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County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
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August 26, 2005

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

Re: Final Environmental Assessment (FEA) and Finding of No Significant Impact
Palani Road Safety Improvements
Keahu'olu Ahupua'a, North Kona District, Island of Hawaii

The County of Hawai'i Department of Public Works has reviewed the comments during the 30-day comment period for this project, which began on June 8, 2005. The agency, in conjunction with the State of Hawaii Department of Transportation and the Federal Highway Administration, has determined that the project will not have significant environmental effects, and has issued a FONSI. Please publish this notice in the September 8, 2005 OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form, four copies of the FEA, and the project summary on disk. Please call Mr. Bob Yanabu at (808) 961-8586 if you have any questions.

Bruce C. McClure

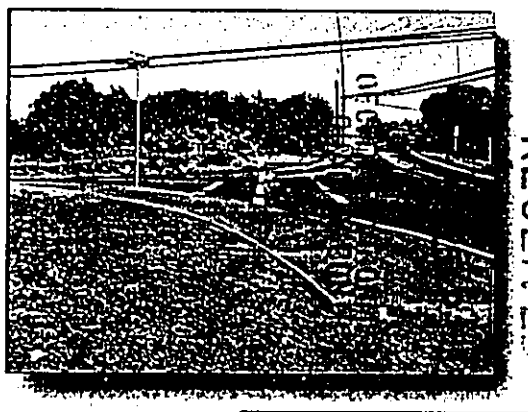
Bruce C. McClure, P.E.
Director

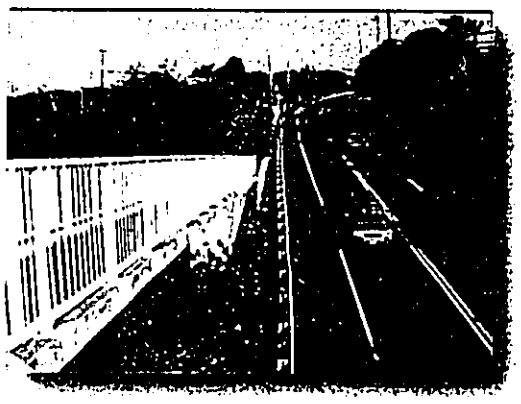
Enclosures

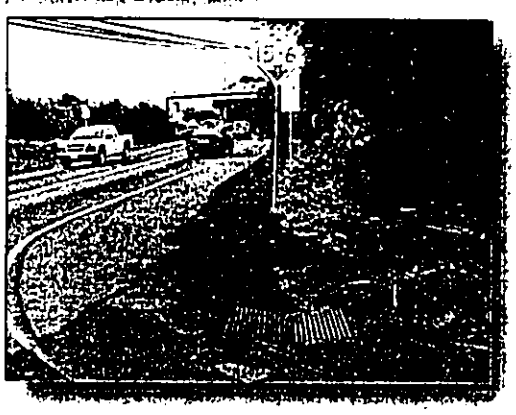
2005-09-08 KA FONSI PALANI RD SAFETY IMPROVEMENTS

Palani Road Safety Improvements

FINAL ENVIRONMENTAL ASSESSMENT and FONSI







County of Hawaii
Department of Public Works

August 2005

PALANI ROAD SAFETY IMPROVEMENTS
NORTH KONA DISTRICT, COUNTY OF HAWAI'I

Final Environmental Assessment/Finding of No Significant Impact

Submitted Pursuant to the
National Environmental Policy Act, 42 U.S.C. 4332(2)(c)
and
Hawai'i Revised Statutes, Chapter 343

U.S. Department of Transportation, Federal Highway Administration;
State of Hawai'i, Department of Transportation, Highways Division;
and
County of Hawai'i, Department of Public Works

7/22/05
Date of Approval

Bruce C. McClure
For County of Hawai'i
Department of Public Works

8-8-05
Date of Approval

Rodney Haraga
For State of Hawaii
Department of Transportation

8/24/05
Date of Approval

Abraham Wong
For U.S. Department of Transportation
Federal Highway Administration

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This Final Environmental Assessment/Finding of No Significant Impact documents impact studies for proposed road safety improvements in Keahu'olu Ahupua'a, North Kona, Hawai'i. The project site is located west of Palani Road and south of Kealakehe Elementary School. The project will realign and extend Kealaka'a Street heading south, from Kealakehe Elementary School to the intersection of Palani Road and Palihiolo Street. The new roadway extension will join Palani Road opposite the existing Palihiolo Street intersection. The project is needed to improve roadway conditions along a stretch of Palani Road with two unsignalized T-intersections located approximately 700 feet apart. The proximity of the two off-set intersections adds to congestion and cause safety and visibility concerns.

FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT
For

Palani Road Safety Improvements
North Kona District, Island of Hawai'i

The FHWA has determined that the Palani Road Safety Improvements project will have no significant impact on the human environment. This FONSI is based on the attached EA, which has been independently evaluated by the FHWA and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an EIS is not required. The FHWA takes full responsibility for the accuracy, scope, and content of the attached EA.

8/24/05
Date

For FHWA

Palani Road Safety Improvements

FINAL ENVIRONMENTAL ASSESSMENT and FONSI

County of Hawaii
Department of Public Works

August 2005

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B. Wildlife Survey, Kealakaa Street Extension, Kealakehe, North Kona, Island of Hawaii. Tim J. Ohashi, November 2003

C. Section 7, Endangered Species Act Consultation

D. Archeological Assessment and Cultural Impact Assessment, Cultural Surveys Hawaii
- Archaeological Assessment, December 2002
- Cultural Impact Assessment, December 2003
- Draft Archaeological Monitoring Plan, April 2003
- SHPD Letter dated April 10, 2003
- SHPD Letter dated January 24, 2004

E. Section 106 National Historic Preservation Act Consultation
- County of Hawaii DPW Letter to SHPD dated December 18, 2004
- SHPD Letter to DPW dated November 9, 2004
- Section 106 Letters to Native Hawaiian Organizations
- OHA Letter to FHWA dated January 5, 2005
- Ruby McDonald e-mail dated February 17, 2005
- Edward Ayau e-mail dated March 8, 2005
- Cultural Surveys Hawaii e-mail to Edward Ayau dated March 8, 2005
- FHWA Letter to SHPD dated March 17, 2005
- SHPD Letter to FHWA dated May 2, 2005

F. Traffic Study for Palani Road Improvements at Kealakaa Street, Julian Ng, Inc. February 20, 2004

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1 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION AND ORGANIZATION OF THIS ENVIRONMENTAL ASSESSMENT

This Final Environmental Assessment (FEA) and Finding of No Significant Impact (FONSI) for Palani Road Safety Improvements has been prepared in accordance with both State of Hawai'i and federal environmental regulations and requirements, as the project will utilize both County of Hawai'i and federal funds.

This FEA meets the requirements of Chapter 343, Hawai'i Revised Statutes (HRS), Act 241, Session Laws of Hawai'i (SLH) 1992, and Chapter 200 of Title 11, Department of Health (DOH) Administrative rules, "Environmental Impact Statement Rules."

This FEA was also prepared pursuant to Section 102 (2)(c) of the National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. §4332, as implemented by the Council on Environmental Quality (CEQ) regulations, 40 CFR Parts 1500-1508. It was prepared in accordance with Section 4(f) of the Department of Transportation Act of 1966, 49 U.S.C. §303.

This document generally follows the format established in the federal guidelines for NEPA environmental assessments and is organized into the following chapters:

- Chapter 1 Purpose and Need for Action
- Chapter 2 Alternatives
- Chapter 3 Affected Environment and Environmental Consequences
- Chapter 4 Environmental Consequences—Other Considerations
- Chapter 5 Findings and Reasons Supporting the Anticipated Chapter 343 HRS Determination
- Chapter 6 References
- Chapter 7 Persons and Agencies Involved in the Preparation of this Environmental Assessment

1.2 DESCRIPTION OF THE PROJECT AREA

The proposed Palani Road Safety Improvements project is located in Keahu'olu Ahupua'a, North Kona, Hawai'i. The project site is located west of Palani Road and south of Kealakehe Elementary School (Figure 1). The project is proposed by the County of Hawai'i, Department of Public Works. Currently, Kealaka'a Street intersects with Palani Road just south of the school.

The project area is identified by Tax Map Key (TMK) Third Division, 7-4-08:65. The TMK map is shown in Figure 2 in Chapter 2. The proposed roadway corridor is within land owned by the State of Hawai'i.

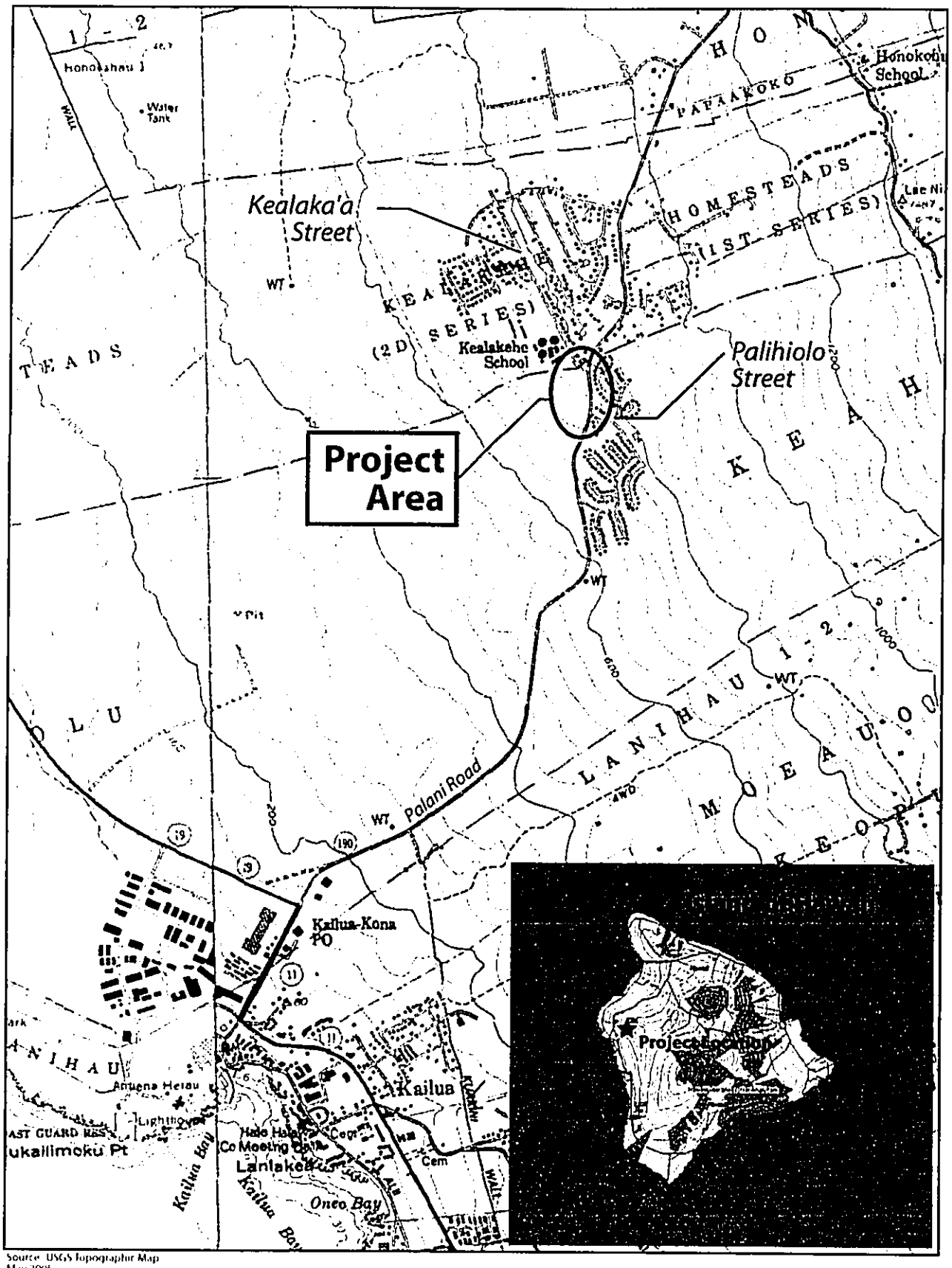


Figure 1
Location

1.3 PURPOSE AND NEED FOR ACTION

The project is a needed to reduce traffic congestion and improve roadway safety along a stretch of Palani Road. Currently, there are two T-intersections joining Palani Road within approximately 700 feet of each other. The Kealaka'a Street intersection, located on the west side of Palani Road, is the primary access road to and from Kealakehe Elementary School and adjoining residential neighborhoods. The Palihiolo Street intersection, located to the south, meets Palani Road on its east side. Palihiolo Street is the primary access to and from the Queen Liliuokalani Village residential subdivision. Both roads bring a high volume of traffic to and from Palani Road, a major mauka/makai arterial. Traffic on Palani Road in the area is already congested during morning and afternoon peak hours. Currently, the two offset T-intersections add to congestion on Palani Road and cause safety and visibility concerns. There are no dedicated turning lanes at the Palani Road and Kealaka'a Street intersection, and turning movements cause traffic back ups on both streets. Additional safety concerns arise when some vehicles attempt to pass left-turning vehicles by driving on the road shoulder.

Realignment and extension of Kealaka'a Street in this area is needed to improve overall traffic flow, roadway visibility and safety.

1.4 PROJECT SUMMARY

Table 1-1: Project Summary

Item	Description
Project Name	Palani Road Safety Improvements, Kealaka'a Street Extension
Applicant	County of Hawai'i, Department of Public Works
Location	Keahu'olu Ahupua'a, North Kona District, Island of Hawai'i
Tax Map Key	7-4-008:065
Existing Uses	Vacant and undeveloped, scrub vegetation
Landowner	State of Hawai'i (Department of Hawaiian Home Lands and Department of Education)
Project Description	Extend Kealaka'a Street from Kealakehe Elementary School to the intersection of Palani Road and Palihiolo Street to reduce traffic congestion and improve roadway safety on Palani Road.
State Land Use	Urban
County General Plan LUPAG Designation	Medium Density Urban
Zoning	R-15, Residential
Flood Insurance Rate Map	Outside 100-year and 500-year flood plain

1.5 POSSIBLE ENVIRONMENTAL PERMITS AND APPROVALS

The following is a summary of environmental approvals and consultations that may be required for the proposed action. Chapter 4 (Environmental Consequences—Other Considerations) includes a more detailed discussion of the project's consistency with federal, State and local land use plans, policies and controls.

Table 1-2: Possible Environmental Permits and Approvals

Approval/Consultation	Agency
Federal	
National Environmental Policy Act, Finding of No Significant Impact (NEPA FONSI)	U.S. Department of Transportation, Federal Transit Administration
State of Hawai'i	
Chapter 343 Hawai'i Revised Statutes	Office of Environmental Quality Control
Section 106, National Historic Preservation Act consultation and HRS Chapter 6E review	Department of Land and Natural Resources, State Historic Preservation Division
Noise Permit	Department of Health
National Pollutant Discharge Elimination System (NPDES) permit *(for construction related storm water runoff, hydrotesting and dewatering)*	Department of Health, Clean Water Branch
Disability and Communication Access Board Approval	Department of Health, Disability and Communication Access Board
County of Hawai'i	
Grubbing, Grading, Excavation and Stockpiling Permit	Department of Public Works
Water Connection Permits	Department of Water Supply
Building Permit	Department of Public Works

2 ALTERNATIVES

2.1 INTRODUCTION

This chapter describes the preferred alternative and alternatives considered to meet the overall objective of improving roadway safety along Palani Road. Alternatives discussed in this chapter include:

1. Preferred Alternative: Construct Kealaka'a Street Extension
   - Option 1: Eliminate Existing Kealaka'a Street Intersection
   - Option 2: Limit Existing Intersection to Right-Turn Only
2. No Action
3 Signalize and Add Left Turn Lane at Kealaka'a Street Intersection

2.2 PREFERRED ALTERNATIVE: CONSTRUCT KEALAKA'A STREET EXTENSION

The preferred alternative (i.e., the proposed action) involves the extension and realignment of Kealaka'a Street from the area just past Kealakehe Elementary School to the intersection of Palihiolo Street and Palani Road (Figures 2 and 3). The new road extension will intersect Palani Road south of the current Kealaka'a Street intersection, opposite the existing Palihiolo Street intersection. This will create a single, cross intersection with traffic signal and turning lanes. Palani Road will be widened to add turning lanes and sidewalks.

The new Kealaka'a Street extension will be approximately 700 linear feet in length. The new roadway extension will be a 60-foot right-of-way with 12-foot wide lanes, curbs and gutters, and 7-foot sidewalks on both sides of the road. A new pedestrian school crossing will be installed. The crossing will at a minimum have flashing warning lights, and possibly a separate crosswalk stop light.

A new intersection will be created where the Kealaka'a Street Extension meets Palani Road, across Palihiolo Street. The intersection will be designed to meet federal, State of Hawai'i, and County of Hawai'i standards and will include traffic signals, left turn lanes, shoulders, and other improvements.

The existing Palani Road will be widened on the west side to add a separate left turn lane and sidewalk. The sidewalk will be 7 feet wide in the area south of the pedestrian overpass bridge, and 10 to 12 feet wide north of the pedestrian bridge. The existing pedestrian overpass bridge will be retained.

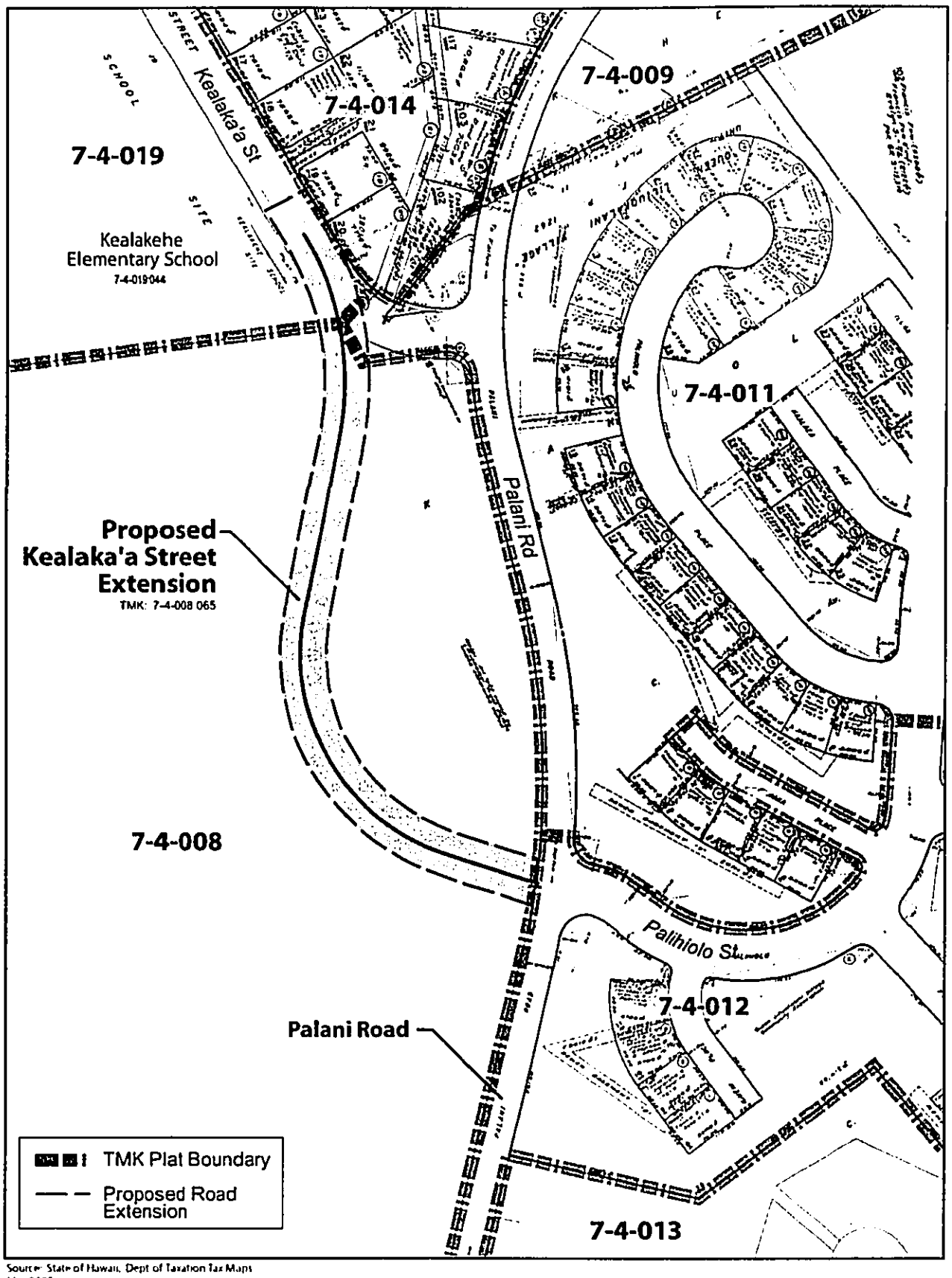
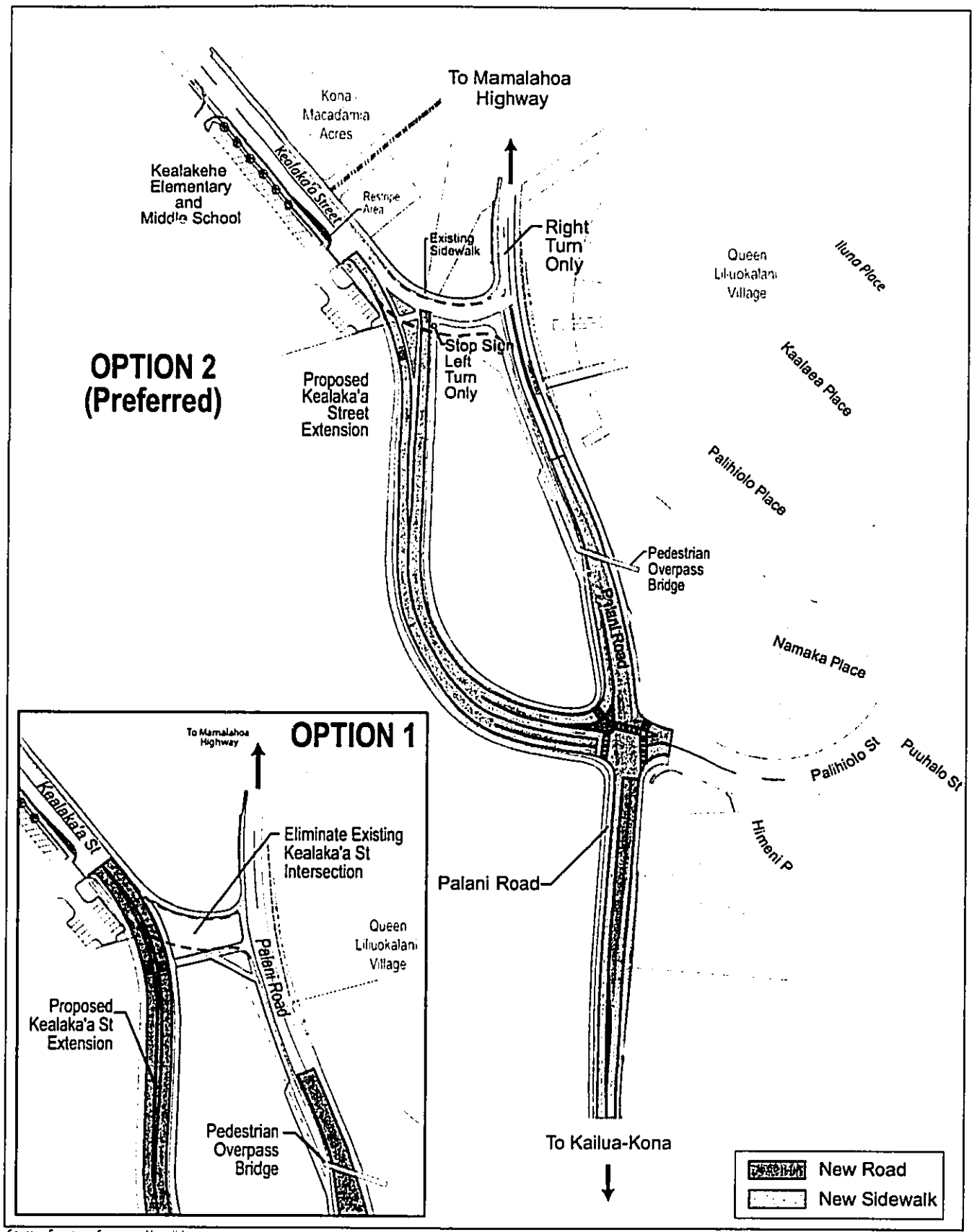


Figure 2
Tax Map



Source: Engineers Surveyors Hawaii, Inc.
June 2004

0 400 Feet

N

Figure 3
Site Plan

The project will require relocation of utility lines on Palani Road, including the 69 kV electric line on the west side, a 12-kV electric, telephone and CATV lines. Two fire hydrants will also be relocated. Some minor parking lot modifications at the elementary school will also be required, though it is not anticipated that Kealakehe Elementary School will lose any parking stalls.

Two options were considered for the existing Kealaka'a Street and Palani Road intersection. In the first option, the existing intersection would have been eliminated. In the second option, the existing intersection would remain, but be limited to right turn movements. The County has selected Option 2. The two options are described below and are shown in Figure 3:

2.2.1 Option 1: Eliminate Existing Kealaka'a Street Intersection

In Option 1, the existing Kealaka'a Street-Palani Road intersection would be closed. Access to and from Kealaka'a Street will be via the new intersection with Palani Road, directly across the existing Palihiolo Street intersection.

2.2.2 Option 2: Limit Existing Kealaka'a Street -Palani Road Intersection to Right-Turns Only (Preferred Option)

Option 2 involves constructing the Kealaka'a Street extension as proposed and limiting movements at the Kealaka'a Street and Palani Road intersection to right turns only, instead of closing the intersection. This alternative, with a right-turn only lane from Palani Road, is shown in the inset in Figure 3.

The primary advantage of this option would be to motorists traveling south on Palani Road and wanting to turn onto Kealaka'a Street. These vehicles would have the option to make the right turn at Kealaka'a Street, or if the lane is filled, drive further down and make the right turn at the new Palihiolo Street intersection. Existing Kealaka'a Street and Palani Road pavement can be utilized, and would not have to be removed.

Option 2 does have some disadvantages compared to Option 1. For example, traffic turning right onto Kealaka'a Street may back up onto Palani Road. Motorists unaware of the option to make a right turn at the new intersection further down Palani Road may stay in the queue, causing the back up. Motorists waiting in the back-up queue along Palani Road may cut into oncoming traffic, trying to get to the new intersection, raising safety concerns. Another disadvantage is that some mauka-bound Palani Road motorists may be tempted to make illegal left turns at the Kealaka'a Street right-turn lane.

After consideration of the two options, the County has decided to implement Option 2 of the Preferred Alternative.

2.3 NO ACTION

The no-action alternative would preserve the status quo, with two unsignalized, offset intersections meeting Palani Road, contributing to congestion and hazardous traffic conditions. There is already a high volume of traffic on Palani Road, and daily traffic volumes between 1994 and 2002 increased at an average rate of approximately two percent per year. There are no dedicated left turn lanes on either street, resulting in congestion and delays at the intersections. In the morning and afternoon peak hour, some turning movements at the intersections are already at Level of Service (LOS) F, reflecting very poor conditions and delays greater than 50 seconds per vehicle. In addition, hazardous conditions result when drivers attempt to use the right shoulder to pass around left-turning vehicles.

These conditions would continue and get worse as regional traffic increases under a no action alternative.

2.4 SIGNALIZE AND ADD LEFT TURN LANE AT PALANI ROAD-KEALAKA'A STREET INTERSECTION

One alternative considered to relieve traffic congestion on Palani Road was to signalize the Kealaka'a Street intersection and construct a dedicated left turn lane, so that vehicles making left turns onto Kealaka'a Street do not obstruct through traffic. However, the County of Hawai'i and nearby communities requested that the existing pedestrian overpass bridge across Palani Road be retained. By doing so, there is not enough space to construct a dedicated left-turn pocket with adequate storage capacity on Palani Road.

In addition, a left turn lane would not alleviate traffic back-ups on Kealaka'a Street, caused by vehicles turning left (heading north) on Palani Road.

The existing Palani Road and Kealaka'a Street rights-of-way width are 40 feet and 60 feet, respectively, with residential structures located near property lines. The construction of improvements allowing all movements (left, straight, right turns) with adequate stacking lanes would be difficult to achieve within the existing limited right-of-way.

For these reasons, this alternative was eliminated from further consideration.

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 INTRODUCTION

This chapter describes the existing environment, potential project impacts and proposed mitigation. This chapter is organized by resource area, and is generally divided into: 1) physical environment, 2) biological environment, 3) socio-economic environment, 4) utilities and infrastructure, 5) traffic, and 6) public facilities and services.

The discussion of environmental impacts includes both direct and indirect impacts. Direct impacts are those caused by the action and occur at the same place and time. Indirect effects may occur later in time or farther in distance, but are still reasonably foreseeable. The analysis in this chapter also identifies possible cumulative environmental impacts. Cumulative impacts are defined as the results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

In addition to evaluating the environmental impact of the preferred alternative, this chapter evaluates the impact of the project alternatives. The other alternatives discussed in Chapter 2 included no action, and signalization and a left-turn lane at the Kealaka'a Street intersection. The environmental analysis in this chapter provides the analytic basis for comparing the alternatives.

3.2 PHYSICAL ENVIRONMENT

3.2.1 Location

The project area is in the Keahu'olu Ahupua'a, North Kona District, Island of Hawai'i, located northeast of downtown Kailua-Kona. The proposed Kealaka'a Street extension will be constructed just makai (southwest) of Palani Road, between its intersections with Kealaka'a and Palihiolo Streets. The proposed roadway extension will be approximately 700-feet long and 100-feet wide.

3.2.2 Existing and Adjacent Land Uses

The project site is currently undeveloped, and in scrub vegetation, up to 12 to 15 feet in height in some areas. The site is owned by the State of Hawai'i, and right-of way will need to be acquired from the Department of Hawaiian Home Lands for the new roadway extension, and for the widening of Palani Road on the north side. A small triangular piece of land will need to be acquired from the State of Hawai'i Department of Education at the beginning of the new Kealaka'a Street alignment. Some minor parking lot modifications will also be required at this location, though it is not anticipated that Kealakehe Elementary School will lose any parking stalls.

The roadway corridor is surrounded by both existing and proposed residential development. Kealakehe Elementary and Middle Schools are located to the west of the project area. To the east, across Palani Road, is the Queen Lili'uokalani Village residential subdivision. Other existing subdivisions include the Kona Macadamia Acres to the north of the project area, and Hale Palani. Kealakehe Homesteads residential area is located north and northwest of the project area. Lands directly to the west and southwest of the site are owned by the State of Hawai'i and are currently undeveloped, but planned for substantial development over the next 20 to 30 years.

The State of Hawai'i Department of Hawaiian Home Lands (DHHL) has plans to develop the vacant lands immediately to the west of Palani Road, in an area known as the Villages of La'i'opua. Over 2,700 future homes to benefit eligible native Hawaiians are planned. In September 2000, the DHHL completed 225 single-family homes (Village 3). A new Kealakehe High School was recently completed within the Villages of La'i'opua area, and another site has been set aside for future construction of a medical facility. Another parcel, closer to Queen Ka'ahumanu Highway, will be developed by the Housing and Community Development Corporation of Hawai'i.

3.2.3 Topography and Slopes

Existing Conditions

The project area is located on the western slopes of Hualālai Volcano, between 750 feet and 780 feet elevation. The topography consists of both a'a and pāhoehoe lava flows that gradually slope down from east to west.

Project Impacts and Mitigation

The project will not significantly impact topography and slopes. Minor grading will be required for construction of the road. Most of the roadway construction will require filling, as the site is slightly below the present Palani Road and Kealaka'a Street elevations.

Impact of Other Alternatives

The no action alternative will not impact the site topography. Other alternatives would have impacts similar to the proposed action.

3.2.4 Soils

Existing Conditions

Soil Types

According to the Natural Resource Conservation Service (NRCS, 2003), soils in the project area include Kaimū, extremely stony peat (rKED) and Punalu'u extremely rocky peat (rPYD). The locations of these soil types are shown in Figure 4.

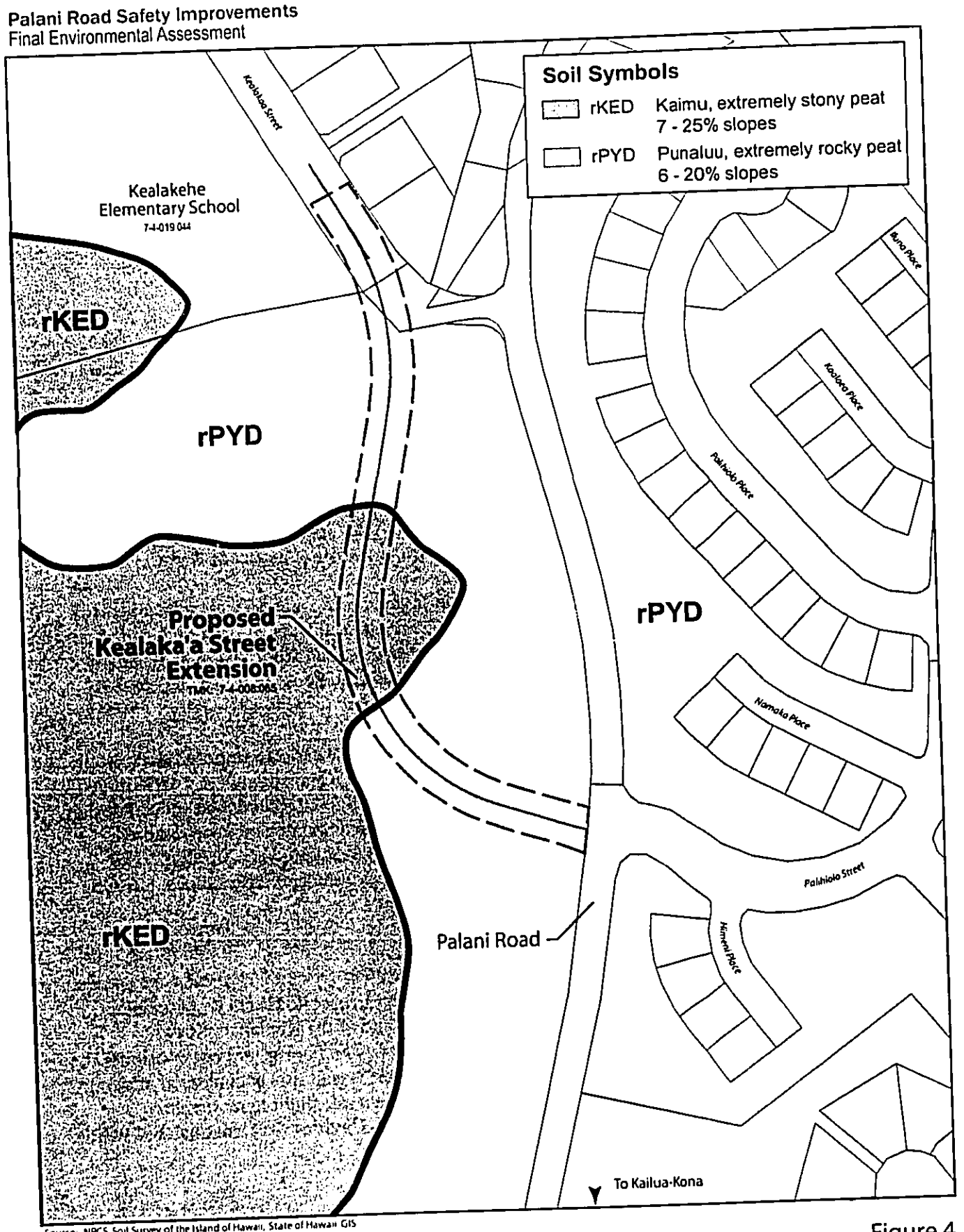
The Kaimū soil series consists of well-drained, thin organic soils over *a`a* lava. Kaimū extremely stony peat is a very dark brown extremely stony peat about three inches thick. It is underlain by fragmental *a`a* lava. Permeability is rapid, runoff is slow, and erosion hazard is slight.

The Punalu'u soil series consists of well-drained, thin organic soils over *pāhoehoe* lava bedrock. Rock outcrops occupy 40 to 50 percent of the surface. The surface layer is black peat and about four inches thick. The peat is rapidly permeable. The underlying *pāhoehoe* lava is very slowly permeable, although water moves rapidly through the cracks. Runoff is slow, and the erosion hazard is slight.

The NRCS also provides a general assessment of the soil types for various proposed uses. Both soil types are rated "Very limited" for construction of "local roads and streets." A "very limited" rating indicates soil properties are "so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are very limiting." The reasons for the rating include the slope and rocky nature, and presence of large stones. (NRCS September 2002).

Geotechnical Study

A geotechnical investigation was conducted for the project by Ernest K. Hirata & Associates, Inc. A total of five borings were taken along the proposed route of the Kealaka'a Street extension. The borings were drilled to depths of about 15 feet. The borings did not encounter the peat soils indicated by the NRCS soil survey. Rather, dark gray basalt was encountered at depths ranging from ground surface to about two feet. The basalt was hard, slight to moderately weathered, and extended down to the maximum depths drilled. Cavities were encountered within the basalt stratum.



Source NRCS, Soil Survey of the Island of Hawaii, State of Hawaii GIS
October 2003

0 100 200 Feet

N

Figure 4
Soils

Overlying the basalt was grayish brown silty gravel. The silty gravel was generally in a loose to medium dense condition. Groundwater was not encountered in any of the borings.

Project Impacts and Mitigation

The geotechnical engineers note that based on the results of their soil borings, no special preparations appear to be needed for construction of the roadway extension.

Impact of Other Alternatives

The no action alternative will not impact area soils. Alternative road improvements or roadway alignments would have impacts similar to the proposed action.

3.2.5 Climate and Air Quality

Existing Conditions

Mean annual temperatures in the project area are about 75 degrees Fahrenheit, with relatively small daily and seasonal variations. The area is relatively dry, with average annual rainfall of approximately 40 inches.

Hawai'i lies well within the belt of northeasterly tradewinds. However, nearly the entire western coast of the Big Island is sheltered from the tradewinds by high mountains, except when unusually strong tradewinds sweep through the saddle between the Kohala Mountains and Mauna Kea. Due to wind shadow effects caused by the terrain, wind in the Kailua-Kona area are predominantly light and variable. Local winds such as land-sea breezes and upslope-downslope winds dominate. (B.D. Neal & Associates, 1990 in Lili'uokalani Trust 1990).

Air quality in the project area is affected by natural, industrial, agricultural and/or vehicular sources. Volcanic emissions are the most significant natural source of air pollution. Emissions from the Hawaiian volcanoes consist primarily of sulfur dioxide (SO_2). Although emission from the Kīlauea Volcano originate over 50 miles east of the project area, the prevailing wind patterns sweep the emission around the southern tip of the island, and they are eventually carried into the Kona area. These emissions can be seen in the form of the volcanic haze or "vog" which is persistent in the area, and irritate the eyes, nose, throat and lungs.

Major industrial sources of air pollution in the Kona region include the Keāhole Power Plant, operated by Hawai'i Electric Light Company (HELCO) and the County's Pu'u Anahulu Landfill. in North Kona. Air pollution from the power plant consists mostly of sulfur dioxide and oxides of nitrogen. Emission from the landfill consist mostly of fugitive dust (ibid).

National Ambient Air Quality Standards (NAAQS) have been established for seven major air pollutants: carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O_3), particulate matter smaller than 10 microns (PM_{10}), particulate matter smaller than 2.5 microns ($PM_{2.5}$), sulfur oxides (SO_x),

and lead. Air pollutant levels are monitored by the State Department of Health at a network of sampling stations statewide. There is very little information available for the Kona area. The DOH's Kona monitoring station, located at Konawaena High School, only monitors sulfur dioxide (SO_2). Data from 2002 indicates that both the 3-hour and 24-hour State and federal standards were met throughout the year.

However, data from Hawaiian Electric Lighting Company for the years 1984 and 1985 indicated that ambient air quality at monitoring stations in Keāhole and Kawaihae met State and federal standards (U.S. Department of Transportation, 1998).

The State of Hawai'i is an attainment area for carbon monoxide, ozone, and particulate matter smaller than 10 microns, the primary pollutants of concern for a roadway project (ibid).

Project Impacts and Mitigation

Short-Term Construction Impacts

Project construction will have minor, short-term impacts on air quality in the immediate area. Construction activity such as grading and excavation will increase fugitive dust in the area. Equipment used during construction will emit exhaust and airborne particulates. These activities will occur in proximity to existing residences, school and major thoroughfares.

Construction activities will employ fugitive dust emission control measures in compliance with provisions of the State DOH Rules and Regulations (Chapter 43, Section 10) and Hawai'i Administrative Rules (HAR) Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33 on Fugitive Dust.

During construction, the contractor will provide adequate measures to control dust from the road areas and during the various phases of construction. These measures include, but are not limited to:

- Plan the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;
- Provide an adequate water source at the site prior to start-up of construction activities;
- Landscape and provide rapid covering of bare areas, including slopes, starting from the initial grading phase;
- Minimize dust from shoulders and access roads;
- Provide adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
- Control dust from debris being hauled away from the project site.

During construction, the contractor will sprinkle water, as necessary to control dust. Transported or stored soils will be covered. Areas graded and cleared of vegetation will be paved or revegetated as soon as possible to reduce dust. Construction equipment will be moved to and from the site during non-peak traffic periods, to the extent possible, in order to minimize disruption to traffic.

Long-Term Impacts

The project will not impact climate or have a long-term adverse affect on air quality. The Kealaka'a Street extension is intended as a safety improvement, and will not increase roadway capacity or vehicular traffic in the area. Existing traffic on Kealaka'a Street will be rerouted to a new intersection with Palani Road near Palihiolo Street. The proposed project will reduce traffic congestion and unsafe conditions that exist at the Palani Road and Kealaka'a Street intersection. Improved traffic flow along this stretch of Palani Road may have a slight, positive impact on localized air quality, as queues for left turns at the Kealaka'a Street-Palani Road intersection are reduced. This may reduce CO emissions from idling vehicles.

