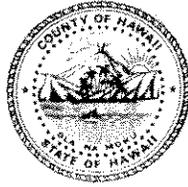


Stephen K. Yamashiro  
Mayor



Jiro A. Sumada  
Deputy Chief Engineer

## County of Hawaii

### DEPARTMENT OF PUBLIC WORKS

25 Aupuni Street, Room 202 • Hilo, Hawaii 96720-4232  
(808) 961-8321 • Fax (808) 961-8630

November 15, 1999

99 NC 18 P241

QUAL.

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

RE: **ACCEPTANCE NOTICE FOR MAMALAHOA HIGHWAY BYPASS ROAD**  
**TAX MAP KEYS: (3) PORTIONS OF 8-1-9:03, 04, 08, 09, 33, 34; 8-1-7:01, 45, 54, 55; 8-1-4:01, 03, 54; 7-9-12:04, 05, 06, 09; 7-9-6:03, 04, 05, 07, 19, 25; 7-9-5:01, 05, 06, 09, 14; AND 7-8-10:30**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT (EIS)**

Dear Ms. Salmonson:

We are notifying you of our acceptance of the Final Environmental Impact Statement of the Mamalahoa Highway Bypass Road as satisfactorily fulfilling the requirements of Chapter 343, Hawaii Revised Statutes.

Pursuant to the procedures contained in Section 11-200-23©, Chapter 200, Title 11 ("Environmental Impact Statement Rules") of the Administrative Rules, this Acceptance Notice should be published in *The Environmental Notice*.

If you have any questions, please contact me at (808) 961-8324.

Sincerely,

  
JIRO A. SUMADA  
Deputy Chief Engineer, County of Hawaii  
Department of Public Works

Sep. 1999 FEIS  
Mamalahoa Highway Bypass Road OEQC LIBRARY  
Vol. I

Volume I of II

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MAMALAHOA HIGHWAY BYPASS ROAD  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
NORTH AND SOUTH KONA  
ISLAND OF HAWAII

---

SEPTEMBER 1999



FINAL  
ENVIRONMENTAL IMPACT STATEMENT

**MAMALAHOA HIGHWAY BYPASS ROAD**

NORTH AND SOUTH KONA, HAWAII

Prepared for:

Oceanside 1250  
Kona, Hawai'i

This Final Environmental Impact Statement and all ancillary documents were prepared under our direction or supervision and the information submitted, to the best of our knowledge, fully addresses the document content requirements as set forth in Section 11-200-17, Hawai'i Administrative Rule and pursuant to Chapter 343, HRS.

Submitted by:

  
\_\_\_\_\_  
Wm. Frank Brandt, President  
PBR HAWAII

9/8/99  
DATE

Prepared by:

PBR HAWAII

---

---

LETTER OF TRANSMITTAL

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---

Stephen K. Yamashiro  
Mayor



Jiro A. Sumada  
Deputy Chief Engineer

## County of Hawaii

### DEPARTMENT OF PUBLIC WORKS

25 Aupuni Street, Room 202 • Hilo, Hawaii 96720-4252  
(808) 961-8321 • Fax (808) 961-8630

September 8, 1999

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

**RE: FINAL ENVIRONMENTAL IMPACT STATEMENT  
MAMALAHOA BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII  
HAWAII TAX MAP KEY:(3)Portions of 8-1-9-:03, 04, 08, 09, 33, 34; 8-1-  
7:01, 45, 54, 55; 8-1-4:01, 03, 54; 7-9-12:04, 05, 06, 09; 7-9-6:03, 04, 05, 07, 19,  
25; 7-9-5:01, 05, 06, 09, 14: and 7-8-10:30**

Dear Ms. Salmonson:

Having reviewed the Final Environmental Impact Statement (FEIS) for the Mamalahoa Bypass Road located in North and South Kona, Tax Map Key:(3)Portions of 8-1-9-:03, 04, 08, 09, 33, 34; 8-1-7:01, 45, 54, 55; 8-1-4:01, 03, 54; 7-9-12:04, 05, 06, 09; 7-9-6:03, 04, 05, 07, 19, 25; 7-9-5:01, 05, 06, 09, 14: and 7-8-10:30, we respectfully request publication of the FEIS in the September 23, 1999, OEQC Environmental Notice.

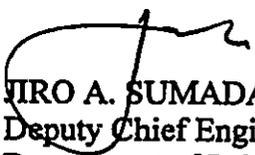
Attached please find the following items:

- Four copies of the FEIS
- Completed publication form
- Completed FEIS Distribution Cover Letter to the participants
- Completed FEIS Distribution List

Ms. Genevieve Salmonson  
Office of Environmental Quality Control  
September 8, 1999

If you have any questions regarding the FEIS, please call Mr. Tom Pack of our  
Engineering Division in Kona at (808)327-3530 or James Leonard of PBR Hawaii at  
(808)961-3333.

Sincerely,

  
HIRO A. SUMADA  
Deputy Chief Engineer, County of Hawaii  
Department of Public Works

Attachments

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OEQC BULLETIN PUBLICATION FORM

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Office of Environmental Quality Control  
The Environmental Notice PUBLICATION FORM (ver. 6-98)  
(For instructions see other side)

1 **Project Name:** Mamalahoa Highway Bypass Road  
**Island:** Hawaii  
**District:** North and South Kona  
**Tax Map Key Number:** Portions of 8-1-9:03, 04, 08, 09, 33, 34; #8-1-7:01, 45, 54, 55; 8-1-4:01, 03, 54; #7-9-12:04, 05, 06, 09; #7-9-6:03, 04, 05, 07, 19, 25; #7-9-5:01, 05, 06, 09, 14; and 7-8-10:30

2 **Type of Action:**  agency action  applicant action  
**Type of Document:**  draft EA  final EA  draft EIS  final EIS Other \_\_\_\_\_  
**Legal Authority:**  State law (HRS 343)  
**Applicable sections:**  use of state or county lands or funds  
 use of conservation district lands  
 use of shoreline area  
 use of historic site or district  
 use of land in the Waikiki district  
 amendment to county general plan  
 reclassification of conservation lands  
 construction or modification of helicopter facilities  
 Federal law (NEPA)  
 County law (ROH CH. 25 or other ordinance)  
 Other: \_\_\_\_\_

**Agency determination:**  Anticipated FONSI  FONSI  
 EIS Prep. Notice  Final EIS Acceptance

3 **Proposing Agency or Applicant:** 1250 Oceanside Partners dba Oceanside 1250  
**Address:** 78-6831 Ali'i Drive, Suite #K-15  
Kailua-Kona, Hawaii 96740  
**Contact:** Mr. Robert Stuit **Phone:** (808)324-1500

4 **Approving Agency or Accepting Authority:** County of Hawaii, Department of Public Works  
**Address:** 25 Aupuni Street, Suite #202  
Hilo, Hawaii 96720  
**Contact:** Mr. Jiro Sumada **Phone:** (808)961-8321  
**Contact:** Mr. Tom Pack **Phone:** (808)327-3530

5 **Consultant:** PBR HAWAII  
**Address:** 101 Aupuni Street, Suite #310  
Hilo, Hawaii 96720  
**Contact:** James M. Leonard, AICP **Phone:** (808)961-3333

6 **Public Comment Deadline:** \_\_\_\_\_  
**Permits required prior to implementation:** SMA Use Permit and other related construction permits  
**Project Summary (name of file on attached disk):** OEQC Form in WordPerfect Format  
**Public Library where document will be available:** Hilo, Kailua-Kona, Kealahou  
**This form prepared by:** PBR Hawaii (Sue Keohokapu) **Phone:** (808)961-3333

**SUMMARY OF PROJECT:**

The proposed Mamalahoa Highway Bypass Road extends approximately five miles and connects Ali'i Highway near its terminus in Keauhou (in the North Kona district) to Mamalahoa Highway at its junction with Napo'opo'o Road in Captain Cook (in the South Kona district). The proposed roadway, which will consist of two-lanes with sufficient rights-of-way for four-lanes, will be designed and constructed in accordance with the standards set forth by the County of Hawaii Department of Public Works.

The roadway is being proposed by Oceanside 1250 to meet the conditions of zoning approval for the Villages at Hokukano (Hokuli'a) project. The bypass road is intended to mitigate project generated traffic impacts on the existing roadway system in the vicinity of the project and to help relieve the existing traffic congestion along Mamalahoa Highway between the towns of Honalo and Captain Cook.

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**Mamalahoia Bypass Road  
Final Environmental Impact Statement  
North and South Kona, Island of Hawaii**

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**Prepare For: Oceanside 1250 Partners**

**Prepared By: PBR HAWAII**

**September 1999**

**MAMALAHOA BYPASS ROAD  
FINAL ENVIRONMENTAL IMPACT STATEMENT**

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SUMMARY

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## SUMMARY

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**Project:** MAMALAHOA HIGHWAY BYPASS ROAD  
Final Environmental Impact Statement

**Proposing Agency:** 1250 Oceanside Partners  
dba Oceanside 1250  
78-6831 Ali'i Drive, Suite K-15  
Kailua-Kona, Hawai'i 96740

**Approving Agency:** Department of Public Works  
County of Hawai'i  
25 Aupuni Street  
Hilo, Hawai'i 96720

**Consultant:** PBR HAWAII - Hilo Office  
101 Aupuni Street, Suite #310  
Hilo, Hawai'i 96720

PBR HAWAII - Honolulu Office  
1001 Bishop Street, Suite #650  
Honolulu, Hawai'i 96813

**Location:** North and South Kona, Island of Hawai'i

**Tax Map Key:** Portions of 8-1-9:03, 04, 08, 09, 33, 34; 8-1-7:01,  
45, 54, 55; 8-1-4: 01, 03, 54; 7-9-12:04, 05, 06,  
09; 7-9-6:03, 04, 05, 07, 19, 25; 7-9-5:01, 05, 06,  
09, 14 and 7-8-10:30

**Landowners:** Various

**Existing Use:** Ranching/Agriculture

**State Land Use  
Classification:** Agricultural/Urban

**County Zoning:** Agriculture, Commercial, and Open

**Description:**

The construction of an approximately five mile Mamalahoa Highway Bypass Road in North and South Kona on the Island of Hawai'i. The proposed bypass road would connect Ali'i Highway, near its current southern terminus at Keauhou, to Mamalahoa Highway at Captain Cook. The project would consist of a two-lane roadway meeting the standards set forth by the County of Hawai'i, Department of Public Works, with sufficient rights-of-way for a four lane roadway.

**Significant Beneficial  
and Adverse Impacts  
and Proposed Mitigation  
Measures:**

**Drainage and Flooding**

**Probable Impacts** - There is a potential for degradation of storm water quality from sediment and construction materials runoff.

**Proposed Mitigation Measures** - As required by the Clean Water Act under the auspices of the Environmental Protection Agency (EPA), a National Pollution Discharge Elimination System Program and Stormwater Pollution Prevention Plan will be implemented during and after construction. Additionally, all State and County requirements regarding drainage improvements will be complied with.

**Flora and Fauna**

**Probable Impacts** - Construction of this project would result in the unavoidable destruction of portions of the existing vegetation within the right-of-way. However, the flora within the project area consists of predominantly second growth vegetation and pasture lands with no unique or high-diversity native plant communities.

The project does not pose a major threat to native bird or mammal species as no unusual or unique resource important to native wildlife were found within the project area. The project may pose a potential threat to nesting habitat of the 'Io, a listed endangered bird. No nests are known or were found in the project area, but the 'Io are known to forage in the area.

**Proposed Mitigation Measures** - Due to the lack of known candidate, proposed or listed threaten or endangered plant species, or unusual or unique resources important to native wildlife, mitigation measures to protect native plant communities or native wildlife habitats do not appear warranted, however, the Division of Forestry and Wildlife and U.S. Fish and Wildlife Service would be notified should active nests of 'Io be encountered, and appropriate mitigative measures taken.

#### **Noise and Air Quality**

**Probable Impacts** - Noise and air quality will both be impacted in the short-term during the construction period. Noise will be generated by heavy construction equipment and possibly from blasting. Similarly, air quality will be potentially impacted by construction generated dust, and to a lesser extent by the exhaust emissions from construction equipment and from the disruption of traffic which may also affect vehicular emissions.

**Proposed Mitigation Measures** - As the noise generated from the construction activities will be temporary and generally confined to the day-time hours, no lasting impact is expected. Such impacts can be mitigated by implementing appropriate design techniques, such as reducing the scale of the charges and employing blast mats to direct the explosive force and to muffle the noise. State standards pertaining to the equipment noise limits would also be complied with.

Dust control in active work areas and any temporary unpaved work roads should be watered at least twice daily on days without rainfall. Establishment of landscaping early in the construction schedule will also help to control dust.

Increased vehicular emission due to disruption of traffic can be mitigated by minimizing road closures during peak traffic hours.

### **Scenic and Open Spaces**

**Probable Impacts** - The bypass will not alter existing view planes in the area, including those scenic resources identified within the County General Plan. Portions of the proposed highway bypass road may be visible from existing residential subdivisions in the area and alteration to the existing topography as part of the project construction is expected to result in exposed rock faces and fills within portions of the roadway corridor. However, in that development of the Mamalahoa Highway Bypass Road will provide a thoroughfare through an existing open landscape, new view opportunities to the ocean and mountains will be made available to those traveling along this roadway segment.

The proposed roadway may impact residents located in proximately to the roadway alignment, and who would be potentially impacted at night by the lights of passing motorists.

**Proposed Mitigation Measures** - To minimize nearby visual impacts from the proposed highway, design measures, such as integration of the highway with existing topography, will be employed to the extent practical. In sections where the roadway alignment is within five hundred feet of existing dwellings, a landscape buffer will be implemented to minimize the potential visual impacts to residents in the area.

**Agricultural Resources**

**Probable Impacts** - The project lands are generally very rocky lands with relatively low agricultural potential. The lands surrounding the proposed highway corridor are primarily grazed and fallow pasture lands. If not properly planned with appropriate access points for existing ranch roads, the proposed roadway may serve to divide existing pasture lands that are under common ownership.

**Proposed Mitigation Measures** - To minimize the potential impact to existing grazing operations, provisions for connections between portions of land divided by the roadway will be integrated as part of the roadway planning and design.

**Archaeological, Historical  
and Cultural Environment**

**Probable Impacts** - An Archaeological Inventory Survey and a Cultural Impact Assessment, which is appended to the Archaeological Inventory Survey Report, provide a description of the physical and cultural environment and historical background, a review of previous archaeological studies and an overview of settlement patterns and oral traditions. The survey identified 47 sites with roughly half of the sites (24) listed as traditional Hawaiian, pre-Contact sites and 23 sites affiliated primarily with non-traditional land use during the post-Contact period. Eleven sites in the proposed road corridor have been previously recommended for a combination of data recovery and preservation. These sites include nine boundary walls crossing the project corridor and the Kona Sugar Co. railroad trestle (Site 7214/10302) and a mound (Site 13174), the function of which has yet to be determined.

**Proposed Mitigation Measures** - It is recommended that all 47 archaeological sites present in the proposed road corridor be subjected to a system of data recovery prior to construction activities. Data recovery would include mapping of agricultural complexes, documentation of the construction techniques of the boundary walls, and excavations at habitation and agricultural sites. It is recommended that data recovery be conducted at Site 13174, currently designated for preservation, to determine the site function and re-evaluate proper mitigation of the site.

Data recovery of the sites and the treatments recommended by the consulting archaeologist will be implemented, subject to the concurrence of the DLNR Historic Site Preservation Division (HSPD). The Data Recovery Plan will also include measures to protect known sites of cultural sensitivity which, although not directly impacted, may be within the nearby area of the new roadway and may be potentially impacted by the increased access afforded by the new roadway.

Cattle fencing, which will be installed along much of the corridor boundary prior to the roadway construction, will provide an additional level of protection to those sites located outside the project both during and after construction.

**Socio-Economic  
Environment**

**Probable Impacts** - An Economic Impact Analysis Report prepared for the project which included a survey of other bypass projects in Hawaii and their impact on businesses, surveys of tenants and consumers in the area, and an analysis of traffic and demographic trends. The analysis found that businesses located along Mamalahoa Hawaii, between Honalo and Captain Cook, have

lost a significant market share in recent years due to the opening of "super-store" retailers in Kailua-Kona and the loss of purchasing dollars during the prolonged recessionary period. The analysis found that the net impact to area businesses from the project will be marginal (at most a three percent decline) with a full recovery projected in most sectors within five years. The passer-by market will be the section most affected. Based on the economic analysis, no significant adverse impacts to land use, property values or housing demands in the area of the project site are anticipated. Positive economic impacts from the project are projected in the form of construction employment and increases to State and County revenues as a result of the project construction.

**Proposed Mitigation Measures** - Because of the lack of significant adverse impacts on the social and economic environment, mitigation measures to minimize potential adverse impacts do not appear to be warranted.

## **Transportation**

**Probable Impacts** - Based on a Traffic Analysis Report which examined both the short- and long-term impacts of the project, the proposed roadway construction will improve the overall efficiency and safety of the existing roadway network serving the North-South Kona area.

Other projected positive impacts from the project include minimizing the need for traffic signals at Mamalahoa Highway/Kuakini Highway, improving traffic conditions significantly at the Mamalahoa Highway/Haleki'i Street intersection through the reduction of traffic along Mamalahoa Highway and the signalization and channelization of this

intersection; eliminating the need for additional improvements at Kuakini Highway/Kamehameha III Road intersection (with the construction of Ali'i Highway); eliminating the need for additional improvements at Mamalahoa Highway/Konawaena School access road intersection; and improving traffic flow on Mamalahoa Highway in the vicinity of Kona Hospital, thereby improving emergency vehicle access.

Short-term traffic impacts may occur during the construction of the bypass roadway as a result of disruption to the normal flow of traffic, especial at the intersection with Napo'opo'o Road and Mamalahoa Highway. However, no significant congestion problems are anticipated during the construction period. Following construction, with the exception of the intersections of Kamehameha III Road with Ali'i Highway and Kuakini Highway, traffic conditions are projected to improve at all major intersections. Should Ali'i Highway not be built, traffic levels at the Kamehameha III intersections are projected to increase to a point where intersections improvements, such as additional left turn lanes at both the mauka and makai intersections, are necessary.

**Proposed Mitigation Measures** - Specific project related mitigation measures recommended by the traffic impact analysis report include the installation of traffic signals at the intersection of the proposed bypass roadway and Haleki'i Street extension within the planned Villages at Hokuano (Hokuli'a), and at Napo'opo'o Road, when warranted.

## **Public Services**

**Probable Impacts** - The project is expected to have a positive impact on the State and County capabilities to deliver services to the community, as well as community access to these facilities. In particular, by increasing the capacity of the existing roadway network, improving travel times in the region, and providing an alternate emergency access route, the project will expand the State and County abilities to provide emergency service, such as police, fire, ambulance and emergency rescue services. Other public facilities, such as libraries, schools and parks will be more accessible as a result of improved traffic conditions in the region. Overall, the project will help support the movement of goods and services in a more efficient and timely manner.

## **Alternatives Considered:**

As part of the planning and regulatory approval process of the Villages at Hokukano (Hokuli'a), several alternative alignments for the planned bypass road were investigated. Based on the input received through public meetings, hearings, and a County sponsored workshop, the current alignment was selected and specified within the conditions of zoning approvals for the Villages at Hokukano (Hokuli'a) project and a Development Agreement (DA-1) between the developer, Oceanside 1250 and the County of Hawaii. Through the planning process, the current roadway alignment, as presented in this EIS report, was selected based on discussion and agreements with the affected property owners in conjunction with engineering and archaeological analysis.

**No Action Alternative:**

Alternatives to the construction of the project, including the "no-build" alternative were investigated but none were found to have the same positive benefits in terms of improving the regional traffic circulation while meeting the overall objectives of the project.

**Unresolved Issues:**

No unresolved issues remain related to the proposed project.

**Compatibility With Land Use Plans and Policies:**

In general, the proposed project was found to be compatible with land use plans and policies and supportive of the goals policies and courses of actions of the County General Plan.

**Permits and Approvals Required:**

Permits and approvals required for the project include a National Pollutant Discharge Elimination System Permit, and Underground Injection Control approved by the State Department of Health, a Special Management Area Use Permit approved by the County of Hawai'i Planning Commission, Permits for Excavation of a Public Highway, Grading, Grubbing, Stock Piling, Outdoor Lighting and Electrical Work approved by the County of Hawai'i Department of Public Works and Subdivision Approval approved by the County of Hawai'i Planning Department.

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SECTION 1.0  
PURPOSE AND NEED FOR ACTION

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## **1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION**

### **1.1 PROPOSED ACTION**

The proposed action is the construction of the Mamalahoa Highway Bypass Road, an approximately five-mile highway segment that would provide an alternative highway linkage between Keauhou and Captain Cook in the North and South Kona districts on the Island of Hawai'i (Figure 1). The bypass road, which will consist of two lanes with sufficient rights-of-way for four lanes, will extend from Ali'i Highway near the southern boundary of Keauhou Resort area to Captain Cook at the intersection of Mamalahoa Highway and Napo'opo'o Road (Figure 2).

The proposed bypass road will be designed and constructed in accordance with the requirements set forth by the County Department of Public Works.

In order to address the existing traffic conditions in the area and the potential traffic impacts from its Villages at Hokuano (Hokuli'a) project, Oceanside 1250 has proposed the construction of an alternative route for interregional traffic between Kealakekua and the Keauhou-Kailua-Kona region. Construction of the proposed alternative roadway is required as a condition of approval within Ordinances 96-7, 96-8 and 97-36, which establish the current zoning for portions of the Oceanside 1250 property. Copies of the aforementioned ordinances are appended to this report for reference (Appendices C1, C2 and C3)

Specifically, these ordinances require that Oceanside 1250 "construct the Mamalahoa Highway Bypass in its entirety between the approximate vicinity of Keauhou and Captain Cook, consisting of two lanes with sufficient right-of-way for a total of four lanes."

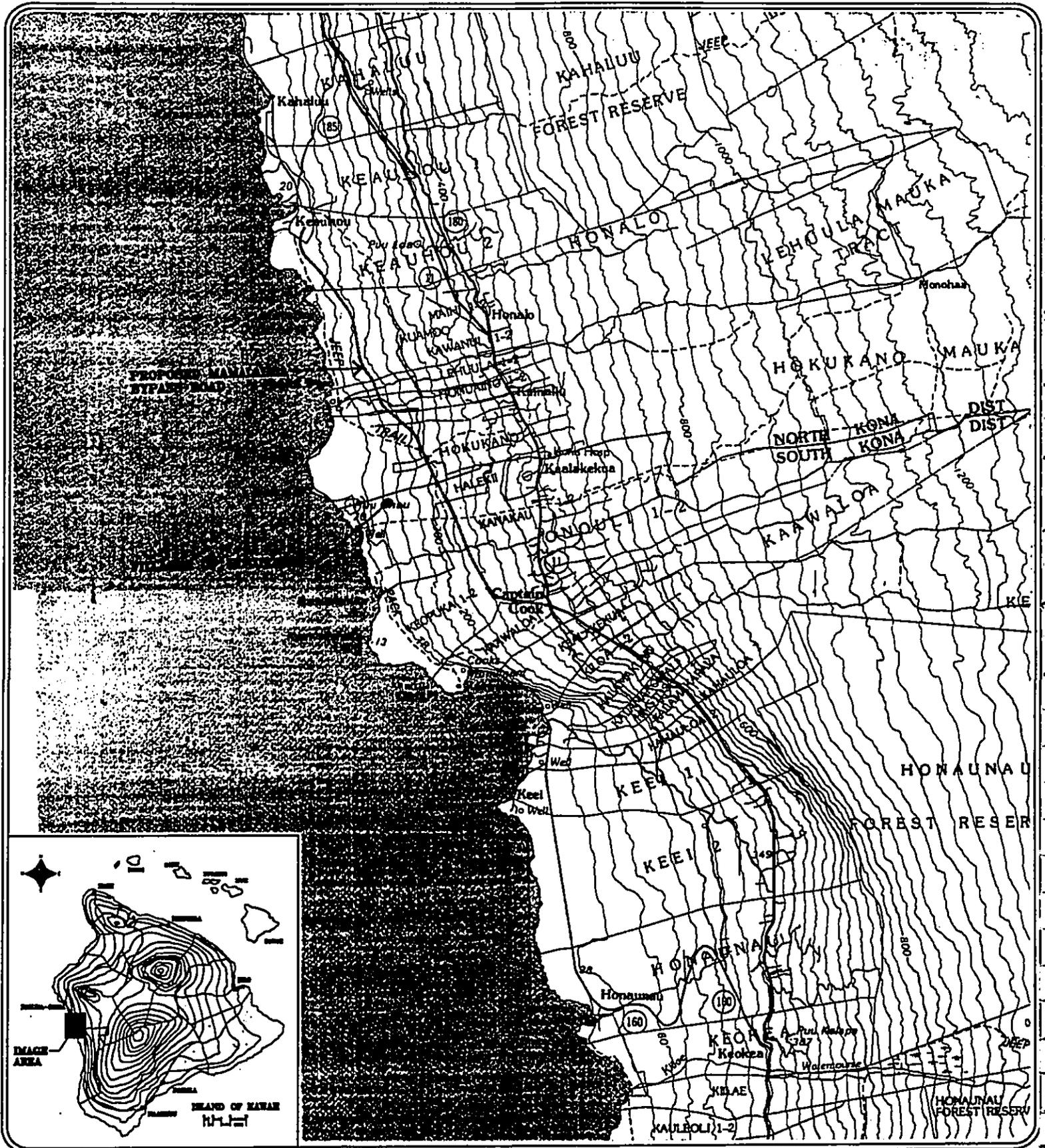
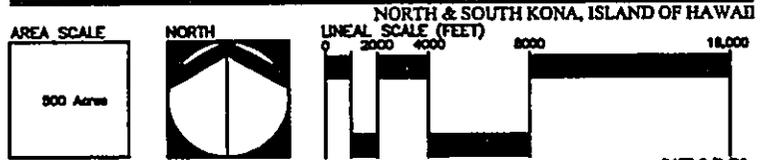
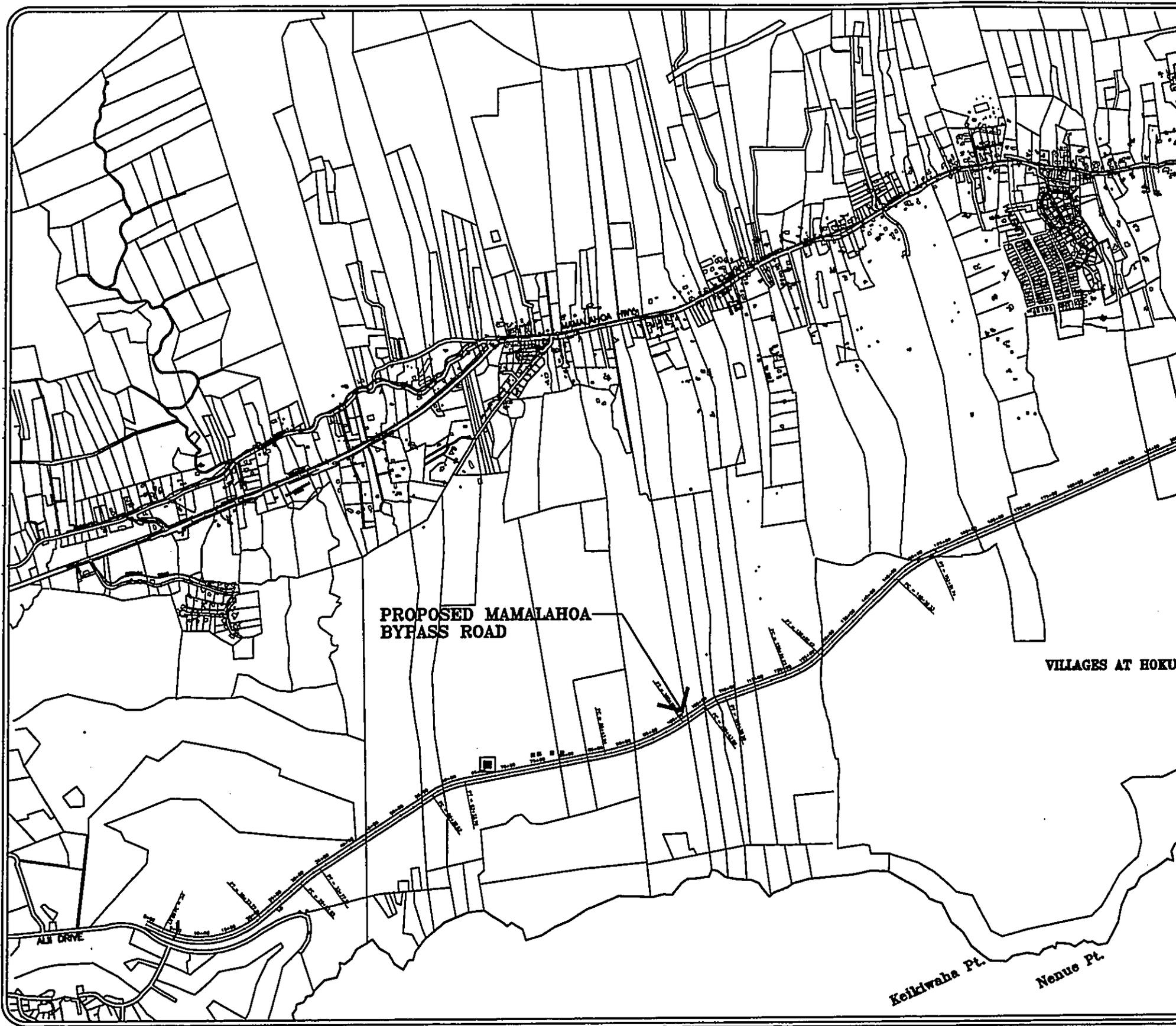


FIGURE 1  
PROJECT LOCATION MAP  
MAMALAHOA HIGHWAY BYPASS ROAD





**PROPOSED MAMALAHOA  
BYPASS ROAD**

**VILLAGES AT HOKU**

**Keikiwaha Pt.**

**Nenu Pt.**

**ALI DRIVE**

**MAMALAHOA DRIVE**



**FIGURE 2**  
**PROPOSED BYPASS HIGHWAY ALIGNMENT**  
**MAMALAHOA HIGHWAY BYPASS ROAD**  
 NORTH & SOUTH KONA, ISLAND OF HAWAII

AREA SCALE: 25 Acres

NORTH

LINEAL SCALE (FEET): 0, 500, 1000, 2000, 4000

DATE: 2/9/99

## **1.2 PURPOSE AND NEED FOR THE PROJECT**

Mamalahoa Highway, between the Villages of Honalo in North Kona and Kealahou in South Kona, is a two-lane highway which is restricted in many areas by the limitations of the existing highway right-of-way (ROW) and the commercial development, especially within the towns of Honalo, Kainaliu, and Kealahou. There are limited turning lanes and no traffic signals except for the ongoing improvements at the Konawaena School intersection. This segment of Mamalahoa Highway provides the only link between the primary urban and employment areas in Keauhou and Kailua-Kona, the resort areas to the north, and the rural/residential areas of South Kona and Ka'u. It also serves as a portion of one of the three major cross-island roads linking East and West Hawai'i.

According to a recent traffic study, this section of Mamalahoa Highway is extremely congested. The 1996 traffic levels averaged more than 16,900 vehicles per day (average daily travel or ADT). This is expected to increase to more than 25,000 ADT by 2010 if no alternative improvements are provided.

Using operational analysis procedures presented in the 1985 Highway Capacity Manual (HCM), Level of Service (LOS) is a measure of density of traffic relative to roadway capacity. The quality of traffic flow is described in six categories of service, A to F, with LOS A representing traffic in a free flow condition and LOS F representing condition of serious congestion and considerable delays. As described within the State Department of Transportation, Island of Hawai'i Long Range Highway Plan, the LOS under current conditions for this segment of Mamalahoa Highway were calculated as LOS E.

The proposed Mamalahoa Highway Bypass is intended to relieve congestion along the existing roadway corridor between the villages of Honalo and Captain Cook, improve efficiency and safety by providing an alternative transportation link between Keauhou and areas to the north and south of Captain Cook, and support the County's long range plan for this region, as contained in the Hawai'i County General Plan. More specifically, planning for the proposed roadway improvements has been undertaken with the following goals:

- Meet the requirements of various County ordinances pertaining to the Villages at Hokukano (Hokuli'a) project;
- Meet the design requirements of the Department of Public Works for the planned roadway;
- Accommodate the needs and concerns of impacted landowners in this area; and
- Minimize impacts on the existing environment including potential impacts on archaeological and cultural resources in the area and existing agricultural operations.

### **1.3 PURPOSE OF THIS DOCUMENT**

This EIS has been prepared and submitted in accordance with the requirements of Chapter 343, Hawai'i Revised Statutes and Title 11, Chapter 200 Hawai'i Administrative Rules (HAR), Environmental Impact Statement Rules. The purpose of this EIS is to evaluate the existing conditions and probable environmental impacts that could result from the development of the proposed Mamalahoa Highway Bypass Road.

