Mary shrine in the front yard indicated she had lived there for 42 years. The west central extension of the project area is also developed as a residence with large lawn and landscaped areas to the northwest and south east of the home.

The following discussion of the field inspection is presented as the project lands were experienced in a generally clockwise manner from the northwest corner and is keyed into the following figures.

After parking the archaeologists proceeded to the northwest corner of the project lands to briefly assess the nature of the coastline and general circumstance. The coastline seaward of the northwest corner of the project area is quite rocky and wave swept but is somewhat protected by points of land off-shore islets to both the northwest and southwest. The level land on the seaward side of Kamehameha Highway is quite narrow (10 m) here before beginning a steep rocky drop to the coast. The coastal strip widens to the southwest in front of the southwest portion of the project area. A large residence occupies the seaward side of Kamehameha Highway where the residence of Maloiki (Land Commission Award 10,246, 'Āpana 2) is understood to have been in 1848. A narrow strip of dense *haole koa* and high grass lies on the north side of the project area north of the northernmost driveway (Figure 14).

Approximately 20 m east of the northeast corner of the project area a cement foundation was observed which was identified with a designation of convenience as CSH 1 (Figure 15). This cement perimeter foundation was 6-inches high and 3.5 inches wide and was found to be approximately 20 feet long east/west and could be followed for approximately 12 feet to the south at the east and west ends. The foundation appears to have been built parallel to and very close to the north edge of the project area. No associated cement slab was observed. The vicinity of the foundation and indeed the entire seaward 80% of the east/west length of the project area appears to have been graded in the distant past. While the cement foundation is not suggested to be of any historic property concern we know of no other documentation of this structure.

Remnants of a fence line (fence posts and wire) were observed approximating the north boundary of the project area. A berm of bulldozed push runs parallel to and just south (inside) of this remnant fence line.



Figure 13. General view of NW corner of project area from seaward side of Kamehameha Highway; view to east



Figure 14. CSH 1 Concrete foundation in northwest corner of project area; view to northeast

Approximately midway up the north boundary of the project area a perimeter wall, designated CSH 2; Figure 16) was observed consisting of 1 to 3 courses high, 1 to 2 courses wide medium large subangular basalt boulders. This was never observed to be more than 1.1 m high and for most of the observed length was more of a single boulder alignment than a wall. The purpose of the alignment/wall appeared to be more in the nature of demarcation and possibly clearing than to create a formal wall for the purpose of the exclusion or inclusion of livestock. The nature and construction of the wall was consistent with what might have been expected to have bounded Maloiki's 1848 Land Commission Award 10,246, 'Āpana 1 sweet potato field.

Approximately 50 m west of the east edge of the property another wall was observed trending north/south (designated CSH 3, Figure 17). It was initially thought this might be associated with the present east side of the project area but it was determined that this wall lies significantly to the west (inside the project area). This wall was more formal than the north wall and was composed fairly consistently of small boulders and cobbles 2-3 courses high and 4 to 6 courses wide with a height of 65 cm and a width of 1.1 m. Again this had the appearance of a traditional Hawaiian wall construction. The land west of this north/south trending CSH 3 wall all appears to have been bulldozed but the bulldozing does not appear to have significantly extended east of this wall.

Particular attention was given to the seemingly little disturbed easternmost strip of the project area. The land rises steeply toward a north/south trending cliff line (*pali*) east of the CSH 3 wall. The steep *pali* that lies east of the project area was briefly inspected as it was thought that this was likely to contain historic properties – some of which could be potentially adversely impacted by an increase in activity within the adjacent project area. It was known that Maloiki claimed the *pali* as the east edge of his sweet potato patch Land Commission Award 10,246, 'Āpana 1. The rapid change in landform and vegetation as one approaches the *pali* suggested the prospect of different land use. Two archaeological features were noted in this area.