No indirect or cumulative impacts on air quality are anticipated as a result of this project. There will be a long-term increase in traffic in the North Kona region, due to future residential development planned over the next 20 to 30 years. However, this future growth will occur with or without the Palani Road improvements. The project will not have an indirect or cumulative effect on population or traffic in the area.

Impact of Other Alternatives

None of the project alternatives will have a significant impact on long-term air quality. The no action alternative will not have construction-related impacts, but will do nothing to improve existing traffic congestion. Without improvements, vehicle delays, and localized emissions, could get worse.

None of the alternatives will increase roadway capacity or number of vehicles. All alternatives that involve construction will have some minor, short-term air quality impacts associated with earthmoving activities and operation of construction equipment.

3.2.6 Natural Hazards

Existing Conditions

Flood

The Flood Insurance Rate Map (FIRM) for the island of Hawai'i prepared by the Federal Emergency Management Agency (FEMA) identifies flood hazard and flood prone areas. The entire roadway corridor and surrounding area is outside the 100-year and 500-year flood zone (Federal Emergency Management Agency, November 20, 2000).

Volcanology and Seismic Activity

The project area is located on the western slope of the Hualālai volcano, which last erupted in 1800 to 1801 from vents on its northwest rift zone. The intervals between the latest volcanic eruptions have led geologists to predict that a Hualālai eruption is highly probable within the next two centuries, and could occur within the next few decades (FHWA, 1998).

The U.S. Geological Survey (USGS) has prepared volcanic hazards zone maps, delineating the relative severity of volcanic hazard. Four types of direct hazards associated with volcanic eruptions are identified: lava flows, tephra falls, pyroclastic surges, and volcanic gases. Each of type of hazard has a hazard zone designation. Lava flow hazard is rated from Zone 9 (lowest risk) to Zone 1 (highest risk). The Hualālai area has been designated Hazard Zone 4 for lava flows.

The second type of volcanic hazard is tephra, consisting of volcanic ash and coarser rock fragments that are ejected into the atmosphere. These fragments and ash can jam machinery, damage water supplies and cause electrical short circuits. Its accumulation can also cause building roof to collapse from the weight. Tephra risk is rated on a scale of 1 to 3, with 1 representing the greatest risk. The Hualālai area is rated Hazard Zone 2, not considered a significant hazard.

The third volcanic hazard is pyroclastic surges, clouds of ash, rock fragments and gas that move at high speeds outward from source vents. This type of hazard is not associated with Hualālai.

The fourth type of hazard is volcanic gas. Gases such as sulfur dioxide can lead to acid rain and air pollution downwind from a volcano. All of Hualālai is in Zone 2, on a scale of 1 to 3.

Indirect hazards, such as earthquakes, are usually associated with volcanic eruptions. Earthquakes caused by the movement of magma under Hualālai are relatively infrequent, compared to Mauna Loa and Kīlauea. The area is not at high risk for a large (i.e., greater than 6 on the Richter Scale) earthquake.

Project Impacts and Mitigation

Short-Term Construction Impacts

There will be no short-term construction-related impacts on natural hazards or on hazard preparedness. Existing circulation patterns in the area will be maintained until the new Kealaka'a Street extension is complete.

Long-Term Impacts

The roadway extension will not have an impact on the incidence of volcanic or seismic activity. The road improvements may indirectly have a positive impact on hazard preparedness, by improving the local roadway patterns and traffic safety, in the event of a natural disaster.

Impact of Other Alternatives

None of the project alternatives will impact the occurrence of natural hazards or the impact of these hazards on the area population.

3.2.7 Hydrology

Existing Conditions

Groundwater

Kona's regional water resources are classified in three distinct types: Basal groundwater, brackish basal groundwater, and dike-impounded perched groundwater. The basal aquifer extends from the upper slopes of Hualālai to the shoreline, and is recharged by regional rainfall. Seawater intrusion at the shoreline results in the creation of brackish water. Dike-impounded perched groundwater may exist at higher elevations on Hualālai. The specific configuration of groundwater resources in the project area are not known. However, it is believed that the groundwater resources in the area are not sufficient or suitable for potable or non-potable water resource development (Lili'uokalani Trust, 1990).

Surface Water

There are no perennial streams in the project area or well-defined drainage ways. There are no floodways or flood zones in the project area. Generally, the soils in the area are highly permeable and drainage of surface waters is relatively rapid.

Project Impacts and Mitigation

There are no ground or surface water resources in the project area, and as a result, no impacts to ground or surface water resources are anticipated. No dewatering is anticipated during

construction. Excavation will be limited to the area above the water table, and therefore dewatering should not be required.

The design of the road will include a storm drainage plan. Storm water will be conveyed in a manner acceptable to the County Department of Public Works and the State Department of Health. Drainage improvements are described in Section 3.5 below. Roadside landscaping may require the use of fertilizers and biocides, but if used according to the manufacturer's instructions, should not have adverse impacts to groundwater. The project will not have indirect or cumulative impacts on ground or surface water resources.

Impact of Other Alternatives

None of the proposed alternatives will have direct, indirect or cumulative impacts on water resources in the area.

3.2.8 Noise

Existing Conditions

The primary source of ambient noise in the project area is vehicular traffic along Palani Road and Kealaka'a Street.

Project Impacts and Mitigation

Short-Term Construction Impacts

There will be temporary noise impacts due to roadway construction, excavation, grading, and construction of new infrastructure. Although these activities will generate noise, surrounding residences are not likely to be impacted by construction noise, due to their distance and/or location upwind from the construction site. Portions of the Kealakehe Elementary School are located near the start of the roadway extension. However, construction noise will be temporary, and the construction will occur in an area of Kealaka'a Street adjacent to the school parking lot, not fronting classrooms and noise sensitive uses.

All project activities will comply with the Department of Health (DOH) Administrative Rules Chapter 11-46, "Community Noise Control." Where construction noise exceeds or is expected to exceed the State's "maximum permissible" property line noise levels, a permit must be obtained from the DOH) to allow the operation of vehicles, construction equipment, power tools, etc. which emit noise levels in excess of the "maximum permissible" levels.

Construction of the roadway extension will be limited to normal working hours, 7:30 AM to 3:30 PM, Monday through Friday. Construction equipment will be muffled.

Project-Generated Traffic Noise

The project will not increase overall traffic volumes in the area, and will not increase traffic related noise on Palani Road. However, the construction of a new Kealaka'a Street extension will bring traffic noise to a currently undeveloped site. Surrounding lands are proposed for future development by the Department of Hawaiian Home Lands, and the new road could have some noise impact on the future residents. Provided that adequate setbacks and buffers are included between the road and residential lots, these impacts are not expected to be severe.

Impact of Other Alternatives

All of the project alternatives, except no action, would have similar construction period noise impacts. None of the alternatives would have significant long-term noise impacts along the Palani Road corridor, because the project itself will not increase traffic volumes. However, any alternative that involves construction of a new Kealaka'a Street extension will bring traffic noise to a currently undeveloped area, affecting future residential development. As with the proposed action, these impacts will not be significant, provided that future developments include appropriate setbacks and buffers between the road and residential lots.

3.3 BIOLOGICAL ENVIRONMENT

3.3.1 Flora

An assessment of the botanical resources was conducted (Char and Associates, January 2002), and the Botanical Resources Study is included as Appendix A. The objectives of the field survey were to provide a general description of the vegetation along the road corridor, search for threatened and endangered species and species of concern, identify areas of potential environmental problems or concerns and propose appropriate mitigation.

Existing Conditions

The vegetation on and immediately adjacent to the proposed road corridor consists of Christmas berry (*Schinus terebinthifolius*) scrub, 12 to 15 feet tall, with scattered plants of sisal (*Agave sisalana*) and autograph tree (*Clusia rosea*). Shrubs of lantana (*Lantana camara*) and klu (*Acadia farnesiana*) are common in some areas while noni (*Morinda citrifolia*) is occasional. Ground cover consists primarily of fountain grass (*Pennisetum setaceum*) with smaller patches of air plant (*Kalanchoe pinnata*) and 'ala'ala wai nui (*Peperomia blanda var. floribunda*). Besides the 'ala'ala wai nui, other native species include lama (*Diospyros sandwicensis*), 'a ali'i (*dodonaea viscosa*), alahe'e (*Psydrax odorata*) and huehue (*Cocculus orbiculatus*).

Project Impacts and Mitigation

Where the proposed road joins Palani Road, the vegetation has been disturbed and consists of koa haole or ekoa shrubs (*Leucaena leucocephala*) and clumps of Guinea grass (*Panicum maximum*). By the Kealakehe Elementary School area, various trees and shrubs, including a few

native species, have been planted. A nearby plaque reads "*...American Revolution Bicentennial 1776-1976. Trees planted 1976 by Hawai'i County Bicentennial Committee.*"

The proposed road crosses very dense Christmas berry scrub vegetation. A few native species are found in this scrub vegetation, but all are common, widespread species found throughout the West Hawai'i region and the other main islands in dry, leeward habitats. None of the plants found during the survey are threatened or endangered species or species of concern.

The botanical survey did not identify any of the candidate plant species *Bidens micrantha ssp. Ctenophylla (ko'oko'olau)* within the roadway corridor or the surrounding areas. The U.S. Fish and Wildlife Service (in a October 31, 2003 letter) indicated this plant may occur just outside the immediate project area. However, during the field work for the botanical assessment, none were identified in the vicinity. This plant species will not be impacted by construction or operation of the new roadway.

The proposed road is not expected to have a significant negative impact on the botanical resources. The project will have "no effect" on threatened and endangered species (see Appendix C).

It is recommended, however, that the plants located on the existing landscaped section (bicentennial plantings) be replanted and reused for landscaping the roadway. Native species planted here include wiliwili (*Erythrina sandwicensis*), pohinahina (*Vitex rotundifolia*), loulu (*Pritchardia* sp.), 'a'ali'i, 'akia (*Wikstroemia uva-ursi*) and *Hibiscus* sp.

Impact of Other Alternatives

Under the no-action alternative, there would be no change to existing site conditions or the biological environment. The site of the other alternatives are similar to the proposed action, and would have similar impacts. No threatened or endangered plant species would be affected by any of the alternatives.

3.3.2 Terrestrial Fauna

A wildlife survey was conducted in November 2003 along the proposed route of the Kealaka'a Street extension (Ohashi, 2003). The survey report is included as Appendix B. The objectives of the wildlife survey were to describe the avian and mammalian species along the route and determine whether threatened, endangered or sensitive species were present, and if so, to determine the project's impact.

Existing Conditions

The wildlife survey consisted of visual and audio observations within the project area. The study notes that brief visits to a site will not yield all faunal components for that site or habitat type, even under the best conditions. These visits, however, generally reveal what can be expected, based on previous anecdotal and scientific records of similar sites and habitats.

Introduced (Non-Native) Birds

Several introduced (non-native) birds were observed, including Japanese White-eye (*Zosterops japonica*), Spotted Dove (*Streptopelia chinensis*), Zebra Dove (*Geopelia striata*), Lavender Waxbill (*Estrilda caerulenscens*), House Finch (*Carpodacus mexicanus*), Common Myna (*Acridotheres tristis*), Nutmeg Mannikin (*Lonchura punctulata*), Kalij Pheasant (*Lophura leucomelana*), and Northern Mockingbird (*Mimus polyglottos*). The Northern Cardinal (*Cardinalis cardinalis*) was expected in this type of habitat but was not encountered during the survey.

Native Birds

There were no native birds at this low elevation, xeric site.

Native honeycreepers (family *Drepanididae*) or other native forest bird species are generally found above 2,132 ft. elevation. Stresses brought about by introduced plants, animals, diseases and parasites have eliminated lowland populations of native birds.

The *Pueo* or Short-eared Owl (*Asio flammeus*) inhabits forests and grasslands on all the islands, but only the population on Oahu is listed as endangered by the State of Hawai'i. The habitat of the area was dense shrub and is not suitable *pueo* habitat.

The Hawaiian Hawk (*Buteo solitarius*) or *'io* occurs only on the island of Hawai'i and is currently listed as an endangered species by both state and federal governments. No *'io* were observed during the wildlife survey and none were expected.

Hawaiian Petrels (*Pterodroma sandwichensis*) are listed as endangered species and Newell's Shearwaters (*Puffinus auricularis newelli*) are listed as threatened by the U.S. Fish and Wildlife Service and the State of Hawai'i. Neither species was encountered during the current wildlife survey. It is unlikely that the area hosts a colony of either of these species.

Mammals

The Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) is listed as an endangered species by both State and federal governments. Most bat sightings occur from August to December. Bats are commonly seen below 1,640 ft elevation and in introduced vegetation, although they are more often associated with native vegetation. No bats were seen during the morning survey period, however, bats occur island-wide and have often been sighted in Kona (USFWS 1997).

Other mammals that would be expected in the project area include Small Indian Mongoose (*Herpestes auropunctatus*), cats (*Felis cattus*), feral dogs (*Canis familiaris*), rats (*Rattus spp.*) and the house mouse (*Mus musculus*).

Project Impacts and Mitigation

The project will not have an adverse impact on birds or other wildlife. The area does not support habitat suitable to native forest birds, shorebirds or other wetland species. Rather, it is comprised of an introduced or naturalized community of plants, birds, and mammals that are highly adaptable to man's actions. There were no threatened, endangered or sensitive species of wildlife on the site during the survey period and none are likely to be impacted by the proposed action. The U.S. Fish and Wildlife Service has concurred that no federally listed species or proposed species, or proposed or designated critical habitat under its jurisdiction will be affected by the project (see Appendix C).

Impact of Other Alternatives

All of the project alternatives would be similar to the proposed action, i.e., no adverse impact on birds or other wildlife in the area. None of the alternatives would affect threatened or endangered species.

3.4 SOCIO-ECONOMIC ENVIRONMENT

3.4.1 Population and Employment

Existing Conditions

Population

According to the 2000 U.S. Census, the population in North Kona increased by 28 percent over the last decade, from 22,284 persons in 1990 to 28,543 persons in 2000. In the previous decade from 1980 to 1990, the population growth rate was an even higher 62 percent. The County's projections for growth over the next 20 years anticipate continuing rapid growth in North Kona. Between 2000 and 2020, the population is projected to increase by nearly 50 percent in both North and South Kona (County of Hawai'i, 2003).

The 2000 Census shows racial make up of the North Kona and the County as a whole is as follows:

	Hawai'i County	North Kona
TOTAL	**148,677**	**28,543**
White alone	46,904 (31.5%)	13,455 (47.1%)
Asian alone	39,702 (26.7%)	4,655 (16.3%)
Native Hawaiian & other Pacific Islander alone	16,724 (11.2%)	3,057 (10.7%)
Black or African American alone	698 (0.5%)	126 (0.4%)
American Indian and Alaska native alone	666 (0.4%)	133 (0.4%)
Other race alone	1,695 (1.1%)	403 (1.4%)
Two or more races	42,288 (28%)	6,714 (23.5%)

Source: U.S. Census Bureau, 2000

Compared to Hawai'i County as a whole, the North Kona area has a higher percentage of white-only residents (47.1% versus 31.5%) and fewer Asian-only residents (16.3% versus 26.7%). There is a slightly lower percentage of individuals of two or more races (23.5%) than in the County as a whole (28%).

Employment and Income

The civilian labor force in Hawai'i County increased from 65,350 persons in 1992 to 70,200 in 2002, approximately 7.4 percent. In 2002, the unemployment rate was 5.7 percent, the lowest it had been in the previous ten years. Between 1992 and 2002, unemployment fluctuated between the 1992 low of 5.7 percent and a high of 10.8 percent (1994) (State of Hawai'i Data Book, 2002).

Median household incomes in the North Kona region are generally higher than the County as a whole. In 1999, the median household income in North Kona was about 10 percent higher ($51,525) than in the rest of Hawai'i County ($46,480) (U.S. Census Bureau, Census 2000).

Project Impact and Mitigation

The project construction will have construction-related impacts on noise, air quality and traffic. Road improvements along Palani Road will disrupt and slow traffic flow, causing minor inconvenience for nearby residents, families with children attending the Kealakehe Elementary and Middle School, and motorists traveling through the areas. Once the new Kealaka'a Street extension is completed, roadway safety will improve and congestion will decrease.

The project will have positive, short-term economic benefits through the County's expenditure of construction funds and construction employment. The roadway improvements will also have a positive socio-economic impact by enhancing roadway safety and access for existing and future

developments. However, the roadway improvements will not increase roadway capacity, and will not directly cause or encourage future population growth or an increase in vehicular traffic.

Impact of Other Alternatives

All build alternatives would have short and long-term impacts similar to the proposed action. The no action alternative would not have short-term construction related effects. However, it would do nothing to improve roadway safety or congestion along this stretch of Palani Road. As the surrounding lands are developed, these problems could be exacerbated.

3.4.2 Archaeological, Historic, and Cultural Resources

Archaeological Resources

Previous Archaeological Survey

In 1990, an archaeological inventory survey (Donham 1990) was conducted for a 950-acre area that included the current project area. Five sites identified in the 1990 study are located in the vicinity of the current project area. Site 50-10-27-13243 is a complex consisting of a C-shape habitation feature, two hearths and a stone wall. Site 50-10-27-13244 is a kerbstone trail. Site 50-10-27-13245 is a complex consisting of two stone cairns and a rock mound. Site 50-10-27-13246 is a complex consisting of a historic roadbed, three linear rock mounds, two alignments, and a pāhoehoe excavation. Site 50-10-27-13248 is a stone wall. Nor further work was needed for Sites 13243 and 13245. Further data collection was recommended for Sites 13244, 13246 and 13248, though none was carried out at that time.

2002 Archaeological Assessment

A follow-up archaeological assessment was conducted for the Palani Road Safety Improvements project (Tulchin and Hammatt, December 2002). This study is included in Appendix D.

The DLNR-SHPD was consulted prior to initiating this 2002 survey, and provided guidance on its scope of work. The scope of work included:

1. Prior to grubbing, with the proposed road alignment centerline flagged, an inspection of the project area by a qualified archaeologist needs to be done to confirm the accuracy of the previous inventory survey (Donham 1990).
2. If new sites are found within the project area, they need to be recorded and significance evaluated. This information would be submitted to the DLNR-SHPD for review and comment.
3. If no new sites are found, and it is confirmed that only site 50-10-27-13248 is in the project area, additional information by photographing and sectioning the wall could be recorded prior to land altering activity.

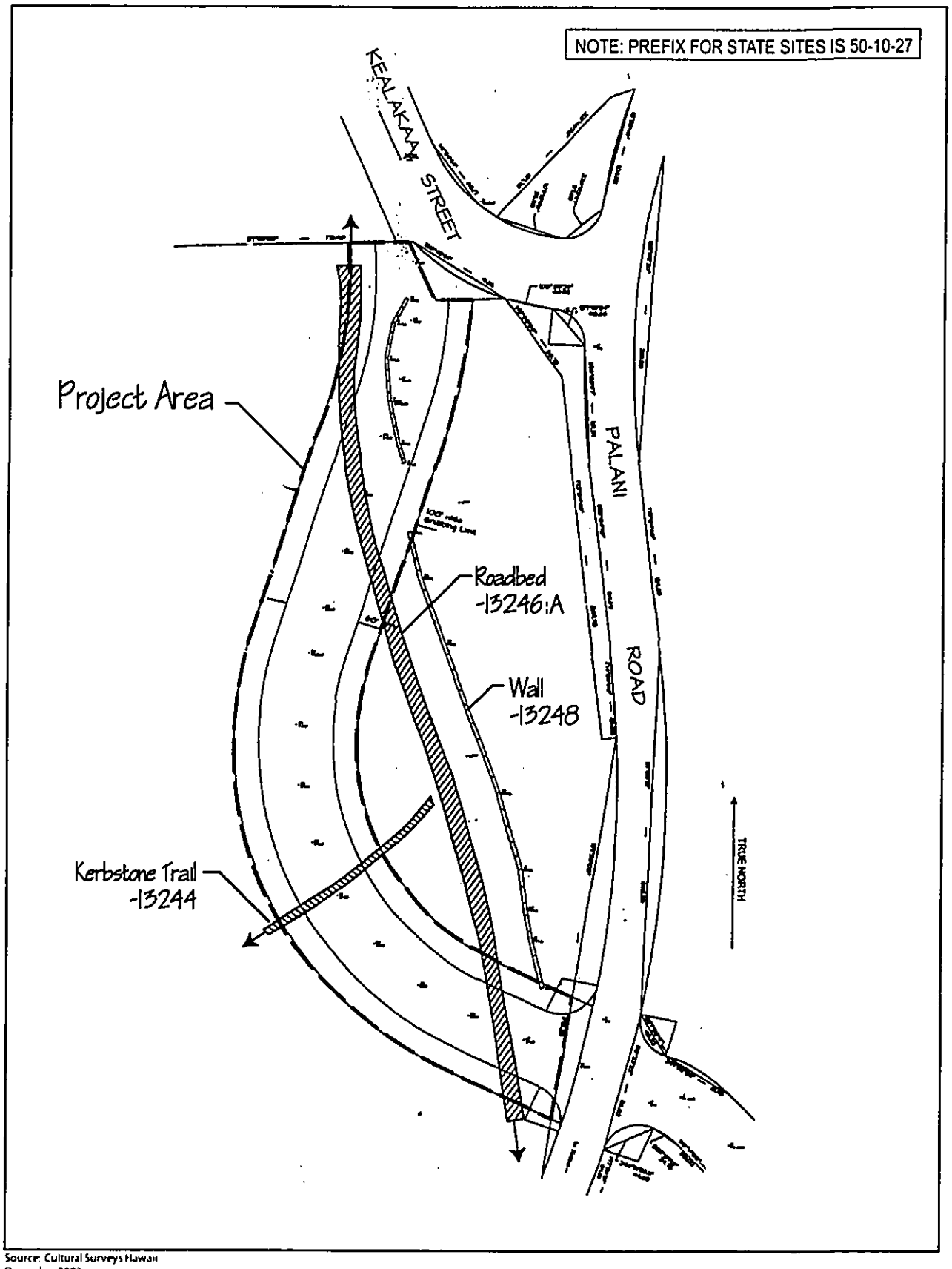
The field inspection confirmed the location of three previously identified sites within the 100-foot wide grubbing limits of the proposed roadway corridor. These were Site 50-1-27-13244 (kerbstone trail), Site 50-10-27-13246 Feature A (roadbed), and Site 50-10-27-13248 (wall). The location of these sites in relation to the project area is shown in Figure 5. Each of the sites was documented with photographs and only slight modifications to the earlier descriptions were made. A map showing the location of these sites is in Appendix D.

Project Impacts and Mitigation

No additional sites were observed during the field inspection. It was previously recommended that Sites 13244, 13246 and 13248 are important for information content and further data collection was necessary (Donham 1990). Following the work completed as part of the current study, no further data collection is recommended for Sites 13244 and 13248. However, Site 13246 Feature A remains important and it is therefore recommended that data be collected on the form and construction characteristics of the former Palani Road roadbed.

An archaeological monitoring plan was prepared (Tulchin and Hammatt, Cultural Surveys Hawai'i 2003) and approved by DLNR-SHPD in a letter dated January 24, 2004 (LOG No. 2004.0220, DOC No. 401MM27) (see Appendix D). A qualified archaeologist will monitor initial grubbing and grading, and data collection on Site 13246 will be accomplished during the monitoring work. The monitoring archaeologist will collect data on the form and construction characteristics of Site -13246 (roadbed), including descriptions of the materials (fill) used to construct the roadbed, photographs, and a scale profile. Following the initial grubbing and grading activities, and after consultation with DLNR-SHPD, on-call archaeological monitoring will be utilized.

In the unlikely event that cultural deposits of human skeletal remains are encountered during ground disturbing activities in any portion of the project area, work will be stopped immediately in that area and the monitoring archaeologist will notify the DLNR-SHPD of the nature of the discovery. The archaeological monitoring plan identifies specific monitoring provisions to be followed.



Source: Cultural Surveys Hawaii
December 2003

0 400 Feet

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Figure 5
Archaeological and Cultural Resources

Historic and Cultural Resources

A cultural impact assessment for the project (Cultural Surveys Hawai'i, 2003) is included in Appendix D. The purpose of the cultural impact assessment was to document and evaluate the effects of the project on native Hawaiians or any other ethnic group in terms of their culture and their rights to practice traditional customs. The assessment was conducted in accordance with Act 50, Chapter 343 HRS and included examination of historic documents, a review of existing archaeological information, and formal and informal oral interviews.

Specific topics of study included burials (there are not believed to be any), access to Hawaiian trails, native gathering practices, and other archaeological and historical properties. There were no gathering practices identified within the proposed project area. Over all, the study concluded that the proposed project will have minimal or no impact on Hawaiian culture, its practices and traditions.

The cultural impact assessment reviewed the historical background of the larger Keahuolu Ahupua'a. At the time of the Mahele of 1848, the entire Ahupua'a was awarded to Anne Keohokalole, who was also the mother of King David Kalākaua and Queen Lydia Lili'uokalani. In 1909, the Lili'uokalani Trust was established to provide for children, especially orphans, of Hawaiian descent. Income was derived from real estate owned by Queen Lili'uokalani, and the lands of Keahuolu were placed in a trust. In the last twenty years, the trustees have begun to develop the Keahuolu lands to generate revenue for their programs. The study noted that the area around Palani Road is now occupied by shopping malls, bookstores, business offices and residential subdivisions.

The cultural impact assessment also cited previous archaeological research, including the 1990 Donham study and the recent archaeological assessment for the subject project. No documentation regarding burials was found.

An extensive effort was made to contact and consult with Hawaiian cultural organizations, government agencies and individuals who might have knowledge of and/or concerns about traditional cultural practices in the project area. This effort included letters, e-mail, telephone and in-person contact. Letters were sent to the Office of Hawaiian Affairs, and Hui Mālama I Na Kupuna O Hawai'i Nei. The list of those contacted is included in the cultural impact assessment.

None of the interviewees mentioned any burials that would be affected by the proposed road realignment. Results of interviews regarding traditional cultural practices did not identify current practices related to traditional gathering rights.

Chapter 6E-8 Historic Preservation Review

The DLNR-SHPD has completed a Chapter 6E-8 Historic Preservation Review of this project (LOG NO: 2003.0194; DOC NO: 0304PM01). Their April 10, 2003 review letter (Appendix D) notes:

> *Your report indicates that you found three previously identified sites in the approximately 700 foot long and 100 foot wide proposed project area. These include a portion of the Site 13248 (wall), a portion of Site 13244 (a kerbstone trail), and part of Site 13246 (a roadbed believed to be the former Palani Road). The wall, which was found to run parallel to the roadbed, is now believed to be a cattle wall associated with the construction of the road. The wall was profiled and photographed during the assessment.*
>
> *The 1990 PHRI report recommended further data collection for Sites 13244, 13246, and 13248. We believe that the information collected during the assessment is sufficient to mitigate the adverse effects of the proposed street extension project on Sites 13248 and 13244. Further data collection is needed in our view for the roadbed (Site 13246), which will be cut in two places by the proposed project. We recommend the collection of data on the form and construction characteristics of the roadbed (e.g., type of fill). This information could be collected during monitoring, which was recommended in our June 28, 2002 memo. We believe that there is also a need to obtain more information about the age and history of the road. This could be done as part of the monitoring project.*

Section 106, National Historic Preservation Act Consultation

Consultation in accordance with Section 106 of the National Historic Preservation Act has been completed, and documentation is provided in Appendix E. A letter initiating Section 106 consultation was sent by the County Department of Public Works to the SHPD on December 18, 2003. The letter noted the three historic properties identified within the Area of Potential Effect (APE)—Site 13244 (kerbstone trail), Site 13246 Feature A (roadbed), and Site 13248 (wall). It also noted that further data collection for Site 13246 would be accomplished during archaeological monitoring, as requested by the SHPD.

In a Section 106 response letter to Mr. Bruce McClure, Hawai'i County DPW, dated November 9, 2004 (LOG No. 2004.3227, DOC No. 0410MM37, see attached), Mr. Peter Young stated:

> *"We believe that if the data recovery through monitoring is implemented in accordance with the approved monitoring plan, we are likely to concur with a determination of 'no adverse effect' for this undertaking."*

As part of the Section 106 consultation, a written request for review and concurrence on the project were sent to the Office of Hawaiian Affairs, Ms. Ruby McDonald, and Hui Mālama I Na Kupuna O Hawa'i Nei in December 2004 (see Appendix E). A written response was received from OHA in January 2005 within the 30-day comment period. The letter stated that *"OHA*

appreciates the requirement that an archaeological monitor will be on site during initial grubbing and grading, with on-call archaeological monitoring throughout the project. We will rely on your assurances that should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted..."

Follow-up telephone calls were made to Ms. Ruby McDonald, who had been previously interviewed as part of the cultural impact assessment. She indicated in a February 17, 2005 e-mail that she concurred with the OHA comment letter.

Follow up phone calls were made and e-mails sent to Mr. Edward Halealoha Ayau of Hui Mālama. On March 8, 2005, Mr. Ayau sent an e-mail with comments, including a request for an archaeological and cultural monitor, and proper treatment of any inadvertent discovery of burials, burial objects or cultural items. In an e-mail response to Mr. Ayau, Cultural Surveys Hawai'i stated that Hui Mālama's request for an archaeological monitor will be accomplished through the approved monitoring plan. Standard procedures will be followed in the case of inadvertent finds, and the SHPD and the Hawai'i Island Burial Council will be consulted in the case of inadvertent burials. Although there is no State or County approved cultural monitoring program or procedure in effect right now, their request has been forwarded to the County Department of Public Works.

The FHWA subsequently sent a "no adverse effect" determination to the SHPD on March 17, 2005. In a response dated May 2, 2005, the SHPD concurred with the FHWA's no adverse effect determination (Appendix E).

Impact of Other Alternatives

The no action alternative would not have an impact on archaeological, cultural or historic resources. Other alternatives are relatively similar to the proposed action, and would have similar impacts.

3.4.3 Visual Resources

Existing Conditions

The project site and areas to the west and south are comprised of open lava fields overgrown with trees and grasses. These areas have an open, undeveloped visual appearance. Residential neighborhoods are visible to the east and north of the project, and Kealakehe Elementary and Middle School is located further up Kealaka'a Street.

Project Impact and Mitigation

The construction of a new road extension will change the appearance of the project site from an undeveloped, overgrown area to a paved, maintained roadway. During the construction period, the visual character of the area will change due to the presence of equipment and personnel in the area. However, after completion, the new road will not have a substantial visual impact. It will not obstruct existing view planes.

There will be no long-term, indirect or cumulative development impacts that could affect the visual environment.

Impact of Other Alternatives

None of the project alternatives would have significant direct, indirect or cumulative impacts on visual resources in the area.

3.5 UTILITIES AND INFRASTRUCTURE

3.5.1 Drainage

Currently, water sheet flows over Palani Road onto the road shoulders, where it drains through percolation and short distance surface flow. There are no signs of major erosion in this area of Palani Road. There is a catch basin on the southeast side of the existing Palihiolo Street-Palani Road intersection. Drainage water is piped across Palani Road through a 24-inch pipe. This 24-inch pipe and drainage inlet will likely be left in place. Drainage water from the 24-inch pipe will be piped to a new drywell with an overflow, allowing water beyond the 5-year storm to follow the original flow path.

The drainage improvements for this project will include a couple of inlets along the north side of Palani Road to intercept gutter flow from the new curb. This water will be piped to a new drywell. The new Kealaka'a Street will have curbs and gutters on both sides of the road, as well as drywells to handle the new flow.

3.5.2 Potable Water

There is an existing 12-inch water main along Palani Road that will be left in place. The valve box covers will be raised as necessary to adjust to the new finish pavement grade. Two fire hydrants on Palani Road will be relocated. There will be no need for a new water main along the new Kealaka'a Street extension, as there is already a 12-inch water main along the existing Kealaka'a Street.

3.5.3 Electrical/Telephone/Cable TV

Electrical power in the project area is provided by Hawai'i Electric Light Company (HELCO). Telephone service to the region is provided by Verizon Hawai'i via their Kailua-Kona facilities. Cable television (CATV) service is provided by Oceanic Time Warner Cable.

Electrical, telephone and CATV are run on existing jointly-owned Verizon and HELCO poles on Palani Road.

Five utility poles will need to be relocated as part of this project. These poles include 69 kv/12kv electric, telephone, and cable. There are no known underground facilities in the project area. Project engineers will coordinate plans for roadway work and utility relocations with the utility companies to ensure that service in the area will have minimal disruption.

In the long term, the project will not impact the overall demand for electrical, telephone or CATV service, and no mitigation measures are warranted.

3.5.4 Wastewater System

The County of Hawai'i Department of Environmental Management provides wastewater service on the Big Island. The Kailua-Kona area makai of Queen Ka'ahumanu Highway has wastewater service. A sewage treatment plant, located in the Kealakehe area, was constructed in 1991.

As in many older neighborhoods outside of downtown Kailua-Kona, the project area is not served by the County's wastewater system. The surrounding subdivisions (Queen Lili'uokalani Village, Kona Macadamia Acres) and Kealakehe Elementary and Middle School utilize large capacity (i.e., "gang") cesspools. Gang cesspools are defined as those that receive untreated sewage from 20 or more people a day or daily flows of more than 1,000 gallons.

The County, in response to a federal Environmental Protection Agency mandate, is in the process of eliminating large capacity cesspools serving County facilities. Earlier this year, the federal government pledged funds to the State to help Hawai'i and Kaua'i counties defray the cost of upgrading their wastewater system. The EPA mandated that the cesspools be converted to septic or sewer systems by mid 2005.

The proposed Palani Road improvements and Kealaka'a Street extension will not impact the County's plans for future wastewater service to the area. Current County plans are to extend wastewater service to the project vicinity through the State's Villages of La'i'opua lands.

There will be no indirect or cumulative project impact. No mitigation measures are needed.

3.5.5 Solid Waste

The Hawai'i County Department of Environmental Management, Solid Waste Division, operates and maintains all solid waste collection and disposal facilities in the County. Facilities include two landfills and 21 transfer stations. The project area is served by the Kailua Transfer Station located in Kailua-Kona, and the Pu'u Anahulu Landfill in North Kona.

The project will not have short or long-term impacts due to hazardous materials, waste or petroleum products. Construction activities will utilize hazardous materials including paints, metal, tar, petroleum products and cleaners. All construction materials will be properly used, transported, stored and disposed. All construction debris and waste will be removed from the project area. The construction contractor will dispose of all debris at DOH-approved County disposal or recycling facilities, and in accordance with County requirements. No construction waste materials will be buried on site.

The contractor will develop a contingency plan to control accidental spills of petroleum products. Material and equipment necessary for spill clean up will be kept on site.

The contractor will comply with Hawai'i Revised Statutes Chapter 103D-407, which stipulates that all highway and road construction and improvement projects funded by the State or County (or roadways that will be accepted as public roads) use a minimum of ten percent crushed glass aggregate in all base course (treated or untreated) and sub base, when the glass is available to the quarry or contractor at a price no greater than that of the equivalent aggregate.

3.5.6 Impact of Other Alternatives

All the project alternatives, with the exception of no action, would have utility and infrastructure impacts similar to the proposed action.

3.6 TRAFFIC

A traffic study for the project was completed (Julian Ng, Inc., 2003) and is included as Appendix F.

3.6.1 Existing Conditions

Palani Road is a two-lane roadway that connects Kailua village with the upper Kona area north of the village. Near Kealaka'a Street, Palani Road is oriented in a northeast (mauka) to southwest (makai) direction. Kealaka'a Street forms a "T"-intersection with Palani Road, with the stem of the "T" in the northwesterly direction. Kealaka'a Street serves a residential area that include two schools. Palihiolo Street is a local residential street forming a "T"-intersection approximately 700 feet southwest of Kealaka'a Street, with the stem in the southeasterly direction.

The State Department of Transportation (DOT), Highways Division, has estimated that the average daily traffic volumes on Palani Road in 2002 were 15,454 vehicles per day on the mauka

portion (northeast of Kealaka'a Street) and 17,080 vehicles per day on the makai portion. Daily traffic volumes on Palani Road have been increasing at an average rate of 2 percent per year, and this growth is expected to continue.

The State DOT conducted traffic counts in 2002. Figure 6 shows the results of these traffic counts for AM peak hour (in "(x)" parentheses) and PM peak hour (in "[x]" brackets). Traffic approaching the intersections on Kealaka'a Street and Palihiolo Street are controlled by stop signs.

According to the Keāhole to Honaunau Regional Circulation Plan (County of Hawai'i, 2003), 2000 traffic counts showed that Palani Road in the project vicinity had poor traffic conditions during both morning (AM) and afternoon (PM) peak hours. Roadway conditions are expressed by Level of Service (LOS), defined as a "qualitative measure describing operational conditions within a traffic stream." Factors determining LOS include speed, delay, vehicle density, freedom to maneuver, traffic interruptions, and driver comfort. LOS A, B and C are considered satisfactory levels of service. LOS D is generally considered a "desirable minimum" operating level of service. LOS E is an undesirable condition and LOS F is an unacceptable condition. The Regional Circulation Plan notes that in 2000, conditions on Palani Road were at LOS E during both the AM and PM peak hours.

The Julian Ng traffic study evaluated delays and LOS at the Kealaka'a Street and Palihiolo Street intersections. In 2002, delays in left turn movements from Kealaka'a Street (onto Palani Road) were at LOS F in the AM and PM peak hours. Right turn movements from Kealaka'a (onto Palani Road) in the AM peak were also at LOS F.

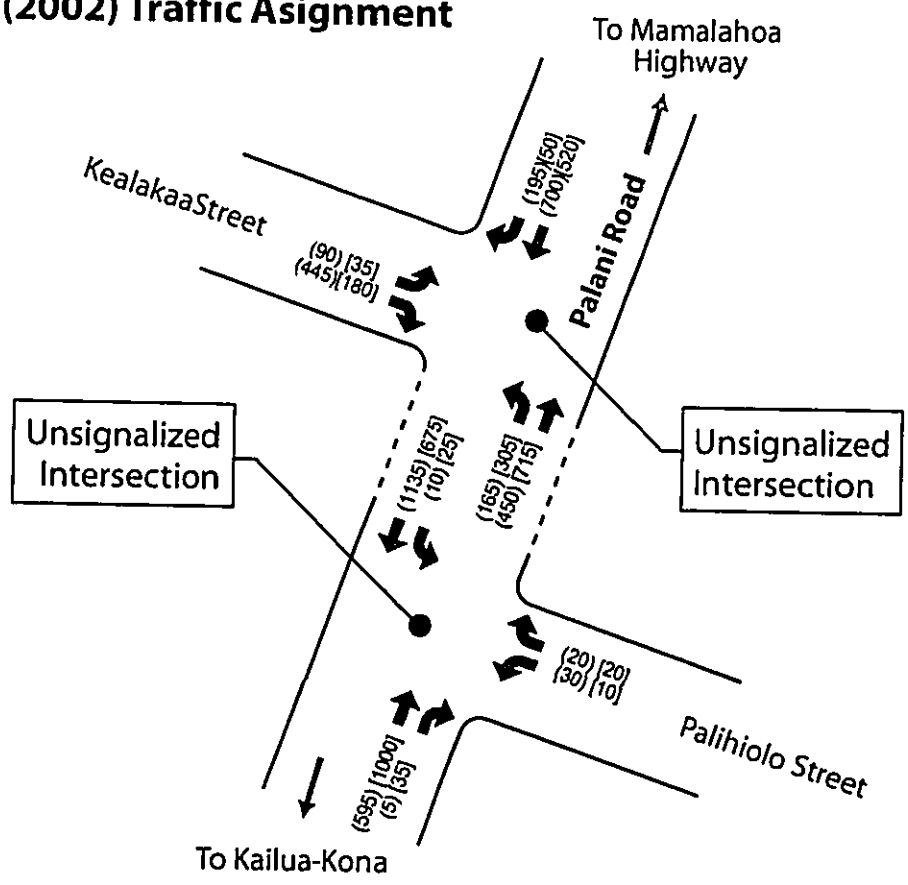
Bicycle and Pedestrian Facilities

Bike Plan Hawai'i (State of Hawai'i 2003) identifies Palani Road between Queen Ka'ahumanu Highway and Hina Lani Drive as a future "signed shared road." A signed shared roadway is defined as street or highway that is specifically designated by signs as a preferred route for bicycle use. According to the American Association of State Highway and Transportation Officials (AASHTO), a signed shared road should meet or exceed 14 feet for the curb lane, or four feet for a paved shoulder.

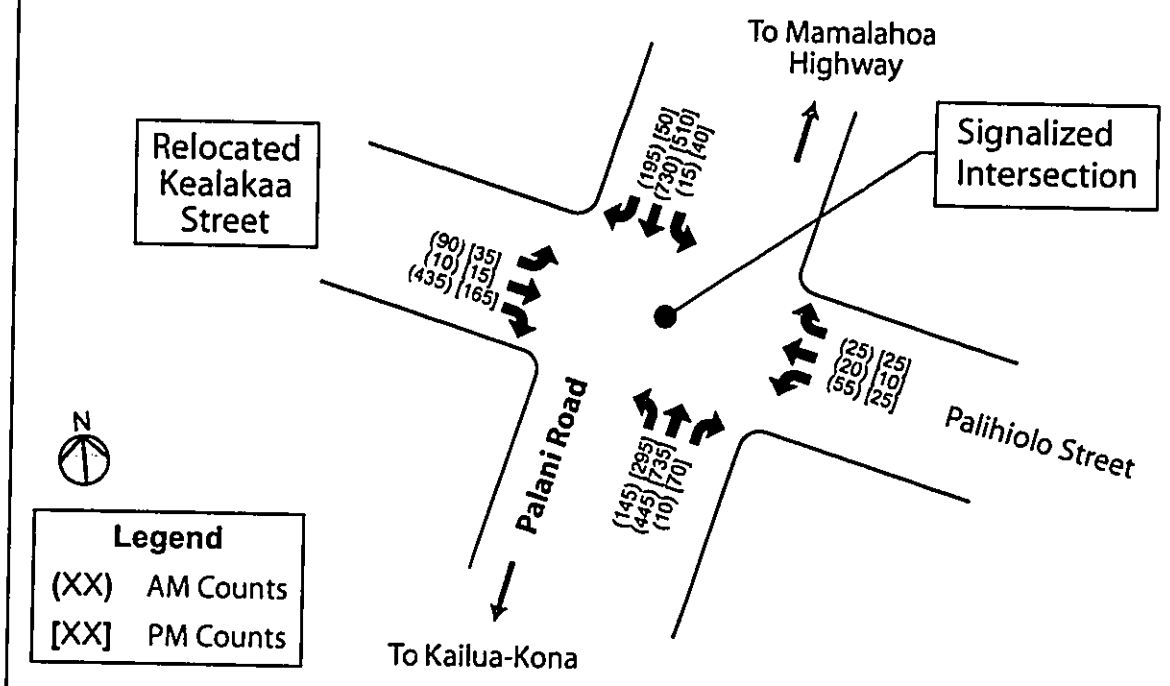
This 3.4 mile stretch of Palani Road, which includes the project area, was given a priority level II by Bike Plan Hawai'i. Priority level II improvements are considered mid-term projects, generally planned for construction 10+ years from present.