A portion of the project area is situated within the Kealakekua Bay Historic District which is listed on the Hawai'i and National Registers of Historic Places. The project will also require the use of County lands in that the proposed project will involve construction within existing County owned rights-of-way at the intersections with Ali'i Highway at the northern end, and the Mamalahoa Highway-Napo'opo'o Road intersection at the southern end. In that the developer, under the conditions of the ordinances cited in Section 1.1, has entered into a development agreement with the County which allows for the developer to

be reimbursed for a portion of the development costs with funds collected from other developers whom the County determines benefit from the Mamalahoa Highway Bypass, and which funds are available to the County for such purposes, the project may also constitute the use of County funds. According to Chapter 343, Hawai'i Revised Statutes, relating to Environmental Impact Statement (EIS), any project that utilizes State or County lands or resources or involves lands designated in the State or National Registers of Historic Places, must comply with State's EIS requirements.

The comment received to the Draft EIS have be responded to and, where appropriate, changes have been incorporated within the Final EIS. Those sections that have been added to the text are indicated with underscoring. Additionally all comment letters received and the written responses are included within Section 8.3 of this document.

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SECTION 2.0  
PROJECT DESCRIPTION

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## **2.0 PROJECT DESCRIPTION**

### **2.1 REGIONAL SETTING**

The proposed Mamalahoa Highway Bypass Road corridor is located in West Hawai'i and traverses portions of both North and South Kona districts. Extending from near the current terminus of Ali'i Highway in Keauhou to the junction of Napo'opo'o Road-Mamalahoa Highway in Captain Cook, the roadway alignment travels between Mamalahoa Highway and the coastline, makai of the towns of Honalo, Kainaliu, Kealakekua and Captain Cook. Notable geographic features in the area include Keauhou Bay located makai and north of the alignment at Keauhou; Pu'u Ohau or "Red Hill," a landmark located along the shore approximately midway between the northern and southern terminus, and Kealakekua Bay located makai and south of the southern terminus.

To the north, Ali'i Highway extends through the Keauhou Resort Area to Kamehameha III Road and Ali'i Drive. The Kamehameha III Road connects Ali'i Highway to Kuakini Highway, with traffic signals at both intersections. The Ali'i Highway Extension is a County highway project which is planned to extend Ali'i Highway from the Keauhou Resort area to Kailua-Kona, near the current intersection of Hualalai Road and Kuakini Highway, and is intended to provide an additional mid-level thoroughfare for the Kailua-Keauhou region. According to the Department of Public Works, the County has completed initial planning and design for Ali'i Highway and plans to complete the project within five to seven years, pending resolution of mitigation measures for known archaeological sites within the area.

The bypass roadway would extend the proposed roadway system south from Keauhou to intersect with Mamalahoa Highway at Captain Cook, near the current intersection with Napo'opo'o Road.

To the south of the project area, Mamalahoa Highway serves as a primary roadway linking the rural areas of South Kona, Kau and Upper Puna, and provides one of the primary linkages between East and West Hawai'i. According the State Department of Transportation, current improvements planned for this area are

limited to the resurfacing of the portion of Mamalahoa Highway from Captain Cook to the City of Refuge (Keala O Keawe) Road.

The Mamalahoa Highway Bypass corridor traverses several privately owned parcels. These lands, as well as the adjacent properties, are primarily vacant or used for cattle grazing. There are some residences and agricultural structures located near the southern end of roadway alignment.

In the area of the proposed intersection with Mamalahoa Highway there are approximately six residences, the closest being approximately 160 feet away and the remainder being more than 250 feet from the corridor boundary. In the area mauka of Napo'opo'o Road along Mamalahoa Highway there are located several businesses and some residences. The design of the planned Bypass Road-Mamalahoa-Napo'opo'o intersection will seek to achieve an acceptable intersection design that will result in the least impact as practical to existing parcels.

## **2.2 LANDOWNERSHIP**

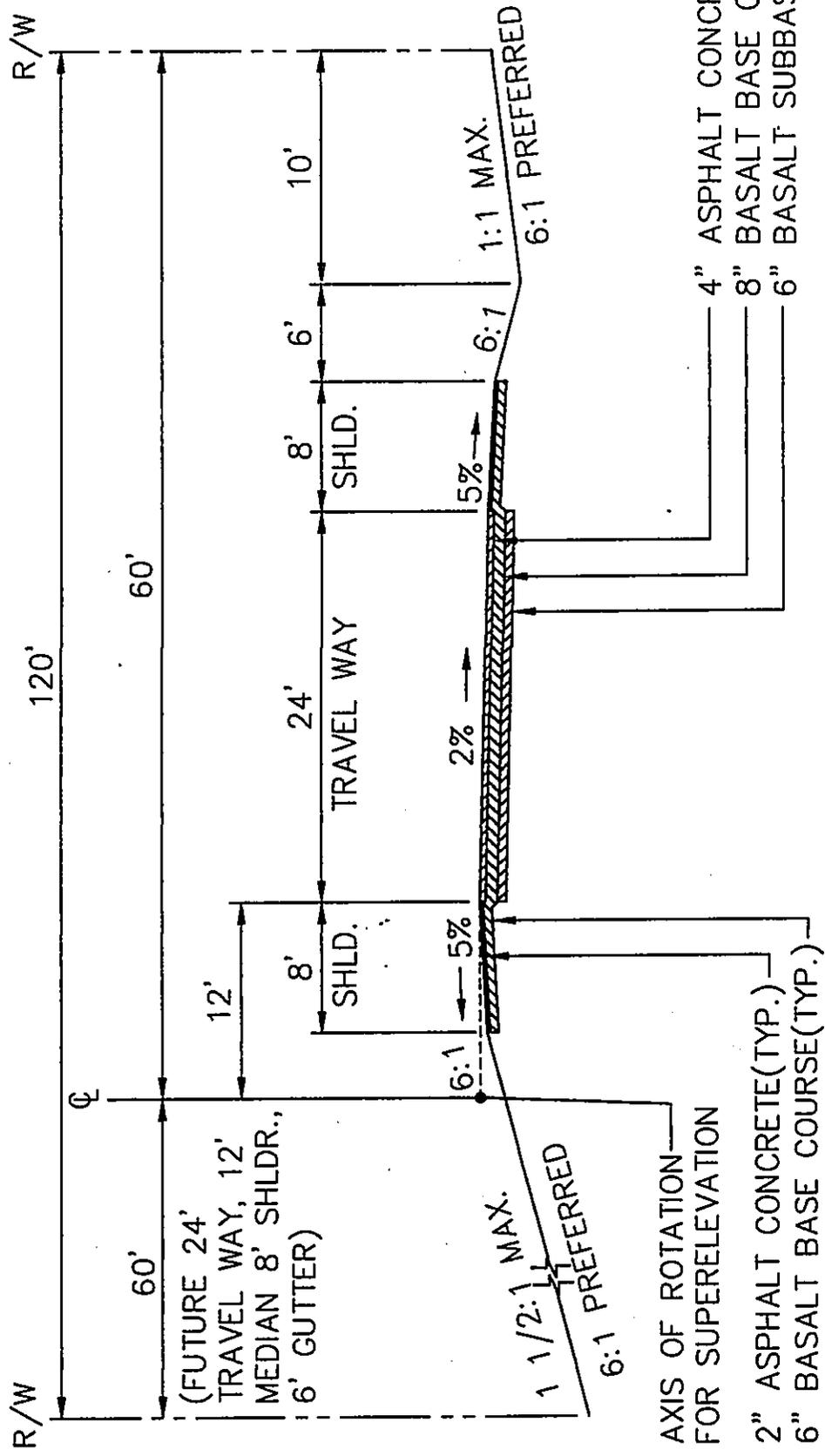
The portions of Mamalahoa Highway and Ali'i Highway at the northern and southern intersections with the proposed bypass road, are both County roads. Therefore, the proposed action includes potential use of County lands. In addition to the lands owned by the County of Hawai'i, approximately 29 separate private parcels would be impacted. Table 1 is a listing of those parcels potentially impacted, identified by Tax Map Key (TMK) number and their ownership.

Prior to construction of the proposed highway, the developer will complete a survey of the affected portions of these parcels and enter into purchase agreements with the respective landowners. Formal County condemnation action may also be required in the event that the developer is unable to obtain control or acquire ownership of portions of the roadway corridor in accordance with the Development Agreement.

**Parcels Potentially Impact  
Table 1**

<b>TAX MAP KEY NUMBER</b>	<b>OWNERSHIP</b>
1. (3) Portion of 8-1-09:03	Alex Smith
2. (3) Portion of 8-1-09:04	Alfred Smith
3. (3) Portion of 8-1-09:08	Dexter Alan Smith
4. (3) Portion of 8-1-09:09	John Pearne
5. (3) Portion of 8-1-09:33	James Smith
6. (3) Portion of 8-1-09:34	Millicent Smith
7. (3) Portion of 8-1-07:01	Capt. Cook 660 Partners
8. (3) Portion of 8-1-07:45	Joan Coupe
9. (3) Portion of 8-1-07:54	Capt. Cook 660 Partners
10. (3) Portion of 8-1-07:55	Capt. Cook 660 Partners
11. (3) Portion of 8-1-04:01	Jack Greenwell
12. (3) Portion of 8-1-04:03	1250 Oceanside Partners
13. (3) Portion of 8-1-04:54	Norman Greenwell
14. (3) Portion of 7-9-12:04	Ackerman Ranch
15. (3) Portion of 7-9-12:05	Ackerman Ranch
16. (3) Portion of 7-9-12:06	Ackerman Ranch
17. (3) Portion of 7-9-12:09	Gary Yamagata
18. (3) Portion of 7-9-06:03	William Paris
19. (3) Portion of 7-9-06:04	William Paris
20. (3) Portion of 7-9-06:05	Agnes Smith
21. (3) Portion of 7-9-06:07	Wall Ranch
22. (3) Portion of 7-9-06:19	Wall Ranch
23. (3) Portion of 7-9-06:25	Wall Ranch
24. (3) Portion of 7-9-05:01	Wall Ranch
25. (3) Portion of 7-9-05:05	Agnes Smith
26. (3) Portion of 7-9-05:06	William Paris
27. (3) Portion of 7-9-05:09	Kona Trust
28. (3) Portion of 7-9-05:14	William Paris
29. (3) Portion of 7-8-10:30	Kamehameha Investment Corp.

\* Table 1 has been incorporated within the FEIS as recommend by a comment letter received to the DEIS from the County of Hawaii Planning Department.



4" ASPHALT CONCRETE  
 8" BASALT BASE COURSE  
 6" BASALT SUBBASE COURSE

AXIS OF ROTATION FOR SUPERELEVATION  
 2" ASPHALT CONCRETE(TYP.)  
 6" BASALT BASE COURSE(TYP.)

FIGURE 3A  
 BYPASS CROSS SECTION A  
 MAMALAHOA HIGHWAY BYPASS ROAD  
 NORTH & SOUTH KONA, ISLAND OF HAWAII

NOT TO SCALE

DATE: 2/9/99

As per the Development Agreement, upon completion, the Bypass Road will be dedicated to the County. The dedication process is described within the Development Agreement as follows:

"Dedication of Bypass Highway. The Bypass Highway shall be dedicated to the County in phases, if any, upon completion and the County shall accept said dedication within sixty (60) calendar days; provided that the Bypass Highway, as constructed, complies with plans and specification for said highway as approved by the County. Following dedication of the Bypass Highway to the County the County shall assume the responsibility and costs for operation, maintenance, repair or reconstruction of the Bypass Highway."

## **2.3 PROJECT DESCRIPTION**

The Mamalahoa Bypass Roadway corridor is approximately five miles long and generally 120 feet wide, although lesser rights-of-way may be required in areas constrained by topographic conditions. The elevations range from approximately 50 feet above mean sea level (msl) at the northern end to approximately 1,350 feet msl near the southern end. The preliminary engineering design for the project, prepared by engineering firm Okahara and Associates, is summarized below. Final project design, meeting the requirements of the Department of Public Works, will be developed following further regulatory approvals including a Special Management Area Use Permit by the County of Hawai'i Planning Commission.

### **Roadway Design Criteria and Standards**

The proposed Mamalahoa Highway Bypass will be built to current American Association of State Highway and Transportation Officials (AASHTO) and County of Hawai'i Highway Standards. From the northern terminus of the road where it meets Ali'i Highway to Station 245, near the 980 foot elevation, it will consist of two 12 foot lanes and 8 foot paved shoulders within a 120 foot right-of-way. The roadway will be designed to accommodate future widening for two additional 12 foot lanes in each direction and a 12 foot median (Refer to Figure 3A). The design

speed will be 50 MPH with posted speed of about 45 MPH. The maximum grade in this portion will likely be 10 percent.

From Station 245, near the approximately 980 foot elevation, to its intersection with Mamalahoa Highway and Napo'opo'o Road, the typical roadway section will consist of two 12 foot lanes and 10 foot paved shoulders within an 80 foot right-of-way. Along this section, the roadway will be designed to accommodate future widening for two additional 12 foot lanes in each direction (Refer to Figure 3B).

The design speed will be 50 MPH with a posted speed of 35 to 45 MPH. The maximum grade will likely be 11 percent. For the entire roadway length, access to adjoining properties will be appropriately located, and where required, acceleration, deceleration and storage lanes will be provided. Prior to construction the entire corridor will be surveyed and fencing will be placed along the corridor boundary to accommodate adjacent ongoing ranching operations with provisions for gated access at the existing ranch roads.

The intersection of the Mamalahoa Bypass with the existing Mamalahoa Highway - Napo'opo'o Road intersection will result in the realignment of a short section of Napo'opo'o Road. This realignment may result in a portion of the existing roadway that will no longer be necessary as part of the Napo'opo'o Road right-of-way. This remnant roadway may be acquired by the adjacent landowner.

A Preliminary Intersection Layout of the bypass road, Mamalahoa Highway and Napo'opo'o Road is shown in Figure 4.

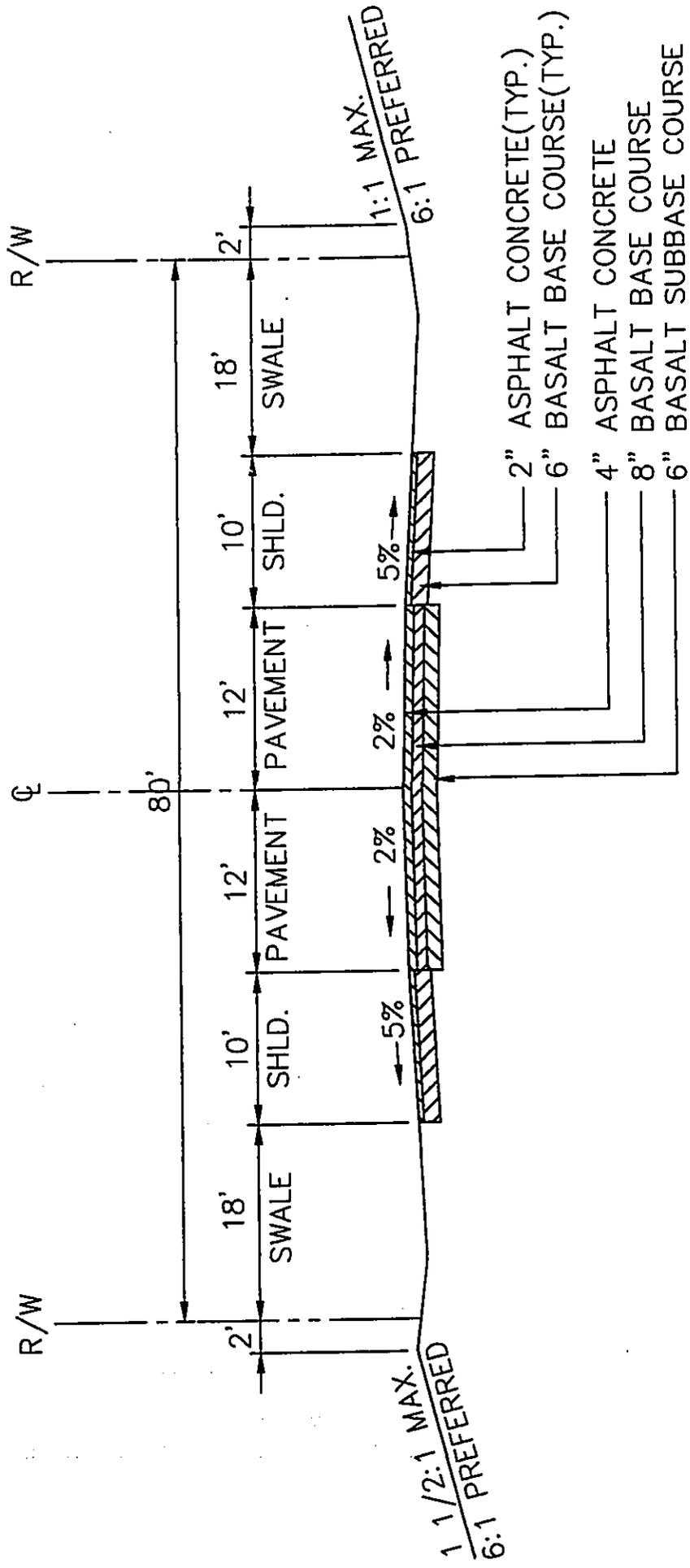


FIGURE 3B  
 BYPASS CROSS SECTION B  
 MAMALAHOA HIGHWAY BYPASS ROAD  
 NORTH & SOUTH KONA, ISLAND OF HAWAII

NOT TO SCALE

DATE: 2/9/79

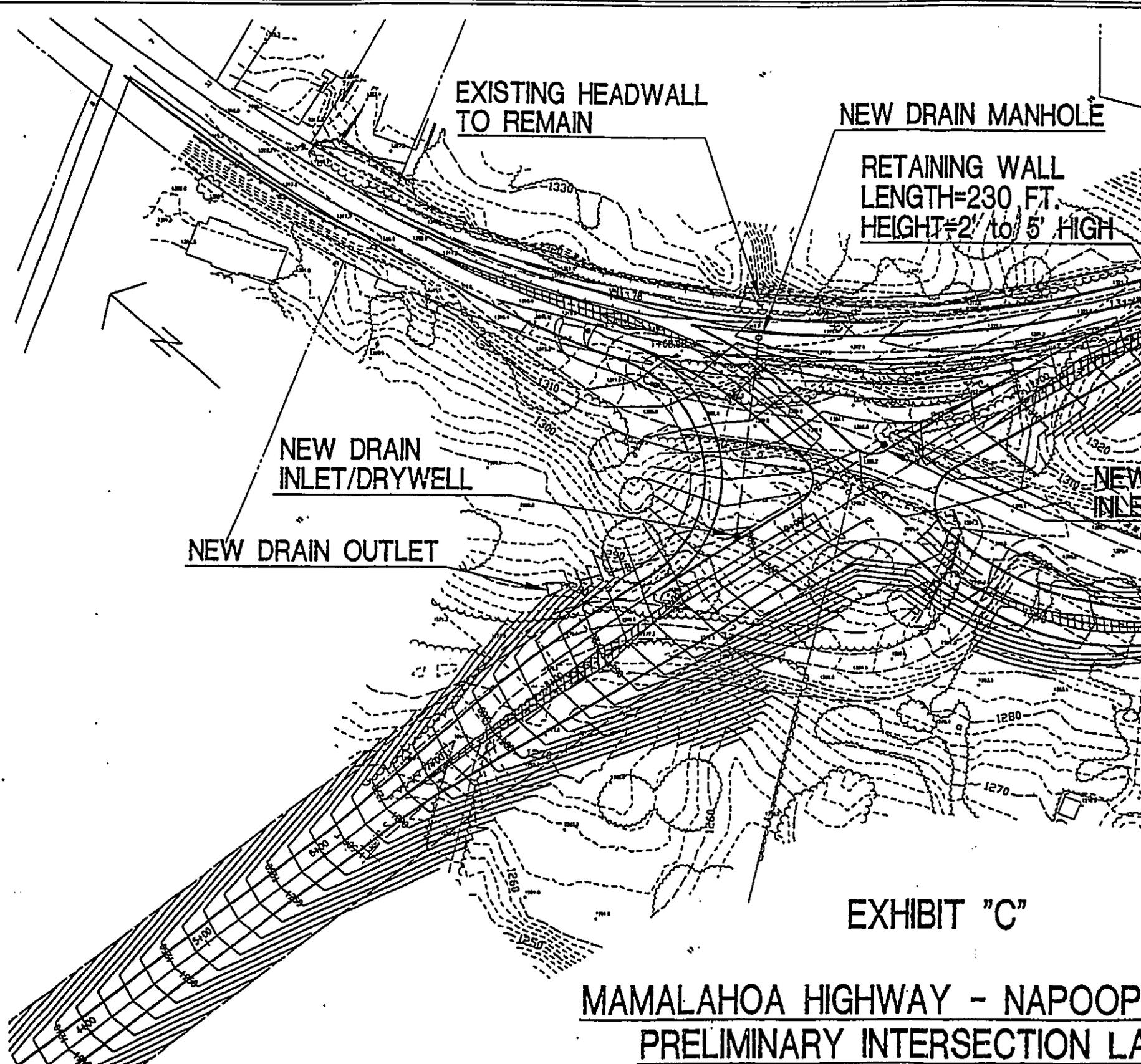
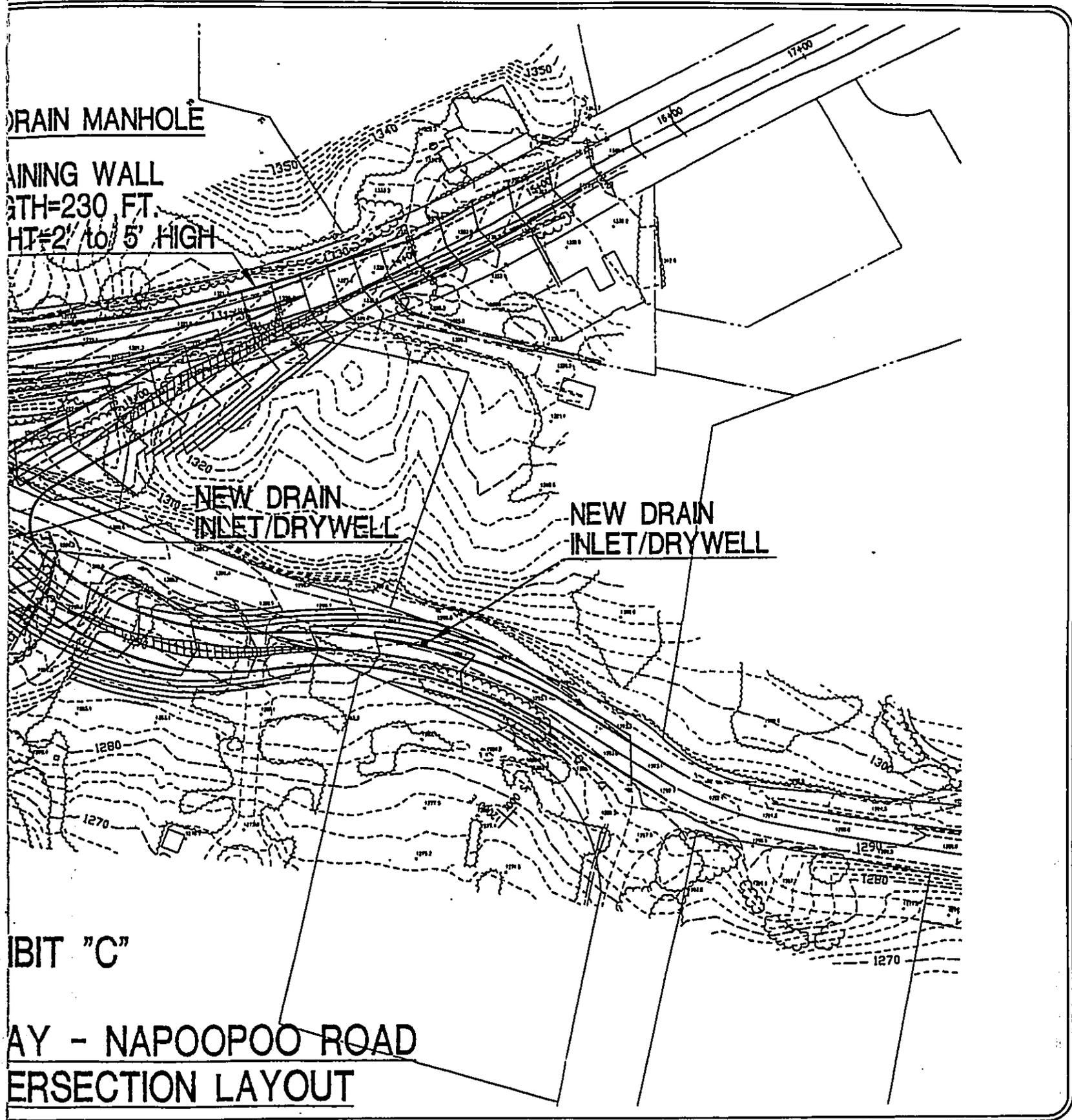


EXHIBIT "C"

MAMALAHOA HIGHWAY - NAPOOPO  
PRELIMINARY INTERSECTION LA

DRAIN MANHOLE  
RAINING WALL  
WIDTH=230 FT.  
HEIGHT=2' to 5' HIGH



BIT "C"  
WAY - NAPOOPOO ROAD  
INTERSECTION LAYOUT

FIGURE 4  
INTERSECTION PLAN  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH & SOUTH KONA, ISLAND OF HAWAII



DATE: 2/9/98

## **2.4 PROJECT SCHEDULE**

The overall process for implementing the proposed project involves obtaining regulatory approvals, including the proper completion, processing and acceptance of this EIS, Special Management Area Use Permit approval and Subdivision approval; acquisition of the subdivided parcels, including possible County condemnation procedures; and design and construction. This process is expected to take from four to five years. The preliminary schedule for this process is as follows:

Project EIS	6/99 - 9/99
Permits, Land Acquisition, and Engineering	9/99 - 4/00
Construction	4/00 - 4/04

### **2.4.1 Cost Estimates**

The cost for obtaining regulatory approvals, land acquisition, design and construction of the full roadway project will be the responsibility of the developer, Oceanside 1250. Should the County be required to initiate formal condemnation procedures, the litigation and acquisition costs incurred by the County for these portions would also be the responsibility of the developer. Therefore, no direct costs associated with the construction of the bypass roadway and its intersection improvements with Mamalahoa Highway and Ali'i Highway is anticipated on the part of the County. Through a provision of the Change of Zone Ordinances for the Villages at Hokukano (Hokuli'a) (Ordinances 96-7 and 96-8), and Development Agreement with the County of Hawai'i (DA-1), the developer, Oceanside 1250, may be reimbursed for a portion of the roadway development costs by future developers in the region who benefit from the construction of the bypass roadway. The order-of-magnitude cost estimate for the full project, in 1997 dollars, is approximately \$ 21.6 million. Land acquisition costs for the right-of-way is estimated to be \$2 million and construction costs, including intersection improvements at Napo'opo'o Road and Mamalahoa Highway, is estimated to be approximately \$19.6 million.

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SECTION 3.0  
ALTERNATIVES CONSIDERED

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### **3.0 ALTERNATIVES CONSIDERED**

#### **3.1 PLANNING BACKGROUND**

As part of the planning and regulatory approval process for the Villages at Hokukano, (Hokuli'a) several alternative alignments for the planned bypass road were investigated. Initially, a general alignment that would have extended from Mamalahoa Highway at the Napo'opo'o Road junction to Kuakini Highway in the area of Higashihara Park, including several intersection alternatives, were investigated. At public hearings pertaining to the regulatory approvals for the Villages at Hokukano (Hokuli'a), several area residents expressed concern over the potential impact this general alignment would have to the residents and farms in the area, especially to those located near the proposed northern intersection with Kuakini Highway.

At a County-sponsored workshop held on September 19, 1994, several alternative alignments for the proposed roadway were presented, including the general alignment currently under consideration. The consensus of those present at the workshop, which included several area residents and property owners, was that a roadway alignment similar to the proposed alignment between Keauhou and Captain Cook was preferred as it would have the least impact to the community.

In a letter dated January 4, 199(4)5 (Appendix A) and updated on January 30, 1997 (Appendix B) the County Department of Public Works also expressed preference for the proposed alignment. The Hawai'i County Council also expressed its support for the proposed alignment by specifying the general roadway alignment within the Conditions of Approval of Ordinances 96-7 and 96-8 which established the conditional zoning for portions of the Oceanside 1250 property. Specifically, conditions M and L of Ordinances 96-7 and 96-8, respectively, require Oceanside 1250 to construct the Mamalahoa Bypass in its entirety between the vicinity of Keauhou and Captain Cook, as a condition of zoning approval (Refer to the Change of Zoning Ordinances found within Appendix

C1 and C2). The establishment of the Bypass road by Oceanside 1250, including land acquisition, securing the necessary regulatory approvals and construction of the full project, is also a requirement of the Development Agreement (DA-1) entered into between 1250 Oceanside Partners (d.b.a. Oceanside 1250) and the County of Hawai'i.

### **3.2 ALTERNATIVE ALIGNMENTS**

In establishing the specific alignment for the proposed Bypass corridor, the developer initially met with the affected property owners to seek an alignment that was mutual agreeable to all concerned. Several alternative alignments for the corridor were investigated and evaluated in terms of meeting the design parameters set forth by the Department of Public Works, minimizing potential impacts to areas of environmental or cultural sensitivity, and addressing the needs and concerns of the property owners in the area. Throughout this process approximately 30 alternatives to the corridor alignment were investigated, including several alternative schemes for the proposed design of the planned intersection with Mamalahoa Highway and Napo'opo'o Road.

Following the discussion with affected property owners and prior to establishing the specific alignment presented herein, a preliminary pedestrian survey of the proposed corridor was conducted by the developer's archaeological consultant to determine the presence of archaeological features of historical or cultural significance in areas that had not been subject to previous archaeological inventory surveys. Several portions of the proposed corridor had been subject of previous archaeological inventory surveys and the alignment in these areas was established to avoid sites of potential significance.

Following an agreement with the affected property owners on the corridor alignment, a complete archaeological inventory survey of the corridor was conducted which incorporated the information from previous archaeological surveys (Appendix H). In addition to the archaeological inventory survey, botanical and biological surveys were conducted to determine the presence or endangered or threatened native fauna, or any special or unique wildlife habitats.

Based on the results of the archaeological, botanical, and biological surveys of the proposed roadway corridor, construction is not expected to have a significant impact on sites of historical or cultural significance or rare, threatened, or endangered species. Additionally, based on discussions and agreements with the affected property owners, the alignment is generally preferred to those alternative alignments considered.

Alternatives to the construction of the Bypass Highway which could have a mitigating effect on the existing or projected traffic conditions, might include improvements to the existing roadways, especially to Mamalahoa Highway, or the implementation of Traffic Management Strategies (TMS) which are intended to make more efficient use of the existing roadway capacities. The potential for improving the Mamalahoa Highway between the areas of Honalo and Captain Cook, however, is constrained due to the limits to the existing highway right-of-way, the location of existing business and structures along the highway right-of-way, and other topographic constraints. Traffic Management Strategies typically include government-sponsored, service oriented programs, such as public transit, car and van pooling, staggered or flexible work hours, and the use of high occupancy lanes. In that the requirement of the developer, as established by the change of zoning ordinances and Development Agreement referenced above, is to construct a roadway segment between Keauhou and Captain Cook, alternative traffic mitigation measures such as the implementation of traffic management strategies or improvements to the portion of Mamalahoa Highway from Honalo to Captain Cook, do not meet the project objectives and, therefore, are not included within the evaluated alternatives. Additionally, such measures, where feasible, would be more appropriately implemented by the County and State government as part of their overall transportation system planning.

### **3.3 NO ACTION ALTERNATIVE**

The EIS Rules (Title 11 Chapter 200 HAR) encourage an investigation of alternatives that might enhance environmental quality or minimize some of potential adverse environmental impacts, including the alternative of "no action." The Island of Hawai'i Long Range Highway Plan (May 1991) projects that traffic growth in the area would increase by 52% by the year 2010. The alternative of "no action" would result in increased traffic volumes along the major roadway network of Kuakini and Mamalahoa Highways. It would also result in increased traffic delays creating potential safety concerns as growing congestion along Mamalahoa Highway would result in unsafe turning movements and delays in emergency service to and from Kona Hospital and the police and fire stations in the area. The "no action" alternative would also result in greater noise and air pollution from increase vehicle idling and inefficient vehicle speeds along the existing roadway network. The "no-action" alternative would be contrary to the stated desires of the community and the requirements imposed on the applicant by the County of Hawaii. Furthermore, the alternative of "no action" would be contrary to the objectives of this project.