CSH 4 (Figure 18) designates an east/west (*mauka/makai*) trending wall that extends across the east side of the project area to the south of the northeast corner of the project area. This was south of the north perimeter wall (CSH 2) and is thus not merely an eastern extension of that north perimeter wall. This feature was composed of 1-2 courses of stacked boulders at least 10 m long with part of the wall being fairly formal and a uniform 2 courses high. The west end lies within the project area and the east end lies just outside. The function of the wall is not altogether clear (it does not appear to retain or surround anything) but is assumed to be agricultural in nature.

CSH 4 (Figures 19 & 20) designates two terrace walls located east (outside) of the east central portion of project area. The upslope wall segment (Figure 19) is approximately 20 m west (*makai*) of a vertical section of *pali* and consists of a terrace wall approximately 7 m long and up to 7 courses (1.0 m) high of cobbles and basalt boulder slabs. The top of the wall descends steeply. This feature appears to be built on an angled spur off the *pali* and steep talus slope and the function is unclear. The terrace wall is assumed to be agricultural in function but a burial function is possible. A second lower terrace (Figure 20) is approximately 5 m to the northwest of the upper terrace and is 3.5 m long and 1.1 m high constructed of 5 courses of small basalt boulders. The two terraces are roughly parallel but appear off-set. It is possible they were one alignment with the central portion lost to erosion.



Figure 15. CSH 2, General view of alignment (boundary wall) on north edge of project area; view to northeast



Figure 16. CSH 3, General view of north/south trending wall in east portion of project area; view to the northeast





Figure 17 CSH 4, East/west (*mauka/makai*) trending wall east (outside) of northeast corner of project area; view to northeast



Figure 18. CSH 5 *mauka* terrace east (outside) of east central portion of project area; view to northeast



Figure 19. CSH 5 *mauka* terrace wall east (outside) of east central portion of project area; view to northeast



Figure 20. CSH 6 General view of alignment (boundary wall) on south edge of project area; view to southeast

Proceeding into the southeast portion of the project area a southern perimeter wall (CSH 6; Figure 21) was observed approximating the present south boundary of the project area. This CSH 6 south perimeter wall was typically 3 to 4 courses high of subangular small to medium boulders, 90 cm high and 3 courses and 80 cm wide.

The south edge of the project area was followed to the west into the narrow easement corridor. The field crew then proceeded to fan out through the central portion of the project area confirming that this area west of the CSH 3 wall had been previously bulldozed as evident by the uniform and stone free soil, presence of linear bulldozer push piles, and uniformity of vegetation.

The pedestrian inspection concluded with an inspection of the southwest corner (a narrow easement) and central western extension of the project area from Kamehameha Highway. This easement and the developed residence and lawn in the central western extension appear to have been completely bulldozed in the past (Figure 22).

## 6.2 Comments Made by Residents During Field Inspection

During the course of the fieldwork brief conversations were held with two residents. During field inspections we routinely speak to neighbors in order to 1) decrease the chances of encountering angry armed people or dogs, and 2) to inquire if they know anything about potentially significant sites. We spoke briefly with a Ms. Mineko Zeidlhack, when we appeared out of the tall grass behind her back yard. She lives in an exclusion in the south central portion of the project lands. She provided the attached (appendix A) SHPD review letter dated July 7, 2006. This was something of a surprise as we were unaware of this review letter at that time.

Ms. Zeidlhack spoke of 3 sites: 1) Kūpopolo Heiau a major site known to us located far north well outside of the project area, 2) a petroglyph site that she had not seen but had heard of from a Ms. Laura Hines (spelling uncertain), understood as now deceased. Ms. Zeidlhack indicated her understanding the site was at the *pali* to the southeast (which would put it outside of the project area), and 3) a traditional Hawaiian burial she had not seen but had heard of from Ms. Laura Hines. Ms. Zeidlhack thought the burial was located in the general direction of the northeast corner of the project area. She mentioned her recollection of Ms. Laura Hines speaking of Hawaiians (unknown) who had asked Ms. Hines about access to the burial(s).

We also spoke briefly with a Hawaiian woman residing in the older house with the Virgin Mary shrine in the front yard located in the northeast portion of the project area who indicated she had lived there for 42 years. She had seen petroglyphs at the *pali* by Kūpopolo Heiau (well outside the project area) but apparently knew of no other petroglyphs and knew of no Hawaiian burials in the project area. She indicated a granddaughter of Ms. Hines lived in a new house in an exclusion in the northeast (*maka'i*) portion of the project area. We called out there but no one responded.