The roadway improvements are consistent with the requirements for a future signed shared roadway, as there will be a 4.5-foot shoulder on the south side of Palani Road and a 6-foot wide shoulder on the north side.

Existing (2002) Traffic Asignment



Future (2005) Traffic Assignment with Improvements



Source: J Ng, Inc.
June 2004

0 100 200 Feet

Figure 6

Traffic Assignments 2002 & 2005

Future Conditions Without the Project

The traffic study notes that traffic on Palani Road has been increasing at an average rate of about two percent per year. Since no development has been identified in the areas served by Kealaka'a Street and by Palihiolo Street, only through traffic on Palani Road is expected to increase in the short-term. By year 2005, these volumes are expected to be about 6 percent higher than in year 2002.

3.6.2 Project Impacts and Mitigation

Short-Term Construction Impacts

There will be some short-term disruption of traffic during project construction. In particular, traffic will be affected in the area where the extension meets existing Kealaka'a Street, near the new intersection with Palani Road, and along Palani Road where the road will be widened. There will be minimal impact during construction of the roadway extension.

Future Conditions Without Project

The traffic study noted that in the longer term, traffic on Palani Road will continue to increase until alternative roadways connecting Kailua village to upper Kailua are completed. The extension of Kealakehe Parkway to Māmalahoa Highway, located north of the project area, is listed in the long-range plan as a "Tier 2" project to be implemented between 2006 and 2010. Traffic volumes on Palani Road, therefore, were assumed to increase steadily to 2010, then remain at the same level to 2025.

Proposed Project

The proposed project will relocate the connection to Kealaka'a Street further south, opposite Palihiolo Street, changing the existing configuration along Palani Road from two unsignalized "T"-intersections to a single, signalized cross-intersection. In addition, the Kealaka'a Street approach will have a separate right-turn lane for traffic makai-bound on Palani Road.

With signalization, Palihiolo Street can be expected to carry more of the traffic generated by the Queen Lili'uokalani Village subdivision.

Figure 6 also shows anticipated traffic levels in 2005 at the intersection of the new Kealaka'a Street extension and Palani Road. The traffic study evaluated levels of service at the new Kealaka'a Street and Palani Road intersection through 2020. The capacity analysis of the future signalized intersection shows that there will be adequate capacity to provide acceptable levels of service at the intersection. The study also recommended separate turn lanes on Palani Road, with storage lengths of 75 feet southbound (left turns to Palihiolo Street) and 400 feet northbound (left turns to relocated Kealaka'a Street).

Conclusions and Recommendations

The roadway improvements are expected to have a positive effect on safety conditions in the area. Capacity analysis of the future signalized intersection at Palani Road shows that there will be adequate capacity to provide acceptable levels of service. Separate turn lanes on Palani Road are being designed with the storage lengths recommended in the traffic study, in order to accommodate anticipated traffic.

3.7 PUBLIC SERVICES AND FACILITIES

3.7.1 Police

Existing Conditions

The project area is served by the Hawai'i County Police Department's Kealakehe substation. The station is located on County-owned land makai of the Kealakehe Landfill, near the civic center.

Project Impacts and Mitigation

During construction, particularly during work along Palani Road, existing traffic flow will be disrupted. Temporary lane closures and diverted traffic, and the presence of construction equipment and materials may generate complaints to the police department.

On the other hand, construction of the new road extension will not disrupt existing traffic patterns. The new Kealaka'a Street extension will be constructed on undeveloped land, and therefore, most of its construction, with the exception of the connections to existing roads, will not affect current vehicular traffic. The existing Kealaka'a Street intersection with Palani Road will remain open until the new roadway extension is completed.

During work on Palani Road, flagmen or police, lights and signage will be used to divert traffic and alert motorists of construction ahead. Once the new road is completed, signs will be posted to notify drivers of the modified traffic route. It is inevitable that roadside construction work will temporarily inconvenience drivers, and may result in complaints to the police department. However, in the long term, the new roadway will improve roadway safety, and will not increase demand for police services. Overall, there will be no indirect or cumulative impact on police services as a result of the project.

Impact of Other Alternatives

Any build alternative would result in traffic disruption and inconvenience during the construction period. None of the alternatives would have a direct, indirect or cumulative impact on police services. Although the no-action alternative would not have construction period traffic disruption, in the long term, it could have the greatest impact on police services. Without safety

improvements along Palani Road, there is a possibility that the occurrence of traffic accidents and incidents will increase, as regional traffic volumes increase.

3.7.2 Fire and Emergency Medical Services

Existing Conditions

The project area is served by the Hawai'i County Fire Department's Kailua fire station, located on Palani Road about 1.6 miles from the project area. The Kailua Fire Station is staffed with an engine, tanker and ambulance, and a complement of six personnel.

Project Impacts and Mitigation

The project will not have short or long-term impacts on the demand for fire or emergency medical services. The new roadway extension will be constructed to County standards, and will accommodate fire and emergency vehicles. No mitigation measures are necessary. The improved roadway safety and traffic flow that will result from the roadway improvements may also improve emergency vehicle access in the area.

Impact of Other Alternatives

The alternative sites and alternative design would have impacts similar to the proposed action.

3.7.3 Parks

Existing Conditions

There are no County, community or neighborhood parks adjacent to the project area. However, the State's planned Villages of La'i'opua is expected to include the development of several neighborhood parks.

Project Impacts and Mitigation

The project will not have short or long-term impacts on park or recreational resources in the area. There will be no indirect or cumulative impacts on park or recreational resources.

Impact of Other Alternatives

None of the project alternatives would have a direct, indirect or cumulative impact on park or recreational resources.

3.7.4 Schools

Existing Conditions

Kealakehe Elementary School was established in 1969, and includes preschool to Grade 5. Enrollment in 2003-2004 was approximately 1,000 students. The school is located on Kealaka'a Street, with its main entrance near the project area.

In 1986, the school was split into two separate schools due to the large enrollment. The elementary school remained on the original campus, but a new middle school was established nearby. Kealakehe Middle School serves grades 6, 7 and 8, and is located adjacent to the elementary school on Onipa'a Street. It currently has an enrollment of about 1,000 students. Both schools are part of the State Department of Education's Kealakehe High School complex.

The new road extension will begin just beyond the Kealakehe Elementary School entrance on Kealaka'a Street. A large percentage of students arriving at the school from surrounding residential areas utilize Palani Road and Kealaka'a Street, and would use the new Kealaka'a Street extension.

Project Impacts and Mitigation

The roadway extension will not induce residential development in the area or increase school enrollment. There are plans for further residential development of the surrounding lands, but this will occur with or without this project. The proposed roadway extension will alleviate traffic congestion that occurs daily on Palani Road and Kealaka'a Street, improving traffic circulation to and from the school. The new connection across Palihiolo Street will improve roadway access between the Queen Lili'uokalani Village residential subdivision and the school, eliminating the need to get on and off Palani Road. It will also eliminate the dangerous Kealaka'a Street and Palani Road intersection.

However, although the project will improve vehicular safety, the new road configuration will raise pedestrian safety issues that need to be addressed. In a letter dated October 12, 2003, the Principal of Kealakehe Elementary School noted that the road realignment will alter pedestrian routes, and expressed concern for the safety of children utilizing the pedestrian overpass across Palani Road. She noted that currently, students crossing the pedestrian overpass bridge get to Kealakehe Elementary School without crossing any streets. When the proposed Kealaka'a Street extension is completed, students using the overpass will have to cross Kealaka'a Street in order to get to school. A new pedestrian school crossing will be installed to mitigate pedestrian safety concerns. The marked crosswalk will at minimum have flashing warning lights, and possibly a separate crosswalk stop light. In addition, the school intends to utilize crossing guards at the crosswalk before and after school, when many children will be crossing the street.

Impact of Other Alternatives

None of the project alternatives would impact school enrollments. The no action alternative would fail to improve unsafe and congested traffic conditions around the school. Traffic in the area would continue to increase, and intersection delays during peak hours would become very lengthy. No action, however, would maintain existing pedestrian patterns around the school.

The option to create a left turn lane from Palani Road onto Kealaka'a Street would require elimination of or modification to the existing pedestrian overpass. This would alter pedestrian patterns for children walking to and from school. Environmental impacts would be similar to the proposed action.

3.8 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The table below summarizes the environmental effects of the proposed action and alternatives evaluated in this environmental assessment. The no action alternative would not affect any of the resource areas. All the build alternatives would have impacts similar to the preferred alternative. All would result in temporary, construction period impacts such as noise, dust, and some traffic disruption. None of the build alternatives would have adverse impacts to biological resources, infrastructure, or public services. All of the build alternatives will change the visual appearance of the area by constructing a new road on a currently undeveloped site. However, the area is already planned for future development, and none of the alternatives would obstruct scenic views.

All of the build alternatives would have a potential impact on archeological resources. Any variation of a new Kealaka'a Street extension will affect State Historic Site 13246, historic roadbed, which runs parallel to the existing Palani Road and Kealaka'a Street. In all cases, this impact will be mitigated through construction period monitoring and data recovery.

With the exception of no action, all of the alternatives would improve traffic flow and safety in this stretch of Palani Road. Under a no action scenario, existing congestion and safety issues at the Kealaka'a Street and Palihiolo Street intersections could worsen, as regional traffic increases in coming years. This population growth and associated traffic will occur with or without this roadway improvement project.

Table 3-1: Summary of Impacts and Mitigation for Project Alternatives

Affected Resource	Construct Kealaka'a Street Extension -- Option 1	Construct Kealaka'a Street Extension-- Option 2	No Action	Signalize and Add Left Turn Lane at Palani Rd.
Physical				
Topography & Slopes	No impact.	Same as with Option 1	No impact.	Same as "Construct Kealaka'a Street Extension"
Soils	Geotechnical survey indicates no special preparations or conditions required for road construction.	Same as with Option 1	No impact.	Same as "Construct Kealaka'a Street Extension"
Air Quality	Short-term construction related impacts. May be long-term improvement near intersections due to reduced traffic congestion.	Same as with Option 1	No impact.	Same as "Construct Kealaka'a Street Extension"
Natural Hazards	Not in flood or tsunami inundation zone. Area has some susceptibility to volcanic hazards.	Same as with Option 1	Same as "Construct Kealaka'a Street Extension"	Same as "Construct Kealaka'a Street Extension"
Hydrology	No impact to surface or groundwater resources.	Same as with Option 1	No impact.	Same as "Construct Kealaka'a Street Extension"
Noise	Short-term construction period noise. Project will not increase roadway capacity or traffic volumes	Construction period noise may be slightly less than Option 1, since demolition of existing intersection not required.	No impact.	Same as "Construct Kealaka'a Street Extension"
Biological				
Flora	No impact to threatened or endangered species.	Same as with Option 1	No impact.	Same as "Construct Kealaka'a Street Extension"
Terrestrial Biology	No impact to threatened or endangered species.	Same as with Option 1	No impact.	Same as "Construct Kealaka'a Street Extension"
Socio-Economic				
Population & Employment	Creates short-term construction jobs. No direct, indirect or cumulative impact on population. Planned residential developments and population growth will occur on adjacent lands with or without this project	Same as with Option 1	No impact.	Same as "Construct Kealaka'a Street Extension"

Affected Resource	Construct Kealaka'a Street Extension -- Option 1	Construct Kealaka'a Street Extension-- Option 2	No Action	Signalize and Add Left Turn Lane at Palani Rd.
Archaeological, Historic, Cultural	Proposed road will cross archaeological Site 13246 (former road bed) in two places. Archaeological monitoring and additional data collection be conducted during construction period.	Same as with Option 1	No impact.	Unknown.
Visual Resources	Will alter visual appearance of presently undeveloped site. No *impact on important,* identified scenic resources.	Same as with Option 1	No impact.	Same as "Construct Kealaka'a Street Extension"
Utilities & Infrastructure	Some utility lines on Palani Road will need to be relocated. No long-term impact on utility systems or demand.	Same as with Option 1	No impact.	Same as "Construct Kealaka'a Street Extension"
Traffic	Project will improve traffic flow and roadway safety in the area. Closure of existing Palani-Kealaka'a intersection may result in minor inconvenience and slightly longer driving distance for some vehicles.	Southbound vehicles turning right onto Kealaka'a Street will have option to use existing intersection or new Palihiolo intersection. However, right turning traffic may back-up onto Palani Road. May encourage "illegal" left turns at existing Kealaka'a Street intersection. .	No change to existing traffic conditions or traffic patterns. In the long term, congestion and safety issues may worsen as regional traffic increases.	Would improve traffic flow on Palani Road, but extent unknown. Would result in elimination or relocation of existing pedestrian overpass bridge. Not known whether and where pedestrian bridge would be relocated.
Public Services				
Police	Improved traffic flow and safety will have a positive impact on police services.	Same as with Option 1	No impact.	Same as "Construct Kealaka'a Street Extension"
Fire and Emergency Medical Services	Positive indirect and cumulative impact due to reduction in traffic congestion and improved emergency response times.	Same as with Option 1	No impact.	Similar to "Construct Kealaka'a Street Extension"

Affected Resource	Construct Kealaka'a Street Extension -- Option 1	Construct Kealaka'a Street Extension-- Option 2	No Action	Signalize and Add Left Turn Lane at Palani Rd.
Parks	No impact.	Same as with Option 1	No impact.	Same as "Construct Kealaka'a Street Extension"
Schools	Will improve traffic flow around school in AM and PM peak hours. New road will alter pedestrian patterns for children using Palani Rd. overpass, requiring new crossing across Kealaka'a Street extension.	Same as with Option 1	No impact.	Would require the elimination or relocation of the existing pedestrian overpass over Palani Road. Not known whether and where pedestrian bridge would be relocated.

4 CONSISTENCY WITH EXISTING PLANS, POLICIES AND CONTROLS

4.1 FEDERAL

4.1.1 Section 4(f) Department of Transportation Act

Section 4(f) of the Department of Transportation Act, 49 U.S.C. §303 states that it is national policy to preserve public parks, recreation areas, wildlife and waterfowl refuges and historic sites. It prohibits the use of federal funds for projects that have significant adverse impacts on the above resources unless there is no prudent and feasible alternative and the project includes all possible planning to minimize harm resulting from the use of such lands.

The intent of Section 4(f) is to preserve significant parkland, recreation areas, refuges, and historic/archaeological sites by limiting the circumstances under which such land can be used for transportation projects. "Use" is defined as:

- land is permanently incorporated into a transportation facility;
- there is a temporary occupancy of land that is adverse in terms of preservation of the resource; or
- the project's proximity to the site substantially impairs those functions that qualify the site as a Section 4(f) resource even though no land is permanently or temporarily acquired. This is called "constructive use."

There are no public parks, recreation areas, or wildlife and waterfowl refuges in the project area. The project will not adversely impact any of these resources. None of the project alternatives would impact these resources.

There are, however, archaeological resources within the project area. An archaeological site is considered a Section 4(f) resource only if it is on or eligible for the National Register of Historic Places and has been determined, after consultation with the State Historic Preservation Office and the Advisory Council on Historic Preservation, to be important for *preservation-in-place*. Section 4(f) does not apply if the Federal Highway Administration (FHWA), after consultation with the SHPD, determines that the archaeological resource *"is important chiefly because of what can be learned by data recovery and has minimal value for preservation in place"* (FHWA Section 4(f) Policy Paper, March 1, 2005).

As discussed in Chapter 3, three historic properties were initially identified within the project's Area of Potential Effect. However, through consultation with the State Historic Preservation Division (SHPD), and Native Hawaiian organizations (through the Section 106 consultation process), none of the sites were identified as requiring preservation in place. Site 50-10-27-13246A, a roadbed believed to be the former Palani Road, is listed on the State Register of Historic Places. However, the SHPD has concurred with a recommendation for

data collection during monitoring, and an Archaeological Monitoring Plan has been developed (see Appendices D and E). The SHPD has also concurred with the FHWA's "no adverse effect" determination.

In summary, none of the historic properties within the APE meet the Section 4(f) criteria for requiring preservation in place. As such, there will be no Section 4(f) resources affected by this project.

4.1.2 Executive Order 12898 Environmental Justice

Executive Order 12898, Environmental Justice, requires projects utilizing federal funds to identify and address potential for disproportionately high and adverse human health or environmental effects on minority and low-income populations. Because the proposed project involves federal funding, compliance with E.O. 12898 is required.

As discussed in Chapter 3 (Section 3.4), the North Kona area has a higher percentage of white residents compared to Hawai'i County as a whole. Median household incomes in the North Kona region are also generally higher than the County. However, the project area is adjacent to several existing residential subdivisions, including the Queen Lili'uokalani Village, Kona Macadamia Acres, and Hale Palani, all of which have a high percentage of minority residents. Some of these residents may be low income. The undeveloped land immediately west of the project area is owned or planned for development by the State of Hawai'i Department of Hawaiian Home Lands. These lands are planned for future residential homesteads to benefit native Hawaiians. Village 3 of the State's Villages of La'i'opua project, completed in 2000, was also developed by the Department of Hawaiian Home Lands, and includes 225 residential units for native Hawaiians.

During construction, there will be noise, dust, and some disruption to existing traffic flow. This will impact some recently completed DHHL residences, including over 200 homestead lots completed in 2000. However, these effects will be temporary, and will not disproportionately impact minority or low income populations. The DHHL lands immediately surrounding the new roadway extension are currently undeveloped. Existing residential subdivisions are either upwind of the construction area or an adequate distance away from the construction zone.

The new roadway extension will not preclude future development by the Department of Hawaiian Homelands. Provided that adequate setback and buffers from the road are planned, there will be no adverse impact to these future residents.

Overall, the construction of the Kealaka'a Street extension will not have a disproportionate adverse environmental impact on low income or minority populations. There will not be disproportionate health risks such as traffic safety, air quality, noise or release of hazardous materials. In the long term, the region's population, including its minority and low-income residents, will benefit from improved roadway safety and reduced traffic congestion in the

area. These benefits will occur without disproportionate health or environmental impacts on these residents.

4.2 STATE OF HAWAI'I

4.2.1 Hawai'i State Plan

The 1996 Hawai'i State Plan (Chapter 226, HRS) is the umbrella document in the statewide planning system. It serves as a written guide for the future long-range development of the state by describing a desired future for the residents of Hawai'i and providing a set of goals, objectives, and policies that are intended to shape the general direction of public and private development.

State plan objectives for transportation facility systems are: 1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe and convenient movement of people and goods; and 2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State. (HRS §226-17). The State Plan's Transportation Functional Plan was prepared in 1991, and recommends specific strategies and policies to achieve the State Plan objectives.

The roadway safety improvements are consistent with the objectives and policies of the Hawai'i State Plan and Transportation Functional Plan.

4.2.2 State Land Use Classification

The State Land Use Commission, pursuant to Chapter 205 and 205A, HRS and Chapter 15-15, Hawai'i Administrative Rules, is empowered to classify all lands in the State into one of four land use districts: urban, rural, agricultural and conservation. The entire project area and immediately surrounding lands are all within the State's Urban District. The County of Hawai'i regulates activities or uses within the Urban district. The proposed roadway improvements are consistent with this State Land Use designation.

4.3 COUNTY OF HAWAI'I

4.3.1 County General Plan

General Plan Objectives and Policies

The General Plan for Hawai'i County (November 1989) is a statement of development objectives, standards and principles for the long-range comprehensive physical development of the county. The General Plan is currently being revised, with the last draft dated December 2001. Until the updated General Plan is adopted by the County Council, the 1989 General Plan will continue to be the official guiding document, and is therefore discussed in this section.

The 1989 General Plan identifies goals, policies and standards in the areas of the economy, energy, environmental quality, flood control and drainage, historic sites, natural beauty, natural resources and shoreline, housing, public facilities, public utilities, recreation, transportation and land use.

a. Consistency with General Plan Goals and Policies

The project is in conformance with the following goals and policies of the 1989 General Plan:

Item L: Transportation

(1) Thoroughfares and Streets

Goals:

- Provide a system of thoroughfares and streets for the safe, efficient, and comfortable movement of people and goods between and within the various section s of the County.

Policies:

- The County shall encourage the programmed improvement of existing thoroughfares and streets by both public and private sectors.
- The County shall coordinate with appropriate Federal and State agencies for the funding of transportation projects for areas of anticipated growth.
- Transportation and drainage systems shall be integrated where feasible.
- The County shall encourage the development of pedestrian and bicycle facilities within designated areas of the community.
- The County shall develop short and long rang capital improvement programs and plans for transportation, which are consistent with the County General Plan.

b. Land Use Pattern Allocation Guide

The Land Use Pattern Allocation Guide (LUPAG) map of the 1989 General Plan indicates the general location of various land uses in relation to each other. It is broad and flexible, and intended to guide the direction and quality of future developments in a coordinated and rational manner.

The LUPAG map designates the roadway project site and surrounding areas for "Low Density" (LD) urban development. Low Density areas are defined as *"Single family residential in character, ancillary community and public uses, and convenience type commercial uses."* The proposed roadway improvements are consistent with the LUPAG designation for the area.

The updated County General Plan will include an updated LUPAG. The updated LUPAG also designates this area for Low Density development.

4.3.2 County Zoning

As shown in Figure 7, the project area is zoned Single Family Residential (RS-15), residential use with minimum 15,000 square foot lots. The proposed Kealaka'a Street extension and roadway improvements are consistent with this zoning designation. The roadway improvements will not preclude future residential development of the surrounding lands. The improved roadway conditions will enhance access and safety for future residents.

4.3.3 Special Management Area

Coastal Zone Management objectives and policies (Section 205A-2, HRS) and the Special Management Area (SMA) guidelines (Section 25-3.2 ROH) have been developed to preserve, protect, and where possible, to restore the natural resources of the coastal zone of Hawai'i. The project site is outside the County's SMA area and will not have a direct or indirect impact on the coastal zone. Special Management Area rules and regulations are not applicable.

4.3.4 Other Plans

West Hawai'i Regional Plan

The West Hawai'i Regional Plan (November 1989) includes goals and objectives for development in West Hawai'i. The Regional Plan designated subregional planning areas, one of which is the Keāhole to Kailua-Kona area. The Keāhole to Kailua Development Plan ("K to K Plan") was adopted by the Hawai'i County Council in 1991 and is discussed below.

Keāhole to Kailua Development Plan

The Keāhole to Kailua Development Plan ("K-to-K Plan") was adopted by the County Council in 1991. The plan encompasses the area from the Kona International Airport in Keāhole, to Kailua-Kona, with the Māmalahoa Highway as the mauka boundary. The proposed Kealaka'a Street extension is located within the K to K Plan area.

The plan addressed the development demands of infrastructure, including sewers, water, roadways, drainage, parks and solid waste. The plan included a land use plan, infrastructure plan and infrastructure financing plan that provided a framework for future development of the planning area.

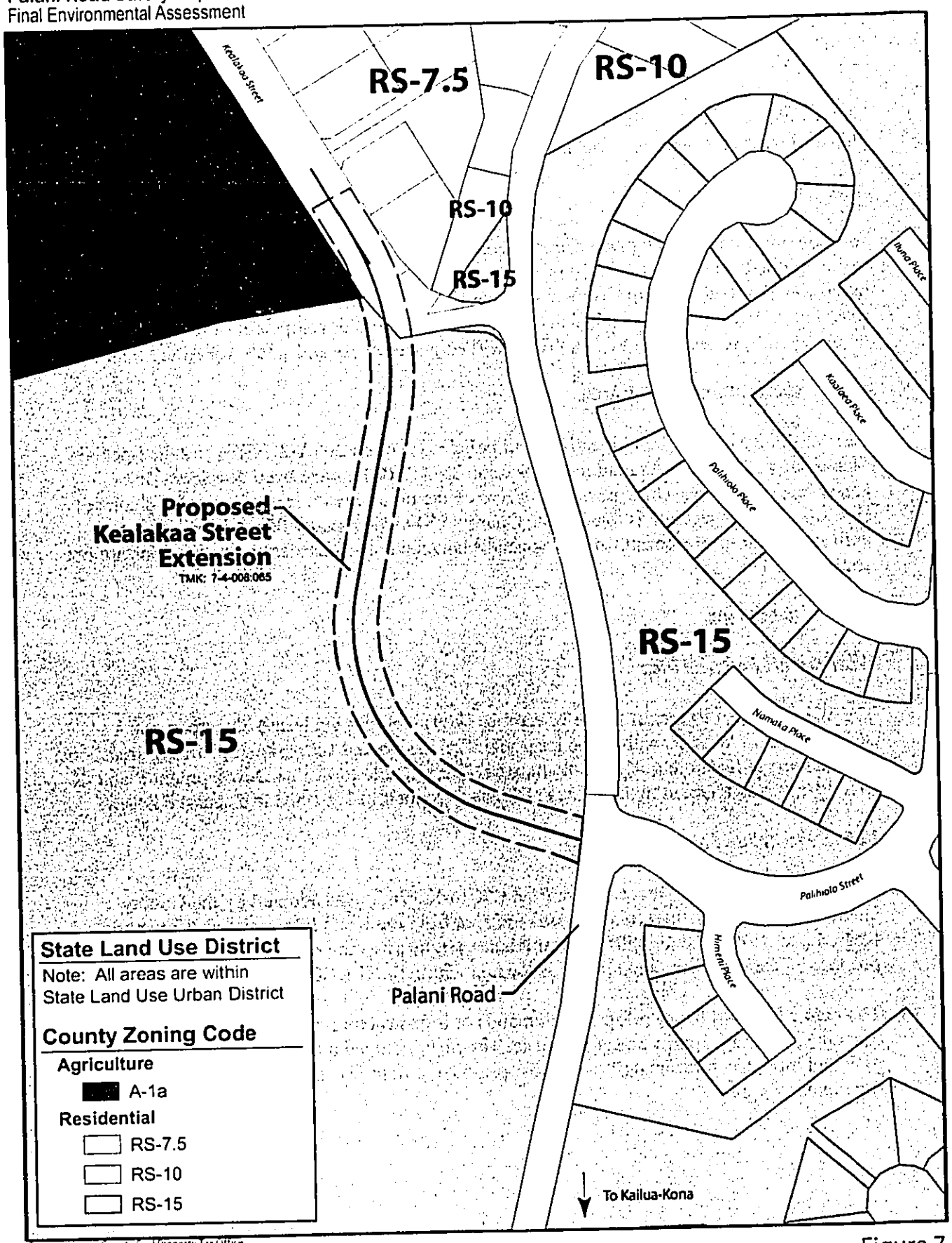


Figure 7

State Land Use District & County Zoning

In 1997, the County Planning Department developed the Keāhole to Kailua Development Plan-Revised Roadway Plan Implementation Strategy. The Revised Roadway Plan conducted more in-depth of analysis of proposed development in the area, and the required roadway improvements to support future development. This plan expanded upon concepts from the 1991 K-to-K Plan, and recommended roadway improvements including widening of Queen Ka'ahumanu and Māmalahoa Highways, and the construction of a mid-level roadway and mauka-makai connectors between Queen Ka'ahumanu and Māmalahoa Highways.

In 2001, the Keāhole to Kailua Roadway Plan was revised to accommodate developments planned or constructed since the 1997 plan. Specific roadway recommendations were included.

Keāhole to Honaunau Regional Circulation Plan

The Keāhole to Honaunau Regional Circulation Plan was completed by the County of Hawai'i in 2003. This regional transportation plan was initiated to address the severe traffic congestion on the region's arterial roadways during peak hours. It is the result of a County-initiated planning study to address the traffic problems that have resulted from rapid urban growth, sprawl and uncoordinated development. The Regional Circulation Plan identifies future transportation corridors for automobiles, commercial vehicles, bikes, pedestrians and transit. It identifies proposed short-term projects and long range concepts to address specific transportation needs, and identifies projects and programs requiring further study.

Bike Plan Hawai'i

Bike Plan Hawai'i (Department of Transportation, 2003) is the State of Hawai'i master plan for bicycling facilities, policies and programs. All of Palani Road between Queen Ka'ahumanu Highway and Māmalahoa Highway, including the project area, has been designated a proposed "Signed Shared Roadway." This is defined as a roadway that is a preferred route for bicycle use, and is so designated by signage. The proposed improvements will provide safer conditions for bicyclists on this stretch of Palani Road by widening portions of the road shoulder, and replacing two T-intersections with a single cross intersection. The reduction in vehicle congestion by the provision of turning lanes for cars will also improve conditions for bicyclists.

4.4 ENVIRONMENTAL CONSEQUENCES—OTHER CONSIDERATIONS

4.4.1 Unavoidable Adverse Effects

All potential environmental impacts discussed in Chapter 3 could either be avoided or mitigated to an extent that they would not be significant.

4.4.2 Energy Requirements and Conservation Potential of Various Alternatives and Mitigation Measures

Energy consumption will be required in the short-term for ground clearing, grading, and roadway construction. Because the improvements are strictly traffic safety-related, the project will not increase roadway capacity. Neither the preferred alternative nor any of the alternatives will increase energy requirements in the long-term. The new Kealaka'a Street extension will not, in itself, increase or induce urban development or vehicular traffic.

The roadway improvements are intended to improve traffic conditions around the school and on Palani Road between Palihiolo Street and Kealaka'a Street, specifically, reducing congestion in this area. In this way, it may indirectly reduce vehicular energy consumption.

4.4.3 Relationship of Short-Term uses and Long-Term Productivity

In the short-term, the project will have temporary construction-related impacts on the surrounding residences and school. In particular, there will be disruption to existing traffic patterns and delays. The road improvements will require a commitment of public construction funds. However, the long-term project benefits far outweigh the short-term tradeoffs. The roadway improvements will increase traffic safety, facilitate the movement of vehicles on Kealaka'a Street and along Palani Road during peak hours, and increase the efficiency of the local roadways. Roadway safety in the area will become increasingly important in coming years, as adjacent public and privately-owned lands are developed, increasing the area's resident population and associated vehicular traffic.

4.4.4 Irretrievable and Irreversible Resource Commitments

Resources that are committed irreversibly or irretrievably are those that cannot be recovered if the project is implemented. The proposed project will involve two types of resources: 1) general industrial resources including capital, labor, fuels and construction equipment; and 2) project-specific resources such as natural resources and land at the affected site. General industrial resources will be spent during project construction and for long-term operation and maintenance of the road. The development of the site will preclude its availability for other potential uses, such as future residential development. However, the Department of Hawaiian Home Lands, which owns the lands on which the roadway extension will be built, has sufficient acreage in the area for future homestead lots. The loss of the property for the Kealaka'a Street extension will not adversely affect their future development plans.

5 DETERMINATION, FINDINGS AND REASONS SUPPORTING THE CHAPTER 343 HRS DETERMINATION

5.1 CHAPTER 343 HRS DETERMINATION

Based on the information and analysis in this Final Environmental Assessment, the proposed project will not result in a significant impact on the environment. The County of Hawai'i Department of Public Works has issued a Finding of No Significant Impact (FONSI), pursuant to requirements of the State of Hawai'i HRS Chapter 343, and has determined that an Environmental Impact Statement (EIS) is not required.

5.2 CHAPTER 343 HAWAI'I REVISED STATUTES (HRS) SIGNIFICANCE CRITERIA

In determining whether an action may have significant impact on the environment, the applicant or agency must consider all phases of the project, its expected consequences both primary and secondary, its cumulative impact with other projects, and its short and long-term effects. The State of Hawai'i Department of Health Rules Section 11-200-12 (Hawai'i Administrative Rules, revised 1996) establish 13 "Significance Criteria" to be used as a basis for identifying whether significant environmental impact will occur.

An agency will determine an action may have a significant impact on the environment if it meets any of the following criteria:

1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resources;

The project site is currently undeveloped, but is identified in State and County plans for future urban development, and is surrounded by existing and future residential areas. There are no significant biological resources in the area, including threatened or endangered species or their habitats. The rare plant species *Bidens micrantha ssp. ctenophylla* is not found within the roadway corridor or in the immediate surrounding area. An archaeological assessment was completed, and an Archaeological Monitoring Plan prepared for the initial grubbing and grading work. Data will be collected by the monitoring archaeologist on Site 13246, roadbed. On-call archeological monitoring will be available after initial grubbing and grading. The Monitoring Plan identifies measures to be taken if cultural deposits or human remains are encountered during construction. This will mitigate the potential loss or destruction of cultural resources.

A Cultural Impact Assessment for the project was prepared (Cultural Surveys Hawai'i, 2003), in accordance with Act 50, Chapter 343 HRS. The purpose of the Cultural Impact Assessment was to document and evaluate the effects the project may have on native Hawaiians or any other ethnic group in terms of their culture and their rights to practice traditional customs. No gathering practices were identified within the project area. The study concluded that the project will have minimal or no impact on Hawaiian culture, its practices and traditions.

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

The proposed project does not curtail the range of beneficial uses of the environment. Future residential development is planned for the immediately adjacent lands. The area is identified in State and County land use plans for future urban expansion. The new roadway extension will not curtail these future beneficial uses of the environment. Rather, the roadway safety improvements will support these future uses.

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

The proposed project is consistent with the environmental policies established in Chapter 344, HRS and the National Environmental Policy Act. As a roadway safety improvement, the proposed project is consistent with the Chapter 344 policy of "*Establishing communities which provide a sense of identity, wise use of land, efficient transportation... in harmony with the natural environment*...[§344-3 (2)(C)]. It is also consistent with the guidelines on Transportation, which "*Encourage transportation systems in harmony with the lifestyle of the people and environment*" and the guideline to "*Encourage public and private vehicles and transportation systems to conserve energy, reduce pollution emission, including noise, and provide safe and convenient accommodations for their users.*" [§344-4(6)].

The project is consistent with Executive Order 12898, Environmental Justice, as there will be no disproportionate adverse effect on minority and low-income communities.

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

The proposed project will not substantially affect the economic or social welfare of the community or State. Construction will have minor, short-term air and noise impacts. However, the project will have a long-term positive impact on area traffic movement and safety, and thus, on the economic and social welfare of the community.

5. Substantially affects public health;

The project will not substantially affect public health. The temporary construction-period impacts to air quality and noise are insignificant when weighed against its overall, long-term positive impacts.

6. Involves secondary impacts such as population changes or effects on public facilities;

The roadway improvements alone will not generate additional vehicle traffic, population changes or affect public facilities. The region is planned for increased development by the Department of Hawaiian Home Lands to the west, and the State's Village's of La'i'opua,

both of which are within a three mile radius of the site. However, these developments will occur over the next 20 to 30 years with or without the roadway safety improvements.

7. Involves a substantial degradation of environmental quality;

Construction period impacts related to noise and air quality will be temporary and short-term, and will not degrade environmental quality. The project site has no significant botanical or other biological resources. Archaeological monitoring will be conducted during grubbing and grading to gather data on an existing archaeological site. On-call monitoring will be used in the unlikely event that other archaeological resources are discovered during construction. There will be no impact on surface or groundwater resources. The project will not obstruct views or degrade the visual environment. The road improvements are consistent with surrounding land uses and land use plans for the area.

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

The proposed action is intended to improve roadway safety along Palani Road. It will not increase roadway capacity or increase traffic. These improvements will not involve a commitment for larger actions. There are several proposed developments in the area that are likely to increase population and traffic, but these will occur whether or not the roadway improvements are implemented.

9. Substantially affects a rare, threatened or endangered species, or its habitat;

No rare, threatened or endangered species or its habitat will be impacted by the project. There are no significant biological resources in the project vicinity.

10. Detrimentally affects air or water quality or ambient noise levels;

The project will result in short-term construction period increases in fugitive dust and noise. Once it is completed and operational, the roadway extension will have no impact on water quality. It will not increase vehicular traffic or traffic-associated noise.

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

The project site is not within a flood plain, tsunami zone, erosion prone area or near fresh or coastal waters. All of North Kona is, however, at some risk of volcanic hazards from Hualālai Volcano. These include lava-flow hazard, tephra (ash falls), volcanic gases and seismic activity. However, the area is designated in County plans for further urbanization, and additional residential development is proposed in the vicinity. Overall, likelihood of volcanic activity impacting the project area is not significant enough to curtail these plans.

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

The project will not impact scenic vistas or viewplanes identified in county or state plans or studies. The roadway improvements will be at grade, and compatible with the existing roads and surrounding developments.

13. Requires substantial energy consumption.

The project will not require substantial energy consumption. Energy resources will be consumed during project construction. Operational period energy consumption will be negligible. The project will not have indirect or cumulative impacts on energy consumption.

6 REFERENCES

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County of Hawai'i Planning Department. *Final Report, Keahole to Honaunau Regional Circulation Plan. Prepared by Townscape, Inc.* February 2003.

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Ohashi, Tim J. *Wildlife Survey, Kealaka'a Street Extension, Kealakehe, North Kona, Island of Hawai'i.* November 2003.

Paul H. Rosendahl, Ph.D., Inc. *Archaeological Inventory Survey Queen Lili'uokalani Trust Property, Land of Keahu'olu, North Kona District, Island of Hawai'i.* Prepared for Belt Collins & Associates. August 1990.

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State of Hawai'i, Department of Transportation, Highways Division. *Bike Plan Hawai'i, A State of Hawai'i Master Plan.* September 2003.

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U.S. Department of Agriculture, Natural Resource Conservation Service. *Soil Survey of the Island of Hawai'i, State of Hawai'i.* October 2003.

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7 PERSONS AND AGENCIES INVOLVED IN THE PREPARATION OF THE ENVIRONMENTAL ASSESSMENT

7.1 LIST OF PREPARERS

This Final Environmental Assessment (FEA) was prepared for the County of Hawai'i Department of Public Works and U. S. Department of Transportation, Federal Transit Administration by Kimura International, Inc. The following individuals were involved in the preparation of the EA.

Name	Contribution/Specialization
Wesley R. Segawa & Associates	Design Consultant
Neal Fukumoto	Project Manager
Kimura International, Inc.	*Environmental Assessment*
Glenn T. Kimura	Project Manager
Leslie Kurisaki	Primary Author
Subconsultants	
Winona Char, Char & Associates	Botanical Resources
Tim J. Ohashi	Wildlife Biology
Doug Borthwick, David Shideler, Aulii Mitchell, Cultural Surveys Hawai'i, Inc.	Archaeology, Cultural Resources, Cultural Impact Assessment
Julian Ng, Julian Ng, Inc.	Traffic Engineering
Paul Morimoto, Ernest K. Hirata & Associates, Inc.	Geotechnical Engineering

7.2 INDIVIDUALS AND AGENCIES CONSULTED DURING PREPARATION OF THE ENVIRONMENTAL ASSESSMENT

7.2.1 Early Consultation for Draft Environmental Assessment

The following agencies and organizations were contacted during the early consultation for the Draft Environmental Assessment. Letters soliciting comments were sent in September 2003, and a total of 18 responses were received. Agencies that responded are noted with an asterisk (*) below. Comments received are included at the end of this chapter.

Federal

U.S. Army Engineer Division
U.S. Environmental Protection Agency
*U.S. Fish & Wildlife Service
U.S. Department of Agriculture, Natural Resource Conservation Service

State

Department of Accounting and General Services
Department of Business, Economic Development & Tourism, Office of Planning
Department of Education
- Facilities and Support Services Branch
- West Hawai'i Complex Area Office
- *Kealakehe Elementary School

Department of Hawaiian Home Lands
Department of Land and Natural Resources
- *Land Division
- State Historic Preservation Division

*Department of Health
- Environmental Management Division
- *Office of Environmental Quality Control

*Department of Human Services
*Department of Human Services, Housing and Community Development Corporation of Hawai'i
Department of Transportation, Statewide Transportation Planning Office
Office of Hawaiian Affairs

County of Hawai'i

*Civil Defense Agency
Department of Environmental Management
- Solid Waste Division
- Wastewater Division

*Department of Parks and Recreation
Department of Public Works
Department of Water Supply
*Fire Department
Mass Transit Agency
Office of Housing and Community Development
*Planning Department
*Police Department

Other Organizations

*Hawaiian Electric Company
Verizon Hawai'i
*Oceanic Time Warner Cable

Community Organizations

Hawai'i Cycling Club
People's Advocacy for Trails Hawai'i (PATH)
Historic Hawai'i Foundation
*Queen Lili'uokalani Trust

Elected Officials

Mayor Harry Kim
J. Curtis Tyler III, Hawai'i County Council, District 8

7.2.2 Draft Environmental Assessment Comment Period

The Draft Environmental Assessment was filed with the Office of Environmental Quality Control, and its notice of availability published in the June 8, 2005 edition of The Environmental Notice. The Draft EA was sent to the agencies and organizations listed below, as well as the Kailua-Kona Library, Hilo Regional Library, and Hawai'i State Library. The 30-day review period ended on July 8, 2005.

During the Draft EA comment period, six letters were received. Agencies that sent comment letters during the comment period are noted with a double asterisk (**) below. The letters, as well as the response letters are included at the end of this chapter.