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SECTION 4.0  
DESCRIPTION OF THE ENVIRONMENTAL SETTINGS

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## **4.0 DESCRIPTION OF THE ENVIRONMENTAL SETTING**

### **4.1 PHYSICAL ENVIRONMENT**

#### **4.1.1 Geophysical Environment**

The project area, located on the western slopes of Mauna Loa, rests primarily on a'a and pahoehoe lavas of the Holocene and Pleistocene period, which are estimated to range in age from 750 to 4,000 years. Although there are no known geologic faults crossed by the proposed roadway corridor, the Kealakekua fault is located approximately 1.25 miles southwest of the project area at Kealakekua Bay. The fault extends into the ocean a distance of about 22 miles. The sea cliff behind Kealakekua Bay is believed to be a remnant of a landslide which occurred between 13,000 and 31,000 years ago.

The project elevations ranges from approximately 50 feet above mean seal level at the northern end of the corridor in Keauhou, to 1,350 feet at the southern end. The average slope of the land in the roadway corridor is approximately five percent, with slopes generally ranging from two to four percent at the northern portion of the roadway corridor, and seven to nine percent slopes through the central and southern portion of the corridor. The steepest slopes, approximately eleven percent, are located at the very southern portion as the alignment extends in a mauka direction toward the intersection with Mamalahoa Highway.

#### **4.1.2 Climate**

The climate of the region is generally hot and dry, similar to other areas along the leeward coast. Average daily temperatures range from approximately sixty degrees Fahrenheit to a maximum of eighty degrees Fahrenheit, with cooler temperatures exhibited at the higher elevations in the southern portion of the project site. The annual rainfall averages within the project area range between twenty to fifty

inches, with the upper elevations in the southern portions experiencing a higher rainfall. The majority of the rainfall occurs in the summer months. Due to the wind shadow effect caused by Mauna Loa, winds in the region are often light and variable and dominated by local land-sea breezes.

#### **4.1.3 Soils and Agricultural Potential**

Typical of West Hawai'i coastal lands, there is a relatively shallow soil cover much of the project site. The soils found within the roadway corridor have been classified by the United States Department of Agriculture's Soil Conservation Service Soil Survey, the State of Hawai'i's Agricultural Lands of Importance to the State of Hawai'i (ALISH), and the University of Hawai'i's Land Study Bureau. The following gives a description of soil characteristics on the subject property.

##### **United States Department of Agriculture's Soil Conservation Service Soil Survey**

The Soil Conservation Service classifies the soils found within the roadway corridor (as shown in Figure 5, Soil Survey of the State of Hawai'i,) as follows:

- |     |  |
|-----|--|
| rLV | A'a lava flows, with practically no soil covering. This land type is generally bare of vegetation, except for mosses, lichens, ferns, and occasional ohia trees. This lava is rough and broken, with a masses of clinkery, hard, glassy sharp pieces piled in heaps. |
| KDD | Kainaliu very stony silty clay loam, with 12 to 20 percent slopes. This soil generally follows the long narrow patterns of lava flows, but can be isolated and surrounded by more recent flows.  |
| WHC | Waiaha extremely stony silt loam, with 6 to 12 percent slopes. This soil is found on the leeward side of Hualalai and Mauna Loa, and is usually dark brown, four inches thick, with pahoehoe substratum bedrock.   |



PROPOSED MAMALAHOA  
BYPASS ROAD

SOURCE: SOIL SURVEY OF ISLANDS OF HAWAII  
STATE OF HAWAII, US DEPARTMENT OF AGRICULTURE,  
SOIL CONSERVATION SERVICE, ISSUED AUGUST 1972

LEGEND

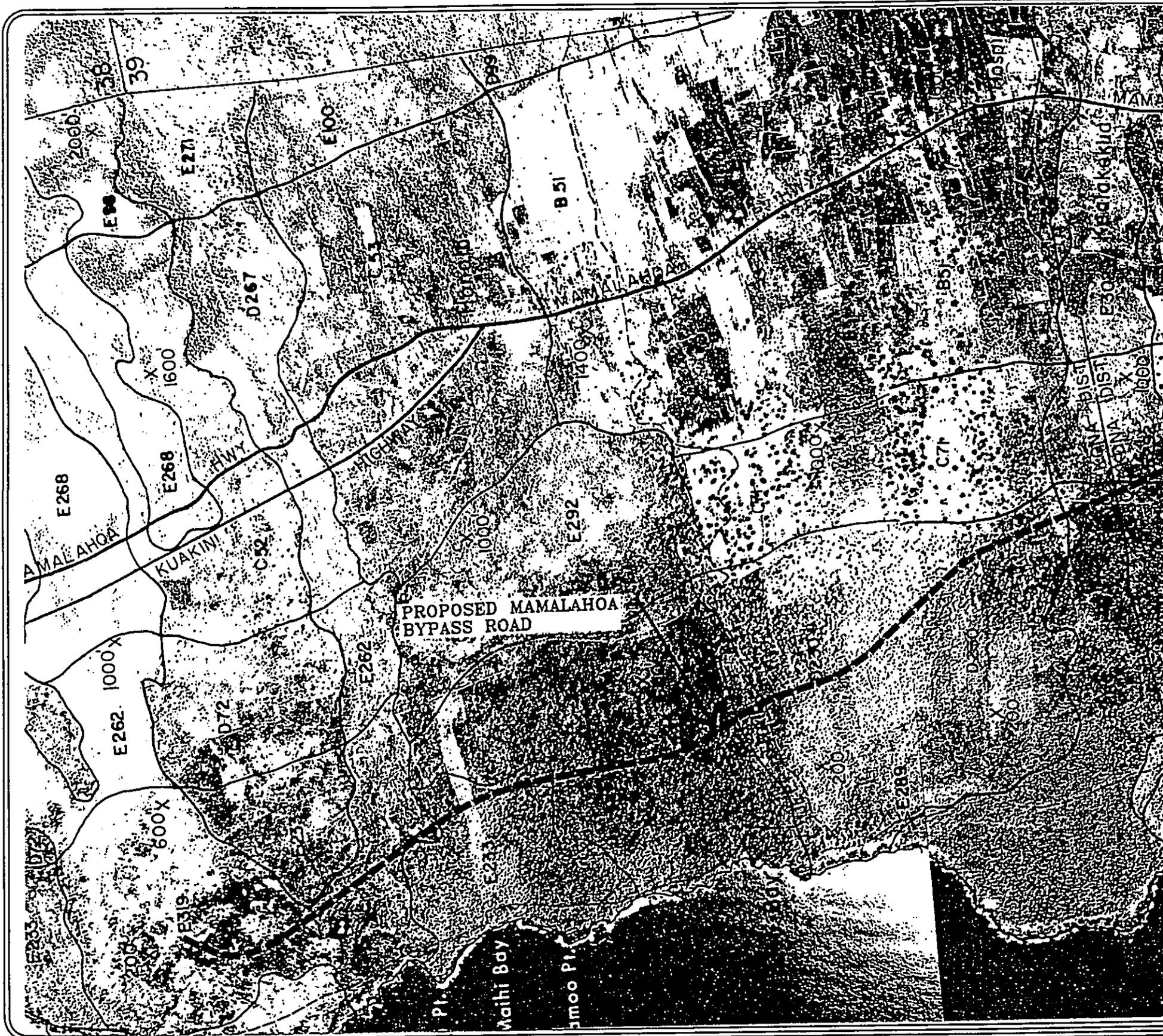
- KDD** KAINALIU VERY STONY SILTY CLAY LOAM, 12-20% SLOPE
- KEC** KAINALIU EXTREMELY STONY SILTY CLAY LOAM, 12-20% SLOPE
- rKED** KAIMU EXTREMELY STONY PEAT, 6-20% SLOPE
- rLV** LAVA FLOW, AA

- rFW** LAVA FLOW, PAHOEHOE
- rPYD** PUNALUU EXTREMELY STONY
- rFXE** PUNA EXTREMELY STONY
- WBC** WAIHAHA EXTREMELY STONY



- rKED Kaimu extremely stony peat, with 6 to 20 percent slopes. This soil is generally found at lower elevations. The surface layer is very dark-brown consisting of extremely stony peat approximately 3 inches thick and underlain by A'a lava. Permeability is rapid, runoff is slow, and the erosion hazard slight.
- rPYD Punaluu extremely rocky peat, with 6 to 20 percent slopes. This soil type characteristically has rock outcrops occupying approximately 40 to 50 percent of the surface. The soil layer on the surface is approximately 4 inches thick and underlain by pahoehoe lava bedrock. The peat portions of the soil are rapidly permeable while the pahoehoe lava is very slowly permeable if not fractured. Runoff is slow and the erosion hazard is slight.
- KEC Kainaliu extremely stony silty clay loam, with 12 to 20 percent slopes. This soil is found at lower elevations on Mauna Loa and Hualalai. The surface layer is very dark brown extremely stony silty clay loam about 10 inches thick. The subsoil is approximately 16 inches thick and underlain by fragmental A'a lava.
- rPXE Puna extremely stony muck, with 3 to 25 percent slopes. This soil is found at intermediate elevations along Mauna Loa and Hualalai, and is generally very dark brown, 5 inches thick, and is underlain by fragmented A'a.

In terms of the agricultural potential, according to Detailed Land Classification, Island of Hawai'i, published by the University of Hawai'i's Land Study Bureau, the majority of the soils within the project area are designated as "D" (poor) and "E" (very poor) soils with a portion (approximately 14 percent) designated as "C" (fair) soils in the area generally southwest of the town of Kealahou. (Figure 6, Detailed Land Classification). The classification of soils by the Land Study Bureau is intended to present a relative ranking of the agricultural potential of soils based on their soil characteristics slope and machine tillability.



SOURCE: DETAILED LAND CLASSIFICATION-ISLAND OF HAWAII  
LAND STUDY BUREAU, MAY 1967

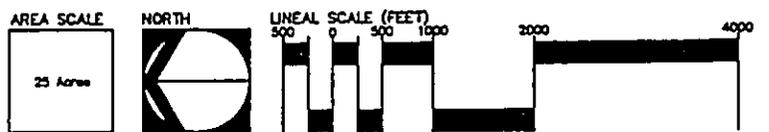
**LEGEND**

- A HIGHEST PRODUCTIVITY RATING
- B SECOND HIGHEST PRODUCTIVITY RATING
- C MEDIUM PRODUCTIVITY RATING
- D SECOND LOWEST PRODUCTIVITY RATING
- E LOWEST PRODUCTIVITY RATING



FIGURE 6  
DETAILED LAND CLASSIFICATIONS  
MAMALAHOA HIGHWAY BYPASS ROAD

NORTH & SOUTH KONA, ISLAND OF HAWAII



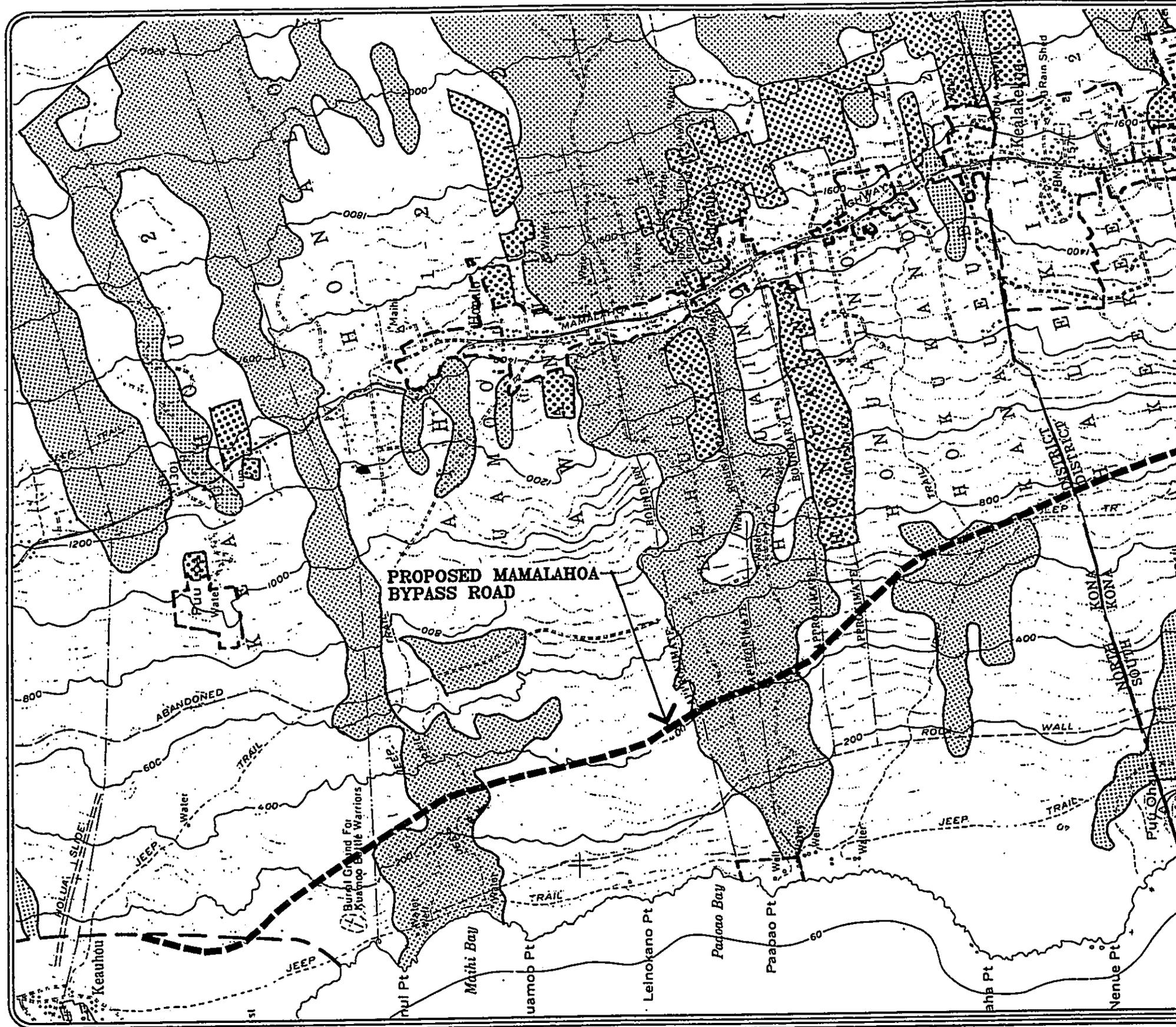
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The agricultural utility of the soil is also indicated by the Hawai'i Department of Agriculture, and is mapped as part of a map series, Agricultural Lands of Importance (ALISH) to the State of Hawai'i. According to the ALISH system approximately a third of the project site includes lands designated as "other important land" and a relatively small portion (approximately 6.5 acres) near the southern end designated as "unique agricultural lands." No portion of the roadway corridor is rated as "prime agricultural lands" by the ALISH system. (Figure 7, ALISH Map)

#### **4.1.4 Groundwater Hydrology**

An assessment of the existing hydrological conditions in the project area was conducted for the Villages at Hokukano (Hokuli'a) project by Waimea Water Service (Bowles 1992). The initial hydrological study projected that the groundwater recharge for the general area may be in the range of 4 to 6 million gallons per day (MGD). This recharge percolates downward into the high level water, mauka of the project area, into the basal lens at sea level, and then to the sea. Fresh groundwater floats on the underlying salt water at the ratio of about 1 to 40, so that for every foot of fresh water (level of the lens above sea level) there is approximately 40 feet of fresh water below the sea level. The equation is modified by tidal and recharge fluctuations, which produce a brackish or transition zone between the fresh and salt water. The head typically increases upward away from the shore (inland) at rates of one to two feet per mile.

Since 1990, discoveries of high level groundwater have been made in the area mauka of Mamalahoa Highway. High level ground water has been found in several wells scattered from Kalaloa in North Kona, to Kealakekua Bay in South Kona with water levels in excess of the 350-foot elevation verified at well at Ke'ei, and above Higashihara Park at Honalo. The County Department of Water Supply well located mauka of Kona Hospital and a reported water level of 494 feet, confirming the presence of high level groundwater in this area.



**PROPOSED MAMALAHOA BYPASS ROAD**

SOURCE: AGRICULTURAL LANDS OF IMPORTANCE TO THE STATE OF HAWAII, DEPARTMENT OF AGRICULTURE, STATE OF HAWAII, H-8 & H-9 QUADS, JANUARY 1977

**LEGEND**

-  PRIME AGRICULTURE LAND
-  UNIQUE AGRICULTURE LAND
-  OTHER IMPORTANT AGRICULTURE LAND
-  EXISTING URBAN DEVELOPMENT
-  U.S. GOVERNMENT LANDS

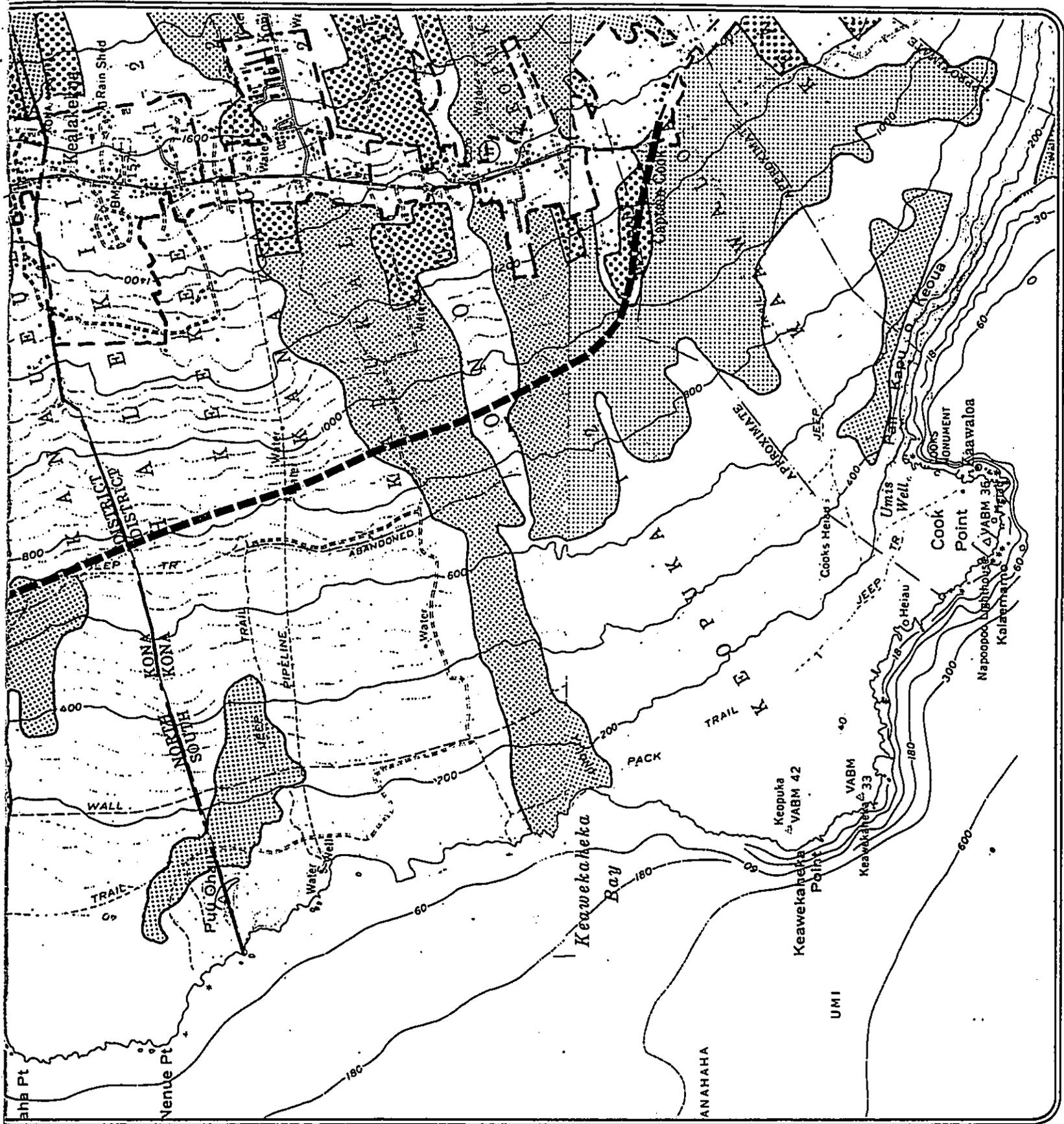
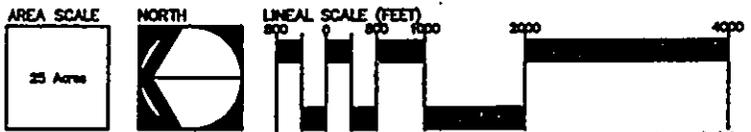


FIGURE 7  
 ALISH MAP  
 MAMALAHOA HIGHWAY BYPASS ROAD  
 NORTH & SOUTH KONA, ISLAND OF HAWAII



DATE: 2/9/78

Potable wells in the region of the project site are generally located above Mamalahoa Highway, although an exploration well was drilled mauka of the project site at the 810 foot elevation on the Oceanside 1250 property (Villages of Hokuano). Test results from the exploration well drilled at the project area suggest the existence of a major hydrological boundary in the region between the Department of Water Supply production well at the 1780 foot elevation near Kona Hospital and the exploratory well at the 810 foot elevation. Recent off shore bottom surveys along the Kona Coast (J.G. Moore, et. al, 1989) indicates massive submarine landslides along the Kona Coast. According to Bowles, based on the available survey information and hydrological data it appears that off-shore faulting exists, and that these faults may, in some way, impede or divert underground water flows in the project region.

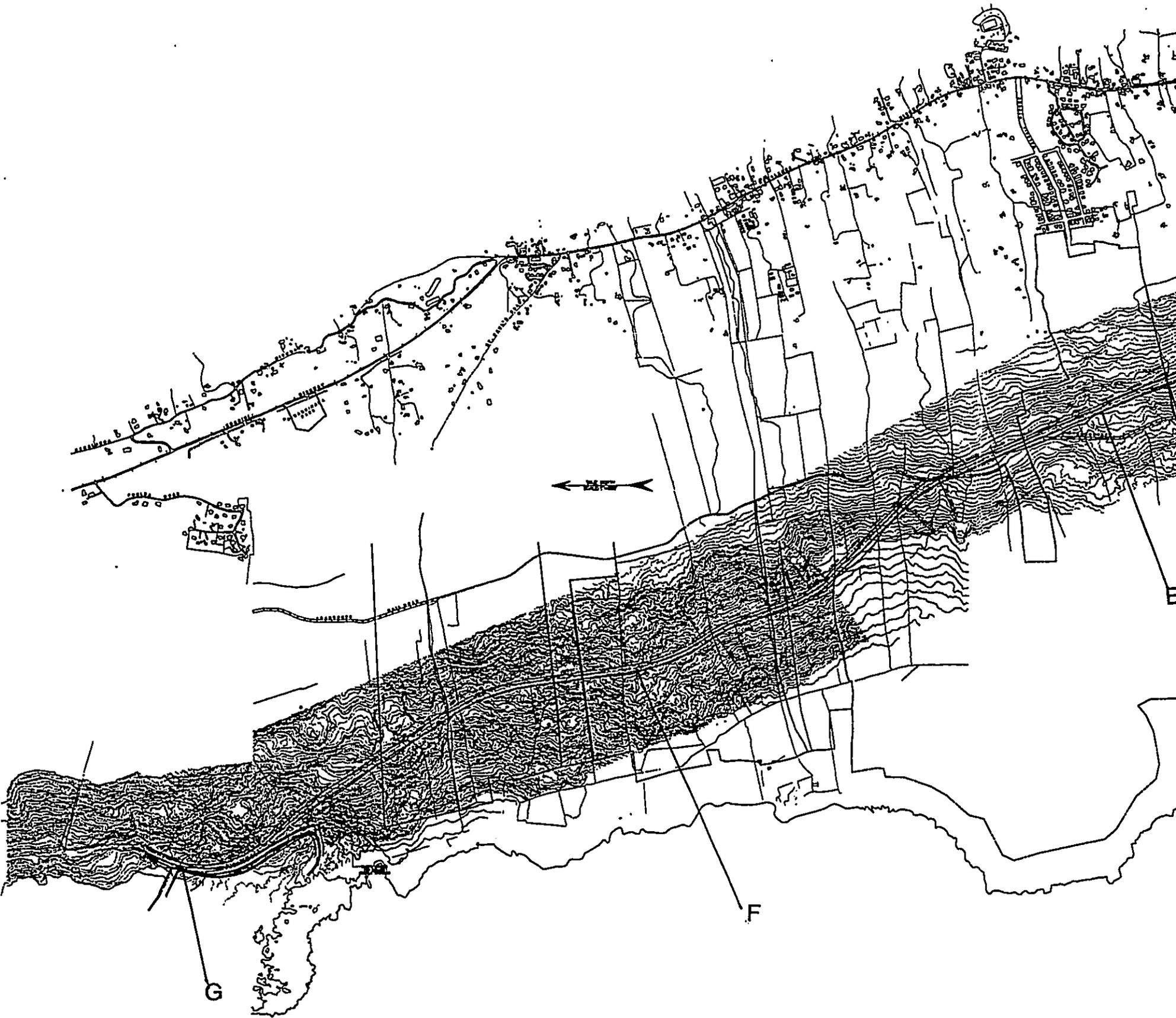
#### **4.1.5 Flora and Fauna**

##### **Flora**

According to the Botanical Survey Report prepared for the project (Appendix D), the highway corridor travels through land that has been in pasture use for many years. The botanical study for the highway project, as well as other botanical studies conducted in the area, indicated that the vegetation is largely composed of alien or introduced species. Two notable features within this landscape are the large number of mature planted monkey pod trees. For the area through which the highway corridor passes, the Botanical Survey Report describes six vegetation zones and a narrow transition zone, as described below and shown in Figure 8, Vegetation Zone Map.

##### **Agricultural Area**

Beginning at the southern terminus, the Mamalahoa Highway By-pass corridor passes through an agricultural area for approximately three quarters of a mile. This area consists of both working and idle pasture land with widely separated farm dwellings with gardens of flowering and fruiting trees. In the idle pastures,



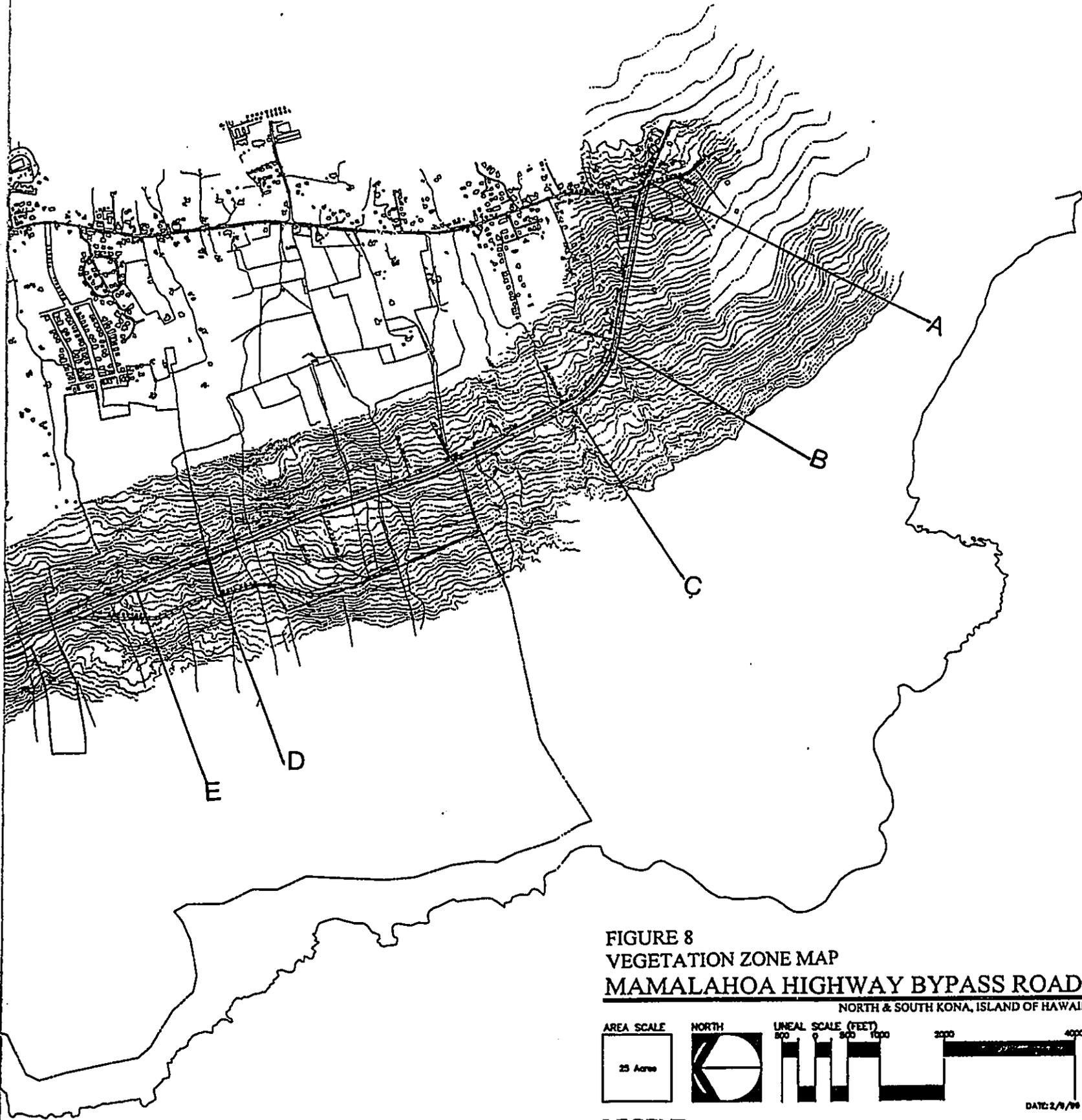
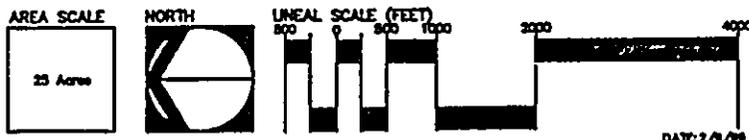


FIGURE 8  
VEGETATION ZONE MAP  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH & SOUTH KONA, ISLAND OF HAWAII



LEGEND

- A to B - Agricultural Area
- B to C - Ohia/Monkey Pod Scrub Forest
- C to D - Monkey Pod/Guinea Grass Pasture
- D to E - Transition Zone
- E to F - Koa Haole/Guinea Grass Pasture
- F to G - A'a/Fountain Grass/Koa Haole

dense stands of Guinea grass (*Panicum maximum* Jacq.) attain a height of eight to ten feet. Within the Guinea grass can be found patches of Honohono grass (*Commelina diffusa* N. L. Burm.) the big tree marigold, *Tithonia diversifolia* (Hemsl.), and brambles of the legume known as wait-a-bit (*Caesalpinia bonduc* (L.) Roxb.)

Ohia/Monkey Pod Scrub Forest

From about 1100 feet elevation to approximately 950 feet elevation the ROW crosses a high, broad a'a lava flow where the emergent vegetation is very widely spaced ohia trees (*Metrosideros polymorpha* Gaud.) and broad crowned monkey pod trees (*Samanea saman* (Jacq.) Merr.) from 40 to 60 feet in height. The understory is made up of scrubby koa haole (*Leucaena leucocephala* (Lam.) de Wit), and Brazilian pepper shrubs (*Schinus terebinthifolius* Raddi) and small guava trees (*Psidium* spp.). The ground layer is largely lantana brambles (*Lantana camara* L.). The scrubby trees support dense tangles of bitter yam (*Dioscorea bulbifera* L.), huehue vine (*Cocculus tribobus* (Thunb.) DC), and huehue haole (*Passiflora suberosa* L.). The northwestern edge of the a'a flow is marked by a broad enclave of trees (*Hibiscus tiliaceus* L.). Also on this broad lava flow was found a number of native Hawai'i taxa. In addition to the ohia trees were also found ulei vines (*Osteomeles anthyllidifolia* (Sm.) Lindl.), akia (*Wikstroemia phillyreifolia* A. Gray), moa (*Psilotum nudum* (L.) Griseb.), huehue or moonseed vine (*Cocculus tribobus* (Thunb.) DC), 'ilie'e (*Plumbago zeylanica* L.), and koali or morning glory (*Ipomoea indica* (J. Burm.) Merr.) vines.

Monkey Pod/Guinea Grass Pasture

From the a'a flow northward to approximately one quarter mile north of the proposed Haleki'i Street extension, the vegetation of the pasture lands is widely spaced, broad crowned monkey pod trees with a ground cover of Guinea grass (*Panicum maximum* Jacq.). The Guinea grass reaches a height of eight feet or more in those pasture lands where cattle are absent. There can be found intermittent enclaves of lantana, Sacramento burr (*Triumfetta semitriloba* Jacq.), and spiny amaranth (*Amaranthus spinosus* L.).