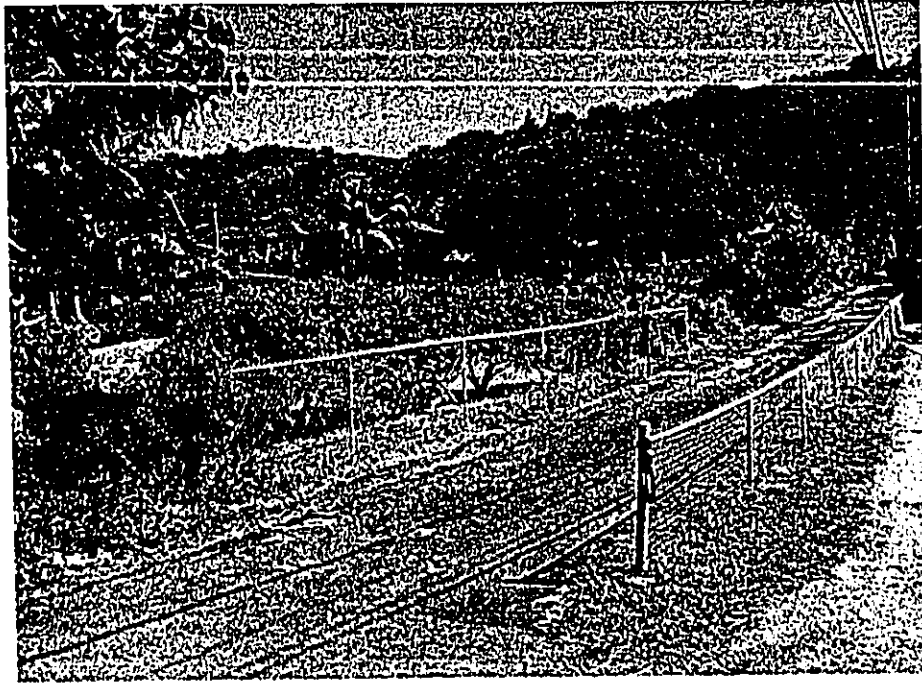


Figure 21. General view of west central portion of project area; view to east

## Section 7 Summary and Interpretation

The parcel was part of Land Commission Award 10246 Apana 1 a sweet potato patch (*mala uala*) claimed by Maloiki in 1848. He lived just south on the makai side of Kamehameha Highway. The fact that the lands were part of a commoner (*kuleana*) LCA increases the probability of human remains. The probability is not as high as in his claimed house lot or further mauka along the cliff line east (outside) of the present project area but concern for human remains is still somewhat elevated by the fact the property was a *kuleana* LCA.. There were seemingly no other early significant other land developments documented with the land shown as vacant in the 1943 war department map but showing 7 buildings in a 1942 Land Court application map.

Our field inspection found that the western (*makai*) 80% or so of the project area all appears to have been bulldozed in the past, perhaps starting near the time of a land court application and subdivision in 1942. Most of this undeveloped, seemingly bulldozed, land was in solid grass 8-foot high that was so thick we were often off of the ground (the pushed down grass supported our weight). We found no archaeological features except for walls on the north and south sides and a north/south trending wall in the east portion of the project area. We did find terrace and wall features outside of the project area just to the east along the steep *pali*. The observed terraces (outside the project area) are tentatively thought to be agricultural but they could be burials.

In doing fieldwork we sometimes speak to neighbors in order to 1) decrease the chances of being mistakenly identified as intruders, and 2) to inquire if they know anything about potentially significant sites. We spoke briefly with a Ms. Mineko Zeidlhack, when we appeared behind her back yard. She lives in an exclusion in the south central portion of the project lands. She provided the attached SHPD review letter dated July 7, 2006 (Log. No. 2006.2352, Doc No. 0607CM04). This was something of a surprise as we were unaware of this review letter until that day.