Federal

U.S. Fish & Wildlife Service

State

Department of Business, Economic Development & Tourism, Office of Planning
Department of Education
- West Hawai'i Complex Area Office
- Kealakehe Elementary School

Department of Hawaiian Home Lands
Department of Land and Natural Resources
- Administrator
- State Historic Preservation Division

Department of Health
- **Administrator (comment letter received from Environmental Planning Office)
- **Office of Environmental Quality Control

Department of Transportation, Statewide Transportation Planning Office
**Office of Hawaiian Affairs

County of Hawai'i

Department of Public Works
**Department of Water Supply
Fire Department
**Planning Department
**Police Department

Other Organizations

Hawaiian Electric Company
Verizon Hawai'i
Oceanic Time Warner Cable

Elected Officials

Councilmember K. Angel Pilago, Hawai'i County Council, District 8
Councilmember Virginia Isbell, Hawai'i County Council, District 7

Other

Hui Mālama I Na Kupuna O Hawai'i Nei
J. Curtis Tyler (former County Council member)
Hawai'i State Library
Kailua-Kona Public Library
Hilo Regional Library

Comments Received During Early Consultation Period

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Box 50088
Honolulu, Hawaii 96850

TAKE PRIDE IN AMERICA

RECEIVED
NOV 03 2003

OCT 31 2003

In Reply Refer to:
PN-03-61

Mr. Glenn T. Kimura
Kimura International
1600 Kapiolani Boulevard, Suite 1610
Honolulu, Hawaii 96814

Dear Mr. Kimura:

Thank you for your September 26, 2003, letter regarding the proposed Palani Road safety improvements, Kealakaa Street realignment at Keahuolu, North Kona, Hawaii. You requested early consultation and input from us prior to your completion of the Draft Environmental Assessment. Your letter was received in our office on September 29, 2003.

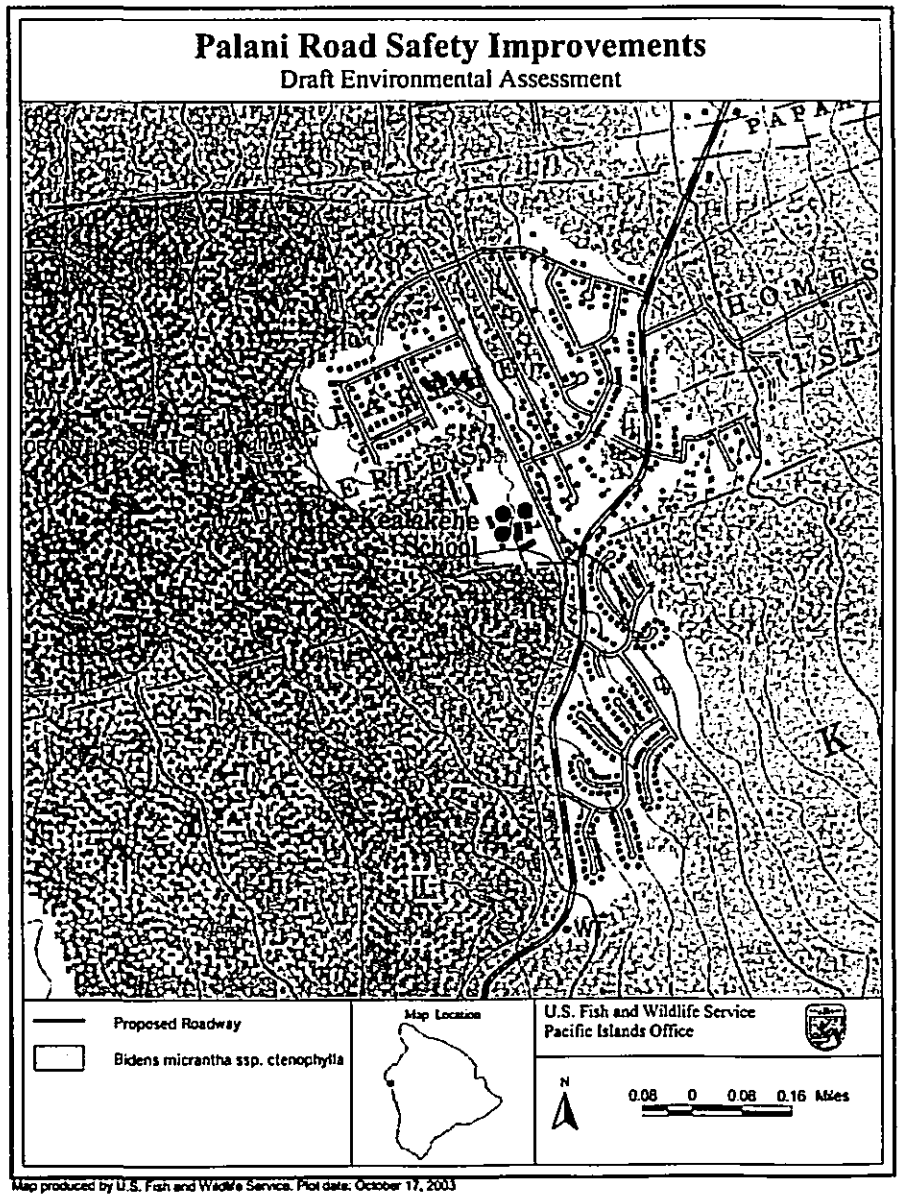
Based on our review of the information contained in your letter and in our files, including maps prepared by the Hawaii Natural Heritage Program, the candidate plant species, *Bidens micrantha* ssp. *ctenophylla* (kookoolau), may occur just outside the immediate project area (see attached map). Although this species is not listed, we suggest that a survey be conducted and measures taken to avoid impacts to this rare plant species.

If you have any questions, please contact Marigold Zoll, Fish and Wildlife Botanist (phone: 808/792-9400; fax: 808/792-9580).

Sincerely,

for Gina Shultz
Acting Field Supervisor

Enclosure



BENJAMIN J. CAYETANO
GOVERNOR

PAUL G. LeMAHIEU, Ph.D.
SUPERINTENDENT

STATE OF HAWAII
DEPARTMENT OF EDUCATION
KEALAKEHE ELEMENTARY SCHOOL
74-5118 KEALAKAA ST.
KAILUA-KONA, HAWAII 96740-1599
PHONE: (808) 327-4308 • FAX: (808) 327-4347

RECEIVED
OCT 16 2003
LAND DIVISION

October 12, 2003

Glenn T. Kimura, President
Kimura International, Inc.
1600 Kapiolani Blvd., Suite 1610
Honolulu, Hawaii 96814

Dear Mr. Kimura:

Subject: Palani Road Safety Improvements, Kealaka'a Street Realignment

The proposed Kealaka'a Street extension should alleviate the traffic congestion that occurs daily on Palani Road. However, the realignment will result in a safety concern for the children who use the pedestrian overpass bridge.

With the existing Kealaka'a Street configuration, students using the pedestrian overpass bridge can get to Kealakehe Elementary School without crossing any streets. When the proposed Kealaka'a Street extension is completed, students using the overpass bridge will have to cross Kealaka'a Street in order to get to the school. Measures need to be in place to ensure that the children can access the campus safely. A marked crosswalk is in the proposal. However, I would like to see provisions for a crossing guard at this crosswalk included in the plan as well.

Please call me at 327-4308 if you have any questions.

Sincerely,

Nancy N. Matsukawa
Principal

Enclosure

cc: Alvin Rho, West Hawaii Complex Area Superintendent
Curtis Tyler, Hawaii County Council

AN EQUAL OPPORTUNITY EMPLOYER

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED
OCT 27 2003
LAND DIVISION

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

October 23, 2003

PALANIROADKONA.RCM

LD-NAV

Kimura International
Glenn T. Kimura, President
1600 Kapiolani Blev, Suite 1610
Honolulu, Hawaii 96814

Dear Mr. Kimura:

Subject: Pre-Assessment Consultation for Preparation of An Environmental Assessment for Palani Road Safety Improvements, Kealaka'a Street Realignment, Keahuolu, North Kona, Island of Hawaii, Hawaii

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

A copy of your letter (project summary) and location map pertaining to the subject matter was distributed to the following Department of Land and Natural Resources' Divisions for their review and comment:

- Division of Forestry and Wildlife
- Na Ala Hele Trails
- Division of State Parks
- Engineering Division
- Commission on Water Resource Management
- Office of Conservation and Coastal Lands
- Land-Hawaii District Land Office

Based on the attached response, the Department of Land and Natural Resources has no comment to offer on the subject matter. Should you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 1-808-587-0384.

Very truly yours,

DIERDRE S. MAMIYA
Administrator

C: HDLO

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED
LAND DIVISION
2003 OCT -9 A 8:12
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

September 30, 2003

LD/NAV
Ref.: PALANIROADKONA.CMT

Suspense Date: 10/10/03

MEMORANDUM:

TO: Division of Aquatic Resources
XXX Division of Forestry & Wildlife
XXX Na Ala Hele Trails
XXX Division of State Parks
✓XXX Engineering Division
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
XXX Office of Conservation and Coastal Lands
XXX Land-Hawaii District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Pre-Consultation - Environmental Assessment for Proposed Palani Road Safety Improvements, Kealalaa Street Realignment
Keahuolu, North Kona, Island of Hawaii, Hawaii Tel: 7-0:65

Please review the attached Kimura International's summary of the proposed project dated September 26, 2003 and submit your comments (if any) on Division letterhead signed and dated by the suspense date.

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

If you have any questions, please contact Nicholas A. Vaccaro at ext.: 7-0384.

(✓) We have no comments.

Division Engineering

Date: 10/8/03

( ) Comments attached.

Signed:

Name: ERIC T. HIRANO, CHIEF ENGINEER

LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

September 30, 2003

LD/NAV
Ref.: PALANIROADKONA.CMT

Suspense Date: 10/10/03

MEMORANDUM:

TO: Division of Aquatic Resources
✓XXX Division of Forestry & Wildlife
XXX Na Ala Hele Trails
XXX Division of State Parks
XXX Engineering Division
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
XXX Office of Conservation and Coastal Lands
XXX Land-Hawaii District Land Office

RECEIVED
LAND DIVISION
2003 OCT -3 P 4:15
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Pre-Consultation - Environmental Assessment for Proposed Palani Road Safety Improvements, Kealalaa Street Realignment
Keahuolu, North Kona, Island of Hawaii, Hawaii

Please review the attached Kimura International's summary of the proposed project dated September 26, 2003 and submit your comments (if any) on Division letterhead signed and dated by the suspense date.

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

If you have any questions, please contact Nicholas A. Vaccaro at ext.: 7-0384.

(X) We have no comments.

Division _____

Date: OCT 1 - 2003

( ) Comments attached.

Signed:

Name: MICHAEL G. BUCK, ADMINISTRATOR
~~DIVISION OF FORESTRY AND~~ WILDLIFE

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED DIVISION OF STATE PARKS
Sep 31 9 42 AM '03

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 30, 2003

LD/NAV
Ref.: PALANIROADKONA.CMT

Suspense Date: 10/10/03

RECEIVED
LAND DIVISION
2003 OCT -3 A 11:25
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

MEMORANDUM:

TO:
Division of Aquatic Resources
XXX Division of Forestry & Wildlife
√XXX Na Ala Hele Trails
XXX Division of State Parks
XXX Engineering Division
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
XXX Office of Conservation and Coastal Lands
XXX Land-Hawaii District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Pre-Consultation - Environmental Assessment for Proposed Palani Road Safety Improvements, Kealalaa Street Realignment
Keahuolu, North Kona, Island of Hawaii, Hawaii

Please review the attached Kimura International's summary of the proposed project dated September 26, 2003 and submit your comments (if any) on Division letterhead signed and dated by the suspense date.

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

If you have any questions, please contact Nicholas A. Vaccaro at ext.: 7-0384.

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

Division: State Parks Signed: [signature]

Date: 10/2/03 Name: Daniel S. Quinn

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED
03 OCT 1 A 7:50
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 30, 2003

LD/NAV
Ref.: PALANIROADKONA.CMT

Suspense Date: 10/10/03

RECEIVED
LAND DIVISION
2003 OCT -6 A 10:41
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

MEMORANDUM:

TO:
Division of Aquatic Resources
XXX Division of Forestry & Wildlife
XXX Na Ala Hele Trails
XXX Division of State Parks
XXX Engineering Division
Division of Boating and Ocean Recreation
√XXX Commission on Water Resource Management
XXX Office of Conservation and Coastal Lands
XXX Land-Hawaii District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Pre-Consultation - Environmental Assessment for Proposed Palani Road Safety Improvements, Kealalaa Street Realignment
Keahuolu, North Kona, Island of Hawaii, Hawaii

Please review the attached Kimura International's summary of the proposed project dated September 26, 2003 and submit your comments (if any) on Division letterhead signed and dated by the suspense date.

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

If you have any questions, please contact Nicholas A. Vaccaro at ext.: 7-0384.

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

Division: CWRM Signed: [signature]

Date: 10/2/03 Name: David Hiou

LINDA LINGLE
GOVERNOR OF HAWAII

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

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

In reply, please refer to:
EMD / CWB

10050PKP.03

October 10, 2003

Mr. Glenn T. Kimura
President
Kimura International, Inc.
1600 Kapiolani Boulevard, Suite 1610
Honolulu, Hawaii 96814

Dear Mr. Kimura:

Subject: Palani Road Safety Improvements, Kealakaa Street Realignment
Environmental Assessment
Keahuolu, North Kona, Hawaii

The Department of Health, Clean Water Branch (CWB), has reviewed the subject document and offers the following comments:

1. The Army Corps of Engineers should be contacted at (808) 438-9258 to identify whether a Federal license or permit (including a Department of Army permit) is required for this project. Pursuant to Section 401(a)(1) of the Federal Water Pollution Act (commonly known as the "Clean Water Act"), a Section 401 Water Quality Certification is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters...."

2. A National Pollutant Discharge Elimination System (NPDES) general permit coverage is required for the following activities:

   a. Storm water associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi).

   b. Construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. **An NPDES permit is required before the commencement of the construction activities.**

   c. Discharges of treated effluent from leaking underground storage tank remedial activities.

   d. Discharges of once through cooling water less than one (1) million gallons per day.

   e. Discharges of hydrotesting water.

   f. Discharges of construction dewatering effluent.

   g. Discharges of treated effluent from petroleum bulk stations and terminals.

   h. Discharges of treated effluent from well drilling activities.

   i. Discharges of treated effluent from recycled water distribution systems.

   j. Discharges of storm water from a small municipal separate storm sewer system.

   k. Discharges of circulation water from decorative ponds or tanks.

   The CWB requires that a Notice of Intent (NOI) to be covered by a NPDES general permit for any of the above activities be submitted at least 30 days before the commencement of the respective activities. The NOI forms may be picked up at our office or downloaded from our website at http://www.state.hi.us/doh/eh/cwb/forms/genl-index.html.

3. The applicant may be required to apply for an individual NPDES permit if there is any type of activity in which wastewater is discharged from the project into State waters and/or coverage of the discharge(s) under the NPDES general permit(s) is not permissible. An application for the NPDES permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at http://www.state.hi.us/doh/eh/cwb/forms/indiv-index.html.

4. Hawaii Administrative Rules, Section 11-55-38, also requires the owner to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD. Please submit a copy of the request for review by SHPD or SHPD's determination letter for the project.

If you have any questions, please contact the CWB at 586-4309.

Sincerely,

DENIS R. LAU, P.E., CHIEF
Clean Water Branch

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED
NOV 12 2003

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to File:

November 6, 2003

03-1179A CAB

Mr. Glenn T. Kimura, President
Kimura International
1600 Kapiolani Boulevard, Suite 1610
Honolulu, Hawaii 96814

Dear Mr. Kimura:

SUBJECT: Pre-Assessment Consultation for the Palani Road Safety Improvements, Kealakaa Street Realignment, Keaholu, North Kona, Hawaii

This letter is to transmit the following comments on the subject document:

Control of Fugitive Dust:

There is a significant potential for fugitive dust emissions during all phases of construction. Proposed construction activities will occur in proximity to existing residences, public areas and major thoroughfares, thereby exacerbating potential dust problems. It is recommended that a dust control management plan be developed which identifies and addresses all activities that have a potential to generate fugitive dust. Implementation of adequate dust control measures during all phases of development and construction activities is warranted.

Construction activities must comply with the provisions of Hawaii Administrative Rules, §11-60.1-33 on Fugitive Dust.

The contractor should provide adequate measures to control dust from the road areas and during the various phases of construction. These measures include, but are not limited to, the following:

a) Plan the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;
b) Provide an adequate water source at the site prior to start-up of construction activities;
c) Landscape and provide rapid covering of bare areas, including slopes, starting from the initial grading phase;
d) Minimize dust from shoulders and access roads;
e) Provide adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
f) Control dust from debris being hauled away from the project site.

If you have any questions, please contact Mr. Barry Ching of my staff at 586-4200.

Sincerely,

for WILFRED K. NAGAMINE
Manager, Clean Air Branch

BC:jhm

LINDA LINGLE
GOVERNOR OF HAWAII

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

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

In reply, please refer to
EMD/SHWB

RECEIVED
NOV 10 2003

November 3, 2003 S1034LO

Mr. Glenn T. Kimura, President
Kimura International
1600 Kapiolani Blvd., Suite 1610
Honolulu, Hawaii 96814

Dear Mr. Kimura:

SUBJECT: Environmental Assessment, Early Consultation
Palani Road Safety Improvements, Kealaka'a St. Realignment

Thank you for the opportunity to review and provide comments on this document. The document has been reviewed by the Hazardous Waste (HW), Underground Storage Tank (UST), and Solid Waste Programs within the Solid and Hazardous Waste Branch. The HW and UST programs have no comments to offer at this time. The Solid Waste Program offers the following comments:

1. Hawaii Revised Statutes Chapter 103D-407 stipulates that all highway and road construction and improvement projects funded by the State or a County or roadways that are to be accepted by the State or a county as public roads shall utilize a minimum of ten percent crushed glass aggregate as specified by the Department of Transportation in all basecourse (treated or untreated) and subbase when the glass is available to the quarry or contractor at a price no greater than that of the equivalent aggregate.

2. The developer shall ensure that all solid waste generated during project construction is directed to a Department of Health permitted solid waste disposal or recycling facility.

Please contact the Lane Otsu at (808) 586-4226 with any questions regarding these comments.

Sincerely,

STEVEN Y.K. CHANG, P.E., CHIEF
Solid and Hazardous Waste Branch

LINDA LINGLE
GOVERNOR OF HAWAII

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

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

In reply, please refer to
File

RECEIVED
NOV 26 2003

October 3, 2003

Mr. Glenn T. Kimura
President
Kimura International, Inc.
1600 Kapiolani Boulevard, Ste 1610
Honolulu, HI 96814

Dear Mr. Kimura:

SUBJECT: **Comments to the Environmental Assessment**
Kealakaa Street Realigment
Keahuolu, North Kona

Our comments should be printed as follows:

"Project activities shall comply with the Administrative Rules of the Department of Health:

- Chapter 11-46 Community Noise Control.

Should there be any questions, please contact me at 586-4701.

Sincerely,

Russell S. Takata
Program Manager
Noise, Radiation & IAQ Branch

LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

GENEVIEVE SALMONSON
DIRECTOR

RECEIVED
OCT 09 2003

October 8, 2003

Mr. Glenn T. Kimura
Kimura International
1600 Kapiolani Blvd. Suite 1610
Honolulu, HI 96814

Subject: Pre-Assessment Consultation Request for the Palani Road Safety Improvements, Kealaka'a Street Realignment Keahu'olu, North Kona, Hawai'i

Dear Mr. Kimura,

We have received the description of the subject provided by your letter dated September 26, 2003 and have no comment at the present time. We will reserve comments when the documents are submitted.

Should you have any questions, please feel free to call our office at 586-4185.

Sincerely,

Genevieve Salmonson

Genevieve Salmonson
Director

LINDA LINGLE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
Benefit, Employment & Support Services Division
Neighbor Island Branch Administration
820 Mililani Street, Suite 710
Honolulu, Hawaii 96813

LILLIAN B. KOLLER, ESQ.
DIRECTOR
HENRY OLIVA
DEPUTY DIRECTOR

RECEIVED
OCT 16 2003

October 15, 2003

Refer to: 03-0845

Mr. Glenn T. Kimura
Kimura International, Inc.
1600 Kapiolani Blvd., Suite 1610
Honolulu, Hawaii 96814

Dear Mr. Kimura:

Subject: Palani Road Safety Improvements, Kealaka'a Street Realignment
Environmental Assessment, Keahu'olu, North Kona, Hawaii
Early Consultation

Thank you for your letter of September 26, 2003. The Director of the Department of Human Services (DHS) has forwarded your letter to me for a response.

The following is our comments on the proposed Palani Road Safety Improvement Project. Currently, the Department of Human Services have staff of the West Hawaii Unit living in the area and frequently uses Palani Road. They agree the project is needed to improve safety on that section of Palani Road. Concerns expressed about the construction phase included dust abatement and the rapid completion of the project to reduce traffic disruption and construction noise. Regarding the completed project, wider lanes with adequate shoulders will be needed.

We look forward to reviewing and commenting on the Draft of the Environmental Assessment for this project.

Sincerely,

Patricia Murakami
Administrator

cc: Lillian B. Koller, Esq., Director

AN EQUAL OPPORTUNITY AGENCY

LINDA LINGLE
GOVERNOR

ROBERT J. HALL
ACTING EXECUTIVE DIRECTOR

STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
HOUSING AND COMMUNITY DEVELOPMENT CORPORATION OF HAWAII
677 QUEEN STREET, SUITE 300
Honolulu, Hawaii 96813
FAX: (808) 587-0600

03:PEO/142

November 3, 2003

Ms. Leslie Kurisaki
Kimura International, Inc.
1600 Kapiolani Boulevard, Suite 1610
Honolulu, Hawaii 96814

Dear Ms. Kurisaki:

Re: Palani Road Safety Improvements, Kealaka'a Street Realignment

We have reviewed the project description for the subject roadway extension project in North Kona and have no comments to offer at this time. We would appreciate being kept apprised of the status of the project.

Thank you for the opportunity to comment.

Sincerely,

Robert J. Hall
Acting Executive Director

Harry Kim
Mayor

Troy M. Kindred
Administrator

County of Hawaii
CIVIL DEFENSE AGENCY
920 Ululani Street • Hilo, Hawai'i 96720-3998
(808) 935-0031 • Fax (808) 935-0649

OCT 15 2003

October 7, 2003

Glenn T. Kimura
President
Kimura International
1600 Kapiolani Boulevard
Suite 1610
Honolulu, Hawaii 96814

Dear Mr. Kimura,

SUBJECT: Palani Road Safety Improvements, Kealaka'a Street Realignment
Environmental Assessment
Keahu'olu, North Kona, Hawai'i
Early Consultation

Thank you for your Early Consultation Letter regarding proposed Palani Road Improvements. As a former Kona resident I am only too familiar with the issue of safety in this dual intersection. The improvements you describe will most likely improve the safety of pedestrians and motorists alike. At this time I see no issues for which comment from my office is required.

Please take note that Mr. Bill Davis has retired from Civil Defense and I will be your point of contact from this point forward.

Sincerely,

Troy M. Kindred
Administrator

Harry Kim
Mayor

Patricia G. Engelhard
Director

Pamela N. Mizuno
Deputy Director

County of Hawai`i
DEPARTMENT OF PARKS AND RECREATION

101 Pauahi Street, Suite 6 • Hilo, Hawai'i 96720
(808) 961-8311 • Fax (808) 961-8411

October 14, 2003

Glenn T. Kimura, President
Kimura International, Inc.
1600 Kapiolani Blvd., Suite 1610
Honolulu, Hawai'i 96814

Subject: Palani Road Safety Improvements, Kealaka'a Street Realignment
Keahu'olu, North Kona, Hawai'i
Pre-Assessment Consultation for Draft Environmental Assessment

Dear Mr. Kimura

Thank you for allowing us the opportunity to provide comment on the subject project at this early stage in the EA process.

At this time, we take no exceptions and have no comments on the proposed realignment as it does not appear to directly affect any sites or facilities under our jurisdiction. We would appreciate the opportunity to review and provide comment on the Draft EA.

Respectfully,

Pat Engelhard

Patricia G. Engelhard
Director

Harry Kim
Mayor

Darryl J. Oliveira
Fire Chief

Desmond K. Wery
Deputy Fire Chief

County of Hawai'i
FIRE DEPARTMENT

25 Aupuni Street • Suite 103 • Hilo, Hawai'i 96720
(808) 961-8297 • Fax (808) 961-8296

October 29, 2003

Mr. Glenn T. Kimura
President
Kimura International, Inc.
1600 Kapiolani Blvd., Suite 1610
Honolulu, HI 96814

Dear Mr. Kimura:

RE: PALANI ROAD SAFETY IMPROVEMENTS
KEALAKA'A STREET REALIGNMENT
ENVIRONMENTAL ASSESSMENT
KEAHU'OLU, NORTH KONA, HAWAII
EARLY CONSULTATION

We have no comments to offer at this time regarding the above-referenced project.

It should be noted that the Kailua Fire Station is situated 1.6 miles from the intersection. It is staffed with an engine, tanker, and ambulance, and a complement of six personnel.

Thank you for the opportunity to comment.

Sincerely,

DARRYL OLIVEIRA
Fire Chief

RK:lk

Harry Kim
Mayor

Christopher J. Yuen
Director

Roy R. Takemoto
Deputy Director

County of Hawaii

PLANNING DEPARTMENT

101 Pauahi Street, Suite 3 • Hilo, Hawaii 96720-3043
(808) 961-8288 • Fax (808) 961-8742

October 13, 2003

Mr. Glenn T. Kimura, President
Kimura International, Inc.
1600 Kapiolani Blvd., Suite 1610
Honolulu HI 96814

Dear Mr. Kimura:

Pre-Consultation on Environmental Assessment
Subject: Palani Road Safety Improvements, Kealaka'a Street Realignment
TMK: 7-4-8:Portion of 65, Keahuolu, North Kona, Hawaii

This is to acknowledge receipt of your September 26, 2003 letter requesting our comments on the proposed Palani Road Safety Improvements, Kealaka'a Street realignment which would traverse the subject parcel.

The project involves a 700 linear feet extension of Kealaka'a Street from Kealakehe Elementary School to the intersection of Palihiolo Street and Palani Road, to create a four-way intersection. The existing Kealaka'a Street intersection will be eliminated.

We have the following to offer regarding the proposed project:

1. This 150.00 acre parcel is designated Urban and Agricultural by the State Land Use Commission. It is zoned Single Family Residential (RS-15) and Agricultural (A-5a) by the County. The project site appears to be located in the State designated Urban area and the County's Single Family Residential (RS-15) zoned district.

2. According to the Land Use Pattern Allocation Guide Map of the General Plan, the parcel is designated Low Density Urban, Medium Density Urban and Urban Expansion. The project area, however, appears to be located in the Medium Density/Low Density area.

3. This parcel is not located in the County's Special Management Area. Therefore, Special Management Area rules and regulations are not applicable.

4. The Project Description states that the existing Kealaka'a Street intersection will be eliminated. Was an alternative of keeping the intersection, but limiting it to right turn only from Palani Road onto Kealaka'a Street considered?

We appreciate the opportunity to comment on the proposed project. If you have questions, please feel free to contact Esther Imamura or Larry Brown of our office at 961-8288.

Sincerely,

CHRISTOPHER J. YUEN
Planning Director

ETI:pak
P:\WPWIN60\ETI\EAdraft\Pre-consult\KimuraPalaniKealaka74008065.doc

xc: Planning Department – Kona

Harry Kim
Mayor

RECEIVED
OCT 15 2003

Lawrence K. Mahuna
Police Chief

Harry S. Kubojiri
Deputy Police Chief

County of Hawaii
POLICE DEPARTMENT
349 Kapiolani Street • Hilo, Hawaii 96720-3998
(808) 935-3311 • Fax (808) 961-2389

October 2, 2003

Mr. Glenn T. Kimura, President
Kimura International
1600 Kapiolani Boulevard, Suite 1610
Honolulu, Hawaii 96814

Dear Mr. Kimura:

SUBJECT: Palani Road Improvements, Kealaka'a Street Realignment
Environmental Assessment
Keahu'olu, North Kona, Hawaii
Early Consultation

Our staff has reviewed the above-referenced application and has no comments or objections to offer at this time.

Sincerely,

LAWRENCE K. MAHUNA
POLICE CHIEF

Maj. James Day
for THOMAS J. HICKCOX
ASSISTANT POLICE CHIEF
AREA II OPERATIONS

JD:dmv

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-0001

RECEIVED
OCT 23 2003

October 21, 2003

Glenn T. Kimura, President
Kimura International, Inc.
1600 Kapiolani Boulevard - Suite 1610
Honolulu, HI 96814

Dear Mr. Kimura:

Re: Palani Road Safety Improvements
Kealaka'a Street Realignment
Keahu'olu, North Kona, Hawai'i

Thank you for the opportunity to comment on the Palani Road Safety Improvements, Kealaka'a Street Realignment. We forwarded the subject document to Hawaii Electric Light Co., Inc. (HELCO) and have received the following comments:

(1) The project consultants and engineers are urged to contact HELCO's Engineering Department as soon as practicable to open a service request to ensure timely procurement of long lead items and scheduling of work.

(2) A utility agreement or proposal letter may need to be executed if the electrical system is required to be relocated or added to the new road extension. In addition, some of the poles along Palani Road may need to be relocated to accommodate the new intersection. Prior to commencement of any relocation work, a written request from the landowner will be necessary, and the work should be coordinated with HELCO.

(3) HELCO would appreciate the opportunity to review the pre-final construction plans to determine whether the project will further impact its facilities.

We apologize for this late response. It will expedite the review process if future correspondence is addressed to Ms. Sherri-Ann Loo, the new manager of HECO's Environmental Department.

Our point of contact for this project, and the originator of these comments, is Mr. Hal Kamigaki, Supervising Engineer, Engineering Department, Hawaii Electric Light Co., Inc. (808/969-0322). I suggest your staff deal directly with Hal to coordinate HELCO's continuing input in this project.

Sincerely,

Kirk Tomita
Senior Environmental Scientist

cc: OEQC
C. Nagata/H. Kamigaki
H. Kamigaki

OCEANIC
TIME WARNER
CABLE

Leslie Kurisaki
Kimura International
1600 Kapiolani Blvd., Suite 1610
Honolulu Hi 96814

October 20, 2003

Dear Ms. Kurisaki:

RE: Kealaka'a Street Realignment – Palani Road Comments

I have received your letter to Norman Santos requesting information regarding Kealaka'a Street on Palani Road. It was forward to me from Oceanic Time Warner's Oahu office. I am the Kona area engineer and am familiar with our Cable Television System in West Hawaii.

I have been reading about the planned changes in the newspaper and wondered when we might see some plans. Oceanic has lines on all poles associated with the planned changes. Our Trunk and Distribution System supplies customers in West Hawaii with various digital and RF channels for Television. We also have Data and High Speed Internet access available through those same cables.

All of Oceanic's cables are run on the existing jointly owned Verizon and HELCO poles on Palani. Oceanic has a Fiber Trunk running along all of Palani Road with a Secondary Coaxial Distribution System alongside it. A Coaxial Trunk and Feeder line serves Kealaka'a Street. This distributes CATV service to homes on all streets in the Kealakehe area. Lashed on top this coaxial line is a fiber cable, which extends into Kealakehe Intermediate School. I would assume these cables might have to be rerouted if Kealaka'a Street is adjusted as planned. Would this be covered in a Utility Agreement with the County?

Hope this is what you need to start with but I'm sure more information will be needed as plans are confirmed. Please call me at 331-4925 for questions or comments.

Sincerely,

Robert W. Moeller
Robert W. Moeller
Construction Engineer–Kona

QUEEN LILI'UOKALANI TRUST

Pacific Guardian Center, Makai Tower
733 Bishop Street, Suite 1800
Honolulu, Hawai'i 96813
Telephone: (808) 550-8016 Facsimile: (808) 537-9241

NOV 17 2003

November 14, 2003

Glenn T. Kimura
President
Kimura International, Inc.
1600 Kaniolani Blvd., Suite 1610
Honolulu, HI 96814

Subject: Palani Road Safety Improvements, Kealaka'a Street Realignment

Dear Mr. Kimura:

The Queen Lili'uokalani Trust supports the proposed extension and realignment of Kealaka'a Street as it proposes to improve the overall safety of Palani Road, one of the main regional roads serving West Hawaii and the Kailua-Kona area.

Should you have any questions, please contact me at (808) 550-8016.

Sincerely,

Robert H. Ozaki
President and Chief Operating Officer

Created by her Late Majesty Queen Lili'uokalani

Comments Received During Draft EA Comment Period

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
EPO-05-055

June 30, 2005

Mr. Bob Yanabu
County of Hawaii
Department of PublicWorks
101 Pauahi Street, Suite 7
Hilo, Hawaii 96720-4224

Dear Mr. Yanabu:

SUBJECT: Draft Environmental Assessment
Palani Road Safety Improvement, Kealakaa Street Extension
Keahuolu Ahupuaa, North Kona District, Island of Hawaii
TMK: 7-4-008:065

Thank you for allowing us to review and comment on the subject document. We have no comment at this time. Please refer to our website for the Standard Comments (http://www.state.hi.us/health/environmental/env-planning/landuse/landuse.html). If there are any questions about these standard comments please contact Jiacai Liu with the Environmental Planning Office at 586-4346.

Sincerely,

June F. Harrigan-Lum

JUNE F. HARRIGAN-LUM, MANAGER
Environmental Planning Office

c: EPO

RECEIVED
05 JUL -7 P3:09
COUNTY OF HAWAII
DEPT. OF PUBLIC WORKS

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 · Hilo, Hawai'i 96720-4224
(808) 961-8321 · Fax (808) 961-8630

July 20, 2005

Ms. June Harrigan-Lum, Manager
Environmental Planning Office
State of Hawai'i
Department of Health
P.O. Box 3378
Honolulu, Hawai'i 96801-3378

Dear Ms. Harrigan-Lum:

Subject: Palani Road Safety Improvements, Kealaka'a Street Extension
Keahu'olu Ahupua'a, North Kona District, Island of Hawai'i
Draft Environmental Assessment

Thank you for your comment letter dated June 30, 2005 regarding this project. We note that you have no comments, other than the Standard Comments listed on your website.

Please call me if you have any other comments or questions.

Bruce C. McClure

Bruce C. McClure, P.E.
Director

Cc: Kimura International, Inc.
Office of Environmental Quality Control
Eng

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 · Hilo, Hawai'i 96720-4224
(808) 961-8321 · Fax (808) 961-8630

July 20, 2005

Ms. Genevieve Salmonson
Director
State of Hawai'i
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawai'i 96813

Dear Ms. Salmonson:

Subject: Palani Road Safety Improvements, Kealaka'a Street Extension
Keahu'olu Ahupua'a, North Kona District, Island of Hawai'i
Draft Environmental Assessment

Thank you for your comment letter dated June 30, 2005 regarding this project. We acknowledge your comment that the EA addresses the requirements of Chapter 6E HRS and the National Historic Preservation Act.

Please call me if you have any other comments or questions.

Sincerely,

Bruce C. McClure
Director

Cc: Kimura International, Inc.
Office of Environmental Quality Control
Engineering Division

LINDA LINGLE
GOVERNOR OF HAWAII

GENEVIEVE K. Y. SALMONSON
DIRECTOR OF OEQC

STATE OF HAWAI'I
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
DEPARTMENT OF HEALTH
LEIOPAPA A KAMEHAMEHA
235 SOUTH BERETANIA STREET, SUITE 702
HONOLULU, HAWAI'I 96813
TELEPHONE (808) 586-4185

June 30, 2005

Mr. Bruce McClure
County of Hawai'i, Department of Public Works
101 Pauahi Street, Suite 7
Hilo, Hawai'i 96720-4224

Ms. Leslie Kurasaki
Kimura International Inc.
1600 Kapi'olani Boulevard, Suite 1610
Honolulu, Hawai'i 96814

Dear Mr. McClure and Ms. Kurasaki:

The Office of Environmental Quality Control has received the draft environmental assessment for the Palani Road Safety Improvements, Tax Map Key 7-4-008:065, in the Keahu'olu ahupua'a in the judicial district of North Kona and offers the following comments for your consideration and response.

CONTEMPORARY CULTURAL IMPACTS: The environmental assessment addresses the requirements of Chapter 6E, HRS, and the National Historic Preservation Act. These acts deal primarily with historic (past) resources and practices. Chapter 343, HRS, was amended in 2000 to provide for the discussion of contemporary (as opposed to past or historic) practices and resources. Please refer to our guidance on cultural impacts found on our website at http://www.state.hi.us/health/oeqc/guidance/index.html.

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

Sincerely,

GENEVIEVE SALMONSON
Director

KIMURA INTERNATIONAL INC.

July 26, 2005

Ms. Genevieve Salmonson
State of Hawai'i, Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawai'i 96813

Dear Ms. Salmonson:

Subject: **Palani Road Safety Improvements, Kealaka'a Street Extension**
Keahu'olu Ahupua'a, North Kona District, Island of Hawai'i
Your Comment Letter dated June 30, 2005

This letter is to supplement Mr. Bruce C. McClure's response to your June 30, 2005 comment letter on the Draft Environmental Assessment for this project. In your letter, you made the following comment:

> *"Contemporary Cultural Impacts: The environmental assessment addresses the requirements of Chapter 6E. HRS and the National Historic Preservation Act. These acts deal primarily with historic (past) resources and practices. Chapter 343 HRS was amended in 2000 to provide for the discussion of contemporary (as opposed to past or historic) practices and resources..."*

In a follow up telephone conversation with Mr. Leslie Segundo on July 26, we clarified that the Cultural Impact Assessment for this project (Cultural Surveys Hawai'i, December 2003) did follow protocol under Act 50, Chapter 343 HRS, 2000, and addressed contemporary (as well as past) cultural practices. The Cultural Impact Assessment was included in Appendix D of the Draft EA. Mr. Segundo acknowledged that this adequately addressed the comment above in your June 30 letter.

Thank you again for your input and interest in this project.

Sincerely,

KIMURA INTERNATIONAL, Inc.

Leslie Kurisaki
Senior Planner

Cc: Bruce C. McClure/Bob Yanabu, County of Hawaii DPW
Richelle Takara, FHWA

1600 Kapiolani Blvd., Suite 1610
Honolulu, HI 96814
Tel: 808 944-8848 • Fax: 808 941-8999

PHONE (808) 594-1888

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPIOLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

FAX (808) 594-1865

HRD05/1143C

June 21, 2005

Bob Yanabu
County of Hawaii
Department of Public Works
101 Pauahi Street, Suite 7
Hilo, HI 96720-4224

RE: Palani Road Safety Improvements, Keahu'olu Ahupua'a, North Kona, Hawai'i Island, TMK: 7-4-008:065.

Dear Mr. Yanabu,

The Office of Hawaiian Affairs (OHA) is in receipt of your June 3rd, 2005 request for comment on the above listed proposed project, TMK: 7-4-008:065. OHA offers the following comments:

As was stated in the 1990 PHRI report, OHA recommends that an Archaeological Data Recovery program be conducted for SIHP (State Sites) 13244, 13246 and 13248. While additional information will likely be gained during the monitoring phase of the proposed project, an effort specifically dedicated to recovering data is warranted as portions of the three sites are slated for removal. Further archaeological efforts should be conducted prior to the commencement of construction activities; the collection of historic properties during the monitoring phase is not a controlled study and is truly only a "salvage" or "last ditch" effort.

Grubbing of exotic trees and plants in the area of proposed construction would be an excellent opportunity to re-vegetate with native flora. OHA asks that, where possible, native tree and plant species be incorporated into your landscaping plan. The above stated will help to give the area a native sense and will promote the growth of native ecosystems in the area. Of particular interest is creating a home for native animals, namely avian species, in North Kona.

OHA further requests your assurances that if the project goes forward, should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 Hilo, Hawai'i 96720-4224
(808) 961-8321 Fax (808) 961-8630

July 20, 2005

Mr. Clyde Namu'o
Administrator
Office of Hawaiian Affairs
711 Kapi 'olani Boulevard, Suite 500
Honolulu, Hawai'i 96813

Dear Mr. Namu'o:

Subject: Palani Road Safety Improvements, Kealaka'a Street Extension
Keahu'olu Ahupua'a, North Kona District, Island of Hawai'i
Draft Environmental Assessment

Thank you for your comment letter to Bob Yanabu dated June 21, 2005 regarding this project. The proposed archaeological monitoring plan, including further data collection for Site 13246, was approved by the SHPD, OHA and Hui Malama during the Section 6E-8 and Section 106 National Historic Preservation Act consultations.

Should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease and the appropriate agencies contacted. Note that this is a standard procedure in all County construction projects.

We will consider your suggestion to utilize native plant species in our landscaping plan where possible.

Thank you for your input. Please call me if you have any future comments or questions.

Sincerely,

Bruce C. McClure, P.E.
Director

Cc: Kimura International, Inc.
Office of Environmental Quality Control

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jesse Yorck at 594-0239 or jessey@oha.org.

'O wau iho nō,

Clyde W. Nāmu'o
Administrator

CC: Ruby McDonald
OHA Community Affairs Coordinator (Kailua-Kona)
75-5706 Hanama Pl., Suite 107
Kailua-Kona, HI 96740

✓ Leslie Kurisaki
Kimura International, Inc.
1600 Kapiolani Blvd., Suite 1610
Honolulu, HI 96814

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

KIMURA INTERNATIONAL INC.

August 24, 2005

Mr. Clyde Namu'o
State of Hawai'i, Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawai'i 96813

Dear Mr. Namu'o:

Subject: **Palani Road Safety Improvements, Kealaka'a Street Extension**
Keahu'olu Ahupua'a, North Kona District, Island of Hawai'i
Your Comment Letter dated June 21, 2005

This letter is in response to your June 21, 2005 comment letter on the Draft Environmental Assessment for this project. Your letter requested that further archaeological studies be conducted prior to the commencement of construction activities.

In a follow up phone conversation with Mr. Jesse Yorck of your staff on July 26, 2005, Mr. Doug Borthwick of Cultural Surveys Hawai'i pointed out that previous data recovery efforts had been undertaken during an archaeological assessment specific to the proposed Palani Road Safety Improvements Project for Sites 13244 and 13248. Based on sufficient recordation, DLNR SHPD determined that the two sites did not require any additional data collection. An archaeological monitoring plan for the third site, Site 13246 (the old Palani Road) was prepared and approved by the SHPD in a January 24, 2004 letter (copy attached). The approved monitoring plan calls for archaeological monitoring during initial grubbing and grading work, and for additional data collection.

Mr. Borthwick also reminded Mr. Yorck that during the Section 106 NHPA consultation, OHA concurred with the above in a January 5, 2005 letter (HRD 04/1143B) to the Federal Highway Administration.

Mr. Yorck acknowledged he was unaware of the previous data recovery efforts and of the accepted monitoring plan for Site 13246.

If you have any questions, please feel free to call me.

Sincerely,

KIMURA INTERNATIONAL, Inc.