Transition Zone

There is a narrow transition zone north of the proposed Haleki'i Street extension where the Monkey Pod/Guinea Grass Pasture drops out and another drier vegetation type, Koa Haole/Guinea Grass Pasture, begins. The substrate of the Transition Zone is a broad a'a lava flow approximately six-hundred feet across. In addition to the large, scattered monkey pod trees there are kukui trees (*Aleurites moluccana* (L.) Willd.), koa haole, and papaya (*Carica papaya* L.). In the very mixed understory can be found the very thorny wait-a-while (*Caesalpinia bondoc* (L.) Roxb.), kukui and koa haole seedlings, castor bean bushes (*Ricinus cummunis* L.), 'ilie'e, (*Senna pendula* H. Irwin & Barneby), and coffee senna (*Senna occidentalis* (L.) Link) among others. The transition zone appears to be wetter than the surrounding pasture. It ends in a wide swale filled with 'opiuma (*Pithecellobium dulce* (Roxb.) Benth) and china berry (*Melia azedarach* L.) trees 25 to 30 feet in height.

Koa Haole/Guinea Grass Pasture

Beyond this swale the roadway corridor passes through vegetation that becomes much drier, consisting primarily of Koa Haole and Guinea grass. The Koa Haole ranges from seedlings to small trees 40 feet in height. The plants also vary in density from 2 to 8 feet apart. This vegetation type is found from the swale northward to the beginning of the A'a/Fountain Grass/Koa Haole vegetation type. Lantana, bur bush, amaranth, and many other common weeds are also found in the understory. As the road corridor nears the larger A'a flow, scattered kiawe trees (*Prosopis pallida*) begin to appear.

A'a/Fountain Grass/Koa Haole

From the northern boundary of the area dominated by a Koa Haole/Guinea Grass vegetation to Ali'i Drive (Figure 8, F to G following page 15) the corridor crosses another high a'a lava flow where the vegetation varies from a very scant cover of koa haole, Christmasberry, maiapilo (*Capparis sandwichiana* DC), naupaka (*Scaevola sericea* Vahl) and various weeds, to dense stands of fountain grass (*Pennisetum setaceum* (Forssk.) Choiv.), dense Christmasberry and koa haole.

Two common features found along the length of the corridor are rock outcroppings and agricultural rock walls. The outcrops are often covered by white flowered 'ilie'e plants.

The Botanical Survey found no candidate, proposed, or listed threatened or endangered species, as set forward in the Endangered Species Act of 1973 and as amended (16 USC. 1531-1543), along the proposed Mamalahoa Bypass Road corridor. In addition, no wetlands, streams, or other habitats that could accommodate endangered plant species were found within the corridor. The flora was found to consist primarily of alien and introduced species due to the previous disturbance of the land, primarily for pasture use.

### **Fauna**

According to the Avifaunal and Feral Mammal Survey for the roadway corridor (Appendix E), nearly all the birds recorded on the survey were introduced species, which was to be expected given the historical ranching/activities in the region and the lack of suitable habitat for endemic species. The bird and mammal species recorded as part of the avifaunal survey are described as follows.

### **Birds**

The introduced birds found on the survey were the typical array of exotics known for this region (Bruner 1988, 1989, 1990, 1991; Hawai'i Audubon Society 1993). Gamebirds such as: Ring-necked Pheasant (Phasianu colchicus); Black Francolin (Francolinus francolinus); and Gray Francolin (Francolinus pondicerianus) were common. Wild Turkey (Meleagris gallopavo) were seen but were far less abundant. Common Peafowl (Pavo cristatus) were heard mauka of the survey route.

The only native species recorded on the survey was the endemic and endangered Hawaiian Hawk or 'Io (Buteo solitarius). One dark phase 'Io was seen flying over the project site and a light phase bird was noted soaring over the south terminus of the bypass. This species is widespread on the Big Island. Although none were observed in the project site, the native Short-eared Owl or Pueo (Asio flammeus sandwichensis), which is a listed endangered species, is also known to be present in the Kona area. No other native birds would be expected in the area of the proposed bypass.

#### Mammals

Four Feral Pigs (Sus scrofa) were seen and evidence of pig foraging was noted in several areas along the route. The Small Indian Mongoose (Herpestes auropunctatus) was also common particularly in the drier areas at the north end of the site. Two Roof Rats (Rattus rattus) were seen near a stone wall crossing the bypass route. No mice (Mus musculus) were found but are expected to occur in the area. The native and endangered Hawaiian Hoary Bat (Lasiurus cinereus semotus) was seen at dusk on two occasions. Two bats were also observed foraging for insects over the bay at the north end and makai of the proposed bypass. One bat was also seen flying over the Kona Scenic Park at the end of Haleki'i Street, mauka of the proposed bypass. The Hawaiian Hoary Bat is widespread on the Big Island and may move seasonally in search of prey (Tomich 1986).

The avifaunal survey found that the lands of the proposed bypass roadway which generally consisted of second growth vegetation and pasture lands, included no unusual or unique resources important to native birds or mammals.

#### **4.1.6 Air and Noise Quality**

Due to the predominant northeast trade winds, Hawai'i generally enjoys relatively high air quality. The Kealahou area includes no large stationary sources of air pollutants and no major industries to pollute the air. The little air quality data for the area that is available from the Department of Health indicate that air quality in the project area meets all applicable Federal and State standards.

Within the vicinity of the project area, air quality is impacted primarily by volcanic haze (vog) from Kilauea Volcano, which eventually drifts with the prevailing winds to the Kona area from more than 50 miles away. The impacts of the volcanic haze varies markedly based on the level of volcanic activity, prevailing wind direction, and climatic conditions. Other natural sources of pollution that may affect the air quality of the region include the ocean, plants, wind-blown dust, and vehicular emissions. Mamalahoa Highway, which is mauka of the proposed bypass alignment, is a major arterial roadway; however, emissions from motor vehicles traveling on this roadway are generally carried away from the project area by the prevailing winds.

Dominant noise sources in the region include wind, birds and surf. A noise quality assessment study for the project (Appendix F) found that low noise levels (ranging from 40-53dBA) typical of quiet suburban and rural areas. The highest noise level (53dBA) was measure within the Kona Scenic Subdivision which is approximately 3,000 feet up slope of the bypass corridor at the closest point.

#### Air Quality

At the present time, air quality standards have been established by both Federal and State governments that limit ambient concentrations of particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone and lead. In addition, a State standard has been established for hydrogen sulfide. The Hawai'i Air Quality Standards, particularly those for carbon monoxide, are more stringent than the comparable national limits, except for the standards for sulfur dioxide, particulate matter and lead, which are set at the same levels.

An air quality study for the project (Appendix G) examined the potential short- and long-term air quality impacts that could occur as a result of construction and use of the proposed bypass road. The study projected that some short- and long-term impacts on air quality will unavoidably occur either directly or indirectly as a consequence of roadway construction and use. Short-term impacts from fugitive dust will likely occur during the roadway construction phase. To a lesser extent,

exhaust emissions from stationary and mobile construction equipment and from the disruption of traffic may also affect air quality during the period of construction. State air pollution control regulations require that there be no visible fugitive dust emissions at the project boundary.

To assess the potential long-term impact of emissions from vehicles operating on the new roadway, an air quality modeling study of selected intersections within the roadway project study area was undertaken. The analysis involved the use of computerized emission and dispersion models to estimate current worst-case ambient concentrations of carbon monoxide during peak travel hours. Two of the intersections where the roadway project is likely to have the most impact were studied: Mamalahoa Highway at Napo'opo'o Road and Kamehameha III Road at Ali'i Drive. Three scenarios were examined for each of the two intersections studied. These included 1997 with existing conditions and the year 2015, both with and without the roadway project.

Worst-case monoxide concentrations for 1997 in the roadway project vicinity were estimated to be within both National and State Ambient Air Quality Standards. In the year 2015 without the roadway project, worst-case concentrations were predicted to increase to levels that would exceed the State standards at both intersections studied, particularly near the intersection of Mamalahoa Highway and Napo'opo'o Road. Potential exceedance of the less stringent National 8-hour standards for carbon monoxide was also indicated at the Mamalahoa Highway/Napo'opo'o Road intersections.

With the roadway project in the year 2015, concentrations were predicted to decrease compared to without the roadway project case at the Mamalahoa Highway/Bypass Road/Napo'opo'o Road intersection. The predicted decrease with the roadway project would bring the intersection into compliance with the National Standards, but worst-case concentrations would continue to potentially exceed the State Standards. Concentrations near the Kamehameha III Road/Ali'i Drive intersection were forecast to increase by about 50 to 80 percent due to the added traffic using this route as an alternative to Mamalahoa Highway. Concentrations at this location would continue to potentially exceed the State 1-hour and 8-hour standards but would remain within the National standards.

It should be noted here that, because the State standards are set at such stringent levels, it is likely that they are currently exceeded at many locations in the State, including some locations in the Kailua-Kona area, that have even moderate traffic volumes. Also, due to the methodologies involved, the 8-hour concentrations estimates are probably less reliable than the 1-hour estimates. All concentration estimates should be considered conservatively high.

It should also be noted that the Air Quality Study focused on those locations where the roadway project would likely have the most significant negative impact. Although areas along Mamalahoa Highway north of Napo'opo'o Road were not studied, these locations will likely derive a significant air quality benefit from the roadway project due to the substantially reduced traffic volumes the project will provide.

The Air Quality Study notes that the roadway project is in itself a measure to mitigate traffic and traffic-related impacts associated with the Villages at Hokuano (Hokuli'a) project and any additional measures to mitigate project-related air quality impacts are probably unwarranted.

#### **Noise Quality**

The existing ambient noise levels in the vicinity of the project site, measuring between 40 to 50 DBA, are typical of rural and quiet suburban areas.

An Environmental Noise Assessment was conducted for the project by acoustical consultants, Darby and Associates. The study examined the potential short- and long-term noise quality impacts that could occur as a result of construction and use of the proposed bypass road.

The U.S. Department of Housing and Urban Development (HUD) has established Site Acceptability Standards for interior and exterior noise for housing. These standards are based on day-night average sound levels, LDN, and identify the need for noise abatement, either at the site property line or in the building construction. HUD Site Acceptability Criteria rank sites as Acceptable, Normally Unacceptable, or Unacceptable. "Acceptable" sites are those where noise levels do

not exceed an LDN of 65 dBA. Housing on acceptable sites do not require additional noise attenuation other than that provided in customary building techniques. "Normally Unacceptable" sites are those where the LDN is above 65 dBA, but does not exceed 75 dBA. Housing on "Normally Unacceptable" sites requires some means of noise abatement, either at the property line or in the building construction, to assure the interior noise levels are acceptable.

In the short-term, construction of the proposed project, involving excavation, grading and possibly blasting, could generate significant noise, which could impact the nearby noise sensitive areas. The actual noise levels produced are dependent on the construction methods employed during each phase of the construction process. Earth moving equipment, (e.g., diesel engine powered bulldozers, trucks, backhoes, front-end loaders, graders, etc.) will probably be the noisiest equipment used during construction. However, as the noise will be temporary, no lasting impact due to the construction of the proposed project is expected.

Blasting may be required in some portions of the proposed bypass corridor, which could have noise impact if conducted near noise sensitive locations. However, such impacts can be mitigate provided appropriate design techniques are utilized such as using numerous small charges and employing blast mats to direct the explosive force and muffle the noise.

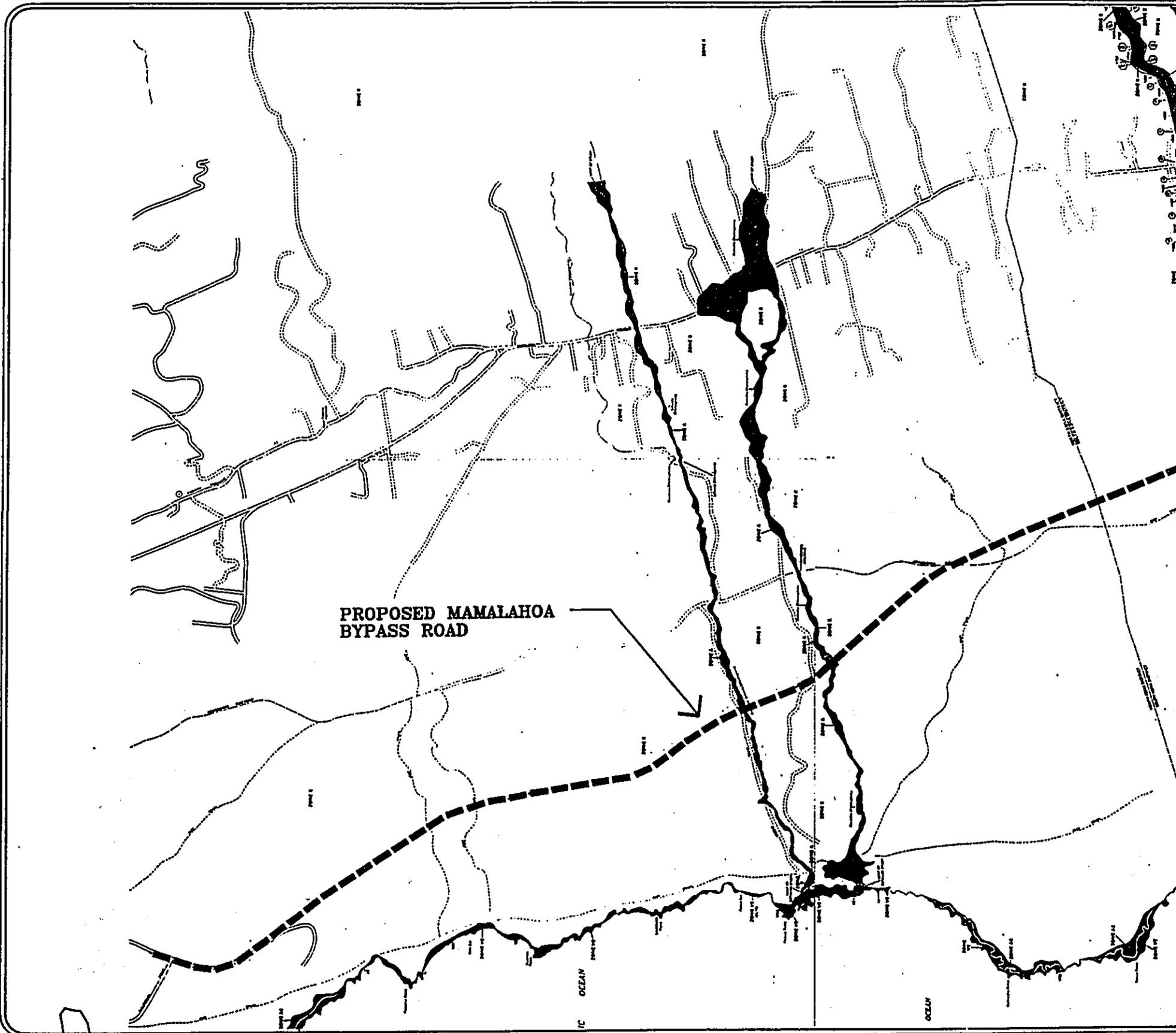
Over the long-term, without the proposed Mamalahoa Highway Bypass, the traffic noise levels should increase, as compared to existing conditions, along Kamehameha III Road, Kuakini Highway, and Mamalahoa Highway for both future years examined, 2010 and 2015. With the proposed bypass, the traffic noise levels were projected to decrease along all these roads for the year 2010. The year 2015 a slight increase in traffic noise levels (less than 1dB relative to existing levels) at site adjacent to Kamehameha III Road and at some portions of Kuakini and Mamalahoa Highways during afternoon peak hour traffic. Such small increases are generally not perceptible and are not considered significant.

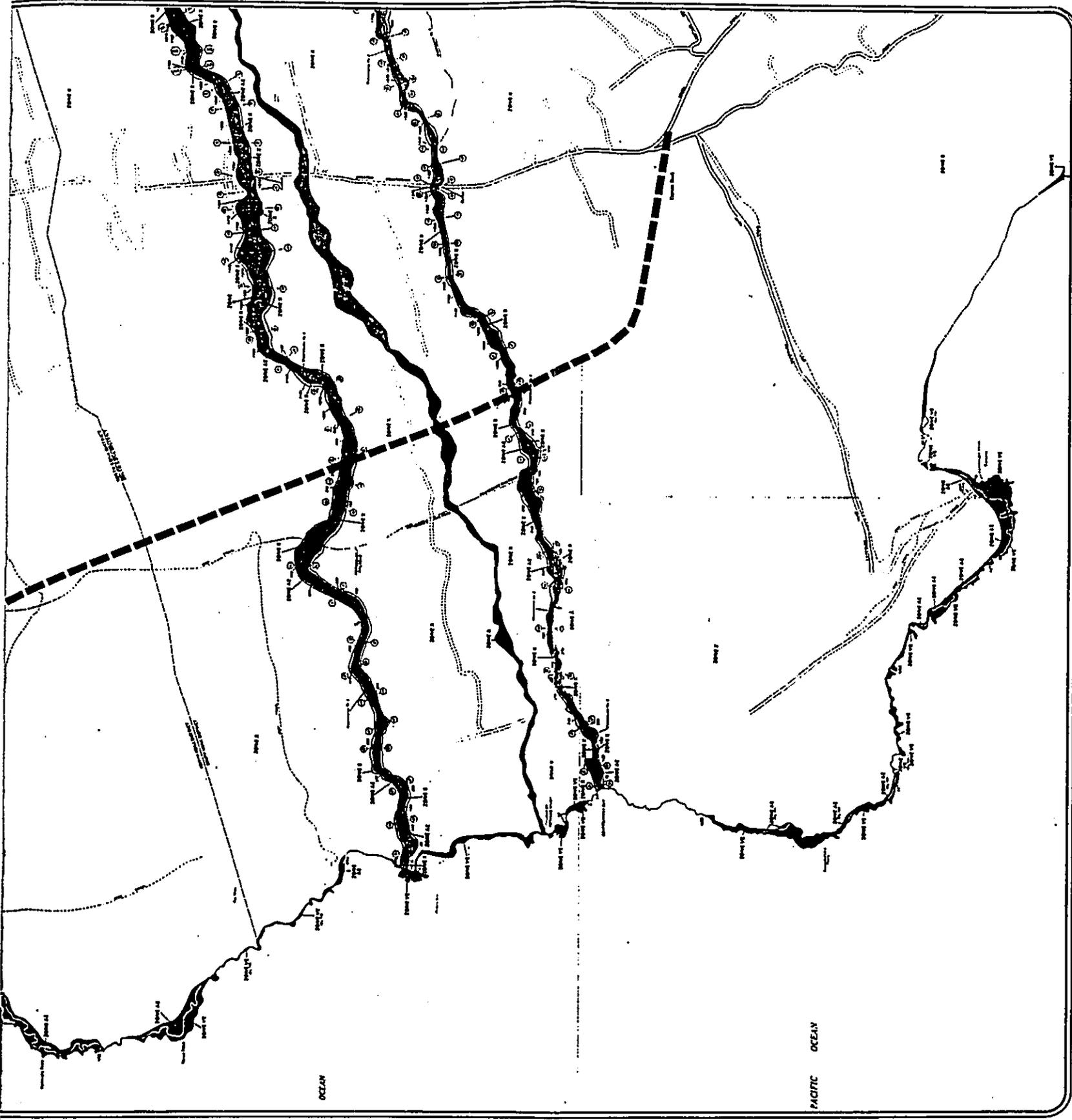
The annual day-night average noise levels, due to traffic were calculated for the existing residences located nearest to the proposed bypass for the future years 2010 and 2015. These residences are located along the southern end of the proposed bypass near Captain Cook, where there are several homes no closer than about 200 feet to the proposed bypass centerline. At this distance, noise levels due to traffic of 63.1 and 64.2 dBA are expected for the years 2010 and 2015, respectively. These levels are below the HUD defined LDN of 65 dBA for "acceptable" sites, thus no additional noise mitigation should be required. Additionally, these levels do not reflect any attenuation provided by the topography and intervening vegetation that might shield the homes, and in effect, they represent the highest expected generated noise levels.

The nearest significant concentration of homes are located in the Kona Scenic Subdivision which is accessed by Haleki'i Street from Mamalahoa Highway. Situated no less than 3,000 feet mauka from the proposed bypass of no more than 52.0 and 53.6 dBA, for the future years 2010 and 2015, respectively, these noise levels are compatible with the ambient noise level of 52.3 dBA measured within the subdivision, and well below the HUD defined levels of "Acceptable" sites.

#### **4.1.7 Drainage and Flooding**

According to the Federal Emergency Management Agency, Flood Insurance Rate (FIRM) Maps and shown in Figure 9, five drainageways pass through the bypass highway alignment. The Kawanui-Lehuula Drainageway, the most northern of the five drainageways, runs makai through the town of Honalo and is classified by the Flood Insurance Rate Map as Zone A, 100-year flood with no base flood elevation determined. The Kainaliu Drainageway, also classified as Zone A, is south of the Kawanui-Lehuula Drainageway, and runs parallel to and just north of the Villages at Hokukano (Hokuli'a) northern property boundary. The third through fifth drainageways are referred to as Watercourse No. 1 (Zone AE and X), No. 2 (Zone A), and No. 3 (Zone AE and X), and are all located in the South Kona district.





**FIGURE 9**  
**FLOOD INSURANCE RATE MAP**  
**MAMALAHOA HIGHWAY BYPASS ROAD**  
 NORTH & SOUTH KONA, ISLAND OF HAWAII

AREA SCALE    NORTH    LINEAL SCALE (FEET)

25 Acres       500 0 500 1000 2000 4000

DATE: 2/9/98

The approximate 100-year peak discharges for these stream channels are shown in the following table:

**TABLE 2**

DRAINAGEWAY	100-YEAR STORM PEAK DISCHARGE
Kainaliu DRAINAGEWAY	600 CFS
Kawanui DRAINAGEWAY	590 CFS
Watercourse No. 1	2,010 CFS
Watercourse No. 2	280 CFS
Watercourse No. 3	700 CFS

Sources: North Kona Flood Plain Management Study, USDA Soil Conservation Service, 1984 and South Kona Flood Hazard Analysis, USDA Soil Conservation Service, 1977.

In addition to the five major drainage ways, runoff from several small drainage basins must also be accommodated in the highway design. Depending on the quantity of the peak discharge, runoff from these smaller basins will either be collected in roadway swales and discharged to drywells or conveyed under the highway via culverts. Culverts will be located and sized to accommodate projected flows without significant impacts to the highway or nearby properties.

There are no perennial stream crossing within the Bypass corridors, as flows occur only intermittently during significant rainfall events. There are no aquatic plant or animal species in the drainage channels that would be affected by the project.

In an August 3, 1999-letter the Department of Land and Natural Resources, Land Division, Engineering Branch indicated all the applicable regulations for the bypass road and confirmed the five drainageways that pass through the bypass alignment. This letter and the response prepared can be found in Section 8.3 of this document.

**4.1.8 Natural Hazards**

The proposed project is located on the western slope of Mauna Loa volcano, which rises to a height of 13,679 feet above sea level. The project site is located about 22 miles west of Mokuaweoweo Crater, the volcano's summit, on prehistoric lava flows, which are estimated to range in age from 750 to more than 4,000 years old. According to the United States Geological Survey (USGS), Mauna Loa has erupted thirty-two times since 1832. Seven of those eruptions have occurred in the southwest rift zone, that area of the volcano with potential exposure to the project area. Of those seven eruptions, the closest to the project site occurred in 1950 when a lava flow from the southwest rift zone reached the sea approximately ten miles south of Captain Cook at the southern end of the project area.

Risks from volcanic eruptions include lava flows, tephra falls, pyroclastic surges, and gas from eruptions. The area of proposed roadway alignment is within Lava Hazard Zones 3 and 4, with Zone 1 being the highest and Zone 9 being the lowest in terms of risk. According to the USGS, only one to five percent of land surface in Hazard Zone 3 has been covered by lava during historic times. Zone 4, which extends to the area of Kainaliu includes all of Hualalai where the frequency of eruptions is lower than that for Mauna Loa. There is a relatively low risk of pyroclastic surges affecting the project site, as these are presently only associated with Kilauea Caldera over fifty miles away. There is the possibility that tephra and volcanic gas could effect the project site, however, the impact of these occurrences depends upon the size and character of the eruption, and prevailing wind direction.

In terms of seismic risk, the entire Island of Hawai'i is designated within Earthquake Zone 3, which is the zone of highest seismic occurrence and danger. In 1951, a 6.9 magnitude earthquake occurred about one mile offshore of the project area, and in 1983, a magnitude 6.6 earthquake occurred at a depth of seven miles midway between Kilauea and Mauna Loa, about 34 miles from the project site, causing a landslide at Kealakekua Bay shortly after.

In terms of risks from tsunami hazard the FEMA Flood Insurance Rate Map (FIRM) indicates areas that are subject to potential coastal flooding or wave action with a VE designation and the base flood elevations. As indicated in Figure 9 (following page 22), the roadway corridor is outside the VE Zone. At its nearest point in the area of the junction with Ali'i Highway, the corridor extends approximately 1,250 feet inland of the VE Zone. Therefore, the roadway is not expected to be exposed to either tsunami or flood hazards.

#### **4.1.9 Scenic and Open Space Resource**

Consisting of primarily open and pasture lands, the visual character of the project area, as shown in Figures 10A through 10E, is generally that of an open and heavily vegetated pasture lands. From the proposed roadway corridor, the primary scenic and open space resources are views of the coast, the ocean, Hualalai Mountain and the slopes of Mauna Loa. Views to the sea are available from Kuakini Highway, but are generally impeded along the developed portions fronting Mamalahoa Highway, from Honalo to Captain Cook.

Although potentially visible from limited portions of Kuakini Highway and Mamalahoa Highway, the project will not present any impediments to current views from public roadways to the shore. The project also will not impede views of those sites and vistas of natural beauty in the area as identified within the County General Plan (County General Plan, Support Document, Page 36) which includes the makai viewplane from Kuakini Highway.

### **4.2 ARCHAEOLOGICAL HISTORICAL AND CULTURAL ENVIRONMENT**

An Archaeological Inventory Survey of the proposed Mamalahoa Bypass Road Corridor was conducted by Ogden Environmental and Energy Services (Appendix H). Included with the Archaeological Inventory Survey Report is a Cultural Impact Assessment for the project area conducted by Kumu Pono Associates. These studies include a review of a description of the physical and cultural environment and historical background, a review of previous archaeological studies and overview of settlement patterns and oral traditions. The following is a summary of the report findings.



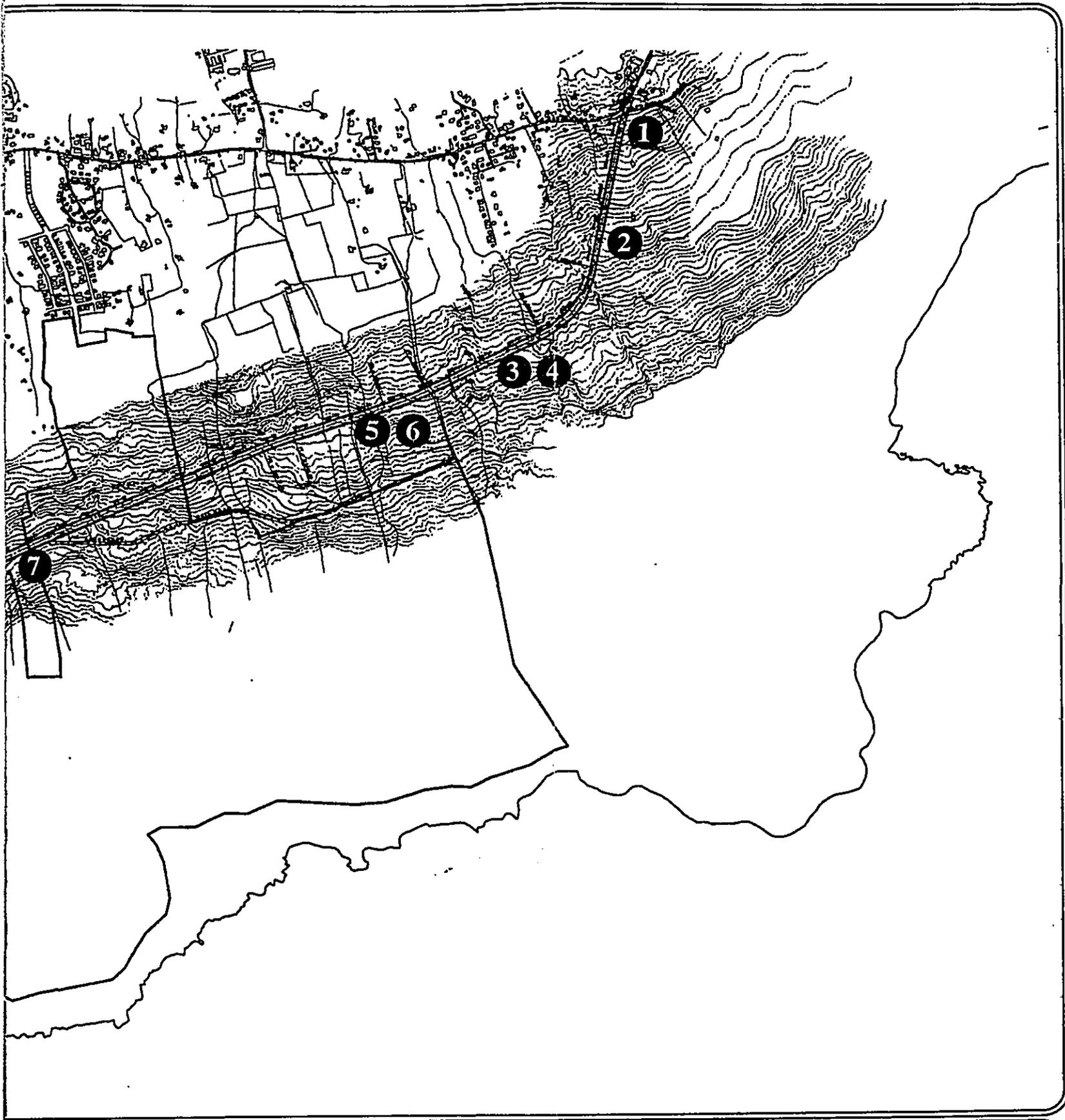
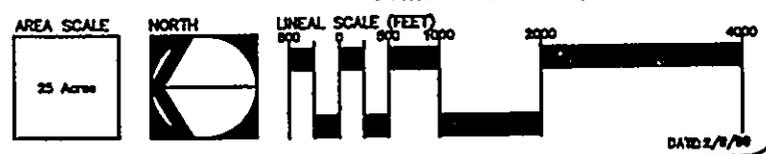


Figure 10  
 VISUAL KEY MAP  
 MAMALAHOA HIGHWAY BYPASS ROAD  
 NORTH & SOUTH KONA, ISLAND OF HAWAII



DAVID L. B. '98



1. Southerly view along Napo'opo'o Road. Proposed intersection of Napo'opo'o Road and Bypass Road.



2. Southerly makai view.

FIGURE 11A  
VISUAL ANALYSIS  
**MAMALAHOA HIGHWAY BYPASS ROAD**  
NORTH & SOUTH KONA, ISLAND OF HAWAII

NOT TO SCALE

DATE: 2/7/99



3. Northerly view looking down the proposed right-of-way towards Kona.



4. Southerly view from same position of future right-of-way.

FIGURE 11B  
VISUAL ANALYSIS  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH & SOUTH KONA, ISLAND OF HAWAII

NOT TO SCALE

DATE: 2/9/98



5. Northerly view of right-of-way with ocean view visible.



6. Southerly view from same location.

FIGURE 11C  
VISUAL ANALYSIS  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH & SOUTH KONA, ISLAND OF HAWAII

NOT TO SCALE

DATE: 2/9/99



7. View of roadway corridor at 650 foot elevation. Rock outcroppings are also more commonly seen along the right-of-way corridor.



8. Southerly view at same location.

**FIGURE 11D**  
**VISUAL ANALYSIS**  
**MAMALAHOA HIGHWAY BYPASS ROAD**  
NORTH & SOUTH KONA, ISLAND OF HAWAII

NOT TO SCALE

DATE: 2/9/00



9. Right-of-way at 400 foot elevation.



10. Southerly view from same location.

FIGURE 11E  
VISUAL ANALYSIS  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH & SOUTH KONA, ISLAND OF HAWAII

NOT TO SCALE

DATE: 2/9/98

### Oral Histories

Most of the oral histories and place name definitions associated with the project *ahupua`a* highlight traditional events and valued resources associated with the coast; such as the battle and burial grounds of Liholiho and Kekuakalani's warriors at coastal locales between Keauhou and Ma`ihi (just south of the *ahupua`a* of Keauhou and Honalo, Wong-Smith 1999); a rock named "Lanai o Kauhi" at the Hokukano coast where a chief by that name would watch his fishing canoes come to shore (Hammatt et al. 1997:28); or human affiliations with sharks at Nawawa Bay (Hammatt et al. 1997:35) and references to the shark god Keopulupulu (Wong-Smith 1999:70). A mythological reference to Onouli, translated as "rations for Uli" with Uli being the grandmother of Kana (Pukui et al. 1974:171), is found in the Kana Legend (Beckwith 1970:464-477). The legend suggests that Onouli (at the southern end of the project site) provided a plentiful food supply as Kana the demigod, apparently stretched "to Kona to Uli, to our Grandmother, for food and fish".