Ms Zeidlhack spoke of 3 sites: 1) Kupopolo Heiau a major site known to us located far north well outside of the project area, 2) a petroglyph site that she had not seen but had heard of from a Ms. Laura Hines (spelling uncertain) now deceased. Ms. Zeidlhack indicated her understanding the site was at the pali to the southeast (which would put it outside of the project area), and 3) a traditional Hawaiian burial she had not seen but had heard of from Ms. Laura Hines. Ms. Zeidlhack thought the burial was located in the general direction of the northeast corner of the project area. She mentioned her recollection of Ms. Laura Hines speaking of Hawaiians (unknown) who had asked her about access to the burial(s).

We also spoke briefly with a Hawaiian woman residing in the older house with the virgin Mary shrine in the front yard located in the northeast portion of the project area who indicated she had lived there for 42 years. She had seen petroglyphs at the pali by Kupopolo Heiau (well outside the project area) but knew of no other petroglyphs and knew of no Hawaiian burials in the project area. She indicated a granddaughter of Ms. Hines lived in a new house in an exclusion in the northeast (*makai*) portion of the project area. We called out there but no one responded.

Vague accounts of burials have been problematic in the past. We certainly identified none in the project area in the historic record or in the field inspection but it would have been easy to have missed such typically low features in the thick grass or of course any such graves as may ever have existed may have been bulldozed removing all surface evidence. Possibly owner/developer interests may have knowledge of the presence or absence of burials or other historic properties.

So the SHPD letter seems clear in calling for an inventory survey with subsurface testing. The scope of work for the present project includes only a field inspection and literature review, which does not constitute an archaeological inventory survey.

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## **Appendix A Land Testimony Associated with LCA in the Vicinity**

No. 8345, Kaakaukua, Kapaeloa, Waialua, January 28, 1848

N.R. 541v5

To the Land Commissioners, Respectful Greetings: I, Kaakaukua, here-by state my claim.

The first is Ulumalu, from the sea to the wooded promontory. On the north side is the sea, on the east is Kealanui's land, on the south is a cattle pasture, on the west is Hanaike's land.

The second claim is Pahoa, bounded on the north by Kaopulupulu's land, on the east by Kealanui's land, on the south by a *pali*, on the west by Kaopulupulu's land.

The third claim is Hau, bounded on the north by Nakuia's land, on the east by Wahinehune's land, on the south by Nakula's land, on the west by Kalaaupulu's land.

The fourth claim is a squid fishery next to the land, bounded on the north by the ocean, on the east by Nakula's claim, on the south by yours /the Government/, on the west by Hanaike's claim. Those are my claims for the Government to award. KAAKAUKUA

F.T. 527v11 No. 8345, *Kekaukuu ma Kapailoa, Waialua Hoohikiia o Wahinehune. Ua ike au 3 'āpana 'āina*

*'Āpana 1. Ulumalu, he wahi kanu uala elua mala mai ka hale a kai*

*'Āpana 2. o Kau ho 'okahi ili uala*

*'Āpana 3. o Pahoa ho 'okahi hapa ili uala a hiki i ka pali*

*'Āpana 1. Mauka, pali Waianae, Ka'alaia ili Makai, pa 'āina a me ke alanui Aupuni Koolaupoko, Kaholo 'āina o Pelapela*

*'Āpana 2. Mauka, pali Waianae, 'āina o Maloiki Makai, pa 'āina Koolaupoko, 'āina o Pelapela*

*'Āpana 3. Mauka, pali Waianae, 'āina o Kaohulupulu Makai, 'āina o Kahinehune Ko'olaupoko, 'āina o Kahinehune I ka wā o Kamehameha I ka loa'a ana mai, 'a'ole mea keakea ia ia Ho'ohikiia o Makalii. Ua ike au e like me ko Wahinehune ike F.T. 527v11 No. 8345, Kekaukua at Kapaeloa, Waialua*

Wahinehune, sworn, I know of 3 'Āpana.