Leslie Kurisaki
Senior Planner

Cc: Bruce C. McClure/Bob Yanabu, County of Hawaii DPW
Richelle Takara, FHWA
Doug Borthwick, Cultural Surveys Hawaii

1600 Kapiolani Blvd., Suite 1610
Honolulu, HI 96814
Tel: 808 944-8848 • Fax: 808 941-8980

LINDA LINGLE
GOVERNOR OF HAWAII

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
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BUREAU OF CONVEYANCES
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CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

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

January 24, 2004

Dr. Hallett Hammatt, Ph.D.
Cultural Surveys Hawaii
733 North Kalaheo Avenue
Kailua, Hawaii 96734

LOG NO: 2004.0220
DOC NO: 401MM27

Dear Dr. Hammatt:

SUBJECT: **Chapter 6E-8 Historic Preservation Review. "Archaeological Monitoring Plan In Support of the Proposed Kealaka'a Street Realignment Project, Keahu'olu Ahupua'a, North Kona District, Hawaii" (Tulchin and Hammett, 2003) [County/DPW]**
TMK: (3) 7-4-8:65

Thank you for your letter dated December 17, 2003 with a copy of the above referenced report, prepared for Wesley R. Segawa & Associates, for our review and comment. The plan was received on December 19, 2003.

The plan was prepared in response to our April 10, 2003 review (Log No. 2003.0194; Doc No. 0304PM01) of the *Archaeological Assessment in Support of the Proposed Kealaka'a Street Alignment Project* (Tulchin and Hammatt, 2002) in which three sites previously identified by Peter Jensen in 1990 (*Archaeological Inventory Survey, Palani Road Improvements Project, Land of Keahuolu, North Kona District, Island of Hawaii, PHRI, Hilo*) were found. Two of the three sites were sufficiently documented in the assessment that no further work was needed (Site 13244, a portion of a kerbstone trail and Site 13248, a wall). Further data collection as part of a monitoring effort was found necessary for Site 13248, the old Palani Road.

During construction, the road bed will be crossed in two places. The plan adequately describes the anticipated findings and procedures to be implemented, and as such satisfies the requirements of HAR13-279, Rules Governing Standards for Archaeological Monitoring and Reports.

We understand that a limited amount of preliminary grubbing has taken place to facilitate geotechnical explorations. MaryAnne Maigret of our Hawaii Island office visited the property on January 6, 2004, accompanied by Mr. David Shideler of your firm and Mr. Robert Yonabu of Hawaii County Department of Public Works. They confirmed that the road would need to be crossed in one place, but that the portions selected for attention during monitoring would not be

affected. While your monitor was present during this work, the scope of work for this Monitoring Plan will be carried out during the actual realignment construction project.

We look forward to reviewing a Monitoring Report upon completion. If you have any questions about this review, please call either MaryAnne Maigret, Hawaii Island Assistant Archaeologist (808) 327-3690, or Dr. Patrick McCoy, Hawaii Island Archaeologist, (808) 692-8029.

Aloha,

P. Holly McEldowney

P. Holly McEldowney, Administrator
State Historic Preservation Division

c. Robert Yonabu, Hawaii County Dept. of Public Works

MM:ak

LINDA LINGLE
GOVERNOR

RODNEY K. HARAGA
DIRECTOR

Deputy Directors
BRUCE Y. MATSUI
BARRY FUKUNAGA
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO
STP 05-095
STP 8.1840

July 29, 2005

RECEIVED
AUG 04 2005
DEPT. OF PUBLIC WORKS

Mr. Bruce McClure
Director
Department of Public Works
County of Hawaii
101 Pauahi Street, Suite 7
Hilo, Hawaii 96720-4224

Attention: Mr. Bob Yanabu

Dear Mr. McClure:

Subject: Palani Road Safety Improvements
Draft Environmental Assessment
TMK: 7-4-008: 065

Thank you for requesting our review of the subject Draft Environmental Assessment. We are supportive of your project and applaud your efforts to implement projects to improve the connectivity and traffic circulation within the area.

The following are some technical concerns from our Highways Division and are offered for your consideration:

1. The traffic study should address any issues relating to spillback caused by the proximity of Kealakehe Elementary and Middle School.

2. The study uses a traffic rate increase of 2% based on the assumption that no current or pending developments were on Kealakea Street and Palihiolo Street. The use of the average increase is questionable because there is no criteria for establishing the assumption that no other developments will occur.

3. The design criteria for the intersection improvements should be based on a projected traffic assignment.

4. No signal warrant study was attached or referenced.

5. The study used 3-year old counts and estimated turning movements. Current and actual counts would have been preferable, including a justification of the turning movements.

Please contact our Highways Traffic Branch and Hawaii District Office should you have any questions.

We appreciate the opportunity to provide our comments.

Very truly yours,

RODNEY K. HARAGA
Director of Transportation

c: Genevieve Salmonson, Office of Environmental Quality Control
Leslie Kurisaki, Kimura International

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 Hilo, Hawaii 96720-4224
(808) 961-8321 · Fax (808) 961-8629

August 11, 2005

Mr. Rodney K. Haraga
Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Subject: Palani Road Safety Improvements
Draft Environmental Assessment
TMK: 7-4-008: 065
Your reference nos. STP 05-095, STP 8.1840

Dear Mr. Haraga:

Thank you for your comments in the referenced letter dated July 29, 2005. We wish to respond to several technical concerns from your Highways Division that were offered for consideration:

1. *The traffic study should address any issues relating to spillback caused by the proximity of Kealakehe Elementary and Middle School.*

   The proposed project will increase the distance from the school to the intersection of Kealaka'a Street and Palani Road, thereby improving existing conditions when school-related traffic interferes with other flows in the area.

2. *The study uses a traffic rate increase of 2% based on the assumption that no current or pending developments were on Kealakaa Street and Pohihiola Street. The use of the average increase is questionable because there is no criteria for establishing the assumption that no other developments will occur.*

   The proposed improvements were intended to address short-term conditions, as alternative parallel corridors are planned to address long-range needs. No specific developments that would have a direct impact to traffic volumes at the intersection were identified. A traffic increase, however, was applied based on recent trends, which have historically been an accurate predictor of traffic volumes for near-future conditions.

3. *The design criteria for the intersection improvements should be based on a projected traffic assignment.*

   Recommendations for turn lane storage lengths that were included in the traffic assessment have been used in the design of the intersection improvements.

4. *No signal warrant study was attached or referenced.*

   No signal warrant information was attached because a signal warrant was not included in the scope of work for the traffic study. However, a review of the traffic estimates at the intersection for a typical day, which were based on 2002 traffic count data, shows that the warrants for the interruption of continuous traffic and for four-hour volumes would be met.

   The warrant for the interruption of continuous traffic requires that, for each of eight hours of a typical day, the major street traffic volume (total of both approaches) be at least 900 vehicles per hour and the minor street approach has a minimum volume of 100 vehicles per hour. The four-hour warrant is based on a sliding scale and plots of traffic volumes are used; however, one criterion would have minimum major street volumes of 800 vehicles per hour during hours in which the minor street volume is at least 200 vehicles per hour. The table below shows that the hourly volumes on Palani Road and on Kealaka'a Street would meet the warrant levels in ten hours (for the eight-hour interruption of continuous traffic warrant) and in five hours (for the four-hour volume warrant).

2002 weekday volumes for hour ending	Two-way volume on Palani Road	Kealakaa Street approach volume	warrant for Interruption of Continuous Traffic met?	Four-Hour Volume warrant met?
7:30 AM	1,008	255	yes	yes
8:30 AM	1,508	534	yes	yes
9:30 AM	920	160	yes	
10:30 AM	837	140		
11:30 AM	851	113		
12:30 PM	902	137	yes	
1:30 PM	920	118	yes	
2:30 PM	1,082	149	yes	
3:30 PM	1,339	347	yes	yes
4:30 PM	1,505	202	yes	yes
5:30 PM	1,550	209	yes	yes
6:30 PM	1,190	152	yes	
Source: Julian Ng, Inc.				

A traffic signal, therefore, would be warranted.

5. *The study used 3-year old counts and estimated turning movements. Current and actual counts would have been preferable, including a justification of the turning movements.*

   The traffic study was prepared in early-2004; the most recent data (counts taken in mid-2002) that were available at that time were used. An assessment level study, rather than a full traffic study that included field counts of actual traffic, was done because the findings and recommendations were not expected to have been any different if a field sample had been taken. Additional counts would not have provided any better information for the traffic study or for recommendations for the design.

Should there be any questions, please contact Bob Yanabu at 961-8586.

Bruce C. McClure

Bruce C. McClure, P.E.
Director

cc Kimura International, Inc.
Wesley R. Segawa & Associates
Julian Ng, P.E.

Post-it® Fax Note 7671 | Date 8/12/05 | # of pages ▶ 3
To Bruce McClure | From Bob Yanabu
Co./Dept. Kimura Int'l, Inc. | Co. C.C.H.-DPM
Phone # | Phone # 961-8586
Fax # (808) 961-5999 | Fax #

DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAI'I
345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAI'I 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

June 23, 2005

RECEIVED
JUN 28 2005

TO: Mr. Robert Yanabu
County of Hawai'i, Department of Public Works

FROM: Milton D. Pavao, Manager

SUBJECT: PALANI ROAD SAFETY IMPROVEMENTS
DRAFT ENVIRONMENTAL ASSESSMENT
TAX MAP KEY 7-4-008:065

Thank you for the opportunity to comment on the aforementioned project. We have no comments to offer at this time.

Should there be any questions, please contact Ms. Shari Komata of our Water Resources and Planning Branch at 961-8070, extension 252.

Sincerely yours,

Milton D. Pavao, P.E.
Manager

SHK:sco

copy - Office of Environmental Quality Control
✓Leslie Kurisaki, Kimura International

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FROM :PUBLIC WORKS FAX NO. :808 9618630 Jul. 20 2005 02:31PM P5/6

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

July 20, 2005

Mr. Milton D. Pavao, P.E.
Manager
Department of Water Supply County of Hawai'i
345 Kekūanaō'a Street, Suite 20
Hilo, Hawai'i 96720

Dear Mr. Pavao:

Subject: Palani Road Safety Improvements, Kealaka'a Street Extension
Keahu'olu Ahupua'a, North Kona District, Island of Hawai'i
Draft Environmental Assessment

Thank you for your comment letter dated June 23, 2005 regarding this project. We note that you have no comments to offer at this time.

Please call me if you have any future comments or questions.

Sincerely,

Bruce C. McClure, P.E.
Director

Cc: Kimura International, Inc.
Office of Environmental Quality Control
Engineering Division

County of Hawai'i is an Equal Opportunity Provider and Employer

Harry Kim
Mayor

Christopher J. Yuen
Director

Roy R. Takemoto
Deputy Director

County of Hawaii
PLANNING DEPARTMENT
101 Pauahi Street, Suite 3 • Hilo, Hawaii 96720-3043
(808) 961-8288 • Fax (808) 961-8742

June 30, 2005

Mr. Glenn Kimura
Kimura International
1600 Kapiolani Blvd., Suite 1610
Honolulu, Hawaii 96814

Dear Mr. Kimura:

Subject: Draft Environmental Assessment (DEA)
Applicants: County of Hawaii, Department of Public Works
Land Owners: State of Hawaii
Project: Palani Road Safety Improvements – Kealaka'a Street Extension
Tax Map Key: 7-4-008:065

We are in receipt of the subject DEA, which was transmitted with your letter dated June 3, 2005 requesting our review and comment.

We have reviewed the DEA for this much needed roadway improvement project in the highly congested Kailua-Kona area and have no comments beyond those made in our letter dated October 13, 2003.

Should you have questions, please feel welcome to contact Larry Brown or Esther Imamura of my staff at 961-8288.

Sincerely,

CHRISTOPHER J. YUEN
Planning Director

LMB: jc
P:\WPWIN60\Larry\EA-EIS Comments\Kimura-Palani RdSafetyImprov.doc

xc: Director

Hawai'i County is an equal opportunity provider and employer

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

July 20, 2005

Mr. Christopher J. Yuen
County of Hawai'i
Planning Department
101 Pauahi Street, Suite 3
Hilo, Hawai'i 96720

Dear Mr. Yuen:

Subject: Palani Road Safety Improvements, Kealaka'a Street Extension
Keahu'olu Ahupua'a, North Kona District, Island of Hawai'i
Draft Environmental Assessment

Thank you for your comment letter to Kimura International dated June 30, 2005 regarding this project. We acknowledge your comment that this is a much needed roadway improvement project in the highly congested Kailua-Kona area.

We appreciate your support of this project. Please call me if you have any other comments or questions.

Sincerely,

Bruce C. McClure, P.E.
Director

Cc: Kimura International, Inc.
Office of Environmental Quality Control
Engineering

Harry Kim
Mayor

Lawrence K. Mahuna
Police Chief

Harry S. Kubojiri
Deputy Police Chief

County of Hawaii

POLICE DEPARTMENT
349 Kapiolani Street • Hilo, Hawaii 96720-3998
(808) 935-3311 • Fax (808) 961-2389

June 21, 2005

TO : BOB YANABU, DEPARTMENT OF PUBLIC WORKS

FROM : RONALD T. NAKAMICHI, ASSISTANT POLICE CHIEF, AREA II OPERATIONS

SUBJECT : Draft Environmental Assessment
Project Title: Palani Road Safety Improvements
Location: Keahu'olu Ahupua'a, North Kona District, Island of Hawaii
TMK: 7-4-008:065

Staff has reviewed the above-referenced Draft Environmental Assessment and submits the following comments.

The purpose and need for the Palani Road Safety Improvements project is strongly supported with the following recommendation:

1. Preferred Alternative: Construct Kealaka'a Street extension
   - Option 2: Limit existing intersection to right-turn only

Recommendation of construction being limited to the hours of 8:30 a.m. through 2:00 p.m. while school is in session for all phases of construction which directly impact Palani Road be considered.

Should you have any questions, please contact Captain Paul Kealoha, Area II, Kona Patrol, at 326-4646, extension 249.

cc: Director, Office of Environmental Quality Control
Kimura International

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i

DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

July 20, 2005

Mr. Ronald T. Nakamichi
Assistant Police Chief, Area II Operations
County of Hawai'i Police Department
349 Kapiolani Street
Hilo, Hawai'i 96813

Dear Assistant Chief Nakamichi:

Subject: Palani Road Safety Improvements, Kealaka'a Street Extension
Keahu'olu Ahupua'a, North Kona District, Island of Hawai'i
Draft Environmental Assessment

Thank you for your memorandum to Bob Yanabu dated June 21, 2005 regarding this project. We acknowledge your preference for Option 2 of the preferred alternative, to limit the existing intersection to right-turns only.

We also note your recommendation for limiting active construction after school has been dismissed for the day.

Thank you for your input. Please call me if you have any future comments or questions.

Sincerely,

Bruce C. Mcclure, P.E.
Director

Cc: Kimura International, Inc.
Office of Environmental Quality Control
Engineering Division

Appendix A

Botanical Resources, Letter Report from
Char & Associates to Wesley R. Segawa & Associates
17 January 2002

CHAR & ASSOCIATES
Botanical/Environmental Consultants
4471 Puu Panini Ave.
Honolulu, Hawaii 96816
(808) 734-7828

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17 January 2002

Wesley R. Segawa & Associates, Inc.
736 South Street, Suite 203
Honolulu, Hawaii 96813

Attention: Neil Fukumoto

SUBJECT Proposed Hawaii County Road -- Kailua-Kona

Dear Mr. Fukumoto:

An inspection was made of the botanical resources found along the approximately 700-foot long road on 08 January 2002. A surveyor from the County office accompanied us in the field. The survey followed along the road corridor; an overview of the corridor and the surrounding vegetation was also made from the nearby pedestrian bridge.

The primary objectives of the survey were to:
1) provide a general description of the vegetation along the road corridor;
2) search for threatened and endangered species as well as species of concern; and
3) identify areas of potential environmental problems or concerns and propose appropriate mitigation measures.

The plant names used in the following discussion follow Wagner et al. (1990), and Wagner and Herbst (1999). The more recent name changes follow those recorded in the Hawaii Biological Survey series (Evenhuis and Eldredge, editors, 1999-2000).

Description of the Vegetation

The vegetation on and immediately adjacent to the proposed road corridor consists of Christmas berry (Schinus terebinthifolius) scrub, 12 to 15 ft. tall, with scattered plants of sisal (Agave sisalana) and autograph tree (Clusia rosea). The sisal plants form large rosettes with sharp, spiny-tipped leaves which make surveying difficult; the sisal is very dense in some places. A

wild honey-bee nest was also encountered within the road corridor.

Shrubs of lantana (Lantana camara) and klu (Acacia farnesiana) are common in some areas while noni (Morinda citrifolia) is occasional. Ground cover consists primarily of fountain grass (Pennisetum setaceum) with smaller patches of air plant (Kalanchoe pinnata) and 'ala'ala wai nui (Peperomia blanda var. floribunda). Besides the 'ala'ala wai nui, other native species found here are lama (Diospyros sandwicensis), 'a'ali'i (Dodonaea viscosa), alahe'e (Psydrax odorata), and huehue (Cocculus orbiculatus).

Where the proposed road joins Palani Road, the vegetation has been disturbed and consists of koa haole or ekoa shrubs (Leucaena leucocephala) and clumps of Guinea grass (Panicum maximum). By the Kealaklehe Elementary School section, various trees and shrubs, including a few native species, have been planted. A nearby plaque reads..."American Revolution Bicentennial 1776-1976. Trees planted 1976 by Hawaii County Bicentennial Committee."

Discussion and Recommendations

The proposed road crosses very dense Christmas berry scrub vegetation. A few native species are found in this scrub vegetation, but all are common, widespread species which can be found throughout the West Hawaii region and on the other main islands in dry, leeward habitats. None of the plants found during this survey are threatened and endangered species or species of concern (U.S. Fish and Wildlife Service 1999).

The proposed road is not expected to have a significant negative impact on the botanical resources. It is recommended, however, that the plants located on the existing landscaped section (bicentennial plantings) be transplanted and reused for landscaping the roadway. Native species planted here include wiliwili (Erythrina sandwicensis), pohinahina (Vitex rotundifolia), loulu (Pritchardia sp.), 'a'ali'i, 'akia (Wikstroemia uva-ursi), and Hibiscus sp.

Please do not hesitate to contact me should you have questions regarding the findings.

Sincerely,

Winona P. Char

References

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Appendix B

Wildlife Survey, Kealakaa Street Extension
Tim J. Ohashi
November 2003

Wildlife Survey
Kealaka'a Street Extension
Kealakehe, North Kona, Island of Hawaii

Prepared for:
Kimura International, Inc.
1800 Kapiolani Blvd., Ste. 1810
Honolulu, Hawaii 96814

Prepared by:
Tim J. Ohashi
Certified Wildlife Biologist
P.O. Box 786
Volcano, Hawaii 96785
808 985-2222
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tohashi@lava.net

November 2003

INTRODUCTION

A wildlife survey was conducted on the morning of November 11, 2003 along the proposed route of the Kealaka'a Street Extension. The objectives of the wildlife survey were to describe the avian and mammalian species components along the route and determine whether threatened, endangered or sensitive species were present and if present determine the impact that the project would have on these species.

DESCRIPTION OF PROPERTY

The proposed route is located northeast (mauka) of Kailua-Kona. The route is approximately 1,400 ft beginning at Kealaka'a Street running adjacent to Palani Road and intersects with Palani Road at the junction of Palihiolo Street. The elevation of the site was about 740 ft above msl. The vegetation was comprised of thick dense growth of introduced shrubs and grasses. Century plant (*Agave americana*), fountain grass (*Pennisetum setaceum*), Christmas berry (*Schinus terebinthifolius*), noni (*Morinda citrifolia*), Guinea grass (*Panicum maximum*), molasses grass (Melinis minutiflora) and haole koa (*Leuceana leucocephala*) were most conspicuous. The native tree, alahe'e (*Canthium odoratum*) was present. The substrate was weathered pahoehoe.

METHODS

Observations were made by walking along the route and noting the wildlife encountered by audio and visual detection. The survey began at 08:32 and was completed at 08:57. Visual detection was aided during the survey period with a 10x32 pair of Leica binoculars.

Brief visits to a site will not yield all the faunal components for that site or habitat type, even under the best conditions. The presence and quantity of a wildlife species are influenced by many factors such as the time of day, season, and a host of environmental conditions, which include the presence of disturbances that can cause wildlife to move out of the area temporarily. These visits, however, generally reveal what can be expected, based on previous anecdotal and scientific records of similar sites and habitats. They are, therefore, important in verifying and checking

the species components and the environmental characteristics which typify the site. Conclusions derived from these visits must, however, be interpreted conservatively.

RESULTS AND DISCUSSION

There were no native birds at this low elevation xeric site. Birds seen or heard along the route are listed below.

Introduced (Non-Native) Birds

Japanese White-eye (*Zosterops japonica*)
Spotted Dove (*Streptopelia chinensis*)
Zebra Dove (*Geopelia striata*)
Lavender Waxbill (*Estrilda caerulenscens*)
House Finch (*Carpodacus mexicanus*)
Common Myna (*Acridotheres tristis*)
Nutmeg Mannikin (*Lonchura punctulata*)
Kalij Pheasant (*Lophura leucomelana)*
Northern Mockingbird (*Mimus polyglottos*)

The Northern Cardinal (*Cardinalis cardinalis*) was expected in this type of habitat but was not encountered during the survey.

Comments on Native Birds

No native honeycreepers (family Drepanididae) or other native forest bird species were found on the site. The current elevational range of honey creepers like the amakihi (*Hemignathus virens*), on the island of Hawaii is now generally above 2,132 ft (650 m) above sea level (Kern and Van Riper III 1984). While some of the native plants are still present in the lowlands, it is generally accepted that stresses brought about by introduced plants, animals, diseases and parasites have eliminated lowland populations of native birds (Scott et al 1988).

Pueo or Short-eared Owl (*Asio flammeus*) - The pueo is a native short-eared owl that inhabits forests and grasslands on all the islands. Only the population on Oahu is listed as endangered by the state of Hawaii. No owls were observed during the survey. The habitat of the area was dense shrub and is not suitable pueo habitat.

Hawaiian Hawk (*Buteo solitarius*) - The Hawaiian hawk or *io* occurs only on the island of Hawaii and is currently listed as an endangered species by both state and federal governments. It has the ability to feed and nest in forests of introduced species and feed on introduced animals. It still occupies 95 percent of its historic range (Scott et al. 1988.) No *io* were observed during the wildlife survey and none were expected.

Shearwaters and Petrels - Hawaiian Petrels (*Pterodroma sandwichensis*) are listed as endangered species and Newell's Shearwaters (*Puffinus auricularis newelli*) are listed as threatened by the U.S. Fish and Wildlife Service and the state of Hawaii. Neither species was encountered during the current wildlife survey. It is unlikely that the area hosts a colony of either of these species.

Mammals

Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) - The Hawaiian hoary bat is listed as an endangered species by both state and federal governments. Most bat sightings occur from August to December. Bats are commonly seen below 1,640 ft (500 m) elevation and in introduced vegetation, although Jacobs (1994) found that they are more often associated with native vegetation. They are normally not present in closed canopy forests but they are frequently seen along edges of these forests, among exotic trees, and in orchards (Kepler and Scott 1990). No bats were seen during the morning survey period, however, bats occur island-wide and have often been sighted in Kona (USFWS 1997).

Small Indian Mongoose (*Herpestes auropunctatus*) - The mongoose was not seen during the survey but they are expected on the parcel. The area is very suitable for mongoose that use dense foliage and rock wall as cover.

Cat (*Felis cattus*) – Cats can also be expected within the area, however cats were not seen during the survey.

Feral Dogs (*Canis familiaris*) - Free-ranging dogs can be expected in the area, but no dogs were observed.

Rodents - The rat (*Rattus* spp.) and house mouse (*Mus musculus*) probably occur on site. Trapping is required to verify their presence, but they are not considered

important in an environmental analysis because they are typically commensal pest species.

CONCLUSIONS AND RECOMMENDATIONS

The area does not support habitat suitable to native forest birds, shorebirds or other wetland species. It is comprised of an introduced or naturalized community plants birds and mammals that are highly adaptable to man's actions. There were no threatened, endangered or sensitive species of wildlife on the site during the survey period and none likely to be impacted by the proposed action.

LITERATURE CITED

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Appendix C

Section 7, Endangered Species Act Consultation

U.S Department of Transportation
Federal Highway Administration

Hawaii Division
Box 50206
300 Ala Moana Boulevard, Room 3-306
Honolulu, HI 96850

December 6, 2004

In Reply Refer To:
HEC-HI

Ms. Gina Shultz
Acting Field Supervisor, Pacific Islands Office
U.S. Fish and Wildlife Service
Box 50088
300 Ala Moana Boulevard, Room 3-122
Honolulu, HI 96850

Dear Ms. Shultz:

Subject: Section 7, ESA Consultation, PN-03-61
Palani Road Safety Improvements, Kealaka'a Street Realignment
Keahu'olu, North Kona, Hawai'i

The U.S. Department of Transportation, Federal Highway Administration (FHWA) would like to notify you of its determination of "no effect" for the above-referenced project.

As described in an Early Consultation letter sent to you by Kimura International, Inc., in October 2003, this project is proposed by the County of Hawai'i, Department of Public Works and the FHWA. The project involves a 700-foot extension of Kealaka'a Street from Kealakehe Elementary School to the intersection of Palihiolo Street and Palani Road. The project is needed to improve roadway safety along this stretch of Palani Road.

Botanical Resources

In an Early Consultation comment letter dated October 31, 2003, you note that the candidate plant species *Bidens micrantha* ssp. *ctenophylla (ko'oko'olau)* may occur just outside the immediate project area. You suggested a survey be conducted and measures taken to avoid impacts to this rare plant.

An assessment of the botanical resources was conducted by Char and Associates (January 2002). None of the plants found during the survey are threatened or endangered species or species of concern. The survey did not identify any *Bidens micrantha* ssp. *ctenophylla* within the roadway corridor or the surrounding areas. Char and Associates has determined that this species will not be impacted by construction or operation of the new roadway.

BUCKLE UP AMERICA

Terrestrial Wildlife Resources

A terrestrial wildlife survey of avian and mammalian species was conducted by Tim Ohashi (October 2003). The study noted that no threatened, endangered or sensitive species of wildlife were on the site during the survey period and none are likely to be impacted by the proposed project. The area is comprised of an introduced or naturalized community of plants, birds, and mammals that are highly adaptable to man's actions.

No Effect Determination

Based on the results of these studies, the FHWA has determined that this project will have no effect on any rare, threatened or endangered species. We request your written concurrence with this determination.

Should you have any questions, please do not hesitate to call me at 541-2700, extension 308.

Sincerely yours,

Clifford L. Chew
Transportation Engineer

cc: ✓Mr. Bob Yanabu, COH, DPW

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

RECEIVED
FEB – 9 2005
HIGHWAY DIVISION
FEB 8 2005

In Reply Refer To:
1-2-2005-TA-082

Clifford L. Chew
Federal Highway Administration
Box 50206
300 Ala Moana Boulevard, Room 3-306
Honolulu, Hawaii 96850

Dear Mr. Chew:

Thank you for your letter dated December 6, 2004, requesting our concurrence with your determination under section 7 of the Endangered Species Act that the proposed Palani Road safety improvements will not affect federally listed species. This proposal involves the 700-foot extension of Kealakaa from Kealakehe Elementary School to the intersection of Palihiolo Street and Palani Road in North Kona, Hawaii. We received your letter on December 7, 2004.

In our earlier letter dated October 31, 2003, commenting on this project, we stated that the candidate plant species *Bidens micrantha* ssp. *ctenophylla* may occur just outside the immediate project area. However, you pointed out that in an assessment of the botanical resources conducted by Char and Associates (January 2002), no listed or candidate species were found. In addition, a terrestrial wildlife survey was conducted by Tim Ohashi (October 2003). The study noted that no threatened, endangered, or sensitive species of wildlife were on the site during the survey period and concluded that none are likely to be impacted by the proposed project. The area is comprised of an introduced or naturalized community of plants, birds, and mammals.

Under section 7 of the Act, it is the action agency's responsibility to determine if their project will affect any listed species or proposed species, or proposed or designated critical habitat. This determination includes an evaluation of effects that may be beneficial, insignificant, or discountable. If the action agency determines that the proposed action has no likelihood of effect, our concurrence is not required under the Act. However, at your request, we have reviewed the proposed project and concur that no federally listed species or proposed species, or proposed or designated critical habitat under our jurisdiction will be affected by the proposed project.

Mr. Clifford Chew

We appreciate your efforts to conserve endangered species. If you have any questions, please contact Elizabeth Sharpe, Fish and Wildlife Biologist (phone: 808/792-9400; fax: 808/792-9581).

Sincerely,

Gina M. Shultz
Acting Field Supervisor

Appendix D

Archaeological Assessment & Cultural Impact Assessment
Cultural Surveys Hawaii

Archaeological Assessment, Cultural Surveys Hawaii, December 2002
Cultural Impact Assessment, Cultural Surveys Hawaii, December 2003
Draft Archaeological Monitoring Plan, Cultural Surveys Hawaii, April 2003

SHPD Letter dated April 10, 2003
(Subj: Chapter 6E-8 Historic Preservation Review)

SHPD Letter dated January 24, 2004
(Subj: Archaeological Monitoring Plan)

ARCHAEOLOGICAL ASSESSMENT IN SUPPORT OF THE PROPOSED KEALAKA'A STREET REALIGNMENT PROJECT, KEAHU'OLU *AHUPUA'A*, NORTH KONA DISTRICT, ISLAND OF HAWAI'I

(TMK 7-4-8:65)

by

Todd Tulchin, B.S.
and
Hallett H. Hammatt Ph.D.

Prepared for
Wesley R. Segawa & Associates, Inc.

by
Cultural Surveys Hawai'i, Inc.
December 2002

I. INTRODUCTION

A. Project Background

At the request of Wesley R. Segawa & Associates, Inc., Cultural Surveys Hawai'i, Inc. (CSH) conducted an archaeological assessment in support of the proposed Kealaka'a Street Realignment Project. The project area is located just makai (west) of Palani Road, between the intersections of Kealaka'a and Palihiolo Streets with Palani Road, Keahu'olu Ahupua'a, North Kona District, Island of Hawai'i (Figures 1 and 2). The extension of Kealaka'a Street to intersect with Palihiolo Street was deemed necessary to alleviate traffic congestion associated with Kealakehe School and the neighboring housing subdivision.

B. Scope of Work

The current project area was previously subjected to an archaeological inventory survey (Donham 1990a). However, the following scope of work was provided by the DLNR/SHPD (Log No. 29731, Doc. No. 0206ms03):

1. Prior to grubbing, with the proposed road alignment centerline flagged, an inspection of the project area by a qualified archaeologist needs to be done to confirm the accuracy of the previous inventory survey (Archaeological Inventory Survey Kealakehe Planned Community Project Area, Donham 1990a).
2. If new sites are found within the project area they need to be recorded and significance evaluated. This information would be submitted to the DLNR/SHPD for review and comment.
3. If no new sites are found, and it is confirmed that only site 50-10-27-13248 is in the project area, additional information by photographing and sectioning the wall could be recorded prior to land altering activity.

C. Project Area Description

The project area of this study consisted of the approximately 700 ft. (213 m) long and 100 ft. (31 m) wide proposed extension to Kealaka'a Street. The project area is located on the western slopes of Hualalai Volcano between 750 ft. (228 m) and 780 ft. (238 m) elevation (a.m.s.l.). The centerline and 100 ft wide grading limits of the proposed Kealaka'a St. extension were staked prior to the commencement of the assessment. The topography consists of both a'a and pahoehoe lava flows that gradually slope down from east to west. Average annual rainfall in the project area is approximately 40 in. (1000 mm) (Giambelluca et al. 1986).

Vegetation was dense throughout the project area, dominated by Christmas Berry (Schinus terebinthifolius). Additional plant species included sisal (Agave sisalina), air plant (Bryophyllum pinnatum), koa haole (Leucaena leucocephala), and various grasses.

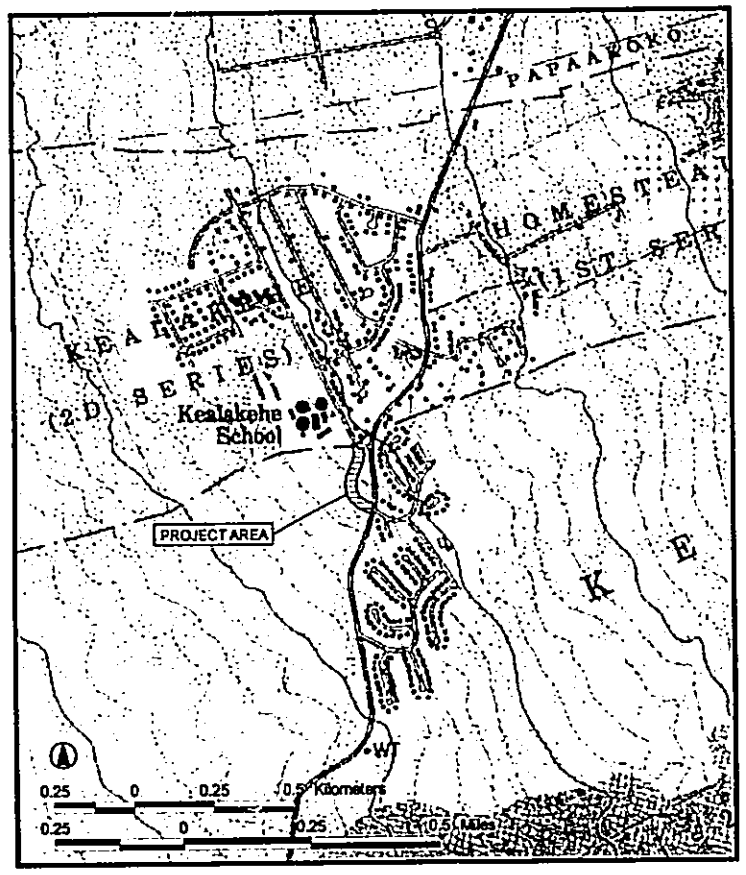

Figure 1 USGS Topographic Map, 7.5 Minute Series, Kailua Quad, Showing the Location of the Project Area

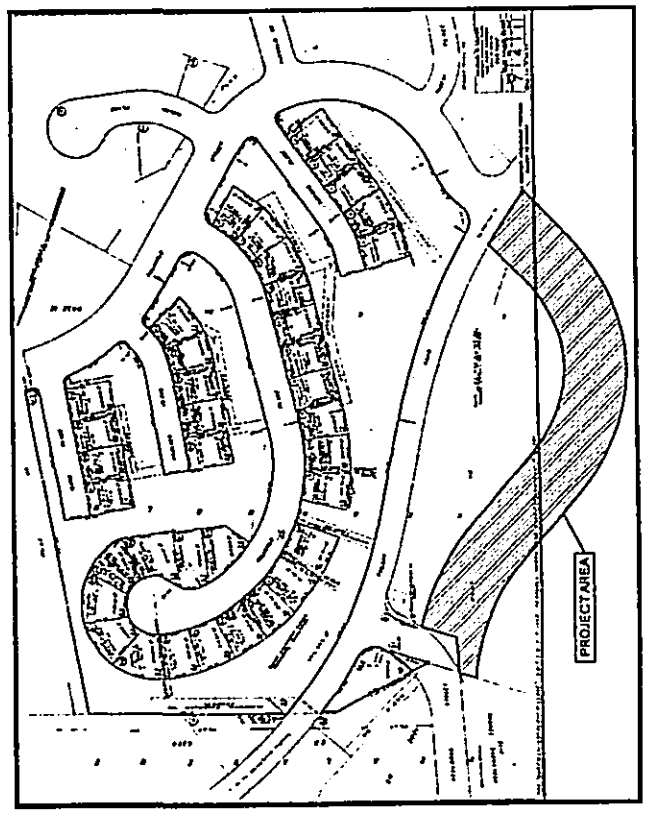

Figure 2 TMK 7-4-11 Showing the Location of the Project Area

D. Methods

The field assessment of the project area was conducted on November 26, 2002 by two archaeologists, Douglas Borthwick, B.A. and Todd Tulchin, B.S., under the general direction of Hallett H. Hammatt, Ph.D.. The pedestrian inspection of the project area was accomplished through systematic sweeps aligned with the previously surveyed and staked road centerline and boundary lines. The interval between the two archaeologists was generally between 5 and 10 meters.

II. HISTORICAL BACKGROUND

Keahuolu Ahupua'a is located within a transitional area between two distinct ecological zones. Lands to the south of Keahuolu, between Kailua Bay and Keauhou Bay, are generally recognized as the fertile agricultural district and population center of North Kona (Kirch 1985:166, Kelly 1983). Yet, the relatively dry Kekaha District of North Kona, characterized by coastal fishponds and barren lava inlands, lies just north of Kailua Bay, beginning at Honokohau Ahupua'a.

At the time of the Mahele of 1848, the entire ahupua'a of Keahuolu was awarded to Anne Keohokalole. She later sold portions of her 15,000-20,000-acre grant to the government and other parties, with the remainder being passed on to her heir Lili'uokalani. Emerson, a nineteenth century government surveyor, described the inland portion of Keahuolu as "rough pahoehoe, little vegetation," similar to descriptions of the dry and barren lands of Kekaha. David Kalākaua further described these kula lands as suitable for livestock grazing (Donham 1990a). No kuleana grants were awarded in the inland portion of Keahuolu and there is little historic information concerning traditional Hawaiian land use in the area. However, the archaeological record suggests that dryland agriculture in areas designated grazing land was relatively intensive.

The forested upland area of Keahuolu contained kuleana awards and was historically the primary agricultural zone of the ahupua'a. The most common crop described in the claims was taro, with coffee and potatoes also being mentioned. Emerson described the boundary between the inland and upland forested areas of Keahuolu as "lava covered with scattering forest and dense masses of ki root" (Kelly 1983:58). Lands below the forest edge were described as "rocks covered with grass" (Kelly 1983:58). Emerson estimated the forest edge boundary to be at 750-800 ft. (228-244 m) elevation (a.m.s.l.) in Keahuolu (see reproduction of Emerson's map in Kelly 1983:59). This places the current project area within this boundary zone between the barren inland and upland forest areas.

A sisal mill was constructed in Keahuolu sometime during the late 1890s. The mill was located along the southern portion of the old Palani Road corridor at 430 ft. (131 m) elevation (a.m.s.l.), approximately 0.95 mi. (1.6 km) south of the current project area. Operating until 1924, the mill was surrounded by sisal fields covering an area of up to 1000 acres in Keahuolu and Kealakehe ahupua'a (Jensen 1990). An area of concentrated sisal growth was located along a section of the old Palani Road at 600 ft. (183 m) elevation (a.m.s.l.), which was believed to be at too high an elevation to be associated with the mill itself, though it may have been related to sisal transport operations (Donham 1990b). The exact location and extent of the cultivation of sisal is not clear, though scattered clumps of sisal were observed within the current project area.

III. PREVIOUS ARCHAEOLOGY

In 1990, an archaeological inventory survey was conducted for the proposed 950-acre Kealakehe Planned Community (Donham 1990a). The project area of this study was comprised of two parcels, which included all undeveloped land in Kealakehe ahupua'a between Queen Ka'ahumanu Highway and Kealakaha Rd. and adjacent land in Keahuolu ahupua'a bounded by Palani Rd. The Keahuolu portion of the study included the current project area.

A total of 82 sites including 840 features were located within the project area. The most common feature types were rock mounds and pahoehoe excavations. Other common features included low-mounded walls, modified outcrops, small enclosures, and terraces indicating relatively intensive agriculture in the area (Donham 1990a).

Five sites identified in Donham's (1990a) study are located in the vicinity of the current project area. Site 50-10-27-13243 is a complex consisting of a C-shape habitation feature, 2 hearths, and a stone wall. Site 50-10-27-13244 is a kerbstone trail. Site 50-10-27-13245 is a complex consisting of two stone cairns and a rock mound. Site 50-10-27-13246 is a complex consisting of a historic roadbed, three linear rock mounds, two alignments, and a pahoehoe excavation. Site 50-10-27-13248 is a stone wall. No further work was recommended for Sites -13243 and -13245. Further data collection was recommended for Sites -13244, -13246, and -13248, though none was carried out.

IV. RESULTS

Pedestrian inspection of the project area located and flagged three previously identified sites within the approximately 700 ft. (213 m) long, 100 ft. (31 m) wide proposed extension to Kealaka'a St (Figures 3-6). No additional sites were observed during the current assessment. The following are descriptions of the previously identified sites made by Donham (1990a) for the Archaeological Inventory Survey, Kealakehe Planned Community Project Area:

SITE NO.: 13244

SITE TYPE: Kerbstone trail

TOPOGRAPHY: A'a and pahoehoe flows sloping towards the southwest

CONDITION: Fair

INTEGRITY: Unaltered

PROBABLE AGE: Historic

FUNCTIONAL INTERPRETATION: Transportation

DIMENSIONS: 350.00 m by 3.00 m by 0.75 m max. height

DESCRIPTION: This is a cleared trail that has been graded to level across low lying areas. The sides are defined by aligned cobbles and scattered boulders, and are very rough in places with only minor construction. The trail is oriented in a generally E-W direction at the south end, then curves to a more N-S direction and continues to the project area boundary near Kealakehe Elementary School.

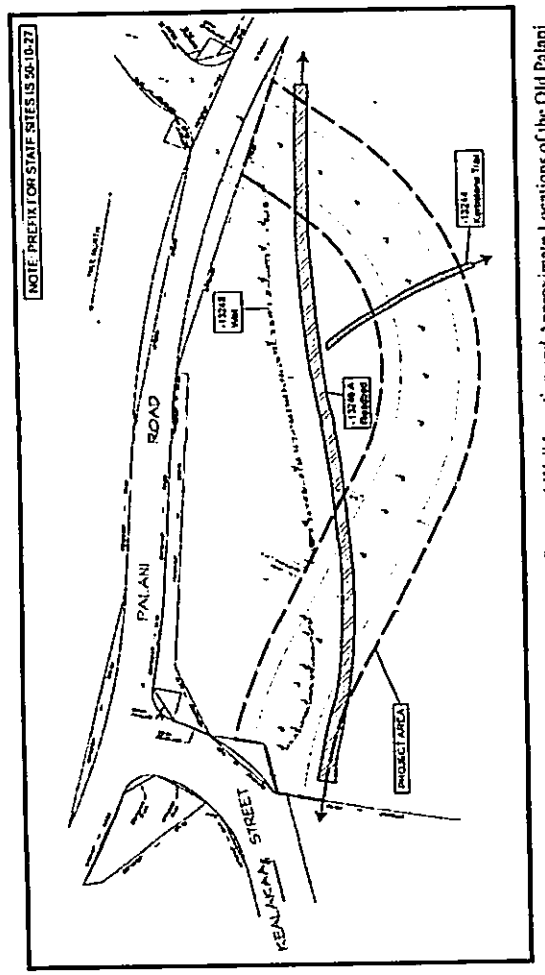

Figure 3 Site Plan of the Project Area Showing the Surveyed Wall Location and Approximate Locations of the Old Palani Roadbed and Kerbstone Trail.