Keauhou, the most northern of the project *ahupua`a*, is associated with the Kamehameha lineage and it is known as the birthplace of Kamehameha III (Kauikeaouli) (Wong-Smith 1999:25). Ka`awaloa, the most southern of the project *ahupua`a*, was a comparable place of political significance, as it was also a preferred residence for the *ali`i* (Keawe-nui-a`umi, Kalaniopu`u among others) and popular canoe landing for visiting *ali`i*, as well as a destination for foreign voyagers during the post-Contact period. Captain James Cook was ultimately slain at the Ka`awaloa coast and his body taken upland to a place *mauka* called Puhinaolono or Kapuhiolono where it was burned and stripped of flesh (Wong-Smith 1999:57).

Oral histories obtained from residents and owners of the project *ahupua`a* imply that traditional Hawaiian land uses continued in the *ahupua`a* during the 19<sup>th</sup> and 20<sup>th</sup> centuries, particularly with the procurement of marine goods (fishing and gathering of *limu*) and collection native plants for medicinal purposes (Wm. Paris interview, in Helen Wong-Smith 1999). Many local informants are aware of the existence of numerous sites in the project *ahupua`a*, (including but not limited to) several *heiau*, the battle and burial grounds of Lekeleke and Kuamo`o (between Keauhou and Ma`ihi), a holding area for leprosy victims at Kahoe`e in Keauhou, 19<sup>th</sup> and 20<sup>th</sup> century residences at the coast of Kainaliu, Hokukano, and Nawawa Bay and, immigrant homesteads and truck farming in the uplands. Mr. William

Paris Jr., whose family's ranch lands extend from Ma'ihi to Hokukano, recalled that the cattle pastures were often cleared of stone, with the stone refuse piled into indiscriminate mounds or around existing trees (Wm. Paris interview, in Helen Wong-Smith 1999).

In general, the oral histories intimate that the *ahupua`a* lands between Ka`awaloa and Keauhou were highly valued by Hawaiians for their abundance of food resources from the sea and land. Sizable settlements existed at the coast and important chiefly centers of Kona were established at Ka`awaloa and Keauhou. Some of the present owners of the *ahupua`a* are descendents of a long line of ranching dynasties (e.g., Greenwells, Ackermans, Paris, among others) whom originally obtained large tracts of land following the mid-19<sup>th</sup> century mahele period. Some of their personal and ancestral accounts attest to the changes experienced by the Hawaiian residents once occupying this region of Kona, as the upland agricultural land was gradually converted to pasture land and commercial agriculture crops.

#### **EARLY POST-CONTACT ACCOUNTS**

Early historic accounts of foreign voyagers described the uplands of the Kona coast as a verdant landscape that was cultivated in different crops at certain elevations of the Kona slope. This agricultural exploitation of the leeward slopes of Kona has been recognized as part of an agricultural field system (termed the Kona Field System) which was patterned in accordance to four distinct ecological subzones extending from the coast to the upland forests (cf. Newman 1970, 1972 and 1974; Kelly 1983 and Schilt 1984). The four subzones were established through the correlation of mid-19<sup>th</sup> century Land Commission Award (LCA) testimonies, with archaeological remains, and modern climatic data.

Mid-19<sup>th</sup> century LCA testimonies indicate that traditional crops continued to be cultivated in at least nine of the project *ahupua`a*, between approximately 1,200 ft and 1,500 ft amsl (Hammatt et al 1997:38). Land Commission Awards were also claimed in parcels in Hokukano as low as 400 ft amsl (Hammatt et al 1997:57). Unfortunately these lower LCA's, including LCA No. 8157-O crossed by the proposed road corridor, lack testimonies describing land use at these elevations.

The LCA data also specifies that permanent residences were claimed along part of the coast of the *ahupua`a*, especially in embayments, such as Nawawa Bay and adjacent to accessible shorelines, such as at Hokukano and neighboring Honua`ino

#### **POST-CONTACT SETTLEMENT AND LAND USE**

Tomonari-Tuggle (1985:34-35), as cited in Burtchard (1993:48), summarize the post-Contact settlement pattern of Kona. A marked change in the traditional settlement pattern is discerned as a result of foreign occupation in the region and the development of market-based enterprises:

By the turn-of-the-century, the Kona uplands were developing into an agricultural haven for small farmers, nurtured by the family-oriented coffee industry (Lind 1967). Settlements strung out and grew along the Belt Highway in the lush uplands, leaving the dry and rocky coastline to few hardy individuals.

The Kona settlement pattern was an array of small towns, each servicing an integrated community. Main towns...were located at Kailua, Keauhou, Napoopoo, and Honaunau along the coast, and at Kealakekua, Kainaliu, Holualoa, and Captain Cook along the Belt Highway. Each town had its stores, churches, and schools. Post offices were located at Keauhou, Holualoa, Kailua, Napoopoo, and Kealakekua town (Donn 1901).

Along the coast, Keauhou was the literal "end of the road" from Kailua; the road continued further south as only a trail. Kahalu`u (north of Keauhou) was merely a cluster of houses along the way. But perhaps more important than the coastal road were the carriage roads and paths which connected the coast with the uplands. The changing focus of community life to the uplands is reiterated in a visitor's description of Keauhou Bay as "miles off the beaten path...a place where few people used to live in numbers and now live no more" (Schenck 1931:80).

Concurrent with the post-Contact settlement shift from the coast to the uplands of the project *ahupua`a*, large tracts of land were acquired and used primarily as ranch lands and smaller parcels for commercial agriculture (e.g., sugarcane and coffee). Presently, much of the *ahupua`a* land, particularly the elevations crossed by the proposed road corridor, is still utilized as pasture land.

Early historical accounts and 19<sup>th</sup> century documentation (supplemented by modern archaeological research) indicates that the upland elevations of the 17 *ahupua`a* crossed by the proposed road corridor were under intensive cultivation during pre- and post-Contact times. Cultivation of the uplands developed into a systematic field system (commonly termed the Kona Field System) where certain crops were cultivated within distinct environmental zones. The project corridor crosses through part of two of these zones: the Kalu`ulu (500 to 1,000 ft. amsl) subzone, where breadfruit, interspersed with sweet potatoes, mountain apple and taro, were cultivated; and in the Kula subzone (sea level to 500 ft. amsl.) where taro, sweet potatoes, *ti* and sugarcane were cultivated.

#### **SETTLEMENT PATTERNS**

The historical background and results of archaeological research suggest a general pattern of traditional Hawaiian settlement and land use in the project *ahupua`a* during the pre-Contact and early post-Contact period.

Permanent occupation of the project *ahupua`a* was centered along parts of the coast, with Ka`awaloa and Keauhou, becoming major political centers of Kona. Village-like concentrations were established between the two political centers, typically adjacent to embayments, such as Nawawa Bay at the coast of Ke`eke`e and Kanakou, and other ocean-accessible localities at Hokukano, Honua`ino (Kainaliu), with smaller hamlets located between Honalo and Kuamo`o. Some of the coastal settlements contained *heiau* and structures with features characteristically associated with the Hawaiian *ali`i* (e.g., *holua*, *kapu* stone, substantial house sites).

The ascending slope above the coastal settlements was utilized for intensive, dryland agriculture, with different elevational zones of the *ahupua`a* systematically cultivated in certain crops. This method of dryland agriculture, commonly termed the Kona Field System, is characterized in the archaeological record as a diverse concentration of agricultural features that modify existing terrains from sea level

to approximately 2,500 ft amsl. The previous archaeological record suggests that temporary habitation was the primary settlement mode among the Kona Field System. Permanent residences were eventually established among the uplands of the *ahupua`a*, but the distribution of residences was dispersed and not clustered in village-like settings.

The traditional settlement and land use pattern was transfigured during the post-Contact era in direct response to foreign contact. In addition to a decrease in native populations due to foreign diseases, demographic shifts occurred within the *ahupua`a* and districts, as people were drawn to the major ports (e.g., Kailua-Kona) and upland villages for commerce and trade activities. New population centers arose along the upper elevations of some of the *ahupua`a* (i.e., along the current Mamalahoa Highway) in proximity to environments conducive for commercial agriculture, such as coffee and sugarcane. The remaining lands between the coast and developing upland villages (including elevations crossed by the proposed road corridor) were eventually purchased by private landowners and most converted to pasture land. The majority of the elevations crossed by the proposed road corridor continue to be utilized for pasture land.

#### **ARCHAEOLOGICAL SURVEY RESULTS**

As a result of the inventory surveys conducted by Ogden and previous archaeological studies overlapping the central and south portion of the project corridor (Barrera 1990; Rosendahl and Jensen 1989; and Hammatt et al. 1997), a total of 47 sites have been identified within 13 of the total 17 *ahupua`a* crossed by the road corridor. An additional 15 sites were identified outside of the present course of the proposed road project corridor.

The sites are located between 125 ft and 1060 ft amsl, with 60% of the sites situated between 300 and 400 ft amsl, in the *ahupua`a* crossed by the northern portion of the proposed road corridor (e.g. Honalo, Ma`ihi, Kuamo`o, and Kawanui).

Roughly half of the sites identified within the proposed road corridor are interpreted as traditional Hawaiian sites attributable to the pre-Contact and early post-Contact periods. The remaining 25 sites are likely affiliated with non-traditional land use during the post-Contact period. A few of the traditional Hawaiian sites have been modified for post-Contact, commercial agriculture.

The traditional Hawaiian sites are interpreted as features associated with intensive, dryland agriculture, habitation, and animal husbandry. The agricultural sites comprise 77% of the traditional site inventory. The majority of the agricultural sites identified in the proposed road corridor reflect various methods of intensive, dryland (or non-irrigated) cultivation undertaken between 300 ft to 900 ft amsl.

The habitation sites, representing 8% of the site inventory, consisted of five temporary habitations (two of which are included in agricultural complexes) and one site (Site 11307) identified previously with a general habitation function. The habitation sites are represented by partially modified lava blisters and enclosures, with the enclosures having potential living areas measuring between 9 m<sup>2</sup> and 25 m<sup>2</sup>. The habitation sites were likely utilized while tending to crops in the vicinity.

The two sites interpreted as animal pens (Sites 21248 and 21632) are likely components of permanent habitation sites located in the vicinity of the project site (Sites 21247 and 21651). The animal pens are enclosures with walls (0.8 to 1.3 m) that lack entryways.

The 25 sites associated primarily with non-traditional land use include 23 boundary walls, the Kona Sugar Co. railroad trestle (Site 7214/10302), and a possible clearing mound (Site 13174). The 23 boundary walls are associated with 19<sup>th</sup> and 20<sup>th</sup> century cattle ranching and they delineate boundaries of privately owned land parcels and cattle paddocks. Thirteen (13) of the site walls probably follow traditional *ahupua`a* boundaries. In accordance with site interpretations in the Hammatt et al. Report (1997), the *ahupua`a* site walls are classified as both traditional and non-traditional in origin, as it is believed that the post-Contact walls were built over pre-existing, agricultural boundary walls.

The Kona Sugar Co. railroad trestle (Site 7214/10302) is part of an 11-mile railway line constructed in the early 1900's between Wai'aha, North Kona to Keopuka, South Kona (Wong-Smith 1999:59). The railway was utilized to haul cane from the adjacent fields.

Overall, the archaeological sites identified in the proposed road corridor suggest that the middle and upper elevations of the Kona slope crossed by the proposed road corridor were under intensive cultivation during the pre-Contact and early Post-Contact periods. Based on radiocarbon analysis of habitation sites in the upland region (ca. 600 ft amsl), Hammatt et al. (1997:291-292) speculate that intensive, dryland agriculture (e.g., Kona Field System) was developed as early as AD 1250-1480 and through the AD 1400-1600s'. Being similar in form and presumed function, the traditional Hawaiian sites present in the project corridor are likely attributable to the same pre-Contact periods. The traditional Hawaiian sites were probably abandoned by the time the project lands were placed under private ownership for ranching and market-based agriculture by the mid 19<sup>th</sup> century mahele period.

#### **SITE SIGNIFICANCE**

All 47 sites in the proposed road corridor have been evaluated for site significance using the National and State Registers of Historic Places criteria. All sites located within the proposed road corridor are evaluated as significant under criterion "d" in that it is believed that all 47 sites have yielded or have potential to yield information indicative of the traditional settlement patterns of the 17 ahupua'a crossed by the road corridor, and characteristics and chronology associated with intensive agriculture (e.g. Kona Field System).

The Kona Sugar Co. railroad trestle (Site 7214/10302) has been previously evaluated by Hammatt et al. 1997 as significant under criteria a, c, and d. Criterion "a" was utilized assigned to the site because it reflects a "major historic trend in Hawai'i" with the introduction of commercial sugar cane cultivation (Hammatt et al. 1997:306). The site was evaluated as significant under criterion "c" because it was considered "to be an excellent example of early 20<sup>th</sup>-century construction, as well as a unique site type within the project area" (Hammatt 1997:307).

## **RECOMMENDATIONS**

Ten of the project sites in the proposed road corridor have been previously recommended to undergo a combination of data recovery and preservation (Hammatt et al. 1997:8-9). These sites consist of nine boundary walls (Sites 16787, 16788, 16789, 16791, 16792, 16796, 16799, and 16800) and the Kona Sugar Co. railroad trestle (Site 7214/10302), all of which extend across the width of the proposed road corridor.

Due to the linear nature of the eight boundary walls (Sites 16787, 16788, 16789, 16791, 16792, 16796, 16799, and 16800) and Kona Sugar Co. railroad trestle (Site 7214/10302), it is recommended that sections of the walls potentially impacted by construction of the proposed road corridor be subjected to Data Recovery. Prior to construction of the proposed roadway, efforts should be made to minimize further impact to these sites by stabilizing the site features and erecting fencing along the remaining portions adjacent to the roadway.

An additional site (Site 13174), a mound, was previously designated to be preserved as part of the development plans of a land parcel encompassing the south end of the proposed road corridor. Because the site function has yet to be determined, it is recommended that Site 13174 be subjected to a field inspection and possibly subsurface testing during the Data Recovery phase of this study. This work will be done in an attempt to determine the site's function, and further evaluate site significance and appropriate mitigation measures (P. McCoy, pers. comm.) .

Data recovery is recommended for all 47 archaeological sites identified in the proposed road corridor. Data recovery efforts would include mapping of the larger agricultural complexes, further documentation of the construction techniques of the boundary walls, and excavations at the habitation sites and a sample of agricultural sites. It is recommended that data recovery be conducted at Site 13174, a rock mound, to determine the site's function and re-evaluate proper mitigation of the site. Data recovery shall proceed in accordance with a Data Recovery Plan submitted to the DLNR State Historic Preservation Division for review and approval.

Prior to preparation of the Data Recovery Plan, it is recommended that the centerline of the proposed road corridor be staked by professional surveyors and each site potentially threatened by impact of the proposed road construction be located in relation to the stakes. This task will be especially important for sites identified previously in the southern and central portions of the proposed road corridor (Rosendahl and Jensen 1989; Barrera 1990; and Hammatt et al. 1997) which were not re-located during the present study. If any of the project sites are determined to be located outside the impact area of the proposed road corridor, no mitigation work should be warranted for these sites. Based on the results of the present study's inventory survey and previous archaeological surveys, additional sites are known to exist beyond the current boundaries of the proposed road corridor. Therefore, it is recommended that some level of site protection is attempted for these nearby sites prior and during construction of the proposed road corridor. One method of site protection would be to install fencing along the perimeter of the road corridor to ensure that no ground disturbing activities occur beyond the limits of the proposed road construction corridor.

### **4.3 SOCIAL ENVIRONMENT**

#### **4.3.1 Population**

The Island of Hawai'i is experiencing a steady increase in population. From 1980 to 1990, the County's population increased by 30.7 percent, far exceeding the State's growth rate of 14.9 percent. Further, between 1990 and 1994, the County's population increased by 15,183 people, representing a 12.6 percent growth in just four years. Regionally, South Kona's population grew from 5,914 to 7,658 between 1980 and 1990, and between 1990 and 1995, the total population for the region of the proposed bypass (represented by census tracts for Keauhou, Kealakekua and Captain Cook), grew from 5,853 to 6,913. The State estimates that the County of Hawai'i's population will continue to grow, reaching approximately 206,000 people by the year 2010, a 71 percent increase from 1990<sup>1</sup>.

Although the Big Island has the lowest population density of any County in the State, the rapid population growth in districts such as North Kona, have placed increased demands on the existing road networks and other public services in the area.

#### **4.3.2 Employment**

Employment data for the region of North and South Kona indicate that as of 1996, there were 18,400 people in the civilian workforce, (13,600 and 4,800 respectively) and of these 16,950 were employed, representing an unemployment rate of 7.98 percent. This compares to an unemployment rate of 8.00 percent for the same region in 1995, and the current Island-wide unemployment rate of 9.9 percent<sup>2</sup>. (<sup>1</sup>, <sup>2</sup>*Data Book 1996 County of Hawai'i*). In 1996 the unemployment rate for the South Kona District was at 8.75 percent, slightly higher than that for the North Kona District, which was 7.25 percent.

#### **4.3.3 Housing**

The total stock of housing on the Island has greatly increased in the past decade, from more than 34,200 in 1980 to about 50,000 in 1990. By 1990, the rental vacancy rate in South Kona was 3.4 percent, and in North Kona, 16.0 percent. Based on 1995 figures the median rental prices for units in North and South Kona were \$644 to \$390 respectively, and the median sales prices for homes in North and South Kona districts in 1995 were \$292,387 to \$197,876 respectively<sup>3</sup>. (<sup>3</sup>*Data Book 1996 County of Hawai'i*).

The region's housing stock will be affected by several large developments in the region that have associated housing elements. The Keauhou Resort lands, north of the bypass road, have approval for development of 3,097 single and multi-family units. Development plans for the Villages at Hokukano (Hokuli'a) project, through which the roadway traverses, include approximately 730 agricultural lots and homes that would be developed over a fifteen to twenty year period. Mauka of Mamalahoa Highway, the Kealakekua Development Corporation project received zoning approval in 1995 for 500 agricultural lots ranging in size from one to forty acres. Other major residential projects currently being planned for the Kona area include the Pualani Estates, which has a residential subdivision of 385 units in the area mauka of Kuakini Highway, near the junction with Hualalai Road, and

the Kealakehe Master Planned Community (Villages at Laiopua), which has a residential component of 3,000 units north of Kailua-Kona.

#### **4.3.4 Land Use**

The project area is generally located between the Keauhou Resort area to the north and the town of Captain Cook to the south, and is characterized as primarily pasture and open lands with smaller farm lots located near the southern portion near Napo'opo'o Road. In the central portion is the planned Villages at Hokukano (Hokuli'a) Project, a master planned community of approximately 730 agricultural lots of one to three acres in size, a golf course, and a members lodge of up to 80 units. The majority of the lands surrounding the proposed roadway project, except for the urban portions at either end, are designated within the State Agricultural District and for "Orchards" and "Extensive Agricultural" use on the County General Plan, Land Use Pattern Allocation Guide (LUPAG) Map. These lands, except for the Oceanside 1250 property, are also predominately designated as Agricultural (A-5a) on the County's North and South Kona Zone Maps. The A-5a zoning designation allows for lot sizes of five acres or greater through the County's subdivision process. The Oceanside 1250 property, having received conditional zoning in 1996, is predominately zoned Agricultural (A-1a) allowing for lot sizes of one acre or greater. Currently, there are no major roadways within the project area and present roadways are primarily ranch roads and 4-wheel drive roadways which provide access to various parcels in the project area and along the coast. Settlement in the region is generally concentrated mauka of the project area near Kuakini and Mamalahoa Highways, with some scattered farm dwellings, primarily in the southern portion. The lot sizes decrease in size at the southern portion approaching Napo'opo'o Road, where farm lots of generally five to ten acres in size are present with associated dwellings and agricultural buildings.

In the area along Mamalahoa Highway, near the junction of planned Mamalahoa Bypass Road and Napo'opo'o Road, at the edge of the village of Captain Cook, are located several residences and business on lots of various sizes.

### **4.3.5 Community Characteristics**

The area of the proposed roadway from Keauhou to Captain Cook is generally rural in character. There is a concentration of established small businesses along Mamalahoa Highway and some subdivisions extending a makai of highway, notably the Pu'uloa Subdivision near Higashihara Park and the Kona Scenic Subdivision which is accessed from Haleki'i Street in Kealakekua. Community facilities located near Mamalahoa Highway include the Kona Hospital, Konawaena High School, Kealakekua Library, Kona Historical Society Museum and University of Hawai'i at Hilo, West Hawai'i Campus. Kona Scenic Park is located at the current terminus of Haleki'i Street and the Kealakekua Bay State Park and Captain Cook Monument is accessed from Napo'opo'o Road at the southern end of the proposed bypass road.

As proposed, the bypass road would tie into the current southern terminus of Ali'i Highway which is planned to extend through the Keauhou Resort area and the Kailua-Kona area. The Keauhou Resort area is a resort community with a mix of recreational, residential hotel, and commercial uses. Keauhou Resort currently serves as the southern segment of the community of Kailua-Kona. Proceeding south of Keauhou in the area of the proposed corridor, the settlement pattern changes to a rural character dominated by large open tracts of pasture lands in the lower elevations and some orchards (macadamia and fruit) in the higher elevations toward Mamalahoa Highway.

Currently, residential neighborhoods and supporting community services are concentrated along or near Mamalahoa Highway, mauka of the project alignment, which serves as the primary transportation corridor in the region linking North and South Kona.

## **4.4 PUBLIC FACILITIES AND SERVICES**

### **4.4.1 Transportation**

Mamalahoa Highway, a two-lane arterial roadway aligned in a north-south direction, provides regional access between Kailua-Kona and Ka'u. Traffic conditions along Mamalahoa Highway in the vicinity of the Villages at Hokukano (Hokuli'a) project were evaluated in a study conducted in 1993 (Villages at Hokukano Final Environmental Impacts Statement) by the transportation engineering firm, Parsons Brinckerhoff Quade and Douglas and in 1997 for the proposed roadway project by the engineering firm, M&E Pacific (Appendix J). As a component of the above studies, traffic conditions were assessed at the Ali'i Highway/Kamehameha III Road intersection, Bypass Road/Haleki'i Street intersection, and at major intersections with Kuakini Highway and Mamalahoa Highway, from Kamehameha III Road to Napo'opo'o Road.

Roadway operations at intersections are commonly indicated with letter designations ranging from "A" to "F", with "A" representing best operating conditions, and "F" representing the worst. The traffic analysis indicated that traffic along Mamalahoa Highway in Kealahou operates at Level of Service "E" (during both the peak morning and afternoon peak hours). Further, the analysis concluded that with or without development of the Villages at Hokukano (Hokuli'a) project, Mamalahoa Highway would reach operational capacity by the year 2005.

Traffic congestion along Mamalahoa Highway, especially along the portion of Mamalahoa Highway between Honalo and Captain Cook, is of primary concern to area residents and businesses as movements off and on to Mamalahoa Highway is often difficult and, at times, unsafe. Based on the Traffic Analysis for the proposed roadway (M&E Pacific, 1997, Appendix J), the level of service for the intersections of Mamalahoa Highway and Kuakini Highway at Honalo, Haleki'i Street in Kealahou, and Napo'opo'o Road in Captain Cook all currently operate under a level of Service "F" during both the morning and afternoon peak periods.

Of equal concern is the effect that the traffic congestion over this portion presents to emergency facilities (police, fire, and medical) to adequately respond to emergency requests.

#### **4.4.2 Domestic Water**

Currently, domestic water for portions of the North and South Kona region is provided by the County Department of Water Supply's North and South Kona Water Systems. The North Kona System in the region of the project site includes a twelve inch transmission line that terminates in Keauhou at the end of Ali'i Highway, and an eight inch line that runs along Mamalahoa Highway, through the towns of Kainaliu and Kealahou. The source of the system is the Kahaluu Wells located above Kona at Keauhou Resort.

The South Kona System begins in the town of Kealahou and continues through Captain Cook, southward. Like the North Kona system, the South Kona system can be divided into upper and lower service areas. The South Kona system is supplied by three wells at Keel, with a total capacity of 1.58 million gallons per day and a safe capacity of 0.79 million gallons. The Department of Water Supply is currently upgrading the South Kona system, and a new well mauka of Kona Hospital is planned to be on line by summer of 1997.

#### **4.4.3 Wastewater Disposal**

Wastewater disposal from residences and commercial businesses in the area is generally handled by means of individual cesspools. There is no wastewater treatment related infrastructure planned for the area by the County of Hawai'i. Currently, the only sanitary sewer system proximate to the roadway alignment is the He'eia Waste Water Treatment Plant (HWWTP) located at He'eia Bay in Keauhou. HWWTP was recently expanded to process an average flow of 1.8 million gallons per day, and is currently operating at an average flow of .5 million gallons per day. Future plans for expansion of HWWTP, which could increase its capacity of 7.2 million gallons per day, would be implemented as needed to keep pace with surrounding development in the Keauhou area. Further, Oceanside 1250 is planning a privately owned wastewater treatment plant to process the waste water generated by its proposed Villages at Hokukano (Hokuki'a) development.

#### **4.4.4 Solid Waste Disposal**

No significant domestic or commercial solid wastes are generated from the current uses within the project right-of-way. Solid wastes generated in the region are disposed of at surrounding transfer stations located in Keauhou and Napo'opo'o, and are then transferred by the County to the Pu'uuanahulu Landfill in South Kohala.

#### **4.4.5 Electric and Telephone Services**

No major electrical overhead power lines and communication lines are located within the project right-of-way, although two HELCO lines servicing parcels makai of the corridor cross the right-of-way near the intersection of Mamalahoa Highway and Napo'opo'o Road.

#### **4.4.6 Police, Fire and Emergency Services**

The nearest area police and fire services are located in Captain Cook. The police station is a substation of the main facility located just north of Kailua-Kona at Kealakehe. The substation is currently undergoing renovations, with plans to make it a full-service, 24 hour facility within the next year. The fire station is staffed by 18 men divided into three shifts providing 24 hour coverage. An additional fire station was recently built in Keauhou, and is now operational. The Keauhou station provides 24 hour coverage with a staff of fifteen personnel divided into three shifts. The station provides fire, emergency medical and rescue services to the towns of Keauhou, Honalo, Kainaliu, and portions of Kealakekua, and offers secondary response support to the Captain Cook and Kailua stations.

The nearest available health facility is the State operated Kona Hospital in Kealakekua, about two miles east of the project site. The hospital is licensed for 75 inpatients, and is undergoing construction improvements that will result in approximately 10 additional inpatient beds by mid 1999.

#### **4.4.7 Schools**

Currently, seven public schools service the student population from Keauhou to Captain Cook, all of which are currently operating at or beyond capacity. These schools, which enrolled 6,520 students in September 1998, include Konawaena High School (grades 9 through 12), Konawaena Middle School (grades 7 through 8), Konawaena Elementary (grades K through 6), Honaunau School (grades K through 8), Kealakehe Elementary (grades K through 5), Kealakehe Intermediate School (grades 6 through 8), and Kahakai Elementary School (grades K through 5). Affiliated with the Konawaena High School is the West Hawai'i Explorations Academy, which currently accommodates 50 high school students at its Keahole campus. Additionally, the new Kealakehe High School, has a current student enrollment of approximate 750 students (9<sup>th</sup>, 10<sup>th</sup> and 11<sup>th</sup> grade) and will have a capacity of approximately 1,200 students (9<sup>th</sup> through 12<sup>th</sup> grade).

The Department of Education is currently negotiating to obtain a site makai of Mamalahoa Highway in Kealakekua to house a new Konawaena Elementary School campus. The old Konawaena Elementary School campus would then be improved and expanded to accommodate the Konawaena Middle School. According to a discussion with the DOE, these improvements are proposed to be implemented by the year 2000.

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SECTION 5.0  
PROBABLE IMPACTS AND MITIGATION MEASURES

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## **5.0 PROBABLE IMPACTS AND MITIGATION MEASURES**

### **5.1 PHYSICAL ENVIRONMENT**

#### **5.1.1 Topography**

The proposed project will involve clearing, grubbing and grading of lands presently being used for pasture and other agricultural uses. In general, the finish contours would follow the existing grades to minimize earthwork and maintain the existing drainage pattern. While the terrain within the corridor will be locally modified to meet the design requirements for roadway grades and drainage crossings, construction activity will generally be confined to the roadway right of way and will not significantly impact the adjacent topography and land forms.

#### **5.1.2 Drainage and Flooding**

##### **Probable Impacts**

Currently, surface runoff from the project area is generally conducted toward the ocean by way of the existing drainage gulches. The bypass alignment crosses several intermittent drainage ways. Stormwater runoff from the roadway will potentially be tributary to the existing drainage gulches during construction of the road, as well as after the construction is complete. During the roadway construction there is a potential for degradation of stormwater quality from sediment runoff, as well as the potential runoff of toxic construction materials, such as chemicals, paint and paint solvents. Potential sources of pollution from the roadway after construction include solids, heavy metals and organics from vehicle fuels and motor oils, and chemicals, such as herbicides and fertilizers from roadside maintenance activities.

The proposed roadway typical section would be designed to shed water and prevent standing water. This runoff would be collected and directed to drainage control structures (i.e. drywells, retention ponds and/or detention ponds) and disposed of by both infiltration to the ground or discharging it to the natural drainageways. The proposed drainage control system will be designed so as not to present an increase of surface runoff to existing drainageways crossed by the roadway corridor.

**Proposed Mitigation**

As required by the Environmental Protection Agency's (EPA) through the Clean Water Act and the National Pollution Discharge Elimination System (NPDES) Program, stormwater pollution prevention measures will be required for the Bypass project both during and after construction. The stormwater pollution prevention plan (SWPPP) would include the following types of best management practices (BMP):

1. Practices that prevent erosion, such as the stabilization of cut and fill slopes by vegetative and non-vegetative means.
2. Practices that trap pollutants before they can be discharged, such as the use of silt fences, check dams, mulching, culvert outlet protection, and sedimentation basins.
3. Practices that prevent pollutant from mixing with stormwater, such as providing protected storage for chemicals, paints solvents and other toxic materials.

Other measures that can be taken to minimize the potential for soil erosion and the amount of sediment that leaves the construction limits include the soil erosion and sediment control standard management practices, as described in the "Erosion and Sediment Control Guide for Hawai'i," (U.S. Soil Conservation Service 1981).

Additionally, all State and County requirements regarding drainage improvements will be complied with.

### **5.1.3 Flora and Fauna**

#### **Probable Impacts**

Construction of this project would result in the unavoidable destruction of portions of the existing vegetation within the right-of-way. However, the flora of the project area, which consists of predominated second growth vegetation and pasture lands, were found to have little or no conservation value for the following reasons: 1) No legally protected threatened or endangered plant species were found, nor is it likely that any such plants occur in or near the project area; 2) no unique or high-diversity native plant communities occur in the project area; and 3) construction of this project would not eliminate any plant community type from the region. Therefore, it is concluded the potential impact on native plant species is insignificant.

Construction and operation of this project may lead to the spread of alien plant species along the right-of-way. Some of these species may invade and degrade native plant communities along the right-of-way. However, this is not deemed to be a significant threat, in that the existing vegetation is dominated by exotic grasses and introduced species and has a relatively low conservation value for the reasons listed above.

The project does not pose a significant threat to native bird or mammal species as no unusual or unique resource important to native wildlife were found within the project area. However, this project poses a low but potential threat to nesting habitat of the 'Io, a listed endangered bird. No nests are known in the project area, but the 'Io does forage in the area.

**Proposed Mitigation**

Due to the lack of known candidate, proposed on listed threaten or endangered plant species or unusual or unique resources important to native wildlife, mitigation measures to protect native plant communities or native wildlife habitats do not appear warranted.

Efforts should be made to avoid disturbing active nests of 'Io if any are encountered. 'Io aggressively defend their nests by calling and flying at intruders. Any hawk acting in this manner would be an indication of a nest nearby. If an aggressive 'Io is encountered, all activities should be suspended in the immediate area until contact is made with the Protection Forester, Division of Forestry and Wildlife (DOFAW) in Hilo and the Endangered Species Office of the U.S. Fish and Wildlife Service (FWS) in Honolulu. Construction activity may resume when the nest is located and consultation with DOFAW and FWS is completed.

**5.1.4 Noise and Air Quality**

**Probable Impacts**

Noise and air quality will both be impacted in the short-term during the construction period. During construction, noise will be generated by construction equipment and possibly from blasting. The actual noise levels produced, however, would be dependent upon the construction method employed during each phase of the construction process. Similarly, air quality will be potentially impacted by construction generated dust, and to a lesser extent by the exhaust emissions from construction equipment and from the disruption of traffic which may also affect vehicular emission.

Emissions from on-site construction (usually diesel-powered) include nitrogen oxides and carbon monoxide. Nitrogen oxides emissions from diesel engines can be relatively high compared to gasoline-powered equipment, but the standard for nitrogen dioxide is not likely to be violated by short-term construction equipment emissions. Carbon monoxide emissions from diesel engines, on the other hand,

are generally low and should be relatively insignificant compared to vehicular emissions on nearby roadways.