*'Āpana 1. Ulumalu, a place to plant sweet potatoes, two mala, from the pali to the sea.*

*'Āpana 2. At Hau, one sweet potato field.*

*'Āpana 3. At Pahoa, one half a sweet potato field, to the pali.*

*'Āpana 1: Mauka, pali*

*Wai'anae, Kaalaea 'ili*

*Makai, land boundary wall and the government road*

*Ko'olaupoko, Kaholo, land of Pelapela.*

*'Āpana 2: Mauka, pali*

*Wai'anae*, land of Maloiki

*Makai*, land boundary wall

*Ko'olaupoko*, land of Pelapela.

'*Āpana* 3: *Mauka, pali*

*Wai'anae*, land of Kaopulupulu

*Makai*, Koolau-poko, land of Wahinehune.

He received these in the time of Kamehameha I and they are undisputed. Makalii, sworn, my knowledge of it is the same as Wahinehune's. [Award 8345; R.P. 3285; Kapaeloa Kawailoa Waialua; 1 '*āp.*'; 8.38 Acs]



No. 10246, Maloiki (Maloiki), Kapaeloa, Waialua, O'ahu, Jan. 31, 1848 N.R. 532-533v4

To the Land Commissioners, Respectful Greetings: I, Maloiki, hereby state my claim for land and house lot, at Koolauhale. The land claim is at Kawaewaa, bounded on the north by the sea, on the east by Nakula's /land/, on the south by a stream, on the west by Wahinehune's house lot. The house lot claim is at Koolauhale, bounded on all sides by my land. My right of occupancy at that place was from the time of Kamehameha I until the present. MALOIKI

F.T. 530v11 No. 10246, Maloiki, ma Kapaeloa, Waialua Wahinehune, hoohikiia, Ua ike au i kona mau 'āpana aina, Elua āpana aina. Apana 1. 4 mala uala ma Kawaewoa. Apana 2. Pahale o Koolauhale ka inaoa.

'Āpana 1:

*Mauka, pali*

*Wai'anae, 'āina o Wahinehune*

*Makai, pā 'āina*

*Ko'olauloa, 'āina o Nakuia.*

'Āpana 2:

*Mauka, Ala aupuni*

*Wai'anae, Makai, Ko'olauloa, Pa.*

*Ua loa'a mai keia mau 'āpana 'āina mai kona mau Makua mai i ka wā ia Kamehameha I mai, 'a'ole me keakea ia ia. Ho'ohikiia o Makalii, Ua 'ike au e like me ko Wahinehune ike.*

F.T. 530v11 Translation No. 10246, Maloiki, at Kapaeloa, Waialua Wahinehune, sworn, I know his two 'āpana of land.

'Āpana 1. 4 mala of sweet potatoes at Kawaewaa

'Āpana 2. House lot, named Koolauhale.

'Āpana 1:

*Mauka, pali*

*Wai'anae, land of Wahinehune*

*Makai, land boundary wall*

*Ko'olauloa, land of Nakuia.*

'Āpana 2: *Mauka, Government road*

*Wai'anae, Makai, Ko'olauloa, wall.*

He received these 'āpanas from his parents from the time of Kamehameha I. They are undisputed. Makali'i, sworn, My knowledge of it is the same as Wahinehune's. [Award 10246; R.P. 3284 & 7539; Kapaeloa Waialua; 3 'āp.; 12.48 Acs]

No. 10256, Makali'i, Kapaeloa, Waialua, January 28, 1848N.R. 533-534v4

To the Land Commissioners: I hereby state my claim at Kapaeloa.

The first is at Kaalea, bounded on the north by a road, on the east by Kahopukahi's /land/, on the south by a *pali*, on the west by Kahopukahi. Kahaiia, which is bounded on all sides by Hanaike. Also, Keaoao, bounded on the north by Wahinehune's /land/, on the east by Kaopulupulu, on the south by a *pali*, on the west by Wahinehune. Also, Halilauhala, bounded on the north by a road, on the east by NaKuiia's /land/, on the south by a *pali*, on the west by Wahinehune's /land/.

Also, a steep sweet potato planting, bounded on the north by Wahinehune's /land/, on the east by NaKuiia's /land/, on the south by *pali*, on the west by Wahinehune. Those are my claims, for the government to award.