Figure 4 State Site 50-10-27-13244, Kerbstone Trail.

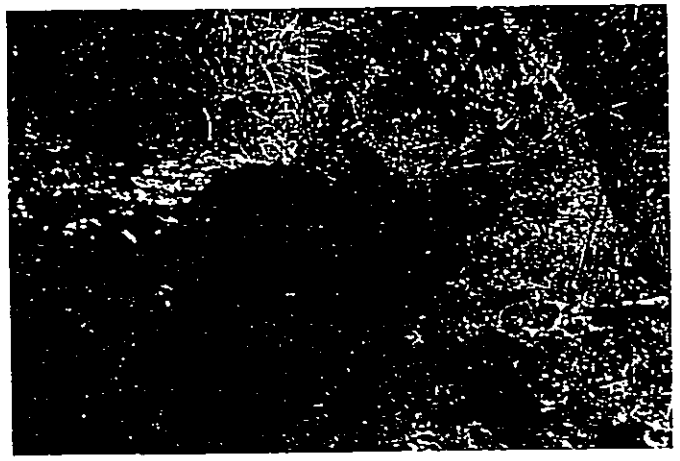

Figure 5 State Site 50-10-27-13246 Feature A, Roadbed.

Figure 6 State Site 50-10-27-13248, Wall.

SITE NO.: 13246

SITE TYPE: Complex (6+ Features)

TOPOGRAPHY: Undulating pahoehoe flow sloping to the southwest; c. 15.0 m west of Palani Rd.

CONDITION: Fair

INTEGRITY: Unaltered

PROBABLE AGE: Prehistoric/historic

FUNCTIONAL INTERPRETATION: Agriculture-transportation

DESCRIPTION: Features identified and recorded at this site include a historic roadbed (Feature A), three linear mounds (Features B,C, and F), two alignments (Feature D) and a pahoehoe excavation (Feature E). Additional pahoehoe excavations were observed but not individually measured at the site. Overall site area is 25.00 m N-S by 15 m E-W, and it is c. 25.0 m west of Palani Rd.

FEATURE A: Roadbed

FUNCTION: Transportation

DIMENSIONS: 30.00 m by 0.00 m by 0.50 m (approx. height)

DESCRIPTION: This machine-made roadbed is probably a former location of Palani Rd. Additional sections were noted in other areas along the existing roadway. The section identified at this site was followed for 30.0 m; it connects with the shoulder area of the existing road.

SITE NO.: 50-10-27-13248

SITE TYPE: Wall

TOPOGRAPHY: On relatively steep pahoehoe slope.

VEGETATION: Alahe'e, Christmas berry, cactus, lauae, guava, air plant, lantana, low ferns, and a'alii.

CONDITION: Good

INTEGRITY: Fair

PROBABLE AGE: Probable historic

FUNCTIONAL INTERPRETATION: Land Division

DIMENSIONS: 134.00 m by 0.80 m by 1.60 m max. height

DESCRIPTION: This double faced, core-filled wall is located immediately west of Palani Rd. at the junction of Kealaka'a St. It is oriented 340/160 degrees Az., and both ends have been broken by road construction. The wall is constructed with small pahoehoe boulders and a'a rocks, and the core fill consists of small cobbles and pebbles.

Field observations of these previously identified sites were generally consistent with the site descriptions obtained from Donham (1990a). However, Site -13248 (wall) appeared to be constructed in a bi-faced configuration, rather than core-filled as previously described. The wall was also observed to run parallel to Site -13246 Feature A (roadbed). It is therefore the opinion of CSH that Site -13248 is a typical cattle-type wall associated with the former Palani Rd. roadbed (Site -13246 Feature A). A collapsed section of Site -13248 was photographed and a scale profile was drawn (Figures 7 and 8).

Additionally, Donham's (1990a) description of Site -13244 indicates that in the northern portion of the project area the kerbstone trail "curves to a more N-S direction and continues to the project area boundary near Kealakehe Elementary School." Site -13244 (kerbstone trail) was observed by CSH to be cut by the former Palani Rd. roadbed (Site -13246 Feature A) in the northern portion of the project area, and it is the former Palani Rd. roadbed that continues to the project area boundary near Kealakehe Elementary School.

V. SUMMARY AND RECOMMENDATIONS

The scope of work for this study, provided by DLNR/SHPD, was completed as specified. A complete field inspection of the Kealaka'a Street Realignment project area was made by two CSH archaeologists to confirm the accuracy of Donham's (1990a) previous archaeological inventory survey that included the current project area. The field inspection confirmed the location of three previously identified sites within the 100 ft. wide grubbing limits of the proposed road corridor. These were Site 50-10-27-13244 (kerbstone trail), Site 50-10-27-13246 Feature A (roadbed), and Site 50-10-27-13248 (wall). Each of the sites was documented with photographs and a scale profile drawing was made of Site -13248. Field observations of the previously identified sites were generally consistent with Donham's (1990a) site descriptions. Only slight modifications to these descriptions were made.

No additional sites were observed during the field inspection. It was previously recommended that Sites -13244, -13246, and -13248 are important for information content and further data collection was necessary (Donham 1990a). Following the work completed as part of the current study, no further data collection is recommended for Sites -13244 and -13248. However, Site -13246 Feature A remains important and it is therefore recommended that data be collected on the form and construction characteristics of the former Palani Rd. roadbed.

It is recommended that a qualified archaeologist be required to monitor construction activities associated with the Kealaka'a Street realignment project. The data collection associated with Site -13246 can be accomplished during the monitoring work. While the likelihood of encountering human remains or other significant cultural deposits is regarded as exceedingly low, if in the unlikely event such deposits are encountered, all subsurface work in the immediate vicinity should immediately cease and the state historic preservation division should be promptly notified.

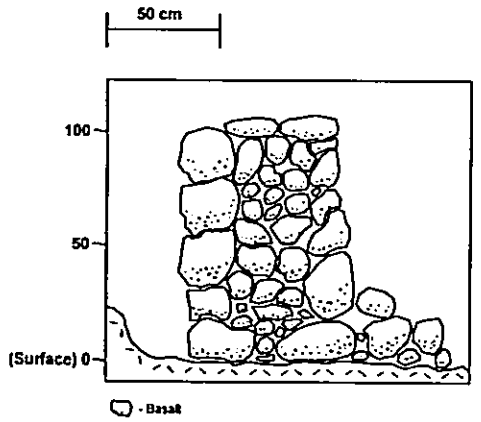

Figure7 Profile of Collapsed Portion of Wall, State Site 50-10-27-13248.

Figure 8 Photo of Collapsed Portion of Wall, State Site 50-10-27-13248.

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CULTURAL IMPACT ASSESSMENT FOR THE PROPOSED KEALAKA'A STREET REALIGHNMENT PROJECT, KEAHUOLŪ AHUPUA'A, NORTH KONA DISTRICT, ISLAND OF HAWAI'I

(TMK 7-4-8:65)

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I. INTRODUCTION

A. Project Background

Cultural Surveys Hawai'i, Inc. (CSH) was contacted by Kimura International, Inc., to conduct a Cultural Impact Assessment in support of the proposed Kealaka'a Street Realignment Project. The project area is located just *makai* (west) of Palani Road, between the intersections of Kealaka'a and Palihiolo Streets with Palani Road, Keahuolū Ahupua'a, North Kona District, Island of Hawai'i (Figures 1 and 2). The extension of Kealaka'a Street to intersect with Palihiolo Street was deemed necessary to alleviate traffic congestion associated with Kealakehe School and the neighboring housing subdivision.

The function of this Cultural Impact Assessment is to document and evaluate the effects the planned redevelopment may have on native Hawaiians or any other concerned ethnic group in terms of their culture and their rights to practice traditional customs. The State Constitution, state laws and courts "require government agencies to promote and preserve cultural beliefs, practices, and resources of native Hawaiians and other ethnic groups" (in Office of Environmental Quality Control, *Guidelines for Assessing Cultural Impacts*, Adopted by the Environmental Council, State of Hawai'i, November 19, 1997).

Under Act 50, Chapter 343, Hawai'i Revised Statutes, 2000, the following protocol are encouraged when preparing a Cultural Impact Assessment (*Ibid*).

1. Identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or *ahupua'a*;
2. Identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;
3. Receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;
4. Conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research;
5. Identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and
6. Assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified.

This project involves plans to create an extension of Kealaka'a Street to intersect with Palihiolo Street to alleviate traffic congestion associated with Kealakehe School and the neighboring housing subdivisions.

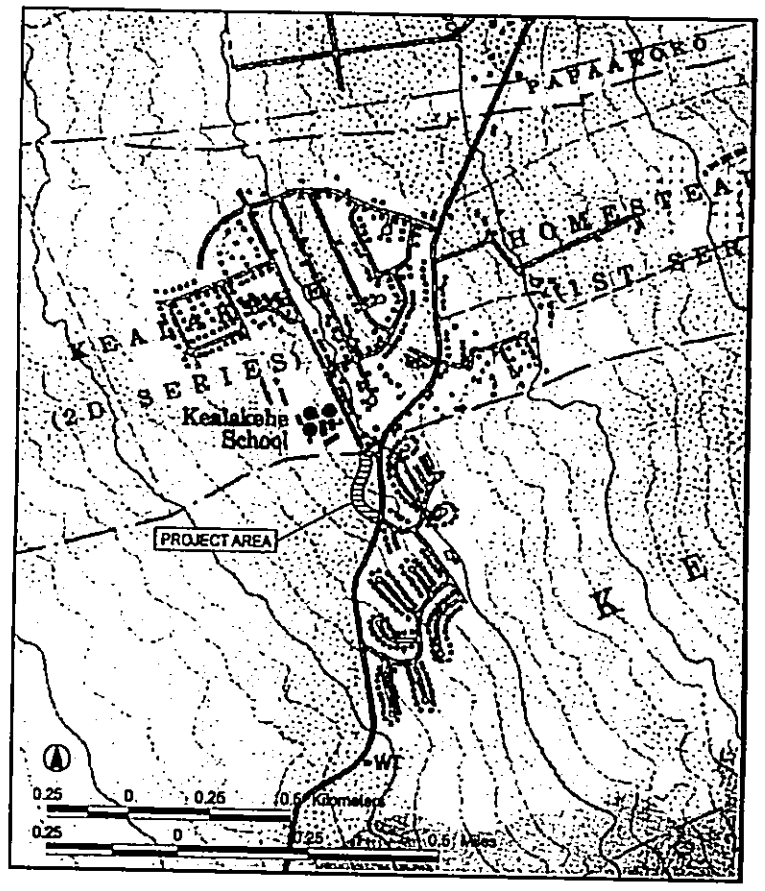

Figure 1. USGS Map, Kailua Quad, Showing the location of the Project Area.

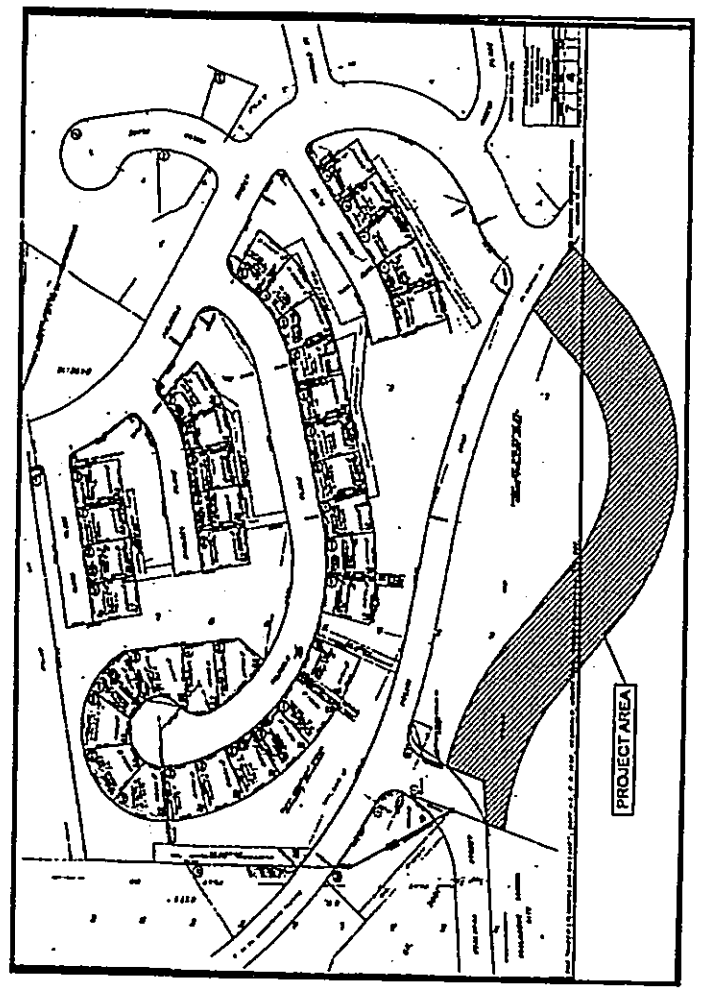

Figure 2. TMK 7-4-11 Showing the Location of the Project Area

B. Scope of Work

This Cultural Impact Assessment Study is meant to satisfy requirements related to Chapter 343 HRS Articles IX and XII and Act 50 and their applicability to the project area. The scope of work includes:

1) Examination of historical documents, Land Commission Awards, and historic maps with the specific purpose of identifying traditional Hawaiian activities including gathering of plant, animal and other resources or agricultural pursuits as may be indicated in the historic record.

2) A review of the existing archaeological information pertaining to the sites on the property as they may allow us to reconstruct traditional land use activities and identify and describe the cultural resources, practices and beliefs associated with the parcel and identify present uses, if appropriate.

3) Conduct oral interviews, both formal and informal, with persons knowledgeable about the historic and traditional practices in the project area and region.

4) Preparation of a report on items 1-3 summarizing the information gathered related to traditional practices and land use. The report will assess the impact of the proposed action on the cultural practices and features identified.

C. Methods

Historical documents, maps and existing archaeological information pertaining to the project area were researched at the State Historic Preservation Division library, Cultural Surveys Hawai'i library, and the University of Hawai'i's Hamilton library. The Office of Hawaiian Affairs, O'ahu Burial Council, and members of other community organizations were contacted in order to identify potentially knowledgeable individuals with cultural expertise and/or knowledge of the study area and the surrounding vicinity. A discussion of the consultation process can be found in the following section on "Community Consultations." Please refer to Table 2 for a complete list of individuals and organizations contacted. An informal interview with Mrs. Elaine Pualani Watai of the Kealakehe Neighborhood Watch was conducted on November 11, 2003 at the proposed project area. A telephone interview was conducted with Councilman Curtis Tyler III on October 30, 2003.

D. Natural Setting

The project area of this study consisted of the approximately 700 ft. (213 m) long and 100 ft. (31 m) wide proposed extension to Kealaka'a Street. The project area is located on the western slopes of Hualalai Volcano between 750 ft. (228 m) and 780 ft. (238 m) elevation (a.m.s.l.). The centerline and 100 ft wide grading limits of the proposed Kealaka'a St. Extension were staked prior to the commencement of the assessment. The topography consists of both *a'a* and *pāhoehoe* lava flows that gradually slope down from east to west. Average annual rainfall in the project area is approximately 40 in. (1000 mm) (Giambelluca et al. 1986).

Vegetation was dense throughout the project area, dominated by Christmas Berry (*Schinus terebinthifolius*). Additional plant species included sisal (*Agave sisalina*), air plant (*Bryophyllum pinnatum*), *koa haole* (*Leucaena leucocephala*), and various grasses.

II. HISTORICAL BACKGROUND

A. Mythological and Traditional Accounts

Keahuolū Ahupua'a is located within a transitional area between two distinct ecological zones. Lands to the south of Keahuolū, known as *Kona kai 'ōpua* (Kona of the distant horizon clouds above the ocean), between Kailua Bay and Keauhou Bay, are generally recognized as the fertile agricultural district and population center of North Kona (Kirch 1985:166; Kelly 1983). The relatively dry *Kekaha-wai-'ole* (the waterless place) area of North Kona to the northeast is characterized by coastal fishponds and barren lava inlands.

The name of the *ahupua'a*, Ke-ahu-o-lū, has been translated in two ways. The first is as "the ahu of lū" (Pukui et al. 1974:101). There are no legendary accounts of a Hawaiian named Lū, but an *ahu* is a mound, often used as an altar, so the name could refer to "the altar of Lū." The name of the land has also been written as Ke'ohu'olu (Maly 1994: A-3), which means "the refreshing mists."

There is a mound-hill at Keahuolū and Kealakehe, the *ahupua'a* to the north, that is also associated with mists. According to the Legend of Ka-Miki, a series of stories about a supernatural hero who traveled around the Hawaiian Islands in the 13th century;

> Ka-noenoe (The mist, fogginess) the mound-hill called Pu'u-o-Kāloa sits upon the plain of Kanoenoe which is associated with both Keahuolū and Kealakehe. The settling of mists upon Pu'u-o-Kāloa was a sign of pending rains; thus the traditional farmers of this area would prepare their fields. This plain was referenced by Pili when he described to Ka-Miki the extent of the lands which Ka-Miki would over see upon marrying the sacred chiefess Pachala of Honokōhau. The inheritance lands included everything from the uplands of Hikuhia above Nāpu'u and the lands of the waterless Kekaha, which spanned from the rocky plain of Kanikū (Keahualono) to the plain of Kanoenoe at Pu'ukāloa [Ka Hōkū o Hawai'i 10/25/1917, as translated by Maly 1994:A-4].

Another legendary account discusses the hill called Pu'u-o-kāloa:

> Pu'u-o-kāloa is a mound-hill site in the lands of Keahuolū-Kealakehe, not far from the shore of Kaiwi and Hi-iakanoholae. During periods of dry weather (Ka lā malo'o) when planted crops, from the grassy plains to the 'ama'uma'u (fern forest zone), and even the ponds (ki'o wai) were dry, people would watch this hill for signs of coming rains. When the lihau (light dew mists) sat atop the hill of Pu'u-o-kāloa, rains were on the way. Planters of the districts agricultural fields watched for omens at Pu'uokāloa, and it was from keen observation and diligent work that people prospered on the land. If a native of the land was hungry and came asking for food, the person would be asked:
>
> Ua ka ua i Pu'ukāloa, ihea 'oe?
>
> When rains fell at Pu'ukaloa, where were you? (If the answer was...)

> I Kona nei nō!
>
> In Kona (there would be no sweet potatoes for this person)
>
> But if the answer was:
>
> I Kohala nei nō!
>
> In Kohala! (The person would be given food to eat for they had been away, thus unable to accomplish the planting.) [Kaʻlōkū o Hawai'i 3/19/1914, as translated by Maly 1994:A-5]

These legendary accounts emphasize the importance of rainfall in this relatively dry region for farmers, who were cultivating sweet potatoes and other crops on the plains of Keahuolū.

B. Early Historic Period

Early missionary residents made the first estimates of the population of the North Kona District. Asa Thurston estimated a population of not less than 20,000 people along a 30-mile stretch of the Kona coast. These residents were clustered on the coast, but some families also lived in a habitation belt about 2 miles inland (Kelly 1983:14). A formal census was conducted in 1832, and 12,432 people were recorded for the district of Kona. By 1835, this number had declined to 5,957. By 1853, the number had dropped to 2,210 (Schmitt 1973:21, 29, 31). The missionary, William Ellis (1976:32), visited the Kona area in 1825 and noted deserted villages and abandoned fields "everywhere to be met with."

William Ellis (1976:31) also noted the types of agriculture practiced in the region:

> The environs were cultivated to a considerable extent: small gardens were seen among the barren rocks on which the houses were built, wherever soil could be found sufficient to nourish the sweet potato, the watermelon, or even a few plants of tobacco, and in many places they seemed to be growing literally in the fragments of lava, collected in small heaps around their roots.

Few historical records can be found about the early history of Keahuolū. However, in 1894, the land was described thus by David Kalākaua:

> This land is situated in the District of North Kona, bounded by the *ahupua'a* of Lanihau (in Kailua) belonging to Prince Lunalilo on the Ka'ū side, and on the Kohala side, by Kealakehe, a government land and Honokōhaniki belonging to Ke'elikōlani. Keahuolū runs clear up to the mountains and includes a portion of nearly one half of Hualalai Mountain. On the mountains the *koa*, *kukui* and *'ōhi'a* abounds in vast quantities. The upper land or inland is arable, and suitable for growing coffee, oranges, taro, potatoes bananas &c. Breadfruit trees grow wild as well as the Koli oil seed. The lower land is adopted for grazing cattle, sheep, goats, &c. The fishery is very extensive and a fine grove of cocoanut trees of about 200 to 300 grows on the beach. The flat land near the sea beach is composed chiefly of lava, but herbs and shrubbery grows on it and [it is] suitable for feed of sheep and goats. It is estimated at 15,000 to 20,000 acres or more.

This account also shows the importance of introduced crops to the early historic economy. Some of these crops would be sold to traders to provision visiting whaling ships and other merchants. In 1815, a visiting ship to Kailua, the *Columbia*, took on board "hogs, vegetables, rope, and cloth of the country" (Corney 1896:35). In another trip to Kailua in 1817, the *Columbia* reported "the natives...bringing pigs, taro, yams, goats, plantains, rope and fruit of every description" (Corney 1896:69).

C. Mid to Late 1800s

In 1848, Kamehameha III authorized the Mahele (*literally*, division), which defined the land interests of the king, the high-ranking chiefs, and the *konohiki* (landlords for the chiefs). The lands awarded to the chiefs and their *konohiki* were known as *Konohiki* Lands. In 1848, four resolutions were passed to protect the rights of the *kama'āina*, the native tenants. The resolutions authorized the Land Commission to award fee simple title to native tenants for habitation and agricultural lands that were part of Crown Lands (lands reserved for the royal family), Government Lands (lands held by the government), or *Konohiki* Lands. The lands for the common people became known as *kuleana* (tenant) awards (Chinen 1958, 1961).

At the time of the Mahele of 1848, the entire *ahupua'a* of Keahuolū was awarded to Anne Keohokālole (L.C.A 18452), who had held two walled house lots "from very ancient times" along the shore. Keohokālole was the granddaughter of Kame'eiamoku, an important chief that supported Kamehameha I, and the wife of John Kuakini, the governor of O'ahu in the early 19th century. She was also the mother of David Kalākaua (who later became King David Kalākaua), Kamaka'eha (who later became Queen Lydia Lili'uokalani), William Pitt Leleiōhoku, and Miriam Likelike, the heir of Lili'uokalini. Anne Keohokālole later sold portions of her 15,000-20,000-acre grant to the government and other parties, with the remainder being passed on to her heir, Lili'uokalani. Emerson, a 19th century government surveyor, described the inland portion of Keahuolū as "rough pāhoehoe, little vegetation," similar to descriptions of the dry and barren lands of Kekaha. David Kalākaua further described these *kula* (plains used for dryland agriculture) lands as suitable for livestock grazing (Donham 1990a). No *kuleana* grants were awarded in the inland portion (lower *kula* zone) of Keahuolū, and there is little historic information concerning traditional Hawaiian land use in the area. However, the archaeological record suggests that dryland agriculture in areas designated grazing land was once relatively intensive.

The upper *kula* zone was historically the primary agricultural zone of the *ahupua'a*. Many *kuleana* awards were claimed for this area, indicating that dryland crops were grown here. The most common crop described in the claims was taro, with coffee and potatoes also mentioned. During the Mahele, few of these *kuleana* awards were granted; instead, these lands were generally awarded to the *konohiki* (lower chiefs and landlords), who used the lands for livestock grazing (Kelly 1983:67).

Emerson described the upland forested areas of Keahuolū as "lava covered with scattering forest and dense masses of kī [tī; *Cordyline terminalis*] root" (Kelly 1983:58). Lands below the forest edge were described as "rocks covered with grass" (Kelly 1983:58). Emerson estimated the forest edge boundary to be at a 750-800 ft (228-244 m) elevation above sea level in the present project area of Keahuolū.

D. 1900s

The population of the region continued to decline until around A.D. 1890, when the population of North Kona had dropped to 1,754 people. By 1900, the population had increased to 3,189 and continued to increase as people moved into the urban and subdivision lands around Kailua-Kona.

A sisal (*Agave sisilana*) mill was constructed in Keahuolū sometime during the late 1890s; sisal was grown to make ropes and other fibers. The mill was located along the southern portion of the old Palani Road corridor at 130 m (428 ft) AMSL. Operating until 1924, the mill was surrounded by sisal fields that covered an area of up to 1000 acres in Keahuolū and Kealakehe Ahupua'a (Jensen 1990). An area of concentrated sisal growth was located along a section of the old Palani Road at 183 m (600 ft) AMSL, which was believed to be at too high an elevation to be associated with the mill itself, though it may have been related to sisal transport operations (Donham 1990b).

In 1909, the Lili'uokalani Trust was established to provide for children, especially orphans, of Hawaiian descent. Income was derived from real estate owned by Queen Lili'uokalani. As a result of the will of Queen Lili'uokalani, the lands of Keahuolū were placed in a trust. In the last twenty years, the trustees have begun to develop the Keahuolū lands to generate revenue for their programs. The area around Palani Road is now occupied with shopping malls, bookstores, business offices, and residential subdivisions (Perzinski et al. 2003:8).

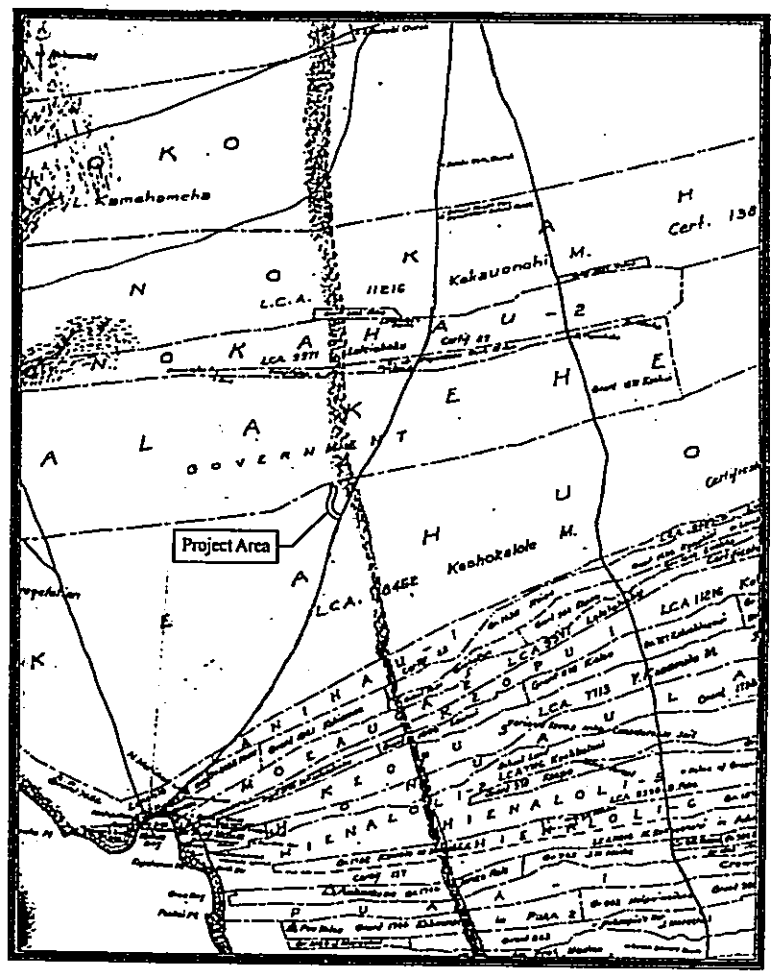

Figure 3. 1890s Emerson Map of Kailua-Kona showing the approximate area of the current project.

III. PREVIOUS ARCHAEOLOGICAL RESEARCH

Early archaeological investigations in the *ahupua'a* of Keahuolū were focused on coastal ceremonial and habitation sites (Stokes 1991; Reinecke 1930; Emory 1970). Later surveys also noted agricultural, marine resource collection areas, burials, and other types of features along the Keahuolū Coast (Newman 1970; Bevaqua 1972; Neighbor Island Consultants 1973; Sinoto 1975; Ching 1978; Fuke and Goldstein 1978; Estioko-Griffin and Lovelace 1980; Folk 1980; and Neller 1980).

An archaeological inventory survey for the Kuakini Highway Realignment Corridor was conducted by the Bishop Museum between 1980 and 1983 (Schilt 1984). The 4.96 km corridor crossed 26 *ahupua'a*, including Keahuolū at the northern end. A total of 134 sites, comprising 455 features, were recorded. Two sites were located in Keahuolū Ahupua'a (D10-23, D10-24), a cairn and a modified outcrop. Schilt also noted that this area had been extensively bulldozed. Information from this report, along with documentary research presented by Kelly (1983), was used to generate models for the chronology and type of land use in North Kona in pre-contact through historic times. This information is summarized in the next section of this report.

The first archaeological study to focus on the inland area of Keahuolū was conducted by Soehren in 1983. Soehren (1983) surveyed a 10-acre parcel located at elevations ranging from 240-300 m (800 to 1,000 ft) AMSL. No archaeological features were found.

In 1979, Paul H. Rosendahl, Ph.D., Inc. (PHRI) conducted a reconnaissance survey of three parcels in inland Keahuolū (Rosendahl 1979). Area 1 consisted of a 100-acre parcel west of Queen Ka'ahumanu Highway, near the coast. Area 2 was a 100-acre parcel, east of the highway, along the south side of Palani Road. Area 3 was a 12-acre parcel east of the highway on the north side of Palani Road. Thirteen sites and site complexes were recorded in area 1. Two large complexes and five additional sites were recorded in Area 2, and one large complex was recorded in Area 3.

In 1989, an archaeological inventory survey was conducted for the proposed 950-acre Kealakehe Planned Community (Donham 1990a). The project area was comprised of two parcels, which included all undeveloped land in Kealakehe Ahupua'a between Queen Ka'ahumanu Highway and Kealakaha Road and an adjacent 150-acre parcel in Keahuolū Ahupua'a, bounded by Palani Road to the east. A total of 53 sites, comprised of 840 features, were located within the entire project area, but only a single platform and six terraces were recorded in the Keahuolū parcel. The most common feature types in the project area were rock mounds and *pāhoehoe* excavation pits. Other common features included low-mounded walls, modified outcrops, small enclosures, and terraces. These types of features indicated that the area was a relatively intensive agriculture zone. Two radiocarbon dates, one for a habitation cave on the coast and one from an inland cave, were both dated to ca. A.D. 1430-1650.

In 1989, an archaeological inventory survey was conducted for the Queen Lili'uokalani Trust Property (Donham 1990b.). The project area of this study was comprised of six adjoining parcels in Keahuolū Ahupua'a. The approximately 1,100-acre parcel was located on the east side of Queen Ka'ahumanu Highway and included all lands between Palani Road to the south and the Keahuolū/Kealakehe boundary to the north. The eastern boundary of the inventory survey was on the western boundary of the proposed Kealakehe Planned Community project. A

total of 239 sites, including 1,810 features, were located with in the project area. The most common features types were modified blisters, modified outcrops and *pāhoehoe* excavation features. Other common features included terraces, platforms and small enclosures. Agricultural features accounted for 90% of all identified features.

In 1990, an archaeological inventory survey was conducted by PHRI for the proposed Palani Road Improvement Project (Jensen 1990). The project area was a linear corridor, 15 m (50 ft) wide, extending from elevations of 50 to 195 m (160 to 580 ft) AMSL. The corridor is adjacent to the eastern side of Palani Road, and the southern end of this corridor is approximately 100 m (328 ft) north of the present project area. A total of 32 sites, with 44 features, were located within the project area. The most common feature types were walls, mounds, and modified outcrops. Other common features included terraces, caves, and enclosures. Four radiocarbon dates were returned, which ranged from A.D. 1400-1640 to the present.

In 1990, an archaeological inventory survey was conducted for the proposed 950-acre Kealakehe Planned Community (Donham 1990a). The project area of this study was comprised of two parcels, which included all undeveloped land in Kealakehe Ahupua'a between Queen Ka'ahumanu Highway and Kalaka'a Road and adjacent land in Keahuolū Ahupua'a bounded by Palani Road. A total of 82 sites including 840 features were located within the project area. The most common feature types were rock mounds and *pāhoehoe* excavations. Other common features included low mounded walls, modified outcrops, small enclosures and terraces indicating relatively intensive agriculture in the area (Donham 1990a).

Five sites identified in Donham's (1990a) study are located in the vicinity of the current project area. Site 50-10-27-13243 is a complex consisting of a C-shape habitation feature, 2 hearths, and a stone wall. Site 50-10-27-13244 is a kerbstone trail. Site 50-10-27-13245 is a complex consisting of two stone cairns and a rock mound. Site 50-10-27-13246 is a complex consisting of historic roadbed, three linear rock mounds, two alignments, and a *pāhoehoe* excavation. Site 50-10-27-13248 is a stone wall. No further work was recommended for Sites-13243 and -13245. Further data collection was recommended for Sites – 13244, -13246, and -13248, though none has been carried out (Figures 4-9).

In 1993, PHRI (Goodfellow and Walker 1993) conducted a field inspection of a corridor for the Palani Road Turning Lane. Seventeen sites were recorded in the project area. Two of these sites were close to the area of construction impact, and it was decided to test the features to determine their significance. One feature contained a burial; it was left in place and a buffer zone was placed around the feature. Two radiocarbon dates were determined, A.D. 1410-1950 for AD 1440-1950, for two agricultural features.

In 1994, PHRI (Jensen and Head 1995) surveyed two 2.45-acre parcels for the proposed Keahuolū Reservoir. Two field inspections had been carried out in the project area previously (Rosendahl 1993a; Walker 1994). The project area ranged in elevation from 509 to 524 m (1,670 to 1,720) ft AMSL. Five sites with 31 component features were recorded. The majority of the features were determined to part of the Kona Field System and represented agricultural features or temporary field shelters adjacent to agricultural areas.

In 1994, PHRI (Wulzen et al. 1996) conducted an archaeological inventory survey of the Henry Street Extension, a road corridor on the south side of Palani Road at elevations of 70 to 85 m (230 to 280 ft) AMSL. Six sites previously identified during a field inspection of the project area (Rosendahl 1993b) and one newly identified site was recorded. Three of the sites were walls, not

built at the same time as, but constructed to connect to the Great Wall of Kuakini to form a polygon, which was probably used to enclose cattle. Additional subsurface excavations were conducted at one platform in the project area in 1994 by PHRI (Wulzen and Wolforth 1997). The platform was determined to have been used for temporary habitation. A radiocarbon date of post A. D. 1650 was determined for the feature.

In 1997 and 1998, PHRI (Henry et al. 1998) conducted an archaeological inventory survey of a 60-acre parcel, adjacent to the south side of Palani Road, at elevations of 48 to 134 m (160 to 440 ft) AMSL. The project area encompassed portions of previous PHRI project areas (Jensen 1990; Wulzen et al. 1996). Thirty-five sites were relocated or newly identified in the parcel. One agricultural feature was radiocarbon dated to A.D. 1410-1665, indicating the possible earliest use of this area during the pre-contact period. Two agricultural and two habitation features were dated to between A. D. 1635 and 1935.

Data recovery was conducted by PHRI in 1994 (Corbin 2001) in Block C: 400 by 400 ft study block located within the Queen Lili'uokalani Trust Lands first surveyed in 1989 (Donham 1990b). Sixteen test units were excavated at two sites. Three features were dated to A.D. 1400-1600, A.D. 1490-1900, and A.D. 1660-1950.

In 2002, an archaeological assessment was conducted for the proposed Kealaka'a Street Realignment Project (Tulchin and Hammatt 2002). The project area of this study consisted of a 213 m long by 31 m wide proposed extension to Kealaka'a Street on the northern boundary of Keahuolū Ahupua'a. Three sites originally identified by Donham (1990a), consisting of a kerbstone trail, an historic roadbed, and a wall, were relocated within the current project area (Figure 4-9).

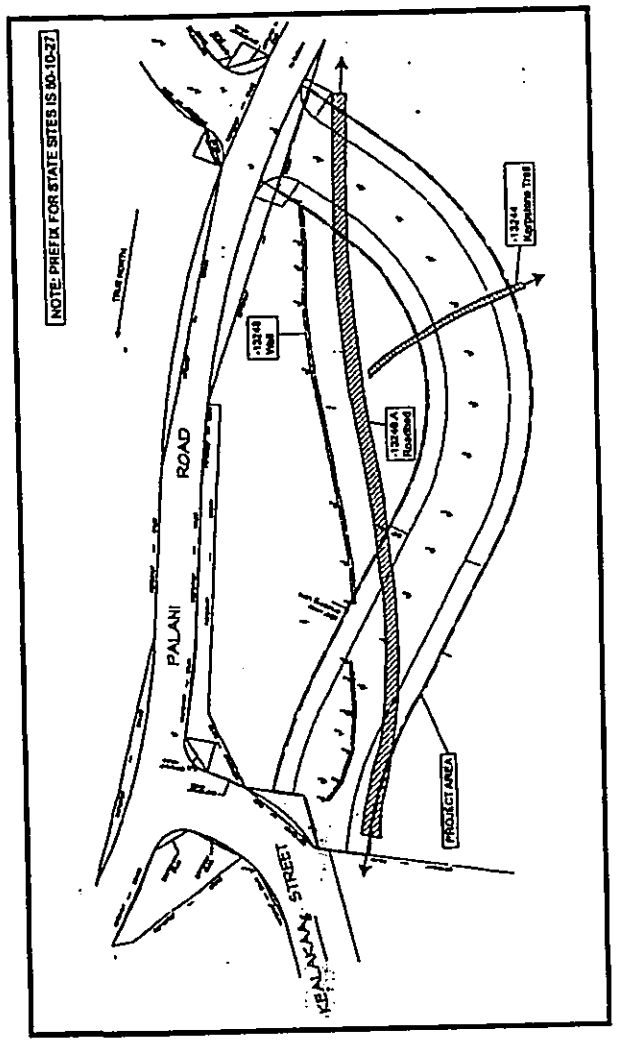

Figure 4. Site Plan of the Project Area Showing the Surveyed Wall location and approximate locations of the Old Palani Roadbed and Kerbstone Trail.

Figure 5. State Site 50-10-27-13244, Kerbstone Trail

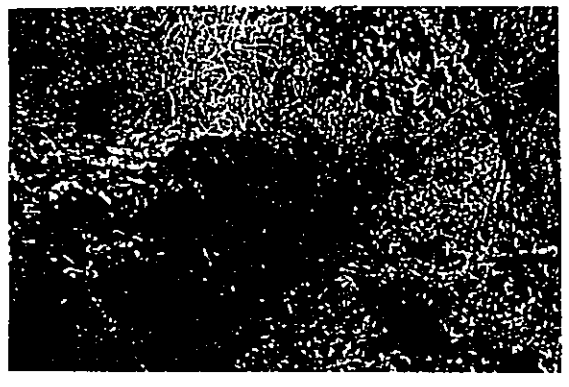

Figure 6. State Site 50-10-27-13246 Feature A, Roadbed

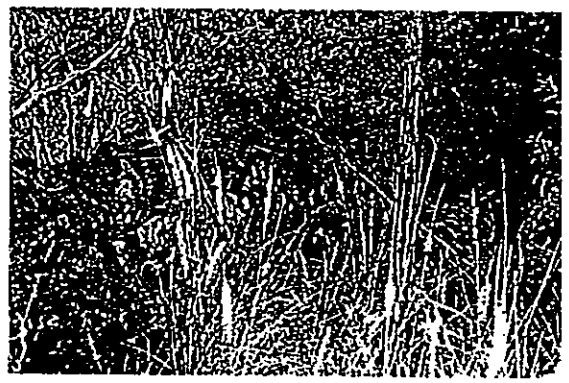

Figure 7. State Site 50-10-27-13248, Wall

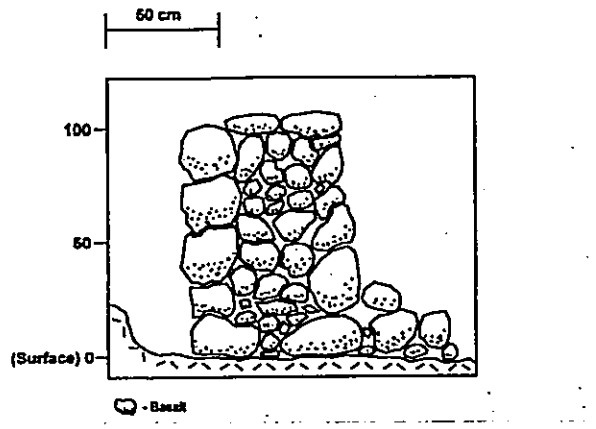

Figure 8. Profile of Collapsed Portion of Wall, State Site 50-10-27-13248

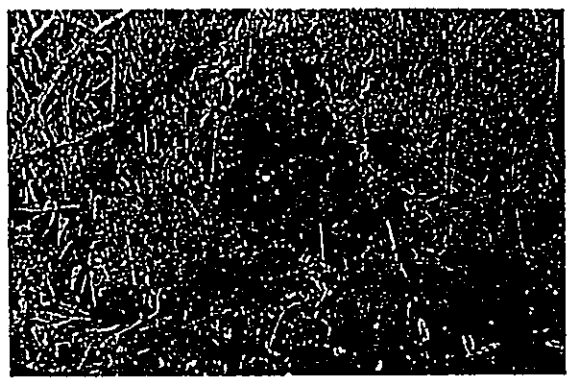

Figure 9. Profile of Collapsed Portion of Wall, State Site 50-10-27-13248

Table 1. Previous Archaeological Investigations In Keahuolū Ahupua'a

REFERENCE	LOCATION	DESCRIPTION AND RESULTS
Schilt 1984	Kuakini Highway Realignment Project - 26 *Ahupua'a* in Kona	Archaeological Study: A total of 134 sites were found in the road corridor; two sites, a cairn and a modified outcrop, were recorded in Keahuolū.
Soehren 1983	10 acre parcel in Lanihau and Keahuolū Ahupua'a	No archaeological features found in a 10-acre parcel at elevations of 240-300 m (800-1000 ft).
Rosendahl 1979	Three parcels in Keahuolū Ahupua'a	Reconnaissance Survey: Eight sites were recorded.
Donham 1990b	Kealakehe Planned Community, Kealakehe and Keahuolū Ahupua'a	Archaeological Inventory Survey: 840 features were recorded; density and type of features were noted in three elevation intervals.
Donham 1990a	Queen Liliu'okalani Trust Property, Keahuolū Ahupua'a	Archaeological Inventory Survey: 239 sites, comprising 1,810 features were recorded. Distributional patterns similar to those found at the Kealakehe Planned Community area were noted.
Jensen 1990	Palani Road Improvement Project, Keahuolū Ahupua'a	Archaeological Inventory Survey: 32 sites were recorded and four radiocarbon dates ranging from A.D. 1400-1640 to the present were determined
Goodfellow and Walker 1993	Queen Liliu'okalani Trust Lands Palani Road Turning Lane, Keahuolū Ahupua'a	Field Inspection: Seventeen sites were recorded. Data Recovery: Two sites, that were in danger of damage during construction of the Palani Turning Lane were tested. A human burial was found in one feature. Two radiocarbon dates, both ranging from about A.D. 1410 to present, were determined for an agricultural terrace. .