Over the long-term, neither air nor noise quality of the project area is projected to be significantly impacted by the roadway project. Based on the findings of an Environmental Noise Assessment prepared for the project by Darby and Associates (Appendix F) the project may impart a positive impact to noise levels for several study locations. According to the report findings, without the Mamalahoa Highway Bypass, traffic levels should increase along Kamehameha III Road, Kuakini Highway and Mamalahoa Highways for the years 2010 and 2015. With the proposed bypass road, the traffic noise levels are projected to decrease along all these roads by the year 2010. There is expected to be a slight increase in traffic noise levels, less the 1dB, along Kamehameha III Road and some portions of Kuakini and Mamalahoa Highway during the afternoon peak hour traffic. Such small increases in noise levels (less than 1dB are imperceptible to most people and are therefore considered to be insignificant. The closest significant concentration of homes, Kona Scenic Subdivision, should experience future noise levels that are comparable to existing noise levels. The most sensitive noise locations include the homes that are located near the southern end of the proposed bypass, some are nearly 200 feet from the proposed roadway. Noise levels due to traffic at these homes are expected to be less than the HUD defined level for "acceptable" sites for the years 2010 and 2015. Below this level, HUD requires no noise mitigation beyond that normally provided during construction.

Based on the findings for the Air Quality Study for the project prepared by B.D. Neal and Associates (Appendix G,) the most significant long-term impacts on air quality will likely occur near the existing intersection of Kamehameha III Road and Ali'i Drive due to the added traffic the project will direct to this area. According to the study, the air quality at other locations in the project area, such as the intersection of Mamalahoa Highway and Napo'opo'o Road and intersections to the north, would likely improve as a result of the roadway project.

At the Napo'opo'o Road intersection the projected worst-case concentrations of carbon monoxide in the year 2015, although within Federal Air Quality Standards, would likely exceed the State Air Quality Standards, with or without the project. It should be noted, however, that due to the low levels at which the State carbon monoxide standards are set, it may not be possible to achieve continuous compliance with the State standards, at least near high-volume intersections included in the roadway project area. Because the State standards are set at such stringent levels, it is likely that they are currently exceeded at many locations in the State, including several locations in the Kailua-Kona area that have only moderate traffic volumes.

The air quality study notes that the roadway project is itself a measure to mitigate traffic-related impacts of the proposed Villages at Hokukano (Hokuli'a) project, and any additional measure to mitigate long-term project-related air quality impacts are probably unwarranted.

**Proposed Mitigation**

As noted above, potentially significant short-term impacts to air and noise quality could occur during the construction period and warrant implementation of appropriate mitigation measures.

The primary short-term noise impacts will come from construction equipment, primarily various types of earth moving equipment (i.e. bulldozers, trucks, backhoes, front-end loaders, graders, etc.) However, as the noise generated will be temporary and generally confined to the day-time hours, no lasting impact is expected due to the project construction. Blasting activities may have noise impacts if such activities are conducted near noise sensitive locations. Such impacts can be mitigated by implementing appropriate design techniques, such as limiting the scale of the charges and employing blast mats to direct the explosive force and to muffle the noise. State standards pertaining to the equipment noise limits would also be complied with. Potential long-term noise impacts from traffic generated noise would be mitigated through implementation of a planned landscape buffer along roadway sections that are within 500 feet of existing dwellings.

To control dust, active work areas and any temporary unpaved work roads should be watered at least twice daily on days without rainfall. Establishment of landscaping early in the construction schedule will also help to control dust. Installing dust screens in areas where fugitive dust could impact residential areas, is also recommended.

Increased vehicular emission due to disruption of traffic can be mitigated by minimizing road closures during peak traffic hours.

### **5.1.5 Scenic and Open Space Resources**

#### **Probable Impacts**

Although portions of the proposed highway bypass road may be visible from existing residential subdivisions in the area, the project area is largely obstructed from the views of those traveling on Kuakini and Mamalahoa Highways. Additionally, alteration to the existing topography as part of the project construction is expected to result in exposed rock faces and fills within the roadway corridor. However, the project will not significantly alter existing view planes in the area and development of the Mamalahoa Bypass Road will result in new vistas becoming available to the traveling public.

The County General Plan under the transportation initiatives for North Kona and South Kona, calls for the provision of "a scenic drive from Keauhou above the Kealakekua cliffs to Napo'opo'o (County General Plan, Pages 38 and 41). The County has not established standards for a scenic drive and based on discussions with the Planning Department staff, reference within the County General Plan to a scenic drive is intended to denote the scenic quality of the area rather than to prescribe construction standards for the road itself. In that the proposed roadway will provide a thoroughfare through an existing open landscape, new view opportunities to the ocean and mountains will be made available to those traveling between this portion of the North and South Kona Districts. The proposed roadway may impact residents located in close proximity to the roadway alignment, and who would be potentially impacted at night by the lights of passing motorists.

**Proposed Mitigation**

To minimize nearby visual impacts from the proposed highway, design measures, such as integration of the highway with existing topography surrounding the corridor, will be employed to the extent practical. In sections where the roadway alignment is within five hundred feet of existing dwellings, a landscape buffer will be implemented to minimize the potential visual impacts to residents in the area.

**5.1.6 Agricultural Resources**

**Probable Impacts**

The lands surrounding the proposed highway corridor are primarily grazed and fallow pasture lands. The lands are generally of relatively low agricultural value and there is an abundance of similar open pasture lands throughout the region. Of the approximately 80 acres within the proposed roadway corridor, there are no lands designated as "prime agricultural land" under the State ALISH System and less than ten percent of the lands are designated as "unique agricultural lands." Representing approximately 0.004 percent of the total County inventory of land designated in this category, the loss of these lands for the proposed roadway would not have a significant impact on the availability of agricultural lands in the County. Additionally, the roadway may improve the agricultural productivity of the existing lands by providing additional or improved access to lands that will facilitate the transportation of livestock or agricultural products to market. If not properly planned with appropriate access points for existing ranch roads, however, the proposed roadway may serve to divide existing pasture lands under common ownership and have an adverse impacts to existing ranching operations. Additionally, breaches to the existing cattle fencing and cattle walls as a result of the project construction, without appropriate controls, could also disrupt existing cattle or grazing operations.

**Proposed Mitigation**

To minimize the potential impact to existing grazing operations, provisions for access to and connections between portions of land divided by the roadway will need to be considered as part of the roadway planning and design. The developer will need to work with the various property owners to insure that such access connections are appropriately located, and integrated as part of the roadway design so as not to disrupt existing or planned ranching operations in the area. In addition, construction fencing will be placed in areas of existing cattle or grazing operations to mitigate any potential disruptions to the existing activities in these areas.

**5.2 ARCHAEOLOGICAL, HISTORICAL AND CULTURAL ENVIRONMENT/ RESOURCES**

**Probable Impacts**

The proposed roadway corridor has been surveyed to determine the presences of archaeological features within the project site. Of the 47 sites recorded, ten sites including portions of the railroad berm and the boundary walls crossed by the corridor, were recommended for selective preservation (preservation of selected portions) and one site (Site 13174), a stone mound for which the function has yet to been determined, has been designated for data recovery and preservation. The remaining sites are recommended for data recovery, which would allow additional information regarding the site to be collected prior to development. The data recovery excavations would be undertaken prior to the roadway constructions to achieve the particular research goals established in the Data Recovery Plan approved by Department of Land and Natural Resources (DLNR) Historic Preservation Division.

The portion of the railroad berm (Site 7214) that were recorded during this survey are recommended for selective preservation because they provide an excellent example of dry-laid, dressed stone masonry and represents some of the last remnants of a short-lived sugar industry in the Kona area.

Site 13174 is a rectangular stone mound that was located in the southern portion of the project site through a previous survey (Barrera 1990). Although it is speculated that the site may have been associated with historical agricultural or ranching activities and no midden or artifacts were found, it is possible that this site could have served as a burial site. It is recommended that further data recovery be conducted at this site to determine the site function and the appropriate mitigation of the site.

Impacts to features found within the project area would primarily be a loss of the features of relatively low archaeological, historical or cultural significance within the roadway corridor, and impacts to the portions of the railroad berm and boundary walls that are crossed by the roadway alignment. For those sites recommended for preservation, as well as for other known features in the area of potential cultural significance, impacts could result from increased exposure and access to these sites as a result of new highway. This was a concern expressed by some of those interviewed as part of the Cultural Impact Assessment (Kumu Pono, 1999) and will need to be addressed as part of the data recovery portion of the subsequent archaeological work. It should be noted that cattle fencing will be installed along the majority of the roadway corridor, thereby providing a level of protection to sites located outside the roadway corridor both during and following construction.

Another concern expressed by individuals interviewed as part of the Cultural Impact Assessment was the potential impacts to the Lekeleke Burial Site located makai of the northern portion of the proposed roadway. In response to these concerns, the alignment in this area was shifted in the eastern direction (mauka) to provide greater area of separation from this site. The proposed alignment, as shown in this report, is located approximately 800 feet east (mauka) of the nearest portion of the Lekeleke Burial Site. There is also an abrupt elevation change of approximately 100 feet providing a distinct topographic separation between the proposed roadway corridor and the Lekeleke Burial Site. The corridor alignment was adjusted in other portions to avoid potentially significant sites identified through the Archaeological Inventory Survey. Those sites that are potentially impacted are primarily associated with agricultural practices and historic ranching activities.

**Proposed Mitigation**

In order to mitigate significant adverse impacts to the archaeological, historical and cultural sites, the treatments recommended by the consulting archaeologist will be implemented, subject to the concurrence of the DLNR State Historic Preservation Division (SHPD). For those sites assessed as significant solely for information content (data recovery sites), further data collection is recommended. The procedures and parameters of the data recovery work will be delineated within a DLNR-SHPD approved Data Recovery Plan. The Data Recovering Plan will also include measures to protect known sites of cultural sensitivity which, although not directly impacted, may be within the area of the new roadway and may be potentially impacted from the threat of increased access afforded by the new roadway.

It is recommended by the consulting archaeologist that prior to the data recovery work and preparation of a Data Recovery Plan, the centerline of the final road alignment be staked by professional surveyors and each site located in relation to the stakes.

As planned, the proposed roadway is envisioned as a thoroughfare through the area from Keauhou to Captain Cook. The County has no plans to include as part of the roadway design, viewing areas which would encourage viewing of or excursions to known archaeological features in the area. Additionally, in that the proposed roadway traverses what are predominately ranch lands, fencing will be placed along the majority of the corridor boundaries with gates located at the existing and proposed ranch roads to maintain controlled access into those portions. As noted above, the fencing along the roadway boundary would provide an additional level of protection to those sites of historical and cultural significance located outside the project area, both during and after construction.

### **5.3 SOCIO-ECONOMIC ENVIRONMENT**

#### **Probable Impacts**

The potential social and economic impacts identified within the Environmental Impacts Statement Preparation Notice (EISPN) and through comment received during the EIS preparation and consultation period, focused on potential primary and secondary economic impacts to the State, County, businesses, and individuals; employment impacts, related job and housing impacts and impacts to land use patterns and community character.

To address these and other economic related concerns, an Economic Impact Analysis report was prepared by the Hallstrom Group, Inc., which is included for reference within Appendix I. The areas addressed in the Economic Impact Analysis included the following:

- Impacts to existing and future businesses in the Honalo to Captain Cook area due to the potential change in traffic flow patterns;
- The projected change in employment, wage creation and housing as a result of the construction and use of the bypass roadway;
- The changes the land use potential and values for properties within the bypass corridor and affected region; and
- Impacts on government (State and County) tax revenues and operating costs arising from the construction of the bypass roadway.

In analyzing the project's affects on real property issues, demand trends using historic Kona data and case studies from neighbor islands were used. Employment and wage projections were made via models based on forecast development and operational costs, and governmental costs and benefits were derived by comparing probable expenses with tax revenue and capital investments.

To address the potential impacts to businesses in the study area, the study used four methods of analysis; two general or "macro" techniques (traffic and demographic analysis) and two specific, market-based techniques (tenant and consumer survey analyses). Whereas the traffic analysis focused on the historical and projected demographic changes and their potential impacts on commercial demand, the tenant analysis involved a building by building survey and street front inspection of the commercial frontage along Mamalahoa Highway to determine the business characteristics and associated consumer demographics for the area. The consumer survey involved on-street interviews of 108 persons to determine the probable impacts on the customer consumption activities with regional business.

The findings of the Economic Impacts Analysis are summarized as follows:

### **5.3.1 Business Impacts**

The analysis found that business along Mamalahoa Highway, between Honalo and Captain Cook, have lost a significant market share in recent years due to the opening of the "super-store" retailers in Kailua-Kona (Costco, Wal-Mart, K-Mart), and have suffered due to the loss of purchasing dollars in the community during the prolonged recessionary period. However, the surviving business are primarily neighborhood and tourist oriented, servicing a now stabilized local populace and an increasing flow of visitors to the Kona coffee-growing region.

The result of the analyses as to the relative degree of impact to area businesses and length of recovery period are summarized in the following chart.

**TABLE 3**

Summary of analysis indicators for Bypass Commercial Impacts

<u>Business Orientation</u>	<u>Local Residents</u>	<u>Tourist</u>	<u>Other Kona Residents Passer-By</u>
Existing Market Share	88%	12%	12%
Traffic Volume Analysis	No Impact, Continued Growth	Off 5 to 10% Recovery in 5 yrs.	Off 50% Extended Recovery Period
Demographic Analysis	No Impact, Continued Growth	No Impact Continued Growth	No Impact Continued Growth (Kona Residents)
Tenant Analysis	No Impact Growth Over Mid to Long-Term	Minor Impact to Handful of Businesses, Recovery in Near Term	Nominal Impact Due to Limited Importance in Market
Consumer Survey	Off 2% Recovery in Near Term	Off 3% Recovery in Near Term	Off 25% Extended Recovery Period

Generally the analysis indicated that the net impact to area businesses will be, at most, a three percent decline with a full recovery in most sectors within five years. The passers-by market will be sector most affected, and an extended decline in this sector is likely until traffic volumes regain their current volumes.

### **5.3.2 Real Property Effects**

An analysis of recent bypass projects that were developed throughout the State over the past 20 years indicates that the proposed bypass road would not have a significant negative impact on existing commercial businesses, regional demographic consumer habits, or spur urbanization in the area. For the most part, the impact of the proposed roadway on land use and property values, according to case study analysis, would be constrained.

Regardless of economic conditions or land use restrictions, completion of the proposed project will inherently benefit those properties fronting or proximate to the project site, giving them superior access traits relative to other properties in the region lacking quality road service. Although development may still be several decades away for most of the subject corridor parcels, the roadway is the first piece of the infrastructure that would be important to the entitlement process.

According to the analysis, current bulk acreage land values may increase by at least ten percent during the construction and initial operation phases due to the increased accessibility. Barring an unanticipated near-term market up-cycle or the County aggressively promoting development, the value of the "access enhanced" sites would only grow gradually faster (five percent annually) than general appreciation levels.

During this period, although the long-term use potential of the "access enhanced" lands would be upgraded from "not in foreseeable future" to "possible over the long-term," the realization of urban uses would be too far removed to have a significant present value impact. Other than the Villages at Hokukano (Hokuli'a) project, it is not anticipated that any development along the corridor would likely be pursued, other than perhaps a gas station/convenience store in the area of the northern intersection with Mamalahoa Highway, if permitted by the existing topographic conditions and necessary land use approvals.

Based on this analysis, while investor/speculative activity may occur, the escalation pressure on land values should not be significant. Should an appreciation "spike" occur (which would affect all Kona real estate), the speculative characteristics of corridor lands will be more favorably impacted than most central and south Kona holdings, and more rapid appreciation could result.

After a decade or so, assuming West Hawai'i experiences reasonable economic growth levels, the land use opportunities will likely move in the direction of the project area. Thereafter, land values should start to rise over time as development potentials become more apparent (even though it may still be 10 to 20 years removed), reaching peak levels when market demand, community acceptance, and strong capital markets coalesce.

Significant market pressure for bulk acreage urban development in the extension/bypass corridor is not anticipated during the 20-year projection period of this study. The demand for speciality/unique projects, such as Villages at Hokukano (Hokuli'a), is limited and the natural population growth in south-central Kona will require only a fraction of the land in the area accessed by the roadways for residential and neighborhood uses. Overall, the economic analysis found that absorption of any major development in Keauhou-Napo'opo'o was not likely to occur within the foreseeable future, and the existing market parameters. Additionally, potential development in the area would be controlled by the land use policies of the County, principally through the County General Plan, Community Development Plans and County Zoning controls.

### **5.3.3 Employment and Wage Impacts**

#### **5.3.3.1 Roadway Construction and Operation**

The construction and operation of the proposed Ali'i Highway Extension/Mamalahoa Bypass will favorably impact the West Hawai'i economy, providing direct and indirect benefits to the community. In addition to enhancing traffic flow through the region, the multi-million dollar capital asset will generate employment during its development and use. Furthermore, significant profit opportunities will arise for the contracting companies constructing the roadway and for local business who would supply a substantial portion of the materials needed in the building effort.

These wages, profits and expenditures will move through the regional economy, creating a "ripple" or a multiplier effect, thereby increasing the impact of the construction dollars in West Hawai'i. Construction workers will spend the majority of their income on living and entertainment expenses, while supporting and patronizing regional concerns. Much of this spending will, in turn, flow to other Island businesses and industries which supply local outlets.

The total cost of the proposed project is estimated at a maximum of \$24,000,000, based on "hard" costs of \$21,000,000 and indirect expenses of \$3,000,000 (including design, supervision, overhead, financing and other "soft" items). A substantial portion of the contracts would be extended to Big Island businesses for materials, labor, equipment and support items. Completion of the construction process is projected to require about 36 months.

Based on comparisons with moderate and major roadway projects in the State, we estimate the project construction will create on-site (roadway construction crews) and direct (hauling of materials) employment equivalent to 182 total "worker-years" during development. Estimates on construction workers are based on a full-time worker-year of 2,000 labor hours, which may be comprised of many employees involved in specialized tasks of a much shorter duration.

Total employment for the construction of the roadway will be 201 worker-years, with the estimated aggregate payroll of \$7,305,000. Employee support costs (health insurance, disability, FICA and other items) are estimated to comprise another \$2,992,000.

Off-site and indirect employment positions will also result from the project. These include truck dispatchers; quarry employees; vehicle maintenance workers; and other office workers, tradesmen, suppliers and specialty services which will contribute in less evident ways. For these individuals, the construction effort would not be primary focus of the business, but a supplement to the existing operation.

Further, as the workers spend their wages in local community, employment positions are supported, adding to a "ripple effect" as the money moves through the community. The total enhancements to indirect positions as a result of the project will be equivalent to 361.8 worker-years, or a total "flow-through" wage benefit of some \$8,321,000.

Beyond the project construction, the "operation" of the bypass road will not create employment opportunities during the first several decades of use. Cyclical maintenance, litter/debris clean up, and signage/striping upkeep will be required, but major repair and repaving which would generate significant employment outside the length of the twenty year projection period used in the cost benefit analysis. Realistically, the five miles of subject roadway will represent less than 0.04 percent of the 13,800 miles of paved streets and highways on the Big Island, and will not necessitate substantial operating considerations.

Some policing and emergency response efforts will be required to deal with accidents and safety issues. However, these needs will be created solely as a function of traffic flow, which would otherwise be directed (along with the problems) back to an increasingly congested Mamalahoa Highway. The enhanced "employment base" for these workers resulting from the opening of the new road is inconsequential.

Regarding the demand for frontage along the proposed bypass road for at least the first 15 to 20-plus years for opening, the economic analysis indicates no evident existing, unmet or foreseeable near to mid-term market demand for new urbanized lands in south-central Kona area for uses which would generate employment (specifically industrial, retail or other commercial uses). The rural setting of the roadway corridor further limits the desirability of the location from a potential business operating perspective.

**5.3.3.2 Regional Employment and Wages (Outside Roadway Corridor)**

The most significant impact the proposed project will have on a regional employment trends is through increasing the potential number of working hours available to commuters using the road to avoid time-consuming congestion on Mamalahoa Highway. If, for instance, one half the traffic volume are commuters going to or from work, and each "saves" ten minutes in both directions by using the subject roadway, the total addition of time made available to Kona residents will be some 80,000 minutes daily based on projected traffic patterns<sup>1</sup>.

Over the course of working-year, the total regional time savings would be approximately 487,000 hours. If all this time was put productive job use, an unlikely occurrence, the total potential wage benefit to the community would be \$5,357,000, assuming an average wage of \$11 per hour.

The redirection of a number of passers-by and some tourists from Mamalahoa Highway to the bypass road will move some of the associated consumption (for gas, convenience items and fast food) to other locations. Yet, the impact on existing employment levels overall should be minimal as the majority of businesses in the Honalo-Kealahou corridor currently serve local resident needs.

The change in the commuter patterns may cause some businesses to alter operating hours and resulting personnel structures, but such adjustments are unquantifiable on a regional scale. Conversely, the availability of a higher speed, less congested access route will attract some new residents to south-central Kona and other points to the south, whom otherwise may not have relocated to the area. These individuals represent additional neighborhood consumers for local businesses.

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<sup>1</sup>Based on potential time savings projections provided in the Traffic Analysis Report, M&E Pacific Inc. Appendix J.

### **5.3.4 Government Costs and Benefits**

Because it is effectively just a rural highway which will be dedicated to a government agency in a new condition, the associated public costs of construction and operation will be minor during the 20-year projection period, limited to:

- \* Planning and Construction Oversight
- \* Repair and Maintenance
- \* Emergency Services

Additionally, the government will bear fiduciary responsibility as the "owner" of the right of way.

The benefits to the State and County coffers will flow primarily from four major sources:

- \* Capital Asset Development
- \* Real Property Tax Receipts
- \* State Income Taxes
- \* Gross Excise Tax Receipts

The economic impact analysis incorporate these primary cost and benefit items into a cash flow model depicting the construction and the first 20 years of extension/bypass operation. Table 4 displays a moderate case scenario, with all amounts expressed on current, constant dollars.

**TABLE 4**

**SUMMARY OF ESTIMATED DIRECT PUBLIC CAPITAL COSTS  
Economic Impact Analysis of the Proposed Mamalahoa Highway  
Kona, Hawaii**

Year	Construction Period	Operating Year						
		1	2	3	4	5	6	7
<b>Public Benefits</b>								
Capital Asset Development	\$24,000,000							
Increase in Real Property Taxes	\$0	\$2,331	\$2,447	\$2,569	\$2,698	\$2,833	\$2,974	\$3,115
State Income Taxes (2)	\$1,072,200	\$600	\$600	\$600	\$600	\$600	\$600	\$600
Gross Excise Receipts	\$1,000,080							
<b>Total Direct Public Benefits</b>	<b>\$26,072,280</b>	<b>\$2,931</b>	<b>\$3,047</b>	<b>\$3,169</b>	<b>\$3,298</b>	<b>\$3,433</b>	<b>\$3,574</b>	<b>\$3,715</b>
<b>Public Costs</b>								
Planning/Oversight Costs	\$168,000							
Repair and Maintenance		\$43,000	\$43,000	\$43,000	\$43,000	\$43,000	\$43,000	\$43,000
Emergency and Safety		\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
<b>Total Direct Public Costs</b>	<b>\$168,000</b>	<b>\$83,000</b>						
<b>Annual Net Public (Cost) or Benefit</b>	<b>\$25,904,280</b>	<b>(\$80,070)</b>	<b>(\$79,953)</b>	<b>(\$79,831)</b>	<b>(\$79,702)</b>	<b>(\$79,567)</b>	<b>(\$79,426)</b>	<b>(\$79,285)</b>

(1) Gas station/mini-mart opens on 2-acre site.

(2) Includes only direct roadway maintenance workers income among government employees. Omits planners, emergency and safety, and oversight.

Source: Various, and The Hallstrom Group, Inc.

**PUBLIC CAPITAL COSTS AND BENEFITS**  
**Proposed Mamalahoa Highway Bypass**  
**Hawaii**

5	6	7	8	9	10	Years 11 to 20	Years 16 to 20	Totals
			(1)					\$24,000,000
\$2,833	\$2,974	\$3,123	\$10,239	\$10,751	\$11,289	\$57,855	\$60,748	\$169,857
\$600	\$600	\$600	\$11,056	\$11,056	\$11,056	\$56,663	\$56,663	\$1,222,895
			\$114,593	\$114,593	\$114,593	\$587,287	\$587,287	\$2,518,431
\$3,433	\$3,574	\$3,723	\$135,888	\$136,400	\$136,938	\$701,805	\$704,698	\$27,911,183
								\$168,000
\$43,000	\$43,000	\$43,000	\$43,000	\$43,000	\$43,000	\$220,375	\$220,375	\$870,750
\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$205,000	\$205,000	\$810,000
\$83,000	\$83,000	\$83,000	\$83,000	\$83,000	\$83,000	\$425,375	\$425,375	\$1,848,750
\$79,567	(\$79,426)	(\$79,277)	\$52,888	\$53,400	\$53,938	\$276,430	\$279,323	\$26,062,433

agency and safety, and oversight personnel wages.

The undiscounted, aggregate net cash benefits flowing to government hands, as a direct result of the development of the subject roadway, is \$26,062,433 during the study period; of which \$24,000,000, or 92.09 percent, is the capital cost of constructing the asset.

This represents a creation of community wealth and direct benefit to the County that would otherwise exist without the extension/bypass project.

The project would also have a positive impact on State resources. Additional revenues to the government would be generated in the form of sales and income taxes, and from permits and other fees. The projected State revenue from the general excise taxes is estimated to be approximately \$2.5 million, based on a 4.16 percent general excise tax rate. The State revenues generated from income taxes is estimated to be approximately \$1.2 million.

### **5.3.5 Non-Economic Public Benefits**

In addition to the economic benefits to the State and County among the primary non-economic contributions to the West Hawai'i which will be generated by the proposed project are:

- \* The fundamental public enhancement provided by the proposed project will be its contribution to helping relieve the congested regional transportation system. Beyond the quantifiable economic gains, the roadway will benefit the south-central Kona community through numerous intangible benefits, including; increased accessibility, less stressful commuting, greater time efficiency, and more appropriate vehicle mixes that will all contribute to a better traffic flow and improved safety; and
- \* Unlike many highway projects which cause extended traffic disruptions during construction, and attended loss of wages and time, the proposed project can be developed with minimal impact on the surrounding community.

### **5.3.6 Relocation Related Impacts**

The project site consists of predominately open ranching lands which are generally used for cattle grazing and of some smaller farm lots located at the southern portion, near the junction with Mamalahoa Highway. The proposed roadway project, however, has been planned so as not to require the relocation of any residential structures, farm buildings or other agricultural related structures. As such, implementation of the project is not expected to have any relocation related impacts

### **5.3.7 Growth Inducing, Cumulative, and Secondary Impacts**

#### Growth Impacts

An analysis of growth-inducing impacts examines the potential for a project to induce or accelerate currently planned or unplanned projects in the area of the proposed action, whether the project encourages shifts in growth from other areas in the region, or intensifies growth beyond those levels anticipated or planned for without the project. The potential for growth inducing impacts, however, needs to be examined in the context of existing growth policies, market conditions, and development constraints.

The area of the project site is nearly exclusively designated within the State Land Use Agricultural District, and is designated for Orchard and Extensive Agricultural uses on the Land Use Pattern Allocation Guide (LUPAG) Map of the Hawaii County General Plan. (See Section 6.5 for further discussion). Similarly, the lands are zoned for agricultural use (A-5a and A-1a) by the County, with the exception of a small area of approximately 0.7 acres near the proposed junction with Mamalahoa Highway which is zoned for commercial (CV-10) use. Consequently, while the development of the Mamalahoa Highway Bypass Road would facilitate access through the project area, the existing land use controls and long-range land use policies of the State and County indicate a desire to limit urban development in the area of the project. The nature and timing of growth in the region would largely be at the discretion of the State and County governments,

which through zoning, land use district and other approvals exercise considerable influence on growth.

It is also possible that the project, by improving commuting times from outlying area, especially areas south of the project in South Kona, may serve to encourage development of undeveloped lots which already have the necessary entitlements for further residential or small lot agricultural development. Additionally, there is the potential for rezoning of existing agricultural zoned lands to higher densities in the surrounding lands.

It is unlikely, however, that the project would attract a significant portion of growth from other portions of the Kailua-Kona which has a substantial supply of planned projects of various sizes, with the appropriate zoning designations, and supportive infrastructure. For instance, the Keauhou Resort area, directly north of the project site, has substantial acreage of residential and commercial zoned lands which are supported by existing infrastructure improvements and planned the logical extension of an existing master planned community. Other undeveloped residential projects planned in the area between Keauhou and the town of Kailua-Kona which have State Land Use and Zoning approvals, include the approximately 400 unit Towne Development Subdivision, the 180 unit Kahakai Subdivision, and 385 unit Pualani Residential Subdivision, to name just a few. Given the supply of existing zoned lands that are in closer proximity to the major urban center of Kailua-Kona and supported by existing or planned infrastructure elements, the project related growth is not expected to stimulate substantial growth in existing rural areas south of the project which lack the necessary regulatory approvals and are not supported by existing infrastructure in terms of water, roads, waste water disposal, and drainage improvements.

In respect to the area surrounding the project, the Economic Impact Analysis performed for the subject project (Hallstrom Group, Appendix I) included an analysis of selected bypass projects in Hawaii and their impacts on land use in the immediate region. The analysis indicates the proposed bypass roadway does not possess those physical characteristics that would lead to notable impacts on land use or commercial activities in that: it will provide an alternate route rather than a "direct" bypass route; frontage access and connector roads to Mamalahoa

Highway would be limited; and the area lacks the utility systems needed to support development. The analysis also found that while speculative activity would be expected, the pressure on land values should not be significant and no significant market pressure for bulk acreage urban development in the area of the bypass corridor is anticipated within the next 20 years. As such, the project is not anticipated to result in major direct or indirect population growth related impacts to the project area or surrounding region.

Cumulative Impacts

Cumulative impacts result when implementation of several projects, that individually have limited impacts, combine to produce more severe impacts or conflicts in mitigation measures. Because the proposed Bypass Road would serve as an extension of the County's Planned Ali'i Highway project, the cumulative impact of these elements need to be considered in total and any potential conflicts in mitigation measures.

From a land use perspective, both the Ali'i Highway and proposed Mamalahoa Highway Bypass Road are components for the County's long-range transportation plans as expressed in the County General Plan, Facilities Map. (See Section 6.5 for further discussion). The mitigative measures for the Ali'i Highway project are described in the project Final EIS (State DOT & County DPW, 1987) would not be in conflict with those mitigation measures planned for the subject project. With the proposed mitigation, the projects individually are not expected to have a significant impact on the environment. The proposed project would essentially serve to extend the Ali'i Highway to intersect with Mamalahoa Highway in the area of Captain Cook, thereby providing an alternate route, other than Mamalahoa Highway, for those traveling between North and South Kona. Collectively, the two projects are supportive of the long range planning of the County, providing for an efficient transportation system that is in concert with the growing needs of the region. In that these elements are deemed to be supportive of the other and the benefits derived from the individual projects, in terms of improved circulation and public safety, are further enhanced with the combination of the two projects, the cumulative impacts of these projects in conjunction with the proposed mitigation measures, are deemed to be positive.

Secondary Impacts

When road construction projects create or substantially accelerate new opportunities for urban growth, secondary or induced physical and social impacts may also occur. These can include impacts to air quality, water quality, noise, open space, natural vegetation, endangered species, historic sites, demands for public infrastructure, and other aspects of the environment.

In that neither direct or indirect growth impacts are expected to occur as a result of the proposed project, and the project is not expected to open up new development area that have been identified for urban development by the County General Plan or State Land Use Commission, or modify the land use pattern planned for the area, secondary impacts are likewise not expected.

The intersection of the Mamalahoa Bypass with the existing Mamalahoa Highway - Napo'opo'o Road intersection will result in the realignment of a short section of Napo'opo'o Road. This realignment may result in a portion of the existing roadway that will no longer be necessary as part of the Napo'opo'o Road right-of-way. This remnant roadway may be acquired by the adjacent landowner.

In that such a possible roadway remnant of the Napo'opo'o Road has been extensively disturbed by the roadway improvements, the possible acquisition of this area by the surrounding landowners is not expected to result in additional impacts to environmentally sensitive areas or result in any secondary impacts not previously addressed in this report.

Proposed Mitigation

Based on the above analysis, the overall social and economic impact of the proposed project are projected to be either beneficial or with no significant impact to the existing economic and social environment. Given the lack of significant adverse impacts, mitigation measures to minimize potential adverse impact do not appear warranted.