MAKALII

F.T. 529v11 No. 10256, Makalii, ma Ka'alaea a ma Kapaeloa Ho'ohikiia o Waihehune, Ua' ike au 'elua 'Āpana 'āina.

'Āpana 1. Eha ili uala o Kuili ma Ka'alaea.

'Āpana 2. Pali uala ma Kapaeloa.

'Āpana 1: Mauka, *pali*  
Wai'anae, 'āina o Wahinehune  
Makai, Pā 'āina  
Ko'olauloa, 'āina o Wahinehune.

'Āpana 2: Mauka, Pa'alanui  
Wai'anae, 'āina o Wahinehune  
Makai, Pa 'āina  
Ko'olauloa, 'āina o Kopukahi.

Ua loa'a mai kona mau Makua mai i ka wā ia Kamehameha i mai. 'A'ole mea keakea ia ia. Ho'ohikiia o Maloiki, Ua like kona ike me ko Wahinehune. [Award 10256; R.P. 3499; Kapaeloa Kawaiioa Waialua; 1 'āp.; 6.4 Acs]

No. 10772, Pelapela, Waialua, January 28, 1848 N.R. 587-588v4

To the Land Commissioners: Respectful Greetings to you: I, Pelapela, hereby state my claim for land at Kapaeloa.

The first is Kaholi, bounded on the north by a road, on the east also by a road, on the south by a *pali*, on the west by the road.

Another claim is Ulumalu, bounded on the north and east by a road, on the south by a *pali*, on the west by Pelapela's /land/ also.

Another claim is Hau, bounded on the north by a road, on the east by Nahele's /land/, on the south by a *pali*, on the west by Maloiki's /land//.

Furthermore there are some *hala* clumps at Keaoa. Furthermore, there is a *pali wauke*, at Kawailoa *uka*, at Poonahoahoa, bounded on the north by a *pali*, on the east by Nakuia's /land/, on the south by a stream, on the west by Wahineai's /land/. Those are my properties, for the Government to award. PELAPELA

*F.T. 528v11 No. 10723!, Pelapela ma Kahaeloa, WaialuaHo'ohikiia o Wahinemui. Ua ike au keia 'āpana 'āina 'ekolu*

*'Āpana 1. Kaholi ma Kahailoa ili, 1 mala uala 'Āpana 2. Ulumalu 1 māla 'Āpana 3.*

*Kau 1 mala 'Āpana 1. Mauka, pali*

*Waianae, 'āina o Kakaukua*

*Makai, pa 'āina*

*Koolaupoko, 'āina o Keolanui*

*'Āpana 2. Ulumalu Mauka, pali*

*Waianae, ua moe ma ka helu akahi o kona 'āina*

*Makai, pa 'āina*

*Ko'olaupoko, 'āina o Kaohuluhulu*

*'Āpana 3. Kau Mauka, pali*

*Waianae, 'āina o Kealanui*

*Makai, pa 'āina*

*Koolaupoko, 'āina o Nahele*

*Ua loa mai keia mau aina mai a [illegible]aukana, i ka wā ia o [illegible], 'a'ole mea keakea m[illegible]ia ia a hiki i keia wa Hoohikiia o Makalii. Ua ike au e like ko Wahinehune ike*

*F.T. 528v11 No. 10723!, Pelapela at Kapaeloa, Waialua [should be 10772] Wahinehune, sworn, I know these three lands.*

*'Āpana 1. Kaholi, in Lapaaloo 'ili, 1 māla of sweet potatoes.*

*'Āpana 2. Ulumalu, 1 māla.*

*'Āpana 3. Kau, 1 mala.*

'Āpana 1. Kaholi: *Mauka, Pali*  
*Wai'anae*, land of Kekaukua  
*Makai*, land boundary wall  
*Ko'olaupoko*, land of Keolanui.

'Āpana 2: Ulumalu *Mauka, pali*  
*Wai'anae*, it lies along the /'āpana?/ number one of his land  
*Makai*, land boundary wall  
*Ko'olaupoko*, land of Kaopulupulu.