REFERENCE	LOCATION	DESCRIPTION AND RESULTS
Rosendahl 1993a Walker 1994 Jensen and Head 1995	Keahuolū Reservoir Site, Keahuolū Ahupua'a	Two Field Inspections and a subsequent Archaeological Inventory Survey: Five sites with 31 component features were recorded in two parcels in elevations from 509-52m m AMSL. The majority of the sites were determined to be agricultural features associated with the Kona Field System.
Rosendahl 1993b Wulzen et al. 1996 Wulzen and Wolforth 1997	Henry Street Extension, Keahuolū and Lanihau Ahupua'a	Field Inspection, Archaeological Inventory Survey, and Additional Testing were conducted at a road corridor. Seven sites were identified; four were connected and were related to cattle ranching in the historic period. One tested temporary habitation platform was dated post A. D. 1650.
Henry et al. 1998	Palani Road Corridor, Keahuolū Ahupua'a	Archaeological Inventory Survey: Thirty-five sites were relocated or newly identified. Radiocarbon dates for five features were determined, which suggested an initial use of the area for agriculture in A. D. 1410 to 1665.
Corbin 2001	QLT Lands Block C, Keahuolū Ahupua'a	
Tulchin and Hammatt 2002	Kealaka'a Street Realignment Project, Keahuolū Ahupua'a	Archaeological Assessment: Three sites, previously identified sites, previously recorded by Donham (1990b) were relocated.

IV. COMMUNITY CONSULTATION

Throughout the course of this study, an effort was made to contact and consult with Hawaiian cultural organizations, government agencies, and individuals who might have knowledge of and/or concerns about traditional cultural practices specifically related to the project area. This effort was made by letter, e-mail, telephone and in-person contact. In the majority of cases, letters along with a map of the project area were mailed with the following text:

> In collaboration with Kimura International Inc., Cultural Surveys Hawai'i is conducting a Cultural Impact Assessment for the proposed County of Hawai'i 700' Roadway Extension from Kealaka'a Road to Palani Road, Keahuolū (Kaiīua-Kona Town), North Kona Hawai'i (approximately 1.6 acres see, enclosed map). The purpose of the cultural study is to assess potential impacts to traditional cultural practices. This study is meant to satisfy requirements related to Chapter 343 HRS Articles IX and XII and Act 50 and their applicability to the project area.
>
> We are seeking your input regarding the following issues:
>
> - .General history and present and past land use of the study area.
> - .Knowledge of cultural sites which may be impacted by the project, e.g., historic sites, archaeological sites, burials, etc...
> - .Knowledge of traditional gathering practices in the study area-both past and present.
> - .Cultural associations with the study area through legends, traditional use or otherwise.
> - .Referrals of *kūpuna* who might be willing to share their cultural knowledge of the study area in general.
> - .Any other cultural concerns the community might have related to Hawaiian or other cultural practices in this area of Keahuolū, Hawai'i.

The individuals, organizations, and agencies we attempted to contact and the results of any consultation are presented in Table 2. The two individuals interviewed were both recommended by others on the contact list as having some personal knowledge, whether through residence, professional association, or cultural association. Cultural Surveys Hawai'i starts out with a list of community contacts and then follows up on their referrals.

Key:

Y= Yes

N= No

A= Attempted (at least 3 attempts were made to contact individual, with no response)

S= Some knowledge of project area

D= Declined to comment

U= Unable to contact, i.e., no phone or forwarding address, phone number unknown

OHA= Office of Hawaiian Affairs

OIBC= O'ahu Island Burial Council

SHPD= State Historic Preservation Department

DOE= Department of Education

Table 2. Community Contacts and Comments

Name	Affiliation	Contacted	Personal Knowledge (Y/N/S)	Comments
Alvarez, Bonnie	Alu Like Kūpuna Program	Y	N	Referred to Edith Kohoali'i
Auld, Ku'ulei	Kona Historical Society	Y	N	
Jernigan, Mark G.	Hawai'i State Legislature District 6 Representative	Y	N	
Kapeliela, Kana'i	SHPD	Y	N	
Kohoali'i, Edith	Kāne O Hale	Y	N	No input. They did not frequent the area.

MacDonald, Ruby	OHA	Y	Y	Referred to Kealakehe as Kealaikehe. The path of the graves. Her tūtū cared for the graves in Kealakehe.
Markell, Ka'iana	SHPD	Y	N	
Matsukawa, Nancy	Kealakehe Elementary School	Y	N	
Palacat, Bobo	Kealakehe Elementary School	Y	N	
Rho, Alvin	DOE	Y	N	Alvin's main concern is the safety of the school children that attend the elementary school.
Save-Souza, Gail	Queen Lili'uokalani Trust	Y	N	
Springer, Hannah	Kona Historical Society	Y	N	
Tanabe, Kaipo Misty	Kealakehe Community Youth Council	Y	Y	Misty was raised and lives in Keahuolū. She accompanied Elaine Watai.
Tyler III, Curtis	Hawai'i City Council District 8	Y	N	He is familiar with location. Referred to Elaine and Ben Walai.
Watai, Elaine	Kealakehe Neighborhood Watch	Y	Y	Elaine is familiar with the project area.
Whalen, Paul	Hawai'i State Legislature Senator District 3	Y	N	
Yank, Janice	Kona Hawaiian Civic Club	Y	N	

V. SUMMARIES OF KAMA'ĀINA INTERVIEWS

Two informants with knowledge of the planned project area were interviewed for this assessment. Elaine Pualani Watai participated in an informal face-to-face interview "talk story" session and Councilman Curtis Tyler III participated in a telephone interview with Cultural Surveys Hawai'i.

A. Elaine Pualani Watai

Interview Summary:

Elaine Pualani Watai was interviewed by Cultural Surveys Hawai'i on November 7, 2003. The interview took place at Kealakehe Elementary School adjacent to the proposed project area.

Mrs. Elaine Pualani was born in Punchbowl on the island of O'ahu on May 23, 1938. She presently lives with her husband Ben at the Jack Hall Memorial Housing (a low-income sub-division established by John Hall of the International Longshore and Warehouse Union in Hawai'i) in Kealakehe on the island of Hawai'i. Ben and Elaine moved to Kealakehe twenty years ago from Holualoa. Elaine is presently employed by the Salvation Army Family Intervention Services as a Youth Development Specialist. She also serves as the chairperson for the Kealakehe Neighborhood Community Watch.

Mrs. Watai specifically commented:

> I not familiar with any of the cultural practices or traditional *mo'olelo* (stories) of Keahuolū. I know the old Palani Road was used by cattle and horses in the early days. The people used the Hualalai Road before time. I believe this proposed project will benefit the community. It is necessary because the traffic is so bad in this area. I have been volunteering for six years at Kealakehe Elementary School. I stand out here everyday at the busiest hours to make sure that the children cross Kealaka'a Street safely. We as the Neighborhood Watch of Kealakehe have advocated for more crossing guards. The busiest hours in the morning are from about 7:45 am to 8:30 am. Afternoon traffic starts around 1:15 pm until 2:30 pm. For many years Kealakehe did not have this school. The children of the neighboring communities had to travel to different areas to attend school. The building of Kealakehe Elementary School pulled the community together. We are for anything that will help divert traffic in a smooth way. The new road is needed to help the traffic flow smoothly for those living in the Lili'uokalani Sub-division going in and out of Palihiolo and for those living in the community along Kealaka'a Road. We of the neighborhood community planted all of the native Hawaiian plants on the southeast corner of the schools property. We also knew as we planted these things that the project may have an effect on this area. Still we need the new road to alleviate traffic during busy hours.

B. Councilman Curtis Tyler III

Interview Summary:

A telephone interview was conducted with Councilman Curtis Tyler III by Cultural Surveys Hawai'i on October, 30, 2003.

Mr. Curtis was born in Kona in 1946. As a youth, Mr. Curtis grew up in Honua'ino, Keauhou Bay, and in the Kailua Town. He has always been interested in Hawaiian sites and stories. Curtis has been actively involved with the Hawaiian community and cultural resources stewardship efforts. He has been involved with many community organizations such as the Kona Hawaiian Civic Club and the Royal Order of Kamehameha. Mr. Curtis is presently the Councilman for District 8 which includes the *ahupua'a* of Keahuolū.

Mr. Curtis specifically commented:

> I have a copy of the Archaeological Assessment of 2002 and the Monitor Plan done by Cultural Surveys Hawai'i. You folks should talk to the *kūpuna* at Kane O Hale. I am very concerned for the students who have to cross Kealaka'a street safely. Once the realignment is finished there will remain a rectangular piece of land between Palani Road and Kealaka'a. It is my hope that the community will make it a Park with the right of way for both of these roads. It needs to be for the children. Today there is only a short portion remaining of the kerbstone trail. It continues *makai*. The old Palani Road was used for horses and cattle. In the old days the traffic ran *mauka* to *makai* with some laterals before power came in. I also think that this was common with most *ahupua'a*. As far as vegetation I know of the rare *aupaka* near the fringe of the proposed project area. One can still fine *lama* and the *alahe'e* in the dryland forest. I will give you the number to a Mr. and Mrs. Ben Watai. They are very knowledgeable about both Kealakehe and Keahuolū. In the future the undeveloped lands surrounding the proposed project area will all be housing.

VI. TRADITIONAL PRACTICES OF KEAHUOLŪ

This project seeks to assess traditional cultural practices as well as resources pertaining to the project area with in Keahuolū Ahupua'a. This section will convey the different types of traditional practices, cultural resources associated with Keahuolū. Excerpts from interviews are incorporated in sections where applicable.

A. Gathering for Plant Resources

Upland resources were utilized by Hawaiians for a multitude of purposes. Forest resources were gathered, not only for the basic needs of food and clothing, but for tools, weapons, canoe-building, house construction, dyes, adornment, hula, medicinal and religious purposes, just to name a few. No specific documentation was found in regards to gathering of plants within the proposed project area. The majority of the vegetation present now are invasive species. During this assessment there were no current practices related to traditional gathering rights identified.

B. Historic Properties

The proposed road realignment intersects three of five archaeological sites identified in Donham's (1990a) study located in the vicinity of the current project area. Site types include a kerbstone trail, a complex consisting of historic roadbed, and a stone wall.

C. Burials

No specific documentation was found regarding *'iwi* (bone) in the project area. However, Mrs. Ruby MacDonald mentioned "the proposed project area borders the *ahupua'a* of Kealakehe". She also states, "My *tūtū* referred to Kealakehe as Kealaikehe (the paths of the graves). My grandmother was the one which cared for the graves at Kealakehe". None of the interviewees mentioned any burials that would be affected by the proposed road realignment.

D. Trails

Trails served to connect the various settlements throughout the island of Hawai'i. Based on late 19th and 20th century maps the primary transportation routes *mauka/makai* correlated closely to the existing major roadways. The primary transportation route of Palani Road is east of the proposed road realignment. Both Elaine Watai and Mr. Curtis Tyler III mentioned, "The old Palani Road was mainly used for horses and cattle". Curtis also stated, "Today there is only a short portion remaining of the kerbstone trail and it continues *makai*". No other specific historical documentation was given for the kerbstone trail.

VII. RECOMMENDATIONS

This cultural impact assessment has attempted to look at the effects the 700 ft long and 100ft wide proposed extension to Kealaka'a Street may have on Hawaiian culture relating to specific practices and traditions. The specific topics or study included burials (there are not believed to be any), access to Hawaiian trails, native gathering practices and other archaeological and historical properties. There were no gathering practices identified within the proposed project area. The conclusion of the study is the proposed project will have minimal or no impact on Hawaiian culture, its practices and traditions.

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TRANSMITTAL

TO: Mr. Neal S. Fukumoto
Wesley R. Segawa & Associates
736 South St. #203
Honolulu, HI 96813

DATE SENT: April 25, 2003

FROM: Todd Tulchin

SUBJECT: *DRAFT* MONITORING PLAN IN SUPPORT OF THE PROPOSED KEALAKA'A STREET REALIGNMENT PROJECT, KEAHU'OLU AHUPUA'A, NORTH KONA DISTRICT, ISLAND OF HAWAI'I (TMK: 7-4-8:65)

REMARK: Please find enclosed a copy of the of the above DRAFT monitoring plan for your review. Also included are revised pages of the Archaeological Assessment of the same project. Revisions were made regarding the recommendations providing for the treatment of Site -13246 (old Palani Rd. roadbed), at the request of the SHPD for additional data collection. The changes in the assessment recommendations are also reflected in the monitoring plan. If you have any questions, comments, or suggestions, please contact us. With your permission, a copy of the monitoring plan and replacement pages to the archaeological assessment will be sent to the DLNR/SHPD for review and approval.

MAHALO!

DRAFT

MONITORING PLAN IN SUPPORT OF THE PROPOSED KEALAKA'A STREET REALIGNMENT PROJECT, KEAHU'OLU *AHUPUA'A*, NORTH KONA DISTRICT, ISLAND OF HAWAI'I

(TMK: 7-4-8:65)

by

Todd Tulchin, B.S.
and
Hallett H. Hammatt, Ph.D.

Prepared for
Wesley R. Segawa & Associates

Cultural Surveys Hawai'i, Inc.
April 2003

DRAFT

MONITORING PLAN IN SUPPORT OF THE PROPOSED KEALAKA'A STREET REALIGNMENT PROJECT, KEAHU'OLU *AHUPUA'A*, NORTH KONA DISTRICT, ISLAND OF HAWAI'I

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I. INTRODUCTION

A. Project Background

At the request of Wesley R. Segawa & Associates, Inc., Cultural Surveys Hawai'i, Inc. (CSH) has prepared this archaeological monitoring plan in support of the proposed Kealaka'a Street Realignment Project. The project area is located just *makai* (west) of Palani Road, between the intersections of Kealaka'a and Palihiolo Streets with Palani Road, Keahu'olu *Ahupua'a*, North Kona District, Island of Hawai'i (Figures 1 and 2). The extension of Kealaka'a Street to intersect with Palihiolo Street was deemed necessary to alleviate traffic congestion associated with Kealakehe School and the neighboring housing subdivision.

B. Scope of Work

The State Historic Preservation Division (SHPD) has completed a Chapter 6E-8 Historic Preservation Review of this project (LOG NO: 2003.0194; DOC NO: 0304PM01). The review letter notes:

> Your report indicates that you found three previously identified sites in the approximately 700 foot long and 100 foot wide proposed project area. These include a portion of the Site 13248 (wall), a portion of Site 13244 (a kerbstone trail), and part of Site 13246 (a roadbed believed to be the former Palani Road). The wall, which was found to run parallel to the roadbed, is now believed to be a cattle wall associated with the construction of the road. The wall was profiled and photographed during the assessment.
>
> The 1990 PHRI report recommended further data collection for Sites 13244, 13246, and 13248. We believe that the information collected during the assessment is sufficient to mitigate the adverse effects of the proposed street extension project on Sites 13248 and 13244. Further data collection is needed in our view for the roadbed (Site 13246), which will be cut in two places by the proposed project. We recommend the collection of data on the form and construction characteristics of the roadbed (e.g. type of fill). This information could be collected during monitoring, which was recommended in our June 28, 2002 memo. We believe that there is also a need to obtain more information about the age and history of the road. This could be done as part of the monitoring project.

C. Project Area Description

The project area of this study consists of the approximately 700 ft. (213 m) long and 100 ft. (31 m) wide proposed extension to Kealaka'a Street. The project area is located on the western slopes of Hualalai Volcano between 750 ft. (228 m) and 780 ft. (238 m) elevation (a.m.s.l.). The centerline and 100 ft wide grading limits of the proposed Kealaka'a St. extension were staked prior to the commencement of the assessment. The topography consists of both *a'a* and *pahoehoe* lava flows that gradually slope down from east to west. Average annual rainfall in the project area is approximately 40 in. (1000 mm) (Giambelluca *et al.* 1986).

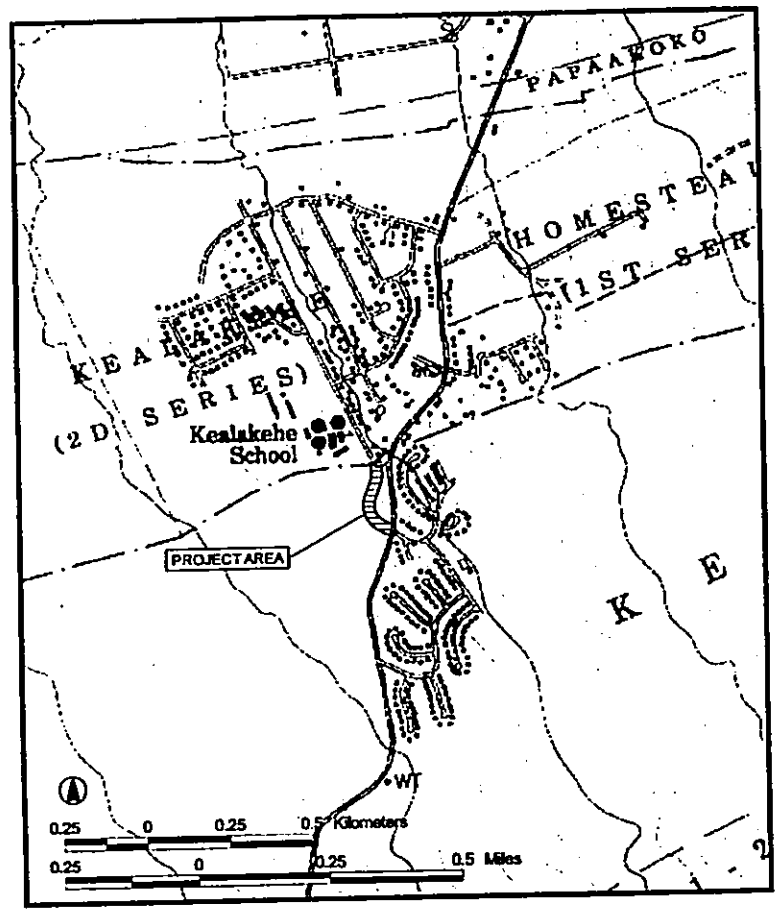

Figure 1 USGS Topographic Map, 7.5 Minute Series, Kailua Quad, Showing the Location of the Project Area

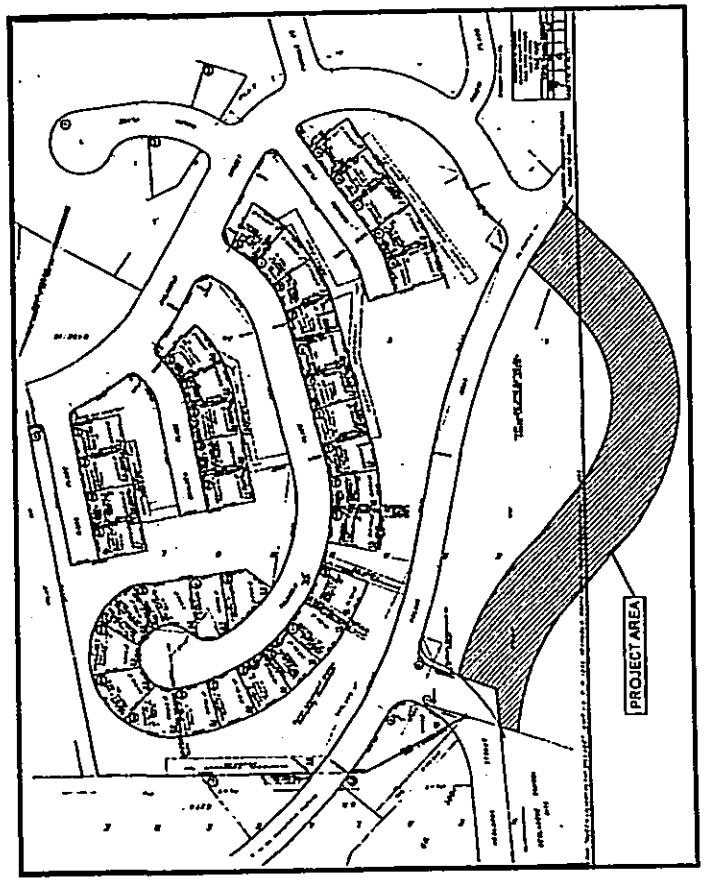

Figure 2 TMK 7-4-11 Showing the Location of the Project Area

Vegetation is dense throughout the project area, dominated by Christmas Berry (*Schinus terebinthifolius*). Additional plant species included sisal (*Agave sisalina*), air plant (*Bryophyllum pinnatum*), *koa haole* (*Leucaena leucocephala*), and various grasses.

II. HISTORICAL BACKGROUND

Keahu'olu *Ahupua'a* is located within a transitional area between two distinct ecological zones. Lands to the south of Keahu'olu, between Kailua Bay and Keauhou Bay, are generally recognized as the fertile agricultural district and population center of North Kona (Kirch 1985:166, Kelly 1983). Yet, the relatively dry Kekaha District of North Kona, characterized by coastal fishponds and barren lava inlands, lies just north of Kailua Bay, beginning at Honokohau *Ahupua'a*.

At the time of the Mahele of 1848, the entire *ahupua'a* of Keahu'olu was awarded to Anne Keohokalole. She later sold portions of her 15,000-20,000-acre grant to the government and other parties, with the remainder being passed on to her heir Lili'uokalani. Emerson, a nineteenth century government surveyor, described the inland portion of Keahu'olu as "rough *pahoehoe*, little vegetation," similar to descriptions of the dry and barren lands of Kekaha. David Kalākaua further described these *kula* lands as suitable for livestock grazing (Donham 1990a). No *kuleana* grants were awarded in the inland portion of Keahu'olu and there is little historic information concerning traditional Hawaiian land use in the area. However, the archaeological record suggests that dryland agriculture in areas designated grazing land was relatively intensive.

The forested upland area of Keahu'olu contained *kuleana* awards and was historically the primary agricultural zone of the *ahupua'a*. The most common crop described in the claims was taro, with coffee and potatoes also being mentioned. Emerson described the boundary between the inland and upland forested areas of Keahu'olu as "lava covered with scattering forest and dense masses of *ki* root" (Kelly 1983:58). Lands below the forest edge were described as "rocks covered with grass" (Kelly 1983:58). Emerson estimated the forest edge boundary to be at 750-800 ft. (228-244 m) elevation (a.m.s.l.) in Keahu'olu (see reproduction of Emerson's map in Kelly 1983:59). This places the current project area within this boundary zone between the barren inland and upland forest areas.

A sisal mill was constructed in Keahu'olu sometime during the late 1890s. The mill was located along the southern portion of the old Palani Road corridor at 430 ft. (131 m) elevation (a.m.s.l.), approximately 0.95 mi. (1.6 km) south of the current project area. Operating until 1924, the mill was surrounded by sisal fields covering an area of up to 1000 acres in Keahu'olu and Kealakehe *ahupua'a* (Jensen 1990). An area of concentrated sisal growth was located along a section of the old Palani Road at 600 ft. (183 m) elevation (a.m.s.l.), which was believed to be at too high an elevation to be associated with the mill itself, though it may have been related to sisal transport operations (Donham 1990b). The exact location and extent of the cultivation of sisal is not clear, though scattered clumps of sisal were observed within the current project area.

III. PREVIOUS ARCHAEOLOGICAL RESEARCH

In 1990, an archaeological inventory survey was conducted for the proposed 950-acre Kealakehe Planned Community (Donham 1990a). The project area of this study was comprised of two parcels, which included all undeveloped land in Kealakehe *ahupua'a* between Queen Ka'ahumanu Highway and Kealakaha Rd. and adjacent land in Keahu'olu *Ahupua'a* bounded by Palani Rd. The Keahu'olu portion of the study included the current project area.

A total of 82 sites including 840 features were located within the project area. The most common feature types were rock mounds and pahoehoe excavations. Other common features included low mounded walls, modified outcrops, small enclosures, and terraces indicating relatively intensive agriculture in the area (Donham 1990a).

Five sites identified in Donham's (1990a) study are located in the vicinity of the current project area. Site 50-10-27-13243 is a complex consisting of a C-shape habitation feature, 2 hearths, and a stone wall. Site 50-10-27-13244 is a kerbstone trail. Site 50-10-27-13245 is a complex consisting of two stone cairns and a rock mound. Site 50-10-27-13246 is a complex consisting of a historic roadbed, three linear rock mounds, two alignments, and a pahoehoe excavation. Site 50-10-27-13248 is a stone wall. No further work was recommended for Sites -13243 and -13245. Further data collection was recommended for Sites -13244, -13246, and -13248, though none was carried out.

An archaeological assessment of the current project area was carried out by CSH in November 2002 (Tulchin and Hammatt 2002). Three previously identified sites were observed to be within the grading limits of the current project area (Figure 3). Each of the three sites was located and described. Following the work completed as part of this assessment, no further work was recommended for Sites -13244 (kerbstone trail) and -13248 (cattle-type stone wall). Additional data collection was recommended for Site -13246 (former Palani Rd. roadbed).

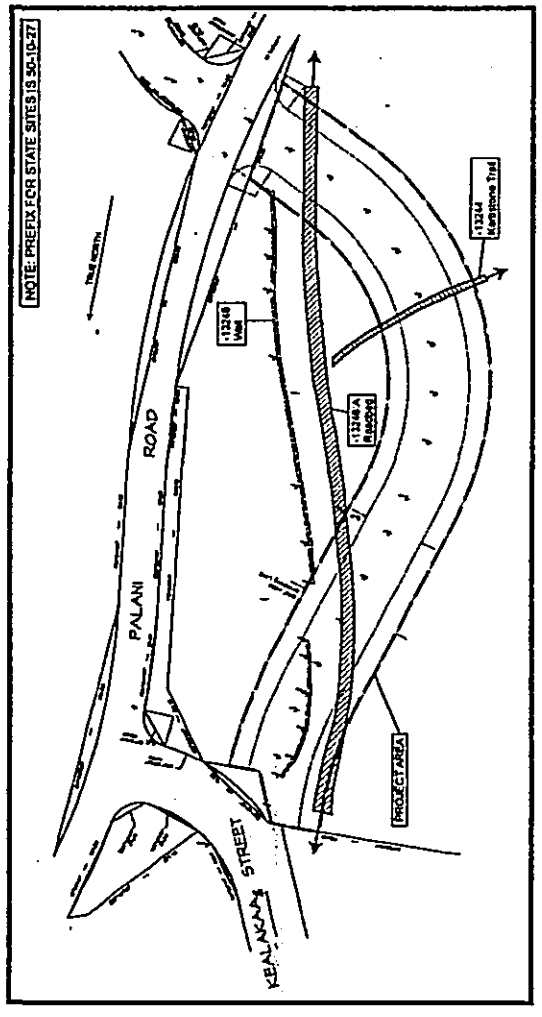

Figure 3 Site Plan of the Project Area Showing the Surveyed Wall Location and Approximate Locations of the Old Palani Roadbed and Kerbstone Trail.

IV. ARCHAEOLOGICAL MONITORING PROVISIONS

Based upon background research, the results of previous archaeological studies, and consultation with the SHPD, the following monitoring procedures are recommended for the Kealaka'a Street Realignment Project:

On-site archaeological monitoring is recommended during the initial grubbing and grading activities associated with the Kealaka'a St. Realignment Project. As previously stated in the Scope of Work, data must be collected by the monitoring archaeologist on the form and construction characteristics of Site -13246 (roadbed). This will include detailed descriptions of the materials (fill) used to construct the roadbed, photographs, and a scale profile. Following the initial grubbing and grading activities, on-call archaeological monitoring is recommended for the remainder of the project as the likelihood of encountering significant cultural materials will then be exceedingly low

Specific monitoring provisions are as follows:

1. Anticipated finds: During the initial ground disturbance activities associated with the Kealaka'a St. Realignment Project, the former Palani Rd. roadbed (Site -13246 Feature A) will be impacted in two locations along the 700 ft. long extension to Kealaka'a St (see Figure 3). Data will be collected by the monitoring archaeologist on the form and construction characteristics of the roadbed during and following the site being impacted by construction activities.

2. Treatment of remains encountered: If in the unlikely event that cultural deposits or human skeletal remains are encountered during ground disturbing activities in any portion of the project area, work will be stopped immediately in that area and the monitoring archaeologist will notify the State Historic Preservation Division/Department of Land and Natural Resources (SHPD/DLNR) of the nature of the discovery. Burial finds will be treated according to HRS 6E-43.6 Burial Law and Administrative Rules Chapter 13-300. SHPD/DLNR will determine the appropriate treatment of the remains and any associated cultural material in consultation with the Hawai'i Island Burial Council. No remains will be removed without an SHPD determination. If any associated materials are encountered with an inadvertently encountered human burial, all material will be treated according to SHPD's determination. If other cultural materials are encountered, not in association with a human burial — including an intact cultural layer, charcoal, artifacts or midden deposits, or any disturbed objects or deposits — then select sorted samples of charcoal, and bulk samples of midden material will be collected and standard documentation conducted (i.e. scale maps, photographs, detailed descriptions, and interpretation). If necessary, reburial plans will be made in consultation with SHPD/DLNR, the Hawai'i Island Burial Council, and any recognized descendants.

3. The monitoring archaeologist has the authority to halt construction in the immediate area of the find in order to carry out the plan. The monitoring archaeologist will make it clear to construction personnel with whom he/she is working that the archaeologist has the authority to halt work when it is appropriate.

4. Pre-Construction Conference between the archaeologist and the construction crew. As noted above, before work commences on the project, the monitoring archaeologist will explain to the contractor and construction crew what materials may be encountered and

the procedures to follow if archeological materials are encountered, as well as the role of the archaeologist. It will be made clear that the monitoring archaeologist must be on-site for initial ground disturbing activities within the project area.

The archaeologist shall emphasize that all historic finds, including objects such as bottles, are the property of the landowner(s) and may not be taken or otherwise disposed of without the written consent of the landowner(s) and the State Historic Preservation Division.

5. Laboratory Work. Laboratory analysis of recovered finds, if any, will include standard artifact and midden recording as follows: Artifacts will be documented as to provenience, weight, length, width, type of material, and presumed function. Midden will be sorted down to species level, when possible, then tabulated by provenience and presented in table form.

6. Schedule for Reports. A draft Archaeological Monitoring Report will be submitted within 90 days of completion of monitoring fieldwork to the SHPD/DLNR for review and approval.

7. Archiving of Collections. All burial materials will be given to SHPD/DLNR for storage. Materials not associated with burials will be temporarily stored at a facility designated by the SHPD/DLNR until an appropriate curation facility is available. Disposition of any cultural materials, including artifacts, not associated with a human burial shall occur only after written concurrence of the landowner and in consultation with the State Historic Preservation Division.

V. REFERENCES CITED

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1990a *Archaeological Inventory Survey, Kealakehe Planned Community Project Area, Lands of Kealakehe and Keahuolu, North Kona District, Island of Hawaii,* PHRI Report 652-010890, Prepared for State of Hawaii c/o Belt Collins & Associates, PHRI, Hilo, HI.

Donham, Theresa K.
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Giambelluca, Thomas W., Michael A. Nullet and Thomas A. Schroeder
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1990 *Archaeological Inventory Survey, Palani Road Improvements Project, Land of Keahuolu, North Kona District, Island of Hawaii,* PHRI, Hilo, HI.

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1985 *Feathered Gods and Fishhooks, An Introduction to Hawaiian Archaeology and Prehistory.* University of Hawaii Press, Honolulu, HI.

Tulchin, Todd and Hallett H. Hammatt
2002 *Archaeological Assessment in Support of the Proposed Kealaka'a Street Alignment Project, Keahu'olu Ahupua'a, North Kona District, Island of Hawai'i, (TMK: 7-4-8:65).* Cultural Surveys Hawai'i, Kailua, HI

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GOVERNOR OF HAWAII

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HISTORIC PRESERVATION DIVISION
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LAND
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April 10, 2003

Mr Douglas Borthwick
Cultural Surveys Hawaii
733 N Kalaheo Avenue
Kailua, Hawaii 96734

LOG NO: 2003 0194
DOC NO. 0304PM01

Dear Mr. Borthwick:

SUBJECT: Chapter 6E-8 Historic Preservation Review"Archaeological Assessment in Support of the Proposed Kealaka'a Street Realignment Project, Keahu'olu Ahupua'a, North Kona District, Island of Hawai'i" (Tulchin and Hammatt, 2002), TMK: (3) 7-4-8:65

Thank you for submitting a copy of the above referenced report for our review and comment The report was received in our office in December, 2002 We apologize for our late review and any inconvenience to you and your client, Wesley R Segawa & Associates, Inc.

The archaeological assessment of the proposed Kealaka'a Street Realignment Project followed the scope of work outlined in our memo of June 28, 2002 (Log No 29731; Doc No. 0206MS03) At the time of our initial consultation it appeared that there might be just one site in the proposed project area, a ranching era stone wall (Site 50-10-27-13248) found during the archaeological inventory survey of the Kealakehe Planned Community Project area by PHRI in 1990 Your report indicates that you found three previously identified sites in the approximately 700 foot long and 100 foot wide proposed project area These include a portion of the Site 13248 wall, a portion of Site 13244 (a kerbstone trail), and part of Site 13246 (a roadbed believed to be the former Palani Road). The wall, which was found to run parallel to the roadbed, is now believed to be a cattle wall associated with the construction of the road. The wall was profiled and photographed during the assessment.

The 1990 PHRI report recommended further data collection for Sites 13244, 13246, and 13248 We believe that the information collected during the assessment is sufficient to mitigate the adverse effects of the proposed street extension project on Sites 13248 and 13244 Further data collection is needed in our view for the roadbed (Site 13246), which will be cut in two places by the proposed project. We recommend the collection of data on the form and construction characteristics of the roadbed (e.g. type of fill). This information could be collected during monitoring, which was recommended in our June 28, 2002 memo. We believe that there is also a need to obtain more information about the age and history of the road. This could be done as

part of the monitoring project. The scope of work for the monitoring project should include archival and/or oral history research on the road

If you agree with our view regarding the need for further data collection at Site 13246 please add this recommendation to your report and resubmit it for our final review and approval. You can send in replacement pages for this part of the report if you like.

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

Aloha,

P. Holly McEldowney

P. Holly McEldowney, Acting Administrator
State Historic Preservation Division

c Chris Yuen, Hawaii County Planning Department
Kai Embler, Hawaii County Department of Public Works

PM ak

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
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KAPOLEI, HAWAII 96707

January 24, 2004

Dr. Hallett Hammatt, Ph.D.
Cultural Surveys Hawaii
733 North Kalaheo Avenue
Kailua, Hawaii 96734

LOG NO: 2004.0220
DOC NO: 401MM27

Dear Dr. Hammatt:

SUBJECT: **Chapter 6E-8 Historic Preservation Review. "Archaeological Monitoring Plan In Support of the Proposed Kealaka'a Street Realignment Project, Keahu'olu Ahupua'a, North Kona District, Hawaii" (Tulchin and Hammett, 2003) [County/DPW]**
TMK: (3) 7-4-8:65

Thank you for your letter dated December 17, 2003 with a copy of the above referenced report, prepared for Wesley R. Segawa & Associates, for our review and comment. The plan was received on December 19, 2003.

The plan was prepared in response to our April 10, 2003 review (Log No. 2003.0194; Doc No. 0304PM01) of the *Archaeological Assessment in Support of the Proposed Kealaka'a Street Alignment Project* (Tulchin and Hammatt, 2002) in which three sites previously identified by Peter Jensen in 1990 (*Archaeological Inventory Survey, Palani Road Improvements Project, Land of Keahuolu, North Kona District, Island of Hawaii, PHRI, Hilo*) were found. Two of the three sites were sufficiently documented in the assessment that no further work was needed (Site 13244, a portion of a kerbstone trail and Site 13248, a wall). Further data collection as part of a monitoring effort was found necessary for Site 13248, the old Palani Road.

During construction, the road bed will be crossed in two places. The plan adequately describes the anticipated findings and procedures to be implemented, and as such satisfies the requirements of HAR13-279, Rules Governing Standards for Archaeological Monitoring and Reports.

We understand that a limited amount of preliminary grubbing has taken place to facilitate geotechnical explorations. MaryAnne Maigret of our Hawaii Island office visited the property on January 6, 2004, accompanied by Mr. David Shideler of your firm and Mr. Robert Yonabu of Hawaii County Department of Public Works. They confirmed that the road would need to be crossed in one place, but that the portions selected for attention during monitoring would not be

affected. While your monitor was present during this work, the scope of work for this Monitoring Plan will be carried out during the actual realignment construction project.

We look forward to reviewing a Monitoring Report upon completion. If you have any questions about this review, please call either MaryAnne Maigret, Hawaii Island Assistant Archaeologist (808) 327-3690, or Dr. Patrick McCoy, Hawaii Island Archaeologist, (808) 692-8029.

Aloha,

P. Holly McElldowney

P. Holly McElldowney, Administrator
State Historic Preservation Division

c. Robert Yonabu, Hawaii County Dept. of Public Works

MM:ak

Appendix E

Section 106, National Historic Preservation Act Consultation

County of Hawaii DPW Letter to SHPD dated December 18, 2004
(Subj: Section 106 NHPA Consultation)

SHPD Letter to County of Hawaii County DPW dated November 9, 2004
(Subj: Section 106 NHPA Consultation)

Section 106 Letters to Native Hawaiian Organizations

OHA Letter to FHWA dated January 5, 2005

Ruby McDonald e-mail dated February 17, 2005

Edward Ayau (Hui Malama) e-mail dated March 8, 2005
Cultural Surveys Hawaii reply to Edward Ayau dated March 8, 2005

FHWA Letter to SHPD dated March 17, 2005
(Subj: Section 106 Determination of Effect)

SHPD Letter to FHWA dated May 2, 2005
(Subj: Section 106 Determination of Effect)

Harry Kim
Mayor

Bruce C. McClure
Director

Ronald K.Takahashi
Deputy Director

County of Hawaii
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December 18,2003

Ms. Holly McEldowney
State Historic Preservation Division
Department of Land and Natural Resources
601 Kamokila Blvd., Rm. 555
Kapolei, HI 96707

Attention: Dr. Patrick C. McCoy

Dear Ms. McEldowney:

Subject: **Section 106, NHPA Consultation**
Palani Road Safety Improvements, Kealaka'a Street Realignment
Keahu'olu, North Kona, Hawai'i
TMK (3) 7-4-8:65

The County of Hawai'i, on behalf of the U.S. Department of Transportation, Federal Highway Administration (FHWA), respectfully requests initiation of consultation under Section 106 of the National Historic Preservation Act for the above-referenced project.

An Environmental Assessment is currently being prepared for this project. The following is a project description and summary of archaeological work completed to date.

Project Description

Palani Road Safety Improvements, Kealaka'a Street Realignment is being proposed by the County of Hawai'i Department of Public Works and the FHWA. The project involves an extension of Kealaka'a Street from Kealakehe Elementary School to the intersection of Palihiolo Street and Palani Road (Figures 1 and 2). The intersection of the new road extension with Palani Road will be located south of the current Kealaka'a Street intersection to create a standard four-way intersection. The existing Kealaka'a Street intersection will be eliminated. The new roadway length is approximately 700 linear feet.

The Area of Potential Effect (APE) is the project construction area, as shown in Figure 2. Cultural resource studies will also take into account the wider project context, specifically, the Keahu'olu ahupua'a.

Need for the Project

The project is needed to improve roadway safety along this stretch of Palani Road. Currently, there are two T-intersections joining Palani Road within approximately 700 feet of each other. The Kealaka'a Street intersection, located on the west side of Palani Road, is the primary access road to and from Kealakehe Elementary School and adjoining residential neighborhoods. The Palihiolo Street intersection, located to the south, meets Palani Road on its east side. Palihiolo Street is the primary access to and from a residential subdivision. Both roads generate a high volume of traffic to and from Palani Road, a major mauka/makai arterial. Currently, the two offset intersections add to congestion on Palani Road and cause safety and visibility concerns. Left turn movements from Palani Road onto Kealaka'a Street back up traffic, and this has become a congested intersection.

The extension and realignment of Kealaka'a Street to join Palani Road opposite the existing Palihiolo Street intersection will create an efficient, four-way intersection with traffic signal, and improve overall traffic flow, roadway visibility and safety.

Project Background—Archaeological Issues

The project site was part of a previous archaeological inventory survey completed for another project in 1990. In late 2002, the County of Hawaii conducted a follow-up archaeological survey of the project site, as a part of this Palani Road Safety Improvements project.