## **5.4 TRANSPORTATION**

### **Probable Impacts**

It is expected that implementation of the proposed project will improve the overall efficiency and safety of the existing roadway networks serving the north-south Kona area. Traffic Analysis Report, prepared by M&E Pacific Inc. (Appendix J) examines both the short and long term impacts of the proposed roadway with and without the Villages at Hokuano (Hokuli'a), and with and without the County's planned Ali'i Highway project. The traffic report projected that the most significant impact from the project will be the beneficial reduction of traffic volumes on Hawai'i Belt Road. Other beneficial impacts from the project will include:

- minimizing the need for traffic signals at Mamalahoa Highway/Kuakini Highway intersection;
- improving traffic conditions significantly at the Mamalahoa Highway/Haleki'i Street intersection through the reduction of traffic on Mamalahoa Highway and the installation of traffic signals;
- eliminating the need for additional improvements at Kuakini Highway/Kamehameha III Road intersection (with the Ali'i Highway extension);
- eliminating the need for additional improvements at Mamalahoa Highway/Konawaena School access road intersection; and
- improving traffic flow on Mamalahoa Highway in the vicinity of Kona Hospital, thereby improving emergency vehicle access.

Short-term traffic impacts may occur during the construction of the bypass roadway as a result of disruption to the normal flow of traffic, especial at the intersection with Napo'opo'o Road and Mamalahoa Highway. However, no significant congestion problems are anticipated during the construction period.

Following construction, with the exception of the intersections of Kamehameha III Road with Ali'i Highway and with Kuakini Highway, traffic conditions are projected to improve at all major intersection. Should Ali'i Highway not be built, traffic levels at the Kamehameha III intersections are projected to increase to a point where intersections improvements, such as additional left turn lanes at both the mauka and makai intersections would be necessary. The report notes that without the bypass roadway project, the traffic volumes on Mamalahoa Highway are expected to increase significantly until they can no longer be accommodated by the existing two-lane highway. Additionally, the report notes that the existing development along Mamalahoa Highway and the limitations to the existing right-of-way restrict opportunities to widen, or otherwise improve the capacity of the existing highway. The project thereby provides a feasible means to meet future traffic demands.

**Proposed Mitigation**

Specific project related mitigation measures recommended by the traffic impact analysis report, in addition to planned roadway improvement in the region, include the installation of traffic signals at the intersections of proposed bypass roadway and Haleki'i Street extension (within the planned Villages at Hokukano (Hokuli'a)), and at Napo'opo'o Road, when warranted. To minimize the short-term traffic impacts associated with roadway construction, it is recommended that improvements at the bypass/Mamalahoa Highway intersection be scheduled during off-peak hours.

## **5.5 PUBLIC SERVICES**

### **Probable Impacts**

The project is expected to have a positive impact on the State and County capabilities to deliver services to the community, as well as community access to these facilities. In particular, by increasing the capacity of the existing roadway network, improving travel times in the region, and providing an alternate emergency access route, the project will expand the State and County abilities to provide emergency services, such as police, fire, ambulance and emergency rescue services. Other public facilities, such as libraries, schools and parks will be more accessible as a result of improved traffic conditions in the region. Overall, the project will help support the movement of goods and services in a more efficient and timely manner. In light of the positive impacts, mitigation measures are not warranted.

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SECTION 6.0  
RELATIONSHIP TO LAND USE PLANS,  
POLICIES AND CONTROLS

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## **6.0 RELATIONSHIP TO LAND USE PLANS, POLICIES, AND CONTROLS**

### **6.1 HAWAI'I STATE PLAN**

The Hawai'i State Plan (Hawai'i Revised Statutes, Chapter 226, as amended and approved in 1991), establishes a set of goals, objectives and policies that are to serve a long-range guidelines for the growth and development of the State. The Plan is divided into three parts: Part I (Overall Theme, Goals, Objectives and Policies); Part II (Planning, Coordination and Implementation); and Part III (Priority Guidelines).

The proposed roadway project is consistent with The State's goals and objectives that call for increases in employment, income and job choices, and a growing, diversified economic base extending to the neighbor islands. Objectives and Policies most relevant to this project focus on the theme of public facilities. The following objectives and policies are taken from Section 226-17, regarding transportation.

1. Objective a1: An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe and convenient movement of people and goods.
2. Objective a2: A statewide transportation system consistent with planned growth objectives throughout the State
3. Policy b1: Design, program, and develop a multi-modal system in conformance with desired growth and physical development, as stated in this chapter.
4. Policy b6: Encourage transportation systems that serve to accommodate present and future development needs of communities.
5. Policy b9: Encourage the development of transportation systems and programs which would assist state wide economic growth and diversification.

6. Policy b10: Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai'i's natural environment.

**Discussion**

The proposed project helps to fulfill the intent of the specific objectives and policies listed above. The roadway is meant to accommodate present needs while anticipating future needs, and would help to upgrade the transportation network serving West Hawai'i. The balance between meeting the existing and future needs of the community and doing so in a manner that is sensitive to the needs of the affected communities and the quality of Hawai'i's environment is the focus of this Environmental Impact Statement.

**6.2 HAWAI'I STATE FUNCTIONAL PLANS**

The Hawai'i State Plans contains 12 separate Functional Plans which deal with specific areas of concerns. The 1991 revision of the Functional Plan for Transportation includes the following State objectives and policies and Implement that are appropriate to this roadway project.

1. Objective I.A: Expansion of the transportation system.
2. Policy I.A. 1: Increase transportation capacity and modernize transportation infrastructure in accordance with existing master plans and laws requiring accessibility for people with disabilities.
3. Policy I.A. 2: Improve regional mobility in areas of the State experiencing rapid urban growth and road congestion.
4. Policy III.A.2: Pursue private sector participation in the financing of transportation systems, developments and projects.

**Discussion**

The proposed bypass roadway clearly fulfills the goals of the State's transportation policies by not only providing a vital link to the regional transportation network and improving mobility in an area of the Big Island experiencing continued growth and traffic congestion, but, by being built by a private developer, the project greatly reduces the burden to the State and County in providing these necessary components of an efficient transportation network.

**6.3 STATE LAND USE DISTRICTS**

All land in the State of Hawai'i is classified by the State Land Use Commission into one of four land use categories; Urban, Rural, Agricultural, and Conservation. The majority of the project is within the Agricultural district while portions of the planned intersections with Mamalahoa Highway at Captain Cook, and with Ali'i Highway at Keauhou are within the Urban District. Public roadways are permitted uses in both the Urban and Agricultural Districts according to the State Land Use Law (Chapter 205, HRS) and, therefore, an amendment to the State Land Use District boundaries is not anticipated for this project.

**6.4 HAWAI'I COUNTY SPECIAL MANAGEMENT AREA**

At the northern end of the proposed roadway corridor, near the intersection with Ali'i Highway, the project will cross an approximately 7.5 acre portion of the County Special Management Area (SMA) as defined by the County Planning Commission under the provisions for Chapter 205A, HRS. The affected portion is located approximately 1,100 feet from the shoreline and at an elevation of about 240 feet above mean-sea-level (MSL). The project is not expected to have a significant impact on the County SMA because of its distance and height from the shoreline. A Special Management Area Use Permit will be obtained from the County Planning Commission following formal acceptance of the Final EIS report.

## **6.5 HAWAI'I COUNTY GENERAL PLAN**

The General Plan for the County of Hawai'i is a policy document expressing the broad goals and policies for the long-range development of the Island of Hawai'i. The plan was adopted by ordinance in 1989. The General Plan is organized into thirteen elements, with policies, objectives, standards, and principles for each. There are also discussion of the specific applicability of each element to the nine districts comprising the County of Hawai'i. The sections most relevant to the proposed project deals with transportation.

### **TRANSPORTATION GOALS:**

- Provide a Transportation system where by people and goods can move efficiently, safely, comfortably and economically.
- Make available a variety of modes of transportation which best meets the needs of the County.
- Provide a system of thoroughfares and street for the safe, efficient and comfortable movement of people and goods between and within the various sections of the County.
- Provide an integrated State and County system so that new major routes would complement and encourage proposed land uses.

### **TRANSPORTATION POLICIES:**

- A framework of transportation facilities which will promote and influence desired land use shall be established by concerned agencies.
- The agencies concerned with transportation systems should provide for present traffic and future demands, including mass transit programs for high growth areas.
- The improvement of transportation service shall be encouraged.

Relevant Course of Action for North Kona

- Construct a scenic drive from Keauhou above the Kealakekua cliffs to Napo'opo'o

**Discussion**

The proposed project is consistent with the goals and policies of the County's General Plan as well as the specific courses of action recommended for the North Kona District. The need for a road extending from Keauhou to Napo'opo'o, as expressed in the County General Plan, has been identified in several previous State and County planning documents. Although the proposed project is only a portion of this course of action, it represents a significant public improvement and participation of the private sector in the development of this transportation linkage will help to implement the goals and policies of the County without incurring further fiscal obligations.

The Land Use Pattern Allocation Guide (LUPAG) map component of the General Plan is a graphic representation of the Plan's long range land use objectives. The LUPAG Map designations for the project site are primarily Orchard and Extensive Agriculture with limited low and medium density uses indicated in the area of the proposed intersection with Mamalahoa Highway. The Facilities Map of the General Plan identifies present and proposed facilities and identifies the planned public and cultural facilities, public utilities and safety features, and transportation corridors for areas in conjunction with the basic urban and non-urban forms.

The Facilities Maps (effective November 14, 1989) identifies a transportation linkage between Keauhou and Captain Cook with opportunities for mauka-makai connectors between the proposed bypass road and Mamalahoa Highway in the area between Hanalo and Keauhou and at Kealakekua. In this respect the proposed roadway fulfills the goals and objectives of the County General Plan and more specifically, the courses of action and transportation facility improvements planned for the district. With respect to the connector roads between Mamalahoa Highway and the proposed bypass road, an extension of Haleki'i Street, which

would intersect with the bypass road, is planned as part of the Villages at Hokukano (Hokuli'a) project.

## **6.6 KONA REGIONAL PLAN**

The Kona Regional Plan which was adopted by Resolution 184 in April, 1984, is the most recent community plan expressing the particular vision of the Kona region (North and South Kona). The transportation goals and policies expressed in the plan which are also reflected of the County General Plan include the following:

### **Goals:**

- Provide a system of thoroughfares and streets for the safe, efficient and comfortable movement of people and goods between and within the various sections of the County.
- Provide an integrated State and County system so that new major routes will complement and encourage proposed land uses.

### **Policies:**

- The programmed improvement of existing thoroughfares and streets shall be encouraged.
- There shall be coordinated planning of Federal, State and County street systems to meet program goals of the other elements such as historic, recreation, environmental quality.
- Private and public parking requirements and needs shall be incorporated as part of the street system.
- The County shall encourage the State Department of Transportation to establish special scenic routes within and between communities.
- Transportation and drainage systems shall be integrated in all medium and high density urban areas.

- Support development of an efficient transit route between east and west Hawai'i.

More specifically, among the roadway development policies is included the following policy:

In view of the limited capacity of the Mamalahoa Highway, from Honalo to the south, further development along this corridor should not be large in scale until the Holualoa to Papa Highway is installed. This will not, however, eliminate the need to make improvements to the existing road as current traffic conditions are less than desirable.

### **Discussion**

The Holualoa to Papa Highway, referenced within the policy statement was a highway corridor initially proposed by the State of Hawai'i in the late 60's as a means of alleviating traffic congestion along Mamalahoa Highway between the areas of Honalo and Captain Cook and providing an alternate transportation corridor to serve the area. A lack of Federal and State funding at the time, as well as the community concerns regarding the proposed highway alignment stalled implementation of the project. The discussion in the Kona Regional Plan, however, points to the ongoing need for improvements to the highway capacity in the region and the severe limitations to providing additional capacity to the existing Mamalahoa Highway which serves as the single transportation corridor between North and South Kona.

The proposed project while achieving many of the objectives of the previously proposed Holualoa to Papa Highway, has the following benefits:

- 1) Presents minimal impacts to existing community and farms;
- 2) Does not impact environmentally sensitive areas;
- 3) Provides increased roadway capacity relieving traffic in the most congested areas between Honalo and Captain Cook; and
- 4) Provides a public roadway implemented by a private developer at no cost to the State or County, other than ongoing maintenance and repairs.

In this respect, the proposed project will meet the goals and policies of the Kona Regional Plan by providing an important component to the State and County transportation system that will complement the proposed land uses and contribute to the safe, efficient and comfortable movement of people and goods between and within the various sections of the County.

## **6.7 HAWAII COUNTY COMPREHENSIVE ZONING ORDINANCE**

The Hawai'i County General Plan is the basis for Ordinance 96-160 which was adopted December 7, 1996 and replaced the previous zoning ordinance (Ordinance No. 63) that was adopted in 1967.

The zoning districts crossed by the proposed project are primarily Agriculture districts (A-5a and A-1a) and relatively small area of the Commercial District (CV-10) at the southern terminus, near the proposed junction with Mamalahoa Highway. Public roadway are permitted in all zoning districts and therefore, no change of zoning is required for the proposed action (Figure 11 County Zoning).

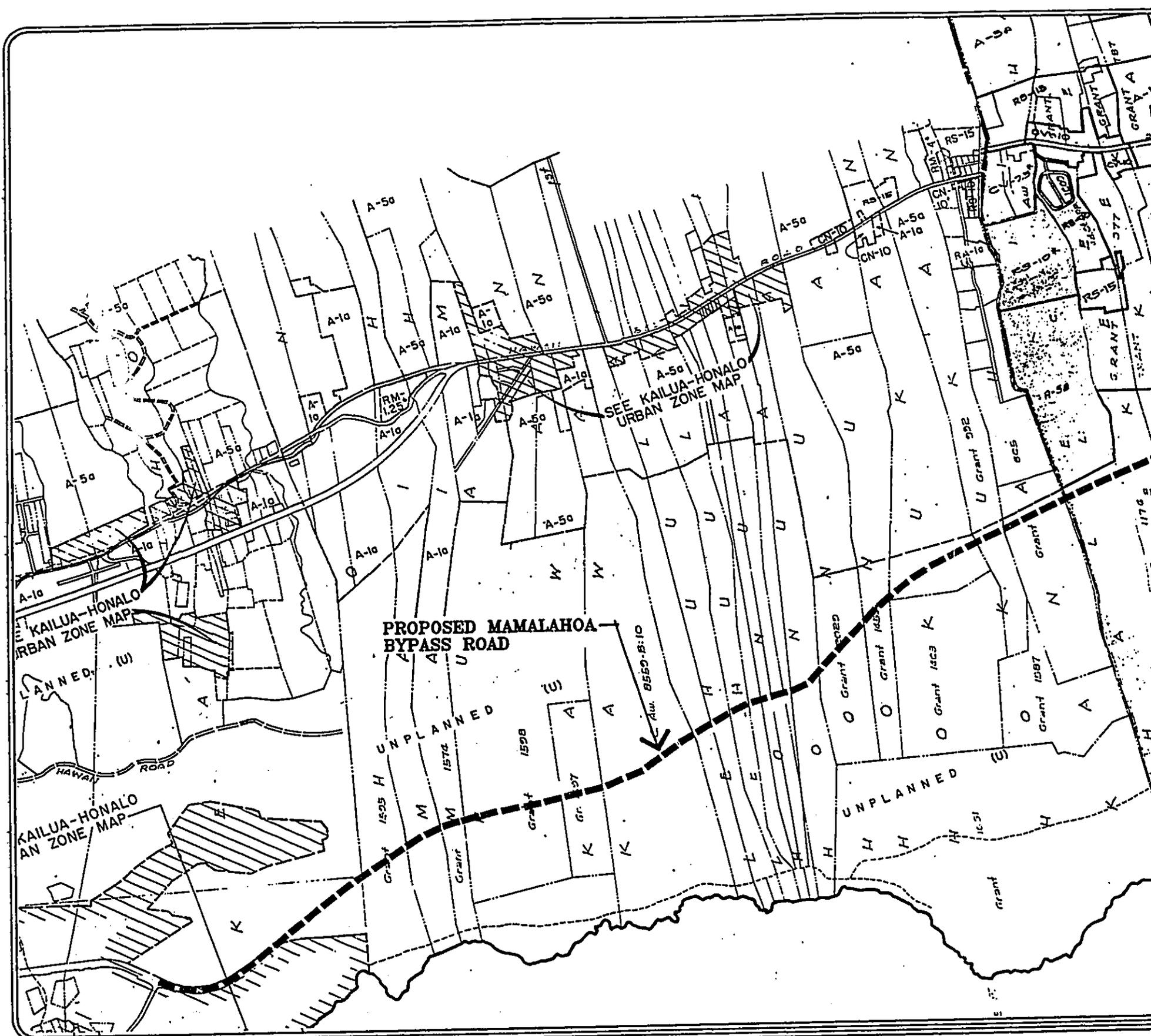
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SECTION 7.0  
CONTEXTUAL ISSUES

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SOURCE: DEPARTMENT OF PLANNING, COUNTY OF HAWAII,  
NORTH KONA & SOUTH KONA ZONING MAPS

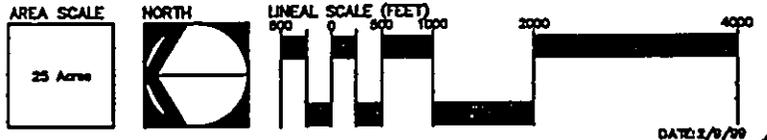
**LEGEND**

- A-5a AGRICULTURE (5 ACRE LOT MINIMUM)
- U UNPLANNED



NOTE: CONDITIONAL ZONING FOR THE VILLAGES OF HOKUKANO, ESTABLISHED BY ORDINANCE 96-7, 96-8 AND 97-36, INCLUDED AGRICULTURAL (A-1a) AND RESORT-HOTEL (V) DISTRICTS. ALSO WITH IMPLEMENTATION OF THE REVISED ZONING CODE (ORDINANCE 96-160) THE UNPLANNED (U) DISTRICT IS REDESIGNATED AS AN AGRICULTURAL (A-5a) DISTRICT.

Figure 12  
 COUNTY ZONING  
 MAMALAHOA HIGHWAY BYPASS ROAD  
 NORTH & SOUTH KONA, ISLAND OF HAWAII



DATE: 2/9/99

## **7.0 CONTEXTUAL ISSUES**

### **7.1 RELATIONSHIP BETWEEN SHORT-TERM USES AND MAINTENANCE AND LONG TERM PRODUCTIVITY**

The physical attributes of the project area, consisting of primarily open pasture lands, provides an appropriate setting for a project of this nature, presenting few impacts to areas of existing settlement or environmental sensitivity. The affected lands are marginally suited for the current pasture use and other lands which are better suited to this use are available in the region.

The proposed roadway project, rather than limiting the potential future use or options for these lands will expand the utility of the lands. The project does not pose significant health or safety risks nor will it present significant negative environmental consequences. Rather, the construction of this component of the regional roadway network is expected to improve safety conditions and reduce potential long-term environmental impacts as a result of improved traffic conditions and additional emergency routes.

Additionally, the proposed project would result in potential social and economic benefits to the community in the form of increased job opportunities, income growth, and increase in tax revenues. Direct full and part-time employment will also be generated by the project, and these in turn will impart economic benefits to the regional economy.

No significant loss of natural or cultural resources that would have long-term consequences have been identified. All potential negative impacts resulting from the project are capable of mitigation using reasonable measures. As noted, the principle long-term benefits from the proposed project are the decreased traffic congestion and the construction of a key elements to the regional roadway system that will provide for more efficient travel and improved safety to the region.

## **7.2 IRREVERSIBLE AND IRRETRIEVABLE COMMENTS OF RESOURCES**

The development of the proposed highway would result in the irreversible and irretrievable commitment of certain natural and fiscal resources. Major resources commitments include the land on which the proposed project is located, the financial commitment for the land purchase, planning, design, and construction, and the materials and manpower that will also be required for the project construction and maintenance. The operation of construction equipment will require the consumption of petroleum derived fuels which also represent an irretrievable commitment of resources. These impacts reflected by the commitment of these resources are not dissimilar to those required for any development and should be weighed against the consequences of either taking no action or pursuing other less beneficial uses of the property.

## **7.3 PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED**

The potential adverse environmental effects may include air and noise pollution, soil erosion, visual impacts, alteration of regional traffic patterns and the potential impacts to highway-oriented commerce resulting from those shifts in traffic patterns. Although these environmental effects may not be avoided and similar effects generally result from nearly all new roadway projects, the relative adverse impact of the proposed roadway improvements on the surrounding environment will be insignificant and/or will be mitigated by measures which are planned to be implemented in conjunction with the project construction.

Short-term impacts will result during the initial construction phase which will require on-site grading, trenching and movement of vehicles within the project site. These activities will generate localized noise and dust during the construction periods.

Mitigative measure to minimize potential adverse impacts to air quality would include frequent watering of unpaved roads and construction areas, use of dust screens, mulching, planting of ground cover and other vegetation soon after construction activities, and compliance with all applicable noise control regulations of the State Department of Health.

The following impacts reflect those that are unavoidable, but none are considered significant when appropriate mitigation measures are applied.

1. Temporary increases in soil erosion may occur during construction from fugitive dust emissions and water erosion during intense storm events. Mitigation measures and practices, as described in the "Erosion and Sediment Control Guide for Hawai'i" shall be implemented.
2. Existing vegetation will be removed, however, no "natural" vegetation consisting of native species would be impacted.
3. Construction activity may also affect the feeding patterns of wildlife, however, no important faunal habitats were found to exist within the highway corridor project area.
4. The visual impacts associated with a highway may occur, but no significant negative visual impacts are anticipated. No specific or predominate natural features would be impacted as a result of the roadway construction and visual impacts to residences located within 500 feet of the roadway corridor will be mitigated with an appropriate landscape buffer in these areas.
5. Short-term localized noise levels within the highway corridor will increase during the construction period.
6. Long-term topographical modifications will be required. Drainage improvements will control the quantity of surface runoff and the quality of surface runoff should not be significantly impacted.

7. Treatment of any unknown archaeological sites which could be uncovered during construction will be undertaken in accordance with State laws and regulations.
8. Regional traffic patterns will be altered resulting in potential impact of highway oriented commerce, (located along Mamalahoa Highway) however, such impacts are expected to be relatively insignificant and decreasing over time as highway oriented businesses adjust towards local resident consumers.
9. Air quality at localized intersection will be slight impacted by increase vehicular emissions, although the cumulative quantities of air pollutants discharge into the atmosphere will be reduced.

#### **7.4 SUMMARY OF UNRESOLVED ISSUES**

Those issues that can not be resolved at this point in the planning process include:

- The specific design of the roadway and roadway intersections,
- A specific timetable for the project constructions; and
- The responsibility for monitoring traffic conditions.

Regarding the design details, although preliminary plans for the roadway and intersection design have been prepared and are included with this report, the physical design of improvements can not be known until an evaluation is conducted and more detailed planning and engineering design is undertaken and construction plans are prepared and approved.

Included with this report is an estimated timetable for design and construction of the proposed roadway. However, the construction timing will be dependent on the developer's ability to secure the necessary financing, reach agreement with the various property owners for purchase of the roadway rights-of-way, and obtain County approval of the design and construction plans for the improvements.

As noted previously, if the developer is unable to secure ownership of one or more of the corridor segments, formal condemnation action by the County may be required. This process, as well, could extend the time required to secure the complete roadway corridor. Therefore, this issue will remain unresolved until the complete corridor is acquired and detailed planning and engineering design plans approved.

Additionally, the recommended traffic mitigation measures include installation, when warranted, at the intersection of the proposed bypass road with the Haleki'i Street extension, and with Napo'opo'o Road and Mamalahoa Highway. Periodic monitoring of traffic levels should be implemented to identify when these traffic mitigation measure are warranted; or alternately, if these facilities are included with the initial roadway construction, when these signals are activated and integrated with other system improvements.

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SECTION 8.0  
PARTIES CONSULTED & THOSE WHO  
PARTICIPATED IN THE PREPARATION OF THE EIS

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**8.0 PARTIES CONSULTED AND THOSE WHO PARTICIPATED IN THE PREPARATION OF THE EIS**

**8.1 CONSULTED PARTIES IN PREPARATION OF THE FINAL EIS**

The following agencies, organizations and individuals were contacted and consulted in the preparation of the FEIS. The list of business and community groups, landowners and citizens include those groups or individuals that representatives of the developer met with to discuss the roadway alignment and potential community or individual concerns. As noted, the list of citizens also includes those individuals that were interviewed and provided oral histories as part of the Cultural Impact Assessment.

**8.1.1 Government Agencies**

**County of Hawai'i**

- Department of Public Works
- Planning Department
- Police Department
- Fire Department
- Department of Parks and Recreation
- Office of Housing and Community Development
- Department of Water Supply
- Civil Defense Agency

**State of Hawai'i**

- Department of Labor and Industrial Relations
- Department of Business, Economic Development and Tourism
- Office of Environmental Quality Control
- Department of Education
- Department of Land and Natural Resources (DLNR)
- DLNR Historic Preservation Division
- Department of Health
- Department of Transportation

**8.1.2 Business and Community Group**

- Kona Conservation Group
- Keauhou Cultural Advisory Committee
- Kona Hawaiian Civic Club
- South Kona Hawaiian Activists
- Aloha Cafe
- Plan to Protect Kona
- Mauka Kona Rotary Club
- Hiking Club of Kona
- Waimea Exchange Club
- Ka Lahui Hawaii
- TORCH
- Kona Outdoor Circle
- Keauhou Surf & Racquet Club Association
- KSBE Hana Pono Committee

**8.1.3 Citizens**

Amy Greenwell  
Jean Greenwell  
Ian Birnie  
Takao Ide  
Helen Kina'u Weeks  
Curtis Tyler III  
Billy Paris  
Princess Abigail Kauliki Kawananakoa  
Francis Kauhane, Kamehameha Investment Corporations Cultural Advisory Committee  
Lily Kong, Keauhou Cultural Advisory Committee  
Bob Lindsey, Keauhou Cultural Advisory Committee  
David Mauna Roy, Keauhou Cultural Advisory Committee  
Joe Spencer, Kamehameha Investment Corporations Cultural Advisory Committee  
Peahi Spencer, Keauhou Cultural Advisory Committee

**8.1.4 Landowners**

The following representatives of the landowners have been consulted in the preparation of the Final EIS for this project.

Kamehameha Investment Corporation	J. Greenwell Trust
Kona Trust	Coupe Trust
First Hawaiian Trust	Wilson Turst
Paris Turst	Captain Cook 660 Partners
Smith Trust	Dexter Smith
Wall Ranch Inc.	Millicent Smith
William Paris	Palika Smith
Agnes Smith	Davis Smith
Tatsumi Oue	Caroline M. Smith
Ackerman Ranch, Inc.	John Pearne
G. Yamagata	Puuloa Homeowners Association
Kalukalu Properties	1250 Oceanside Partners

**8.1.5 Planning Team**

<b>Name</b>	<b>Firm</b>	<b>Area of Expertise</b>
Richard T. Frye Robert Stuit Linda Sutherland Gordon Leslie	Oceanside 1250  Consultant	Project Management  Historic/Cultural Preserv.
Wm. Frank Brandt James M. Leonard David Hulse Chris Kimura Deena Turnbull Sue Keohokapu	PBR HAWAII (Hilo & Honolulu)	EIS Preparation Project Coordination
Scott Williams Richard Neise Tara Moorman	Ogden Environmental	Archaeology Inventory Survey
Kepa Maly Helen Wong Smith	Kumu Pono Associates	Cultural Impact Survey
Barry Neal	B.D. Neal & Associates	Air Quality Survey
Evangeline Funk, Ph.D.	Evangeline Funk	Botanical Survey
David L. Adams	Darby & Associates	Noise Quality Survey
Phillip Bruner, Ph.D.	Brigham Young University	Avifaunal Survey
Ed Harada	M&E Pacific	Traffic/Intersection Engineering
James E. Halstrom Jr.	Hallstrom Group	Economic Impact Survey
Don Okahara Nancy Burns	Okahara & Associates	Civil Engineer

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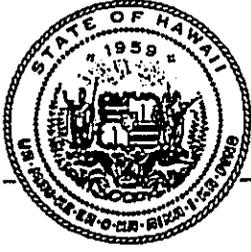
SECTION 8.2  
COMMENTS RECEIVED TO THE EA/EIS  
PREPARATION NOTICE

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**8.2 COMMENTS RECEIVED TO THE ENVIRONMENTAL ASSESSMENT ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE**

	<i>Date of Letter</i>	<i>Received From</i>
1.	June 26, 1997	State of Hawaii Department of Business Economic Development and Tourism
2.	June 26, 1997	Nancy Pisicchio (Plan to Protect Kona)
3.	July 7, 1997	Kim McJurry (Aloha Café Theater)
4.	July 8, 1997	State of Hawaii Office of Environmental Quality Control
5.	July 8, 1997	Lois Tyler (Kona Conservation)



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

BENJAMIN J. CAYETANO  
GOVERNOR  
SEIJI F. NAYA  
DIRECTOR  
BRADLEY J. MOSSMAN  
DEPUTY DIRECTOR  
RICK EGGED  
DIRECTOR, OFFICE OF PLANNING

**OFFICE OF PLANNING**

235 South Beretania Street, 6th Flr., Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Tel.: (808) 587-2846  
Fax: (808) 587-2824

Ref. No. P-6772

June 26, 1997

Ms. Donna Fay K. Kiyosaki, P.E.  
Chief Engineer  
Department of Public Works  
County of Hawaii  
25 Aupuni Street, Suite 200  
Hilo, Hawaii 96720

Dear Ms. Kiyosaki:

Subject: Environmental Assessment /Environmental Impact Statement Preparation Notice  
(EA/EISPN) for Mamalahoa Highway Bypass Road, North and South Kona,  
Hawaii

We have the following comments on the subject EA/EISPN.

The draft environmental impact statement should discuss the possible impacts that the proposed project would have on land uses of the surrounding area, the economic vitality of the area and agriculture. Proposed developments in the area should be depicted on maps in the document.

The document should also include an assessment of the project's conformance with the Coastal Zone Management (CZM) objectives and policies, Chapter 205A, HRS, in accordance with the Office of Environmental Quality Control's administrative rules.

If there are any questions, please contact Charles Carole of our CZM Program at 587-2804.

Sincerely,

Rick Egged  
Director  
Office of Planning

cc: Oceanside 1250 (Attn: Robert Stuit)  
✓ PBR Hawaii (Attn: James M. Leonard)  
OEQC

OCEANSIDE

1250

July 22, 1997

Mr. Rick Egged  
Director, Office of Planning  
Department of Business, Economic Development & Tourism  
P.O. Box 2359  
Honolulu, Hawaii  
96804

Subject: EA/EISPN - Mamalahoa Highway Bypass

Dear Mr. Egged:

Thank you for your letter dated June 26, 1997 in response to the Environmental Assessment and Environmental Impact Statement Preparation Notice for the Mamalahoa Highway Bypass. A copy of your letter and the response will be included in the Draft Environmental Impact Statement, to be submitted to the County of Hawaii Department of Public Works.

74-5620 A Palani Road

Suite 200

Kailua-Kona, Hawaii

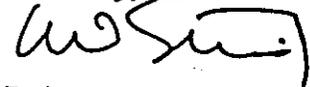
96740-1625

Tel: 808-326-2966

Fax: 808-326-7713

If you have any questions, please call our office.

Sincerely,



Robert A. Stuit  
Director of Planning

cc: Ms. Donna F. Kiosaki, County of Hawaii, Department of Public Works  
Mr. James Leonard, PBR HAWAII  
Mr. Gary Gill, OEQC

**PLAN TO PROTECT KONA**



74-5602-A Alapa Street  
Suite 725  
Kailua-Kona, HI 96740

June 26, 1997

James Leonard  
PBR  
101 Aupuni Street  
Hilo, Hawaii 96720

RE: Mamalahoa Highway Bypass, EISPN

Dear Mr Leonard:

The following is a letter we sent to 1250 Oceanside Partners responding to the Environmental Assessment Preparation Notice they prepared.

We also invite your comments.

Thank you for your attention.

Sincerely,

A handwritten signature in cursive script that reads "Nancy Pisicchio".

Nancy Pisicchio  
President

808-329-4770

## PLAN TO PROTECT KONA



74-5602-A Alapa Street  
Suite 725  
Kailua-Kona, HI 96740

June 26, 1997

Robert Stuit  
1250 OCEANSIDE PARTNERS  
74-5620A Palani Road  
Suite 200  
Kailua-Kona, HI 96740

RE: Mamalahoa Highway Bypass, EISPN

Dear Mr. Stuit:

This letter is in response to the Environmental Impact Statement preparation notice regarding the proposed Mamalahoa Highway Bypass. Plan To Protect wishes to be a consulted party to the EIS. The preparation for an EIS has been determined to be warranted due to the fact that the proposed highway will pass through land controlled by the County of Hawaii and will pass through a portion of the Kealahou Bay Historic District. We believe the EIS is also required due to the fact that funds paid to the County will be used to reimburse Oceanside 1250 for their cost in constructing the highway.

The Following are the issues we request be addressed.

First:

Hawaii County's General Plan states on page 41 under Courses of Action: "Construct a scenic drive from Keauhou above the Kealahou cliffs to Napoopoo." We wish to learn how that requirement in the General Plan will impact the proposed Highway Bypass. What is the definition of/or requirements for a "scenic drive"?

Second:

The EA refers to large developments previously planned for the area which include 3,097 residential units within Keauhou Resort lands, 730 units within the Village at Hokukano and 500 units within KDC. But it is obvious this road will open up a tremendous amount of land to development. All the potential development impacts must be assessed regarding this land. It is generally accepted that new roads only briefly relieve traffic congestion do to the fact

808-329-4770

that much more land becomes available for development . In an article which appeared in the Honolulu Advertiser on December 2, 1996 the headline stated, "Big Island Mayor Seeks Curbs on Urban Sprawl". The article went on to say, "Yamashiro renewed a pledge to limit growth" and "stop urban sprawl on both sides of the island". What is to prevent this bypass from resulting in "Urban Sprawl" spreading into South Kona? Are there any plans by the State of Hawaii or private land owners to seek a Boundary amendment to transfer land adjacent out of the Agricultural District and into Rural, Residential, Resort or Commercial? What would be the potential impacts? Are there any guarantees the current densities in the area won't be increased?

**Third:**

The impact a completed Mamalahoa Highway Bypass can have upon the Mauka business community must be studied. It is a proven fact all over the United States that when bypass highways are built, the bypassed business community is severely and many times fatally impacted. It has been estimated that the recently completed bypass highway located on the North Shore of Oahu has resulted in forty percent less traffic passing through those business communities. Here, some local businesses have already expressed anxiety that the reduction in students attending Konawaena will have a severe impact upon their income.

**Fourth:**

After the opening of the new high school it has been estimated that the number of students attending Konawaena High School will drop from about two thousand down to about eight hundred. How will this impact the amount of traffic using Mamalahoa Highway each day?

**Fifth:**

What kind of impact will the proposed highway bypass have on property values and property taxes in the area?

**Sixth:**

Who conducted the "recent traffic study" referred to on page 5 of the EA?

**Seventh:**

According to conditions placed upon Oceanside 1250 through the zoning approval process, people may buy, build and occupy homes within the developer's project after the first half of the highway, from Keauhou to Halekii Street has been completed. How does the County guarantee the

Page 3

completion of the second half of the highway, from Halekii Street to Napoopoo Junction? What sort of time table for the completion of the entire Mamalahoa Highway Bypass exists?

Eighth:

Recently the location and surveyed metes and bounds of the State-owned Old Government Road public hiking trail have been determined. We observed the maps included within the EA prepared for the Mamalahoa Highway Bypass do not show this alignment. We feel for the sake of accuracy, the maps showing the proposed highway be updated to display the pre-existing trail.

Ninth: We feel it is premature to conclude the proposed alignment is free from significant cultural/historic sites.

We look forward to your response. Thank you for your attention.

Sincerely,



Nancy Piscichio  
President

cc: Donna Fay Kiyosaki, County of Hawaii, Department of Public Works  
James Leonard, PBR  
Gary Gill, OEQC, State of Hawaii

OCEANSIDE  
1250

July 22, 1997

Ms. Nancy Piscichio  
Plan to Protect  
74-5602-A Alapa Street  
Suite 725  
Kailua-Kona, Hawaii  
96740

Subject: EA/EISPN - Mamalahoa Highway Bypass

Dear Ms. Piscichio:

Thank you for your letter dated June 26, 1997 in response to the Environmental Assessment and Environmental Impact Statement Preparation Notice for the Mamalahoa Highway Bypass. A copy of your letter and the response will be included in the Draft Environmental Impact Statement, to be submitted to the County of Hawaii Department of Public Works.

74-5620 A Palani Road

Suite 200

Kailua-Kona, Hawaii

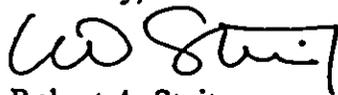
96740-1625

Tel: 808-326-2966

Fax: 808-326-7713

If you have any questions, please call our office.

Sincerely,



Robert A. Stuit  
Director of Planning

cc: Ms. Donna F. Kiosaki, County of Hawaii, Department of Public Works  
Mr. James Leonard, PBR HAWAII  
Mr. Gary Gill, OEQC



July 7, 1997

*copy*

1250 Oceanside Partners  
74-5620A Palani Road, Suite 200  
Kailua-Kona, HI 96740  
Attn: Robert Stuit

Re: Mamalahoa Highway Bypass

Dear Mr. Stuit:

As a business owner in the Kona area and as a concerned citizen, I would like to voice my agreement with those who want to make sure the bypass highway becomes a scenic highway or corridor, not another thoroughfare open to commercial development. The only reason to provide for such a highway seems to be to alleviate the crowded driving conditions on the present Mamalahoa Highway, not open up another area to strip development and stop and go traffic conditions. Thank you for considering this letter.

Sincerely,

A handwritten signature in cursive script that reads "Kim McJury".

Kim McJury, V.P.  
KTD Aloha, Inc. dba Aloha Cafe

cc: County of Hawaii, Dept. of Public Works  
State of Hawaii, Dept. of Environmental Quality Control  
PBR, James Leonard

OCEANSIDE  
1250

July 22, 1997

Ms. Kim McJury, V.P.  
KTD Aloha, Inc.  
P.O. Box 709  
Kealahou, Hawaii  
96750

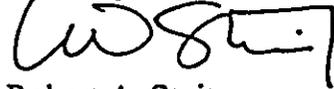
**Subject: EA/EISPN - Mamalahoa Highway Bypass**

Dear Ms. McJury:

Thank you for your letter dated July 7, 1997 in response to the Environmental Assessment and Environmental Impact Statement Preparation Notice for the Mamalahoa Highway Bypass. A copy of your letter and the response will be included in the Draft Environmental Impact Statement, to be submitted to the County of Hawaii Department of Public Works.

If you have any questions, please call our office.

Sincerely,



Robert A. Stuit  
Director of Planning

cc: Ms. Donna F. Kiosaki, County of Hawaii, Department of Public Works  
Mr. James Leonard, PBR HAWAII  
Mr. Gary Gill, OEQC

74-5620 A Palani Road

Suite 200

Kailua-Kona, Hawaii

96740-1625

Tel: 808-326-2966

Fax: 808-326-7713

BENJAMIN J. CAYETANO  
GOVERNOR



GARY GILL  
DIRECTOR

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

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

July 8, 1997

Mr. Robert Stuit  
Oceanside 1250  
74-5620A Palani Road, Suite 200  
Kailua-Kona, Hawai'i 96740

Dear Mr. Stuit:

We submit for your response the following comments on a final environmental assessment/environmental impact statement preparation notice ("FEA/EISPN") for the "Mamalahoa Bypass Road" in the districts of North Kona and South Kona. The FEA/EISPN was submitted by way of a May 23, 1997, letter to our Office from the County of Hawai'i Department of Public Works. Initial notice of availability of this DEA was published in the June 8, 1997, edition of the *Environmental Notice*.

**1. CULTURAL, ARCHAEOLOGICAL OR HISTORIC SITES**

Please describe in the draft environmental impact statement, any historic, cultural or archaeological sites directly or indirectly impacted by the project. In addition to the primary impacts of the project on such sites, please discuss secondary impacts.

**2. SECONDARY AND CUMULATIVE EFFECTS**

Please discuss and include in your analysis future developments in the region, such as Keauhou Resort Lands, Villages of Hokuano, and the Kealakekua Development Corporation Project. Describe any secondary (indirect) or cumulative effects on the environment which may result from the proposed bypass road in light of these future developments.

**3. ALTERNATIVE FORMS OF TRANSPORTATION**

State policy (HRS Chapters 26, 226, 264, 344) requires the promotion of alternative forms of transportation systems that reduce reliance on the private automobile, conserve energy, reduce pollution and provide safe accommodations for their users.

Mr. Robert Stuit  
Page 2  
July 8, 1997

Pursuant to this policy, please discuss what provisions are being made to create bicycle lanes or facilities, promote pedestrian safety and/or encourage other non-motorized modes of transportation.

Please include a copy of this letter and your response (along with copies of all timely-received comment letters and your responses) in the draft environmental impact statement to be submitted to the County of Hawai'i Department of Public Works. If there are any questions, please call Mr. Leslie Segundo, Environmental Health Specialist, at 586-4185. Thank you.

Sincerely,



GARY GILL  
Director

c: The Honorable Donna Fay K. Kiyosaki, P.E., County of Hawai'i  
Mr. James M. Leonard, A.I.C.P., PBR Hawai'i

July 22, 1997

Mr. Gary Gill, Director  
Office of Environmental Quality Control  
235 South Beretania Street  
Suite 702  
Honolulu, Hawaii  
96813

Subject: EA/EISPN - Mamalahoa Highway Bypass

Dear Mr. Gill:

Thank you for your letter dated July 8, 1997 in response to the Environmental Assessment and Environmental Impact Statement Preparation Notice for the Mamalahoa Highway Bypass. A copy of your letter and the response will be included in the Draft Environmental Impact Statement, to be submitted to the County of Hawaii Department of Public Works.

74-5620 A Palani Road

Suite 200

Kailua-Kona, Hawaii

96740-1625

Tel: 808-326-2966

Fax: 808-326-7713

If you have any questions, please call our office.

Sincerely,



Robert A. Stuit  
Director of Planning

cc: Ms. Donna F. Kiosaki, County of Hawaii, Department of Public Works  
Mr. James Leonard, PBR HAWAII

P.O. Box 1001  
Captain Cook, HI 96704  
July 8, 1997

1250 Oceanside Partners dba Oceanside 1250  
74-5670 A Palani Road, Suite 200  
Kailua-Kona, HI 96740

Dear Mr. Robert Stuit:

Please address the following concerns in your Draft EIS for the Mamalahoa Highway Bypass Road. In reviewing the EA, we noticed that there seems to be a very narrow focus on the highway that does not include the effects of the entire project (the homes, golf course, etc.) nor that of the development that will be encouraged along the proposed bypass road. To be of value for its stated purpose, an EIS must consider these "wide-angle" views--the effects of the entire project and the long-range cumulative effects of each of the aspects you discuss, such as the volume of traffic, air quality, etc.

1. On Figure 2, the DEIS should show clearly the way the bypass road will intersect with the main highway at its southern end. Will it connect with Napo'opo'o Road instead of the main highway? What will the grade be at this point--11% as suggested as Appendix B? Can you give examples of existing roads that have 8% grade, 11% grade, so that we can really visualize what this means, especially for trucks and buses?

2. Re 1.1.1, par. 2: you state that ordinances require Oceanside 1250 to "construct the Mamalahoa Highway Bypass in its entirety...." Is there a condition as to when you must complete it? Could it be delayed until years after the project is developed? What happens if you do not construct the road?

3. Re 1.1.2, par. 5: You state that this road will relieve congestion on the present Mamalahoa Highway between Honalo and Kealahou, but this will not be for long if development occurs along this bypass road. As we recall from County Council meetings, there is a provision that the developer will be reimbursed for the cost of the road as development occurs along the bypass road. Is this still valid as one of the conditions written into the law? At the meeting held at Konawaena High School cafeteria on the routes for this bypass road, I asked the two transportation officials from the State DOT separately to name me one highway on O'ahu that has relieved traffic congestion. Each one laughed and could not name even one. So, the DEIS on the proposed road must give ample proof that this will be different, that it will really relieve traffic congestion, not worsen it.

4. Re 1.1.2, par. 5: The General Plan is cited as supporting this project. The specific reference(s) should be quoted.

5. Re 2.1.1, par. 2: "Depending on the design of the bypass-Mamalahoa-Napo'opo'o intersection, some of these parcels may be impacted as well." So, it is very important that the design be done first so that the public may be able to really see what the impact will be. This cannot be left uncertain; otherwise, any review of the EIS is that much less meaningful.

6. Re 2.1.2, par 1: See Comment 1 above.

7. Re 2.1.2, par 2: the climate cannot be described for the area affected as one. The northern end near sea level may be "hot and dry" as you state, but the southern end is very different--at 1,350' elevation,

1250 Oceanside..., July 8, 1997, page 2

it is quite rainy. The statistics should be included in the DEIS.

8. Re 2.1.6, par. 1 & 2: The "northeast trade winds" reference should not be used for this area as the primary statement on this subject. The statement in par. 2 regarding the volcanic haze (vog) is truer of this area. This should be presented honestly and not downplayed since people have even moved out of the Kona area specifically because of the negative effects of the vog on their health. Scientists should have input on this subject in your DEIS.

9. Re 2.1.9, par. 1: "...a full archaeological inventory survey is being conducted for the entire roadway corridor to identify the presence of any archaeological resources in the area." This should be completed and the results included in the DEIS so that reviewers can respond meaningfully. Not having this information for review makes a mockery of the EIS process.

10. Re 2.1.9, par. 2: The DEIS should consider the possibility that a road may not be designable through this area depending on the archaeological survey. This is why this survey must be done first. The view that there are acceptable mitigation measures for any situation must not be allowed to prevail and subvert the EIS process.

11. Re 2.1.9, par. 2: Are the sites identified by Cultural Surveys Hawaii the same ones that were identified by earlier experts such as Stelman, Kelly, and others of unquestionable integrity?

12. Re 2.2.2: What percent of the unemployment rate represents long-time residents? newcomers? Were some induced to come to this area by jobs that were temporary?

13. Re 2.3.1: The DEIS needs to specify the peak-hour traffic volume and the off-peak-hour volume. It needs to discuss what alternatives have been tried to relieve congestion, such as staggered hours, van pooling, and public transportation, and what the results have been.

14. Re 2.3.3: "Oceanside 1250 is planning a privately owned wastewater treatment plant to process the waste water generated by its proposed development." How firm is this commitment? Is it in the ordinances or other legally-binding document?

15. Re 3.1.3, par. 2: See Comment 8 above.

16. Re 3.1.4, par 1: "Should a lava flow threaten the region, the proposed roadway will provide an alternative evacuation route, thereby enhancing the safety of area residents." This statement needs to be substantiated. It appears that almost any lava flow would cross the road.

17. Re 3.1.5: The "inventory survey" you mention must be a complete, not a cursory or preliminary survey so that reviewers may respond meaningfully to the DEIS. Please clarify as to its completeness.

18. Re 3.2.1: "...it is expected that those employed during the construction phase will come from the work force on the island" How will you implement this to insure the results? We have been promised this before and not seen the promise fulfilled.

19. Re 3.2.1, par. 2: See Comment 13 above regarding specific numbers to show the traffic volume at peak and non-peak hours.

1250 Oceanside..., July 8, 1997, page 3

20. Re 3.2.3: You state that there should not be a negative impact on the rental market in the area...." An occurrence several years makes us question this statement. When the Hyatt Regency was started, the impact on housing was felt even as far south as Honalo. A friend was renting a condo for \$400 a month and was told by her landlord that the rent was being raised in three months, then in six months, ending with a rent of \$675 a month. That's a pretty big negative impact. How will you insure that residents will not be negatively impacted by your project? Would you be willing to provide employee housing that could serve the workers constructing the road, then later serve to house the permanent employees of the residential community, the Villages at Hokuano?

21. Re 3.2.4: You state that this road "could provide an incentive for additional subdivisions in the area," higher agricultural densities, and additional urban development. "The nature and scale of these secondary impacts will be investigated as part of the Draft EIS." This is a very important statement. This cumulative effect of the project must be fully disclosed and discussed in the DEIS.

22. Re 3.3.1: The northern end of the proposed road ties in to the southern end of the proposed Ali'i Highway, which is still being debated. What if it does not get built? How will that affect the bypass road? This must be discussed in the DEIS.

Further, you state that the bypass road will "improve traffic movements and safety conditions at the intersection of Napo'opo'o Road and Mamalahoa Highway, which currently experiences difficult turning movements and potentially unsafe conditions." This conclusion depends on the new traffic generated by the developments induced by the road and by the Hokuano and other projects (Keauhou and KDC) and the design that is implemented. It could make things worse at this intersection. This possibility should also be explored, and the remedy you will undertake.

23. Re 3.3.3: The DEIS must discuss the cumulative effects of run-off from the roofs of the homes and other buildings in the project area, driveways and other paved areas. So, culverts must accommodate all of these, not just run-off from the bypass road.

24. 5.0: "...the improvements may affect the traffic patterns within the Keauhou to Captain Cook area and may have secondary impacts on development patterns in the area." The effect on the business community in Honalo, Kainaliu, and Kealakekua must be discussed in the DEIS. The effect of a new highway that bypassed Haleiwa town on O'ahu should be discussed so that we may have an idea of what will probably happen to these communities.

The comments above are presented in the hope that they will help to make the DEIS a more meaningful document, one that fully discloses and discusses the various impacts that this proposed project may have, especially the long-range, cumulative effects. If there are any questions, please feel free to contact me.

cc: Dept. of public Works  
PBR Hawaii  
OEQC

Sincerely,

*Lois M. Tyler*  
Lois M. Tyler  
Vice President, Kona Conservation  
Group

OCEANSIDE

1250

July 22, 1997

Ms. Lois Tyler  
Vice President, Kona Conservation Group  
P.O. Box 1001  
Captain Cook, Hawaii  
96704

Subject: EA/EISPN - Mamalahoa Highway Bypass

Dear Ms. Tyler:

Thank you for your letter dated July 8, 1997 in response to the Environmental Assessment and Environmental Impact Statement Preparation Notice for the Mamalahoa Highway Bypass. A copy of your letter and the response will be included in the Draft Environmental Impact Statement, to be submitted to the County of Hawaii Department of Public Works.

If you have any questions, please call our office.

Sincerely,



Robert A. Stuit  
Director of Planning

cc: Ms. Donna F. Kiosaki, County of Hawaii, Department of Public Works  
Mr. James Leonard, PBR HAWAII  
Mr. Gary Gill, OEQC

74-5620 A Palani Road

Suite 200

Kailua-Kona, Hawaii

96740-1625

Tel: 808-326-2966

Fax: 808-326-7713

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SECTION 8.3  
COMMENTS RECEIVED TO THE DEIS

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**8.3 COMMENTS RECEIVED TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT**

	<i>Date of Letter</i>	<i>Received From</i>
1.	June 23, 1999	County of Hawaii Department of Water Supply
2.	July 9, 1999	U.S. Department of the Army
3.	July 15, 1999	County of Hawaii Planning Department
4.	July 23, 1999	State of Hawaii Department of Health
5.	July 27, 1999	State of Hawaii Department of Accounting and General Services
6.	July 27, 1999	State of Hawaii Department of Civil Defense
7.	August 3, 1999	State of Hawaii Department of Land and Natural Resources
8.	August 5, 1999	State of Hawaii Department of Hawaiian Homes Lands
9.	August 6, 1999	Roy Vitousek (Representing Ackerman Ranch)
10.	August 6, 1999	Roy Vitousek (Representing Caroline Smith)
11.	August 6, 1999	Stuart Lowry (Representing Keauhou Gardens)
12.	August 9, 1999	Nancy Pisticchio
13.	August 9, 1999	Brenda Ford
14.	August 9, 1999	State of Hawaii Office of Environmental Quality Control



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

Milton D. Pavao P.E., Manager  
Department of Water Supply  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII

Dear Mr. Pavao:

Thank you for your June 23, 1999 letter regarding the DEIS for the Mamalahoa Highway Bypass Road. We appreciate the information provided regarding the existing waterlines within the Mamalahoa Highway and Ali'i Drive.

Per your request, we understand that as a standard part of the plan review process, construction plans for the bypass road will be submitted to your office for your review and approval.

Thank you for your input on this project. Your letter and this response will be included in the Final EIS.

Sincerely,  
PBR HAWAII

  
James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Genevieve Salmonson, Office of Environmental Quality Control

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

HONOLULU OFFICE

1001 BISHOP STREET, PACIFIC TOWER, SUITE 650, HONOLULU, HAWAII 96813-3429  
TELEPHONE: (808) 521-5631 FAX: (808) 523-1402 E-MAIL: pbrhi@aloha.net

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2125 KAOHUA STREET, WAILUKU, HAWAII 96793-2201  
TELEPHONE: (808) 242-2878 FAX: (808) 242-2902

HILO OFFICE

101 AUPUNI STREET, HILO LAGOON CENTER, SUITE 310, HILO, HAWAII 96720-4276  
TELEPHONE: (808) 961-3333 FAX: (808) 961-4989



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

25 AUPUNI STREET • HILO, HAWAII 96720

TELEPHONE (808) 961-8660 • FAX (808) 961-8657

June 23, 1999

Mr. James M. Leonard  
PBR Hawaii  
101 Aupuni Street, Suite 310  
Hilo, HI 96720

MAMALAHOA HIGHWAY BYPASS ROAD  
DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS)

APPLICANT - OCEANSIDE 1250

TAX MAP KEYS: 7-8-010:030; 7-9-005:001, 005, 006, 009, 014; 7-9-006:003, 004, 005,  
007, 019, 025; 7-9-012:004, 005, 006, 009; 8-1-004:001, 003, 054; 8-1-007:001,  
045, 054, 055; AND 8-1-009:003, 004, 008, 009, 033, 034

We have reviewed the draft EIS and have the following comments.

For your information, there are existing waterlines within the Mamalahoa Highway and Alii Drive. Therefore, we request that during the design stage of the project, plans be submitted for our review and approval.

Should there be any questions, please call our Water Resources and Planning Branch at 961-8660.



Milton D. Pavao, P.E.  
Manager

WA:gms

Enc.

copy - Office of Environmental Quality Control  
Department of Public Works  
Oceanside 1250

*... Water brings progress...*



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

REPLY TO  
ATTENTION OF

July 9, 1999

Civil Works Technical Branch

Mr. James M. Leonard  
PBR Hawaii  
101 Aupuni Street, Suite 310  
Hilo, Hawaii 96720

Dear Mr. Leonard:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement (DEIS) for the Mamalahoa Highway Bypass Road Project, North and South Kona, Hawaii (portions of TMKs 8-1-9: 03, 04, 08, 09, 33, 34; 8-1-7: 01, 45, 54, 55; 8-1-4: 01, 03, 54; 7-9-12: 04, 05, 06, 09; 7-9-6: 03-05, 07, 19, 25; 7-9-5: 01, 05, 06, 09, 14; and, 7-8-10: 30). The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

a. Based on the information provided, a DA permit will not be required for the project as described. Consultation should take place with our Regulatory Branch should any future land-disturbing activities be planned which may affect potential special aquatic sites such as wetlands. For further information, please contact Mr. Brian Chung of our Regulatory Branch at (808) 438-9258 (extension 12) and refer to file number 990000408.

b. The flood hazard information provided on page 25 of the DEIS is correct.

Sincerely,

  
James K. Hatashima  
Acting Chief, Civil Works  
Technical Branch

Copies Furnished:

Mr. Jiro A. Sumada  
County of Hawaii  
Department of Public Works  
25 Aupuni Street, Room 202  
Hilo, Hawaii 96720

Mr. Gary Gill  
Office of Environmental Quality Control  
State of Hawaii  
235 South Beretania Street, Suite 702  
Honolulu, Hawaii 96813

Mr. Robert Stuit  
Oceanside 1250  
78-6831 Alii Drive, Suite K-15  
Kailua-Kona, Hawaii 96740



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

James K. Hatashima  
Acting Chief, Civil Works  
Department of the Army  
U.S. Army Engineer District, Honolulu  
Ft. Shafter, Hawaii 96858-5440

RE: MAMALAHOA HIGHWAY BYPASS ROAD  
DRAFT ENVIRONMENTAL IMPACT STATEMENT  
NORTH AND SOUTH KONA, HAWAII

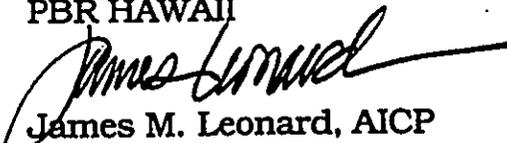
Dear Mr. Hatashima:

Thank you for your July 9, 1999 letter concerning the Mamalahoa Bypass Road, Draft Environmental Impact Statement (DEIS).

We appreciate your comments regarding the Department of the Army Permits and for confirmation that the flood hazard information provided in the Draft EIS is correct.

Your letter and this response will be included in the Final EIS. Thank you for your input to this project.

Sincerely,  
PBR HAWAII

  
James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Office of Environmental Quality Control

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y.J. Chung

HONOLULU OFFICE

1001 BISHOP STREET, PACIFIC TOWER, SUITE 650, HONOLULU, HAWAII 96813-3420  
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Stephen K. Yamashiro  
Mayor



Virginia Goldstein  
Director

Russell Kokubun  
Deputy Director

## County of Hawaii

### PLANNING DEPARTMENT

25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252  
(808) 961-8288 • Fax (808) 961-8742

July 15, 1999

Mr. James M. Leonard  
PBR Hawaii  
101 Aupuni Street, Suite 310  
Hilo, HI 96720

Dear Mr. Leonard:

Draft Environmental Impact Statement for the Mamalahoa Highway ByPass Road  
North and South Kona, Hawaii

Thank you for your transmittal dated June 18, 1999, accompanied by a copy of the above-described draft environmental impact statement (DEIS) for our review and comment.

We have no objection to the information and discussions contained within the DEIS regarding Land Use Plans, Policies and Controls. However, we do have the following comments regarding other elements within the DEIS:

1. Section 2.2 - Landownership (1st paragraph). Please provide TMK listing of parcels potentially impacted by proposed project as referenced within this paragraph.
2. Summary and Chapter 2.0-Project Description needs to discuss the dedication of the proposed Mamalahoa Highway Bypass Road to a specific government agency upon its completion. Only general references were made within the DEIS. Depending on which governmental agency the new roadway will be dedicated to, consideration should be taken as to the official name of the Mamalahoa Highway ByPass Road.

Mr. James Leonard  
PBR Hawaii  
Page 2  
July 15, 1999

We appreciate being given the opportunity to review the DEA. We look forward to receiving a copy of the Final Environmental Impact Statement upon its publication in the Environmental Notice. Please contact Daryn Arai of this office should you have any questions.

Sincerely,

  
VIRGINIA GOLDSTEIN  
Planning Director

DSA:gp  
f:\wp60\Ch343\1999\LHokuk01.dsa

c: OEQC  
Mr. Jiro Sumada, DPW  
Mr. Robert Stuit, Oceanside 1250



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

Virginia Goldstein, Director  
Planning Department  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)  
MAMALAOHA HIGHWAY BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII

Dear Ms. Goldstein:

Thank you for your July 15, 1999 letter concerning the subject document. The following is offered in response to your comments.

1. Landownership

A TMK listing of parcels potentially impacted by the proposed project is included within the cover letter from the Department of Public Works and within the OEQC Environmental Notice Publication Form. Per your request, this will also be added in tabular form within Section 2.2 concerning land ownership.

2. Summary of Project Description

A more detailed discussion of the process for dedication of the proposed roadway to the County will be included within the Final Environmental Impact Statement (FEIS).

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

HONOLULU OFFICE

1001 BISHOP STREET, PACIFIC TOWER, SUITE 650, HONOLULU, HAWAII 96813-3429  
TELEPHONE: (808) 521-3631 FAX: (808) 523-1402 E-MAIL: pbrhi@aloha.net

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TELEPHONE: (808) 961-5333 FAX: (808) 961-4989

Virginia Goldstein

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) MAMALAHOA  
HIGHWAY BYPASS ROAD NORTH AND SOUTH KONA, HAWAII

September 3, 1999

Page 2.

The Development Agreement (DA-1) between the County of Hawaii and Oceanside 1250 includes the following description of the dedication process.

"Dedication of Bypass Highway. The Bypass Highway shall be dedicated to the County in phases, if any, upon completion and the County shall accept said dedication within sixty (60) calendar days; provided that the Bypass Highway, as constructed, complies with plans and specification for said highway as approved by the County. Following dedication of the Bypass Highway to the County the County shall assume the responsibility and costs for operation, maintenance, repair or reconstruction of the Bypass Highway."

Depending on which governmental agency the new roadway will be dedicated to, your suggestion regarding the official naming of the "Mamalahoa Highway Bypass Road" will be forwarded according.

Also, per your request, a copy of the FEIS will be forwarded to your office when available. Please note that a copy of your letter and this response will be included within the FEIS. We appreciate your review of the Draft EIS and for your input on this project.

Sincerely,  
PBR HAWAII

  
James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Genevieve Salmonson, Office of Environmental Quality Control

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII



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

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

In reply, please refer to:  
File:

July 23, 1999

99-133/epo

Mr. James M. Leonard  
PBR Hawaii  
101 Aupuni Street, Suite 310  
Hilo, Hawaii 96720

Dear Mr. Leonard:

Subject: Draft Environmental Impact Statement (DEIS)  
Mamalahoa Highway Bypass Road  
North and South Kona  
Island of Hawaii  
TMK: 8-1-9: 03 and various others

Thank you for allowing us to review and comment on the subject project. We have the following comments to offer:

Air Pollution

Due to the nature and location of the project, there is a significant potential for fugitive dust emissions during the construction of the proposed Mamalahoa Highway Bypass Road. The project site will at times be within close proximity to neighboring residential establishments and will intersect major thoroughfares. Implementation of adequate dust control measures during all phases of this project is warranted. Construction activities must comply with provisions of Chapter 11-60.1, Hawaii Administrative Rules, section 11-60.1-33, "Fugitive Dust."

Mr. James M. Leonard  
July 23, 1999  
Page 2

99-133/epo

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

1. planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing material transfer points and on-site vehicular traffic routes, and locating potentially dusty equipment in areas of the least impact;
2. providing an adequate water source at site prior to start-up of construction activities;
3. landscaping and rapid covering of bare areas, including slopes, starting from the initial grading phase;
4. controlling of dust from shoulders, project entrances, and access roads;
5. providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
6. controlling of dust from debris being hauled away from project site.

If there are any questions regarding these comments, please contact Mr. Steven Okoji of the Clean Air Branch at 586-4200.

#### Noise Concerns

1. Activities associated with the construction phase of the project must comply with the Department of Health's Administrative Rules, Chapter 11-46, "Community Noise Control."

Mr. James M. Leonard  
July 23, 1999  
Page 3

99-133/epo

- a. The contractor must obtain a noise permit if the noise levels from the construction activities are expected to exceed the allowable levels of the rules as stated in Section 11-46-6(a).
  - b. Construction equipment and on-site vehicles requiring an exhaust of gas or air must be equipped with mufflers as stated in Section 11-46-6(b)(1)(A).
  - c. The contractor must comply with the requirements pertaining to construction activities as specified in the rules and the conditions issued with the permit as stated in Section 11-46-7(d)(4).
2. Heavy vehicles travelling to and from the project site must comply with the provisions of the Administrative Rules, Chapter 11-42, "Vehicular Noise Control for Oahu."

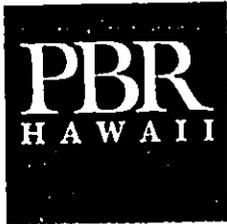
Should there be any questions on this matter, please call Mr. Jerry Haruno, Environmental Health Program Manager of the Noise, Radiation and Indoor Air Quality Branch at 586-4701.

Sincerely,

*Virginia Pressler*

*for*  
GARY GILL  
Deputy Director for  
Environmental Health

c: CAB  
NR&IAQB  
HDHO



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

Gary Gill, Deputy Director  
Department of Health  
State of Hawaii  
Post Office Box 3378  
Honolulu, Hawaii 96801

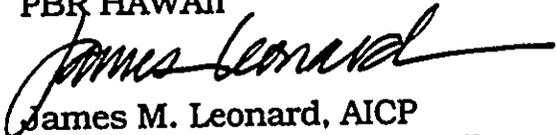
RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII

Dear Mr. Gill:

We appreciate your review of and comments to the DEIS for the Mamalahoa Highway Bypass Road. The information you have provided regarding compliance with air pollution and noise regulations, especially in regards to fugitive dust and construction noise, will be included with the Final EIS and also in construction plans and specifications for contractors. According to the developer, construction managers will be made aware of these requirements and will be responsible for compliance. As noted in the DEIS, the proposed project will comply with all applicable Federal, State and County regulations regarding air and noise quality.

We appreciate your input to this process. Please note that a copy of your letter and this response will be included within the FEIS.

Sincerely,  
PBR HAWAII

  
James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Genevieve Salmonson, Office of Environmental Quality Control

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

HONOLULU OFFICE

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HILO OFFICE

101 AUPUNI STREET, HILO LAGOON CENTER, SUITE 310, HILO, HAWAII 96720-4276  
TELEPHONE: (808) 961-3333 FAX: (808) 961-4989



BENJAMIN J. CAYETANO  
GOVERNOR

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P.O. BOX 119, HONOLULU, HAWAII 96810

LETTER NO. (P) 1539.9

JUL 27 1999

Mr. James M. Leonard  
PBR Hawaii  
101 Aupuni Street, Suite 310  
Hilo, Hawaii 96720

Dear Mr. Leonard:

Subject: Mamalahoa Highway Bypass Road  
Draft Environmental Impact Statement  
North and South Kona, Hawaii

Thank you for the opportunity to review the subject Draft EIS, which we received with your June 18, 1999, memorandum.

The proposed project does not affect any of our existing or proposed facilities. Therefore, we have