'Āpana 3: Kau. *Mauka, pali*  
*Wai'anae*, land of Kealanui  
*Makai*, land boundary wall  
*Ko'olaupoko*, land of Nahele.

He received these lands from Naukana in the time of Auhea, and they are undisputed. Makali'i, sworn, my knowledge of it is the same as Wahinehune's; [Award 10772; R.P. 7538; Kapaeloa Kawailoa Waialua; 1 'āp.; 6.52 Acs]

**No. 10971, Wahinehune, Kapaeloa, Waialua, January 25, 1848 N.R. 618-619v4**

To the Land Commissioners: Respectful Greetings: I, Wahinehune, hereby state my claim for land and house lot here at Kapaeloa. It is a separate *mo'o*, bounded on the north by the Road, on the east by Maloiki's land, on the south by the *pali*, on the west by Kaopulupulu's land. In another place, at Haliilauhala, is a sweet potato *kula* adjoining Nakuia's at Keahuohapu, and in another place, in Waimea, are two *lo'i*, one at Amanui, one at Kaniukukahi. In another place is a place for sweet potatoes at Kaalaea, bounded on the north by the road, on the east by Makali'i's land, on the south and west by Kapohukahi's land. The house lot claim is at Kamamaka, bounded on the north and west by the road, on the east by Kaopulupulu's land on the south by the *pali*. My right of occupancy at this place was from the time of Kamehameha I until the present. WAHINEHUNE F.T. 528v11 No. 10971, Wahinehune Hooikiiaio Makalii. *Ua 'ike au i ko Wahinehune 4 'āpana 'āina*

*'Āpana 1. Pahea, Waikalai aia ma Kupaeloa 2 ili 'Āpana 2. Haliilauhala 2, ili uala 1. 'Āpana 3. Kahāia mooaina ma Kaalaea, Waialua 'Āpana 4. 2 lo'i i ka ili o Waimea o Amanui ka inoa ma Ko'olauloa*

- 'Āpana 1. Mauka, pali  
Wai'anae, 'āina o Kaopulupulu  
Makai, pa 'āina a me ke alanui  
Ko'olauloko, 'āina o Maloiki*
- 'Āpana 2. Mauka, pali  
Wai'anae, 'āina o Nahele  
Makai, pa 'āina  
Ko'olauloko, 'āina o Nahuia*
- 'Āpana 3. auka, pali  
Wai'anae, 'āina o Makalii  
Makai, pa 'āina Koolauloko, 'āina o Kekaukua*
- 'Āpana 4. Mauka, pali  
Wai'anae, pali  
Makai, muliwai Waimea  
Ko'olauloko, pali*

*'Āpana 1,2. Mai a Naukana mai i ka wa ia Kinau. 'Āpana 3. Mai kona mau makua mai, i ka wā ia Kamehameha I mai. Āpana 4. Ua loa mai keia āina mai a Mahoe mai 4 makahiki, a ua noho malu oia mai ia wā mai, 'a'ole mea keakea ia ia. Ho 'ohikiia o Kalalulahila. Ua ike pono au e like me ko Makali'i 'ike.*

F.T. 528v11 No. 10971, Wahinehune Makali'i, sworn, I know Wahinehune's 4 'āpana.

'*Āpana* 1. Kahea, Waikalai, this is in Kapaeloa, 2 sweet potato fields.

'*Āpana* 2. Haliilauhala 2, 1 sweet potato field

'*Āpana* 3. Kahaia *mo 'o* in Paalaea, Waialua.

'*Āpana* 4. 2 *lo 'i* in the '*ili* of Waimea, named Amanui, in Ko'olauloa.

'*Āpana* 1: *Mauka, pali*

*Wai'anae*, land of Kaopulupulu

*Makai*, land boundary wall and the road

*Ko'olaupoko*, land of Maloiki.

'*Āpana* 2: *Mauka, pali*

*Wai'anae*, land of Nahele

*Makai*, land boundary wall

*Ko'olaupoko*, land of Nakuia.

'*Āpana* 3: *Mauka, pali*

*Wai'anae*, land of Makali'i

*Makai*, land boundary wall

*Ko'olaupoko*, land of Kekaulua.

'*Āpana* 4: *Mauka, Wai'anae, pali*

*Makai, Waimea, muliwai*

*Koolaupoko, pali.*

'*Āpanas* 1 and 2 were from Naukana in the time of Kinau. '*Āpana* 3 was from his parents, from the time of Kamehameha I. '*Āpana* 4 was received from Mahoe /and has been held/ 4 years. He has occupied them in peace and has been undisputed. Kalahilahila, sworn, my knowledge is exactly the same as Makali'i's. [Award 10971; R.P. 3074; Kapaeloa Kawaiiloa Waialua; 1 '*āp.*; 12.12 Acs]

## Appendix B SHPD Chapter 6E-42 Review Letter

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STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
STATE HISTORIC PRESERVATION DIVISION  
601 KANOKILA BOULEVARD, ROOM 555  
KAPOLELE, HAWAII 96707

PETER T. YOUNG  
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STATE HISTORIC PRESERVATION DIVISION  
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July 7, 2006

Mr. Henry Eng  
Attn: Ms. Carrie McCabe  
Department of Planning and Permitting  
City and County of Honolulu  
650 South King Street, 7<sup>th</sup> Floor  
Honolulu, Hawai'i 96813

LOG NO: 2006.2352  
DOC NO: 0607CM04  
Archaeology

Dear Mr. Eng:

**SUBJECT:** Chapter 6E-42 Historic Preservation Review [Private] –  
Burger Subdivision  
Kawailoa Ahupua'a, Waialua District, Island of Oahu  
TMK: (1) 6-1-003:001 & 032

Thank you for the opportunity to review this proposal, which we received on June 13, 2006. According to your documents, which include a cover letter and a Draft Environmental Assessment (DEA), the proposed undertaking consists of the subdivision of two (2) existing parcels into twenty six (26) lots in advance of residential construction. Our review is based on records available at the State Historic Preservation Division (SHPD). No site inspection was conducted. *The main purpose of this letter is to recommend that an archaeological inventory survey with subsurface testing be conducted at the subject project area, should any future construction on these parcels take place.*

According to our records, no previous archaeological inventory survey has been conducted at the subject parcels, which are located in a historically-significant area. Several archaeological sites—including Hawaiian, Pre-contact burials (e.g., SIHP No. 50-80-01-3724), Kupopulu Heiau (SIHP No. 50-80-01-241)—are located in the immediate vicinity of the project area. In particular, we believe the *mauka* portions of parcel 032 may contain surface and/or subsurface sites. It is important to note that the burials designated Site 3724 were located on the *mauka* side of the Kamehameha Highway in loamy deposits (i.e., not in sandy, shoreline deposits).

Prior to any ground disturbance (e.g., grubbing and grading), we recommend that an archaeological inventory survey of the subject parcels be conducted, and be approved by our office, in order to determine the effect of the project on historic properties. Depending on the results of the inventory survey, additional reports and mitigation measures may be necessary.

According to Hawai'i Administrative Rules (HAR) 13-13-276, the inventory survey must include background research on not only the subject parcel but also the adjoining parcels. According to our rules, inventory survey must also include consultation with knowledgeable and relevant parties. We recommend consultation with Mr. Tom Lenchanko (Waha o'lelo 'Aha Kukaniloko), Ms. Linda Kaleo Paik (O'ahu

Mr. Eng  
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Burial Council, Waialua District representative), Mrs. Leimaile Quitevis, and the Office of Hawaiian Affairs.

Please contact Dr. Chris Monahan at (808) 692-8015 if you have any questions regarding this letter.

Aloha,



Melanie Chinen, Administrator  
State Historic Preservation Division

CM

cc: Mr. Lance Foster, OHA  
Mr. Tom Lenchanko, Waha olelo 'Aha Kukaniloko  
Ms. Linda Kaleo Paik, O'ahu Burial Council  
Mrs. Leimaile Quitevis  
Ms. Mincko Zeidlhack