1990 Archaeological Inventory Survey. A 1990 archaeological inventory survey (Donham 1990) covered a 950-acre area that included the current project area. Five sites identified in the 1990 study appeared to be located near the current project area. They were: Site 50-10-27-13243 (complex consisting of a C-shape habitation feature, two hearths and a stone wall); Site 50-10-27-13244 (kerbstone trail); Site 50-1027-13245 (two stone cairns and a rock mound); Site 50-10-27-13246 (historic roadbed, three linear rock mounds, two alignments, and a pahoehoe excavation); and Site 50-10-27-13248 (stone wall). No further work was recommended for Sites 13243 and 13245. Further data collection was recommended for Sites 13244, 13246 and 13248, though none was carried out.

2002 Archaeological Assessment. A follow-up archaeological assessment was conducted for the Palani Road Safety Improvements project (Tulchin and Hammatt, December 2002). The DLNR-SHPD was consulted prior to initiating this 2002 survey, and provided guidance on its scope of work. The field inspection confirmed the location of three previously identified sites within the 100-foot wide grubbing limits of the proposed roadway corridor (Figure 3). These were Site 50-1-27-13244 (kerbstone trail), Site 50-10-27-13246 Feature A (roadbed), and Site 50-10-27-13248 (wall). Each of the

sites was documented with photographs and only slight modifications to the earlier descriptions were made.

No additional sites were observed during the 2002 field inspection. The previous study (Tulchin and Hammatt, 2002) stated that Sites 13244, 13246 and 13248 are important for information content and further data collection was necessary (Donham 1990). Based on the assessment research DLNR-SHPD indicated that sufficient information has been collected and documented for sites –13248 and –13244 with further data collection for site –13246. (Log No.2003, 0194, Doc. No. 0304PM01) The requested data collection of the road bed (Site –13246) could be accomplished during archaeological monitoring, which was previously recommended, on June 28, 2002, by SHPD-DLNR.

A draft monitoring plan has subsequently been prepared. (Tulchin and Hammatt, 2003) A qualified archaeologist will monitor initial grubbing and grading, and data collection on Site 13246 will be accomplished during the monitoring work. The monitoring archaeologist will collect data on the form and construction characteristics of Site -13246 (roadbed), including descriptions of the materials (fill) used to construct the roadbed, photographs, and a scale profile. Following the initial grubbing and grading activities, and after consultation with DLNR-SHPD, on-call archaeological monitoring will be utilized.

Cultural Impact Assessment. A cultural impact assessment, in compliance with Act 50 is being prepared by Cultural Surveys Hawai'i for inclusion in the Environmental Assessment, and will be forwarded to you when complete.

Chapter 6E-8 Historic Preservation Review. Your office has completed a Chapter 6E-8 Historic Preservation Review of this project (LOG NO: 2003.0194; DOC NO: 0304PM01). The recommendations based on the review included archaeological monitoring with further data collection. To comply, the County of Hawai'i, through its representatives, has initiated the necessary documents--an Archaeological Assessment (Tulchin and Hammatt, 2002) and an Archaeological Monitoring Plan (Tulchin and Hammatt, 2003).

Request to Initiate Section 106, NHPA Consultation

We respectfully request that you review and comment on documentation pursuant to Section 106 of the NHPA specific to the proposed Palani Road Safety Improvements Project. If necessary, we would also like to arrange a meeting with Dr. Pat McCoy of your staff to coordinate Section 106 issues. At that time, we would also be able to provide a project briefing, if desired.

If you have other questions about the project, please contact Mr. Bob Yanabu, Project Engineer at (808) 961-8586.

Thank you for your cooperation in this matter.

Bruce C. McClure

Bruce C. McClure, P.E., Director
Department of Public Works

cc: Mr. Abe Wong, Federal Highway Administration
Wesley R. Segawa & Associates
Kimura International, Inc.

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NOV - 9 2004

Bruce C. McClure, P.E.
Director
Hawaii County
Department of Public Works
101 Pauahi Street, Suite 7
Hilo, Hawaii 96720

LOG NO: 2004.3227
DOC NO: 0410MM37

Dear Mr. McClure:

SUBJECT: National Historic Preservation Act, Section 106 Consultation, Palani Road Safety Improvements, Kealaka'a Street Realignment Keahu'olu, North Kona, Hawaii TMK: (3) 7-4-008:065

This letter responds to your request for consultation regarding this undertaking, in a letter dated December 18, 2003. We apologize for the lengthy delay in responding to your request and for any difficulties this may have created for your department.

We previously conducted a review of this project under Chapter 6E-8. We reviewed and approved both an archaeological assessment (Tulchin and Hammatt, 2002, by SHPD Log No. 2003.0194, Doc. No. 0304PM01)) and an archaeological monitoring plan (Tulchin and Hammatt, 2003, by SHPD Log No. 2004.0220, Doc No. 0401MM27).

Three historic properties are identified within the Area of Potential Effect (APE) for this undertaking. The sites were initially identified in 1990 (*Archaeological Inventory Survey, Palani Road Improvements Project, Land of Keahuolu, North Kona District, Island of Hawaii*, PHRI, Hilo) and later fully documented in the above mentioned assessment report. Sufficient documentation was provided such that no further work is recommended for Site 13244, a portion of a curbed trail and Site 13248, a wall. However, mitigation in the form of further data collection as a component of monitoring is the agreed-upon treatment for Site 13248, the old Palani Road bed.

We believe that if the data recovery through monitoring is implemented in accordance with the approved monitoring plan, we are likely to concur with a determination of "no adverse effect" for this undertaking.

If you have any questions about this review, please feel free to contact either MaryAnne Maigret in our Hawaii island office (808) 327-3690 or Dr. Sara Collins, Archaeology Branch Chief in Honolulu, at (808) 692-8026.

Sincerely,

Peter T. Young
State Historic Preservation Officer

MMJen

c: Christopher J. Yuen, Dir., Hawaii Planning, 101 Pauahi St, Ste 3, Hilo, HI 96720-3043

US Department of Transportation
Federal Highway Administration

Hawaii Division
Box 50206
300 Ala Moana Boulevard, Room 3-306
Honolulu, HI 96850

December 1, 2004

In Reply Refer To:
HEC-HI

Ms. Ruby McDonald
% Office of Hawaiian Affairs
P.O. Box 4098
Kailua-Kona, HI 96745

Dear Ms. McDonald:

Subject: Section 106, NHPA Consultation
Palani Road Safety Improvements, Kealaka'a Street Realignment
Keahu'olu, North Kona, Hawai'i

In accordance with Section 106 of the National Historic Preservation Act (NHPA) and the State of Hawai'i's Chapter 6E-8 Historic Preservation review/consultation, the Federal Highway Administration (FHWA) is requesting the Office of Hawaiian Affairs' assistance in identifying any archeological or cultural concerns in the project area. The following is a project description and summary of archaeological work completed to date.

Project Description

The County of Hawai'i, Department of Public Works and the FHWA are proposing safety improvements to Palani Road by realigning Kealaka'a Street. The project involves an extension of Kealaka'a Street from Kealakehe Elementary School to the intersection of Palihiolo Street and Palani Road (Figures 1 and 2). The new roadway length is approximately 700 linear feet. The intersection of the new road extension with Palani Road will be located south of the current Kealaka'a Street intersection. The project will create a new standard four-way intersection. The existing Kealaka'a Street intersection will either be closed or limited to right-turn movements only.

The Area of Potential Effect (APE) is the project construction area, as shown in Figure 2. (The Cultural Impact Assessment considered a wider project context, specifically, the Keahu'olu ahupua'a).

Need for the Project

The project is needed to improve roadway safety along this stretch of Palani Road. Currently, there are two T-intersections joining Palani Road within approximately 700 feet of each other. The Kealaka'a Street intersection, located on the west side of Palani Street, is the primary access road to and from Kealakehe Elementary School and adjoining residential neighborhoods. The Palihiolo Street intersection, located to the south, meets Palani Road on its east side. Palihiolo Street is the primary access to and from a residential subdivision. Both roads bring a high volume of traffic to and from Palani Road, a major mauka/makai arterial. Currently, the two offset intersections add to congestion on Palani Road and cause safety and visibility concerns. Left turn movements from Palani Road onto Kealaka'a Street back up traffic, and this has become a dangerous intersection.

The extension and realignment of Kealaka'a Street to join Palani Road opposite the existing Palihiolo Street intersection will create an efficient, four-way intersection with traffic signal, and improve overall traffic flow, roadway visibility and safety.

Project Background—Archaeological Issues

The project site was surveyed during an archaeological inventory completed for another project in 1990. In 2002 the County of Hawai'i conducted a follow-up Archaeological Assessment as a part of the Palani Road Safety Improvements project. The Department of Land and Natural Resources State Historic Preservation Division (DLNR-SHPD) recommended further data collection for one site (Site 50-10-27-13246, Feature A, roadbed) which will be crossed in two places by the proposed Kealaka'a Street extension. A draft Archaeological Monitoring Plan was prepared in 2003. A Cultural Impact Assessment was also completed for the project area.

1990 Archaeological Inventory Survey. A 1990 archaeological inventory survey (Donham 1990) covered a 950-acre area that included the current project area. Five sites identified in the 1990 study appeared to be located near the current project area. They were: Site 50-10-27-13243 (complex consisting of a C-shape habitation feature, two hearths and a stone wall); Site 50-10-27-13244 (kerbstone trail); Site 50-1027-13245 (two stone cairns and a rock mound); Site 50-10-27-13246 (historic roadbed, three linear rock mounds, two alignments, and a pahoehoe excavation); and Site 50-10-27-13248 (stone wall). No further work was recommended for Sites 13243 and 13245. Further data collection was recommended for Sites 13244, 13246 and 13248, though none was carried out at that time.

2002 Archaeological Assessment. A follow-up archaeological assessment was conducted for the Palani Road Safety Improvements project (Tulchin and Hammatt, Cultural Surveys Hawai'i, December 2002). The DLNR-SHPD was consulted prior to initiating this 2002 survey, and provided guidance on its scope of work. The field inspection confirmed the location of three previously identified sites within the 100-foot wide grubbing limits of the proposed roadway corridor (Figure 3). These were Site 13244 (kerbstone trail), Site 13246 Feature A (roadbed), and Site 13248 (wall). Each of the sites was documented with photographs and only slight modifications to the earlier descriptions were made.

No additional sites were observed during the 2002 field inspection. The previous study stated that Sites 13244, 13246 and 13248 are important for information content and further data collection was necessary (Donham 1990). Based on the 2002 Archaeological Assessment, DLNR-SHPD indicated that sufficient information has been collected and documented for Sites 13248 and 13244. However, further data collection was recommended for Site 13246, roadbed (letter dated April 10, 2003; Log No. 2003, 0194; Doc. No. 0304PM01). The SHPD noted that this could be accomplished during construction period monitoring.

Draft Archaeological Monitoring Plan, 2003. A draft Archaeological Monitoring Plan for the project was prepared (Tulchin and Hammatt, Cultural Surveys Hawai'i, April 2003) in response to the DLNR-SHPD comments.

During initial grubbing and grading, a qualified archaeologist will monitor the work and collect data on the form and construction characteristics of Site 13246. Data to be collected includes descriptions of the materials (fill) used to construct the roadbed, photographs, and a scale profile. Following the initial grubbing and grading activities, and after consultation with the DLNR-SHPD, on-call archaeological monitoring will be utilized.

The draft Monitoring Plan calls for a pre-construction conference between the archaeologist and construction crew, and outlines provisions for treatment of any remains encountered within the project area. It also requires submittal of an archaeological monitoring report, and specifies procedures for laboratory work and archiving of collections.

The DLNR-SHPD has reviewed the draft Monitoring Plan and notes that it "adequately describes the anticipated findings and procedures to be implemented, and as such satisfies the requirements of HAR 13-279, Rules Governing Standards for Archaeological Monitoring and Reports" (letter dated January 24, 2004, Log No. 2004.0220, Doc. No. 401MM27). A copy of the draft Monitoring Plan and SHPD correspondence will be included in the Draft Environmental Assessment.

Cultural Impact Assessment, 2003. A cultural impact assessment, in compliance with Act 50, has been completed (Cultural Surveys Hawai'i, December 2003). The specific topics of study included burials, access to Hawaiian trails, native gathering practices, and other archaeological and historical properties. Burials are not believed to be in the project area. There were no gathering practices identified within the proposed project area. The conclusion of the study is the proposed project will have minimal or no impact on Hawaiian culture, its practices and traditions. A copy of the Cultural Impact Assessment will be included in the Draft Environmental Assessment.

Copies of these documents will be available for review in the Draft Environmental Assessment. If you would like an advance copy of any of these documents, please contact me.

Request for Your Comments

In summary, as part of the Section 106, NHPA consultation process, we respectfully request any written comments you have pertaining to the subject project. Please transmit comments to us ***within 30 days upon receipt of this letter.*** If you need additional review time or would like additional information, please contact me at 541-2700, extension 308.

Sincerely yours,

Clifford L. Chew
Transportation Engineer

Encs: Location map
Site map
Archaeological and Cultural Resources map

By certified mail

cc: ✓Mr. Bob Yanabu, COH, DPW

US Department
of Transportation
Federal Highway
Administration

Hawaii Division
Box 50206
300 Ala Moana Boulevard, Room 3-306
Honolulu, HI 96850

December 1, 2004

In Reply Refer To:
HEC-HI

Mr. Kunani Nihipali
Hui Malama I Na Kupuna O Hawai'i Nei
P.O. Box 190
Haleiwa, HI 96712-0190

Dear Mr. Nihipali:

Subject: Section 106, NHPA Consultation
Palani Road Safety Improvements, Kealaka'a Street Realignment
Keahu'olu, North Kona, Hawai'i

In accordance with Section 106 of the National Historic Preservation Act (NHPA) and the State of Hawai'i's Chapter 6E-8 Historic Preservation review/consultation, the Federal Highway Administration (FHWA) is requesting Hui Malama I Na Kupuna O Hawai'i Nei's assistance in identifying any archeological or cultural concerns in the project area. The following is a project description and summary of archaeological work completed to date.

Project Description

The County of Hawai'i, Department of Public Works and the FHWA are proposing safety improvements to Palani Road by realigning Kealaka'a Street. The project involves an extension of Kealaka'a Street from Kealakehe Elementary School to the intersection of Palihiolo Street and Palani Road (Figures 1 and 2). The new roadway length is approximately 700 linear feet. The intersection of the new road extension with Palani Road will be located south of the current Kealaka'a Street intersection. The project will create a new standard four-way intersection. The existing Kealaka'a Street intersection will either be closed or limited to right-turn movements only.

The Area of Potential Effect (APE) is the project construction area, as shown in Figure 2. (The Cultural Impact Assessment considered a wider project context, specifically, the Keahu'olu ahupua'a).

BUCKLE UP AMERICA

Need for the Project

The project is needed to improve roadway safety along this stretch of Palani Road. Currently, there are two T-intersections joining Palani Road within approximately 700 feet of each other. The Kealaka'a Street intersection, located on the west side of Palani Street, is the primary access road to and from Kealakehe Elementary School and adjoining residential neighborhoods. The Palihiolo Street intersection, located to the south, meets Palani Road on its east side. Palihiolo Street is the primary access to and from a residential subdivision. Both roads bring a high volume of traffic to and from Palani Road, a major mauka/makai arterial. Currently, the two offset intersections add to congestion on Palani Road and cause safety and visibility concerns. Left turn movements from Palani Road onto Kealaka'a Street back up traffic, and this has become a dangerous intersection.

The extension and realignment of Kealaka'a Street to join Palani Road opposite the existing Palihiolo Street intersection will create an efficient, four-way intersection with traffic signal, and improve overall traffic flow, roadway visibility and safety.

Project Background—Archaeological Issues

The project site was surveyed during an archaeological inventory completed for another project in 1990. In 2002 the County of Hawai'i conducted a follow-up Archaeological Assessment as a part of the Palani Road Safety Improvements project. The Department of Land and Natural Resources State Historic Preservation Division (DLNR-SHPD) recommended further data collection for one site (Site 50-10-27-13246, Feature A, roadbed) which will be crossed in two places by the proposed Kealaka'a Street extension. A draft Archaeological Monitoring Plan was prepared in 2003. A Cultural Impact Assessment was also completed for the project area.

1990 Archaeological Inventory Survey. A 1990 archaeological inventory survey (Donham 1990) covered a 950-acre area that included the current project area. Five sites identified in the 1990 study appeared to be located near the current project area. They were: Site 50-10-27-13243 (complex consisting of a C-shape habitation feature, two hearths and a stone wall); Site 50-10-27-13244 (kerbstone trail); Site 50-1027-13245 (two stone cairns and a rock mound); Site 50-10-27-13246 (historic roadbed, three linear rock mounds, two alignments, and a pahoehoe excavation); and Site 50-10-27-13248 (stone wall). No further work was recommended for Sites 13243 and 13245. Further data collection was recommended for Sites 13244, 13246 and 13248, though none was carried out at that time.

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No additional sites were observed during the 2002 field inspection. The previous study stated that Sites 13244, 13246 and 13248 are important for information content and further data collection was necessary (Donham 1990). Based on the 2002 Archaeological Assessment, DLNR-SHPD indicated that sufficient information has been collected and documented for Sites 13248 and 13244. However, further data collection was recommended for Site 13246, roadbed (letter dated April 10, 2003; Log No. 2003, 0194; Doc. No. 0304PM01). The SHPD noted that this could be accomplished during construction period monitoring.

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During initial grubbing and grading, a qualified archaeologist will monitor the work and collect data on the form and construction characteristics of Site 13246. Data to be collected includes descriptions of the materials (fill) used to construct the roadbed, photographs, and a scale profile. Following the initial grubbing and grading activities, and after consultation with the DLNR-SHPD, on-call archaeological monitoring will be utilized.

The draft Monitoring Plan calls for a pre-construction conference between the archaeologist and construction crew, and outlines provisions for treatment of any remains encountered within the project area. It also requires submittal of an archaeological monitoring report, and specifies procedures for laboratory work and archiving of collections.

The DLNR-SHPD has reviewed the draft Monitoring Plan and notes that it "adequately describes the anticipated findings and procedures to be implemented, and as such satisfies the requirements of HAR 13-279, Rules Governing Standards for Archaeological Monitoring and Reports" (letter dated January 24, 2004, Log No. 2004.0220, Doc. No. 401MM27). A copy of the draft Monitoring Plan and SHPD correspondence will be included in the Draft Environmental Assessment.

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Copies of these documents will be available for review in the Draft Environmental Assessment. If you would like an advance copy of any of these documents, please contact me.

Request for Your Comments

In summary, as part of the Section 106, NHPA consultation process, we respectfully request any written comments you have pertaining to the subject project. Please transmit comments to us ***within 30 days upon receipt of this letter.*** If you need additional review time or would like additional information, please contact me at 541-2700, extension 308.

Sincerely yours,

Clifford L. Chew
Transportation Engineer

Encs: Location map
Site map
Archaeological and Cultural Resources map

By certified mail

cc: Mr. Bob Yanabu, COH, DPW

U.S Department of Transportation
Federal Highway Administration

Hawaii Division
Box 50206
300 Ala Moana Boulevard, Room 3-306
Honolulu, HI 96850

December 1, 2004

In Reply Refer To:
HEC-HI

Mr. Clyde Namu'o, Administrator
State of Hawaii
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813

Dear Mr. Namu'o:

Subject: Section 106, NHPA Consultation
Palani Road Safety Improvements, Kealaka'a Street Realignment
Keahu'olu, North Kona, Hawai'i

In accordance with Section 106 of the National Historic Preservation Act (NHPA) and the State of Hawai'i's Chapter 6E-8 Historic Preservation review/consultation, the Federal Highway Administration (FHWA) is requesting the Office of Hawaiian Affairs' assistance in identifying any archeological or cultural concerns in the project area. The following is a project description and summary of archaeological work completed to date.

Project Description

The County of Hawai'i, Department of Public Works and the FHWA are proposing safety improvements to Palani Road by realigning Kealaka'a Street. The project involves an extension of Kealaka'a Street from Kealakehe Elementary School to the intersection of Palihiolo Street and Palani Road (Figures 1 and 2). The new roadway length is approximately 700 linear feet. The intersection of the new road extension with Palani Road will be located south of the current Kealaka'a Street intersection. The project will create a new standard four-way intersection. The existing Kealaka'a Street intersection will either be closed or limited to right-turn movements only.

The Area of Potential Effect (APE) is the project construction area, as shown in Figure 2. (The Cultural Impact Assessment considered a wider project context, specifically, the Keahu'olu ahupua'a).

BUCKLE UP AMERICA

8085417104 HA HDV 03:19:46 p.m. 02-10-2005 7/7

cc ll

PHONE (808) 594-1888 FAX (808) 594-1865

RECEIVED
JAN 11 2005
HAWAII DIVISION

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPIOLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

HRD04/1143 B

January 5, 2004

Clifford L. Chew, Transportation Engineer
U.S. Department of Transportation, FHWA, Hawai'i Division
Box 50206
300 Ala Moana Boulevard, Room 3-206
Honolulu, HI 96850

RE: Request for Section 106 Review and Concurrence on proposed Palani Road Safety Improvements, Kealaka'a Street Realignment, Keahu'olu, North Kona, Hawai'i

Dear Clifford L. Chew,

The Office of Hawaiian Affairs (OHA) is in receipt of your December 1, 2004, request for comments on the above project, which would include the extension and realignment of Kealaka'a Street to join Palani Road. OHA offers the following comments.

OHA appreciates the requirement that an archaeological monitor will be on site during initial grubbing and grading, with on-call archaeological monitoring throughout the project. We will rely on your assurances that should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment and for the description of the cultural and archaeological surveys and assessments done to date. We have no further comments at this stage, but we reserve the right to comment further after reviewing the forthcoming Draft Environmental Assessment, which will contain a copy of the Cultural Impact Assessment. If you have further questions, please contact Heidi Guth at 594-1962 or e-mail her at heidig@oha.org.

Sincerely,

Clyde W. Nāmu'o
Administrator

Leslie Kurisaki

From: Ruby McDonald [rubym@oha.org]
Sent: Thursday, February 17, 2005 10:31 AM
To: lkurisaki@kimurainternational.com
Cc: amitchell@culturalsurveys.com
Subject: RE: Palani Rd--OHA letter

Aloha Leslie,

I concur with the OHA comment letter of January 5, 2005.

Mahalo
Ruby McDonald
CRC-West Hawaii

-----Original Message-----
From: Leslie Kurisaki [mailto:lkurisaki@kimurainternational.com]
Sent: Thursday, February 17, 2005 9:55 AM
To: Ruby McDonald
Cc: amitchell@culturalsurveys.com
Subject: Palani Rd--OHA letter

<<...>>
Dear Ruby:
As requested, here is the OHA comment letter.
Thank you.
Leslie

Leslie Kurisaki
Senior Planner
Kimura International, Inc.
1600 Kapiolani Boulevard, Suite 1610
Honolulu, Hawaii 96814
(808) 944-8848, fax (808) 941-8999

U.S Department of Transportation
Federal Highway Administration

Hawaii Division
Box 50206
300 Ala Moana Boulevard, Room 3-306
Honolulu, HI 96850

March 17, 2005

In Reply Refer To:
HEC-HI

Ms. Melanie Chinen, Administrator
State Historic Preservation Division
Department of Land and Natural Resources
601 Kamokila Boulevard, Room 555
Kapolei, HI 96707

Dear Ms. Chinen:

Subject: Section 106, National Historic Preservation Act
Request for Concurrence on Determination of Effect
Palani Road Safety Improvements, Kealaka`a Street Realignment
Keahu`olu, North Kona, Hawai`i, TMK (3) 7-4-8:65

In accordance with Section 106 of the National Historic Preservation Act, the Federal Highway Administration (FHWA) requests your concurrence with its "no adverse effect" determination for the above-referenced project.

A letter initiating the Section 106 consultation and describing the project was sent to your office by the Hawaii County Department of Public Works (DPW) on December 18, 2003. That letter noted that three historic properties were identified within the Area of Potential Effect (APE): Site 50-1-27-13244 (kerbstone trail), Site 50-10-27-13246 Feature A (roadbed), and Site 50-10-27-13248 (wall). In previous consultations, the State Historic Preservation Division (SHPD) requested further data collection for Site 13246, to be accomplished during archaeological monitoring. An archeological monitoring plan (Tulchin & Hammatt, 2003) was submitted to the SHPD in December 2003, and approved by your office on January 24, 2004 (LOG No. 2004.0220, DOC No. 401MM27).

In a Section 106 response letter to Mr. Bruce McClure, Hawaii County DPW, dated November 9, 2004 (LOG No. 2004.3227, DOC No. 0410MM37; Attachment 1), Mr. Peter Young stated, *"If the data recovery through monitoring is implemented in accordance with the approved monitoring plan, we are likely to concur with a determination of 'no adverse effect' for this undertaking."*

Section 106 consultation letters were sent to the Office of Hawaiian Affairs (OHA), Hui Malama I Na Kupuna O Hawai'i Nei, and Ms. Ruby McDonald. Comments have been received and are attached. The comment letter from OHA, dated January 5, 2004 *(sic)*, stated, *"OHA appreciates the requirement than an archaeological monitor will be on site during initial grubbing and grading, with on-call archaeological monitoring throughout the project" (Attachment 2).* Ms. Ruby McDonald concurred with the OHA comments in a February 17, 2005, e-mail (Attachment 3).

Mr. Edward Ayau from Hui Malama provided general comments in a March 8, 2005, e-mail (Attachment 4). He requested archaeological and cultural monitoring, and compliance with standard procedures in the event of inadvertent discovery of human remains and artifacts. As stated in a March 8 e-mail response to Mr. Ayau from Cultural Surveys Hawaii (Attachment 5), the archaeological monitoring plan approved by the SHPD will be followed. Hui Malama's request for cultural monitoring has been forwarded to the County of Hawaii, but there is no State or County cultural monitoring program in effect at this time. The SHPD and the Hawai'i Island Burial Council will be consulted in the case of inadvertent finds.

In summary, the FHWA, in consultation with the SHPD and the above-mentioned Native Hawaiian organizations, has determined that with the data recovery program implemented in accordance with the approved monitoring plan, the undertaking will have "no adverse effect" on historic properties.

We respectfully request your concurrence with this determination. Should you have any questions, please do not hesitate to call me at 541-2700, extension 308.

Sincerely,

Clifford L. Chew
Transportation Engineer

Attachments

cc: Mr. Bob Yanabu, COH, DPW

bc: Mr. Neal Fukumoto, Wesley R. Segawa & Associates, Inc.
✓Mr. Glenn Kimura, Kimura International, Inc.

8085412704 FHWA HDIV 12:04:17 p.m. 05-10-2005 2/4

LINDA LINGLE
GOVERNOR OF HAWAII

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

DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

MAY -2 2005

Mr. Clifford L. Chew
Federal Highway Administration, Hawaii Division
Box 50206
300 Ala Moana Blvd., Room 3-306
Honolulu, Hawaii 96850

RECEIVED
MAY 04 2005
HONOLULU DIVISION

LOG NO: 2005.0862
DOC NO: 0504MM27

Dear Mr. Chew:

SUBJECT: National Historic Preservation Act (NHPA), Section 106 Request for Concurrence on Determination of "No Adverse Effect", Palani Road Safety Improvements, Kealaka'a Street Realignment [Federal/Department of Transportation]
Kealakekua, North Kona District, Hawaii Island
TMK: (3) 7-4-008:065

Thank you for your letter dated March 17, 2005, in which you request our concurrence with a determination of "no adverse effect" for this undertaking.

Three historic properties were identified in the Area of Potential Effect (APE) for this undertaking. They are Site 50-10-27-13214 (a kerbstone trail), Site 50-10-27-13246, Feature A (a roadbed) and Site 50-10-27-13248 (a wall). To mitigate the adverse effect of this undertaking on these historic properties, our division recommended data recovery through monitoring for Site 13246, and subsequently approved an Archaeological Monitoring Plan (Tulchin and Hammatt, 2003) on January 24, 2004 (Log No. 2004.0220, Doc No. 0401MM27).

Your letter indicates that consultations with the Office of Hawaii Affairs (OHA), Hui Malama I Na Kupuna O Hawai'i Nei and Ms. Ruby McDonald were completed. Agreement with the archaeological monitoring was received in comments from all three parties, with an additional request from Hui Malama that cultural monitoring be included in the mitigation program. Your agency has forwarded this request to Hawaii County.

You have determined that with data recovery through monitoring, implemented in accordance with the approved Archaeological Monitoring Plan, the undertaking will have "no adverse effect" on historic properties. We concur with your determination.

Aloha,

Peter T. Young
State Historic Preservation Officer

MM:jen

Appendix F

Final Traffic Study for Palani Road Improvements at Kealakaa Street
Julian Ng, Inc.
February 20, 2004

Traffic Study for Palani Road Improvements at Kealakaa Street

February 20, 2004 DRAFT

Introduction

The County of Hawaii has proposed to construct improvements to Palani Road in Kailua-Kona to improve operations at its intersection with Kealakaa Street. The improvements will include the relocation of the Kealakaa Street connection to a new location opposite Palihiolo Street to create a single cross-intersection with traffic signals to replace two unsignalized "T"-intersections. This traffic study uses available traffic data to compare existing intersection conditions with future conditions expected with the improvement.

Levels of service are used to describe intersection conditions. Levels of service are determined from delays due to stop controls or the need to yield to conflicting traffic at unsignalized intersections, or due to red lights at signalized intersections. Criteria for levels of service are:

Delay (per vehicle) at Unsignalized Intersections	Delay (per vehicle) at Signalized Intersections	Level of Service
up to 10 seconds	Up to 10 seconds	Level of Service A
> 10 and < 15 seconds	> 10 and < 20 seconds	Level of Service B
> 15 and < 25 seconds	> 20 and < 35 seconds	Level of Service C
> 25 and < 35 seconds	> 35 and < 55 seconds	Level of Service D
> 35 and < 50 seconds	> 55 and < 80 seconds	Level of Service E
> 50 seconds	> 80 seconds	Level of Service F

Reference: *Highway Capacity Manual 2000*

The analyses used traffic count data and estimates from the State of Hawaii, Department of Transportation, Highways Division, for year 2002. While the State count data and other traffic estimates do not include counts of turning movements at intersections, sufficient data were available to develop reasonable estimates of turning volumes to conduct analyses for the purposes of this study.

Existing Traffic

Palani Road is a two-lane roadway that connects Kailua village with the upper Kona area north of the village. Near Kealakaa Street, Palani Road is oriented in a northeast (mauka) to southwest (makai) direction. Kealakaa Street forms a "T"-intersection with Palani Road, with the stem of the "T" in the northwesterly direction. Kealakaa Street serves a residential area that includes two schools. Palihiolo Street is a local residential street forming a "T"-intersection approximately 700 feet southwest of Kealakaa Street, with the stem in the southeasterly direction.

The State Highways Division has estimated that the average daily traffic volumes in 2002 were 15,454 vehicles per day on the mauka portion of Palani Road (northeast of Kealakaa Street) and 17,080 vehicles per day on the makai portion. The State estimates of average daily traffic volumes for year 2002 and other recent years are shown in Table 1. Daily traffic volumes on Palani Road have been increasing at an average rate of approximately 2% per year.

Table 1 – Average Daily Traffic on Palani Road

	1994	1996	1998	2000	2002
Mauka of Kealakaa Street	11,734	11,365	13,886	14,813	15,454
Makai of Kealakaa Street	14,810	13,516	15,544	16,631	17,080

Source: State of Hawaii, Department of Transportation, Highways Division, *Traffic Summary – Island of Hawaii 2002.*

The State Highways Division conducted traffic counts at various locations in late-May and early-June of 2002. Table 2 summarizes the 24-hour totals and the peak hour volumes at the nearest locations.

Table 2 – Traffic Count Data (2002)

	Kealakaa Street west of Palani Road		Palani Road 1.0 mile north of Queen Kaahumanu Highway		Palani Road south of Old Mamalahoa Highway	
	Westbound	Eastbound	Southbound	Northbound	Southbound	Northbound
24-hour total	2,786	3,051	10,412	9,742	7,287	6,692
AM Peak Hour	292	534	1,256	612	947	427
PM Peak Hour	291	215	766	1,022	610	634

Source: State of Hawaii, Department of Transportation, Highways Division, *Traffic Summary – Island of Hawaii 2002.*

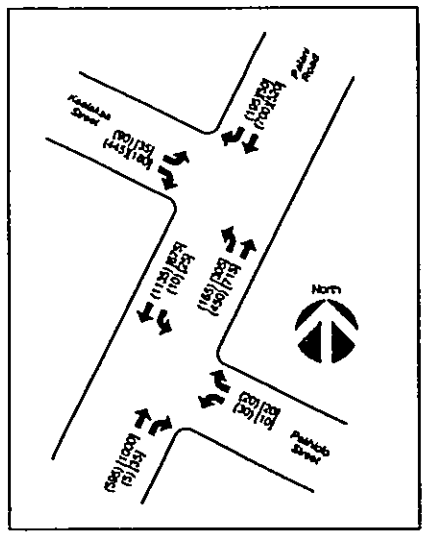

Figure 1 – Existing (2002) Traffic Assignments

The traffic count data were used to estimate peak hour traffic volumes at the existing Palani Road intersections with Kealakaa Street and with Palihiolo Street, and are shown in Figure 1.

Traffic approaching the intersections on Kealakaa Street and on Palihiolo Street are controlled by stop signs. Left turns from Palani Road yield to oncoming traffic.

Table 3 shows the results of analyses of these intersections using the procedure for stop controlled intersections from the *Highway Capacity Manual*. Average delay per vehicle and the correspooding level of service for each controlled approach are shown.

Table 3 – Existing Intersection Peak Hour Conditions

	AM Peak Hour		PM Peak Hour	
	Approach delay (sec.)	Level of Service	Approach delay (sec.)	Level of Service
Palani Road and Kealakaa Street (unsignalized)				
Left turn from Kealakaa Street	167.4	F	102.4	F
Right turn from Kealakaa Street	113.7	F	18.4	C
Left turn to Kealakaa Street	11.5	B	10.1	B
Palani Road and Palihiolo Street (unsignalized)				
Left turn to Palihiolo Street	8.8	A	10.9	B
Shared lane from Palihiolo Street	54.8	F	34.7	D

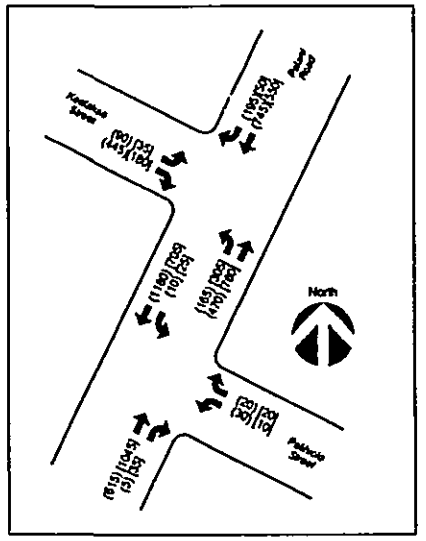

Figure 2 – Future (2005) Traffic Assignments

In the short term, traffic on Palani Road has been increasing at an average rate of about 2% per year. Since no development has been identified in the areas served by Kealakaa Street and by Palihiolo Street, only through traffic on Palani Road is expected to increase; by year 2005; these volumes would be about 6% higher than in year 2002. Figure 2 shows the traffic assignments for year 2005.

Table 4 shows the results of analyses of these intersections using the procedure for stop controlled intersections from the *Highway Capacity Manual*. Average delay per vehicle and the corresponding level of service for each controlled approach are shown.

Table 4 – Future (2005) Intersection Peak Hour Conditions (No Build)

	AM Peak Hour		PM Peak Hour	
	Approach delay (sec.)	Level of Service	Approach delay (sec.)	Level of Service
Palani Road and Kealakaa Street (unsignalized)				
Left turn from Kealakaa Street	224.0	F	243.2	F
Right turn from Kealakaa Street	140.5	F	16.0	C
Left turn to Kealakaa Street	11.9	B	10.7	B
Palani Road and Palihiolo Street (unsignalized)				
Left turn to Palihiolo Street	8.9	A	11.2	B
Shared lane from Palihiolo Street	63.2	F	38.5	E

The results of the capacity analysis show increased delays to traffic turning from or into the side streets as traffic on Palani Road increases.

Proposed Project

The proposed project will relocate the connection to Kealakaa Street farther south so that it is opposite Palihiolo Street, changing the existing configuration along Palani Road of two "T"-intersections to a single cross-intersection, which will be signalized. Separate lanes will be provided on Palani Road for left turn and right turns. In addition, the Kealakaa Street approach will have a separate right turn lane for traffic wishing to proceed onto Palani Road in the makaibound direction. With signalization, Palihiolo Street can be expected to carry more of the traffic generated by the Queen Liliuokalani Village subdivision; for the purpose of determining needed improvements at the intersection, traffic estimates for the entire subdivision were used. Figure 3 shows the traffic assignments for 2005 peak hours with the proposed improvement.

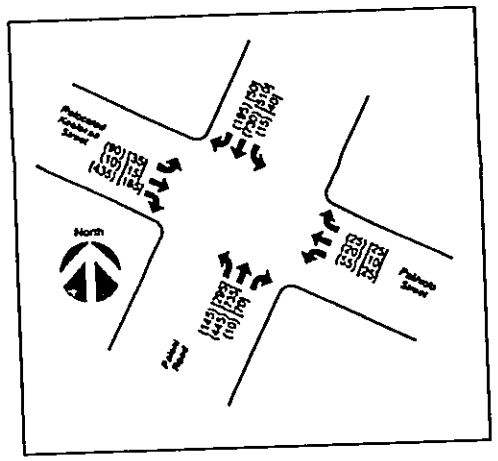

Figure 3 – Future (2005) Traffic Assignments with Improvements

Table 5 shows the results of an analysis of the signalized intersection operating with a maximum cycle length of 120 seconds. Signals will result in acceptable conditions for all approaches.

Table 5 – Signalized Intersection (2005) Levels of Service

	AM Peak Hour		PM Peak Hour	
	Approach delay (sec.)	Level of Service	Approach delay (sec.)	Level of Service
Kealakaa Street (eastbound approach)	42.9	D	36.0	D
Palihiolo Street (westbound approach)	53.2	D	51.1	D
Palani Road (southbound left turns)	43.3	D	44.7	D
Palani Road (southbound through)	28.4	C	23.7	C
Palani Road (northbound left turns)	54.7	D	53.6	D
Palani Road (northbound through)	19.3	B	22.6	C
Overall intersection	31.9	C	29.7	C

In the longer term, traffic on Palani Road can be expected to continue to increase until alternative roadways connecting Kailua village and the upper Kailua area are completed. The extension of Kealakehe Parkway to Mamalahoa Highway is listed in the long-range plan as a "Tier 2" project to be implemented between 2006 and 2010. Traffic volumes on Palani Road, therefore, are assumed to increase steadily to 2010, then remain at the same level to 2025. The peak hour traffic assignments at the intersection for 2025 peak hours are shown in Figure 4 (these are also applicable for years 2010, 2015, and 2020). Intersection levels of service for these assignments are shown in Table 6.

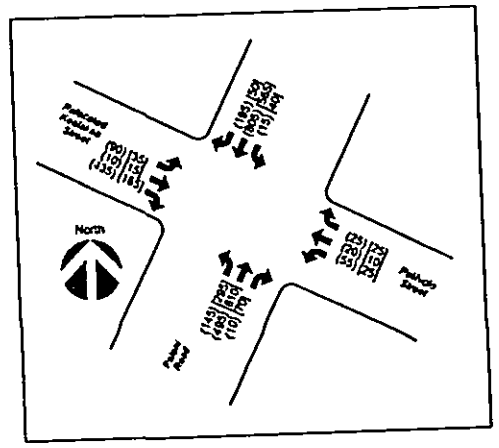

Figure 4 – Future (2025) Traffic Assignments with Improvements

Table 6 – Signalized Intersection (2025) Levels of Service

	AM Peak Hour		PM Peak Hour	
	Approach delay (sec.)	Level of Service	Approach delay (sec.)	Level of Service
Kealakaa Street (eastbound approach)	42.9	D	36.0	D
Palihiolo Street (westbound approach)	53.2	D	51.1	D
Palani Road (southbound left turns)	43.3	D	44.7	D
Palani Road (southbound through)	33.1	C	26.1	C
Palani Road (northbound left turns)	54.7	D	53.6	D
Palani Road (northbound through)	20.5	C	26.1	C
Overall intersection	33.4	C	31.2	C

One alternative being considered is the removal of the southbound right turn from the signalized intersection, by leaving open a portion of the existing Kealakaa Street and using it for the southbound right turns. Traffic on Kealakaa Street from the traffic signal would be controlled by a stop sign as the right turn traffic will have the right-of-way where the two flows meet. The results of the unsignalized intersection analyses of this stop are shown in Table 7.

Table 7 – Future (2025) Intersection Peak Hour Conditions (Alternative)

	AM Peak Hour		PM Peak Hour	
	Approach delay (sec.)	Level of Service	Approach delay (sec.)	Level of Service
Kealakaa Street (unsignalized)				
Left turn to Kealakaa Street	16.3	C	12.0	B

The proposed alternative would operate satisfactorily.

Storage Lengths for Left Turn Lanes – The proposed left turn lanes of Palani Road should be designed for the expected peak traffic volumes. Peak volume for the southbound left turn is 40 vehicles per hour in the PM Peak Hour; peak volume for the northbound left turn is 295 vehicles per hour in the PM Peak Hour. The minimum storage length for a left turn lane is one-and-one-half times the average number of vehicles that would store per cycle. Storage capacities should be:

Southbound: 1.5 x 40 vehicles per hour/30 cycles per hour = 2 vehicles
Northbound: 1.5 x 295 vehicles per hour/30 cycles per hour = 15 vehicles

Typical storage lengths provided are 25 feet for each car and 50 feet for each truck. A minimum storage for one car and one truck should be provided; the southbound left turn lane should have 75 feet of storage length. The northbound storage length should be 400 feet (14 cars plus 1 truck).

Conclusions and Recommendations

The proposed relocation of Kealakaa Street will convert two "T"-intersections into one cross-intersection with Palani Road. The proposed improvements will include separate turn lanes on Palani Road and traffic signals at this new intersection. Capacity analyses of the future signalized intersection show that there will be adequate capacity to provide acceptable levels of service at the intersection.

Separate turn lanes on Palani Road should be designed with the appropriate tapers and storage lengths. Storage lengths recommended are 75 feet southbound (left turns to Palihiolo Street) and 400 feet northbound (left turns to relocated Kealakaa Street).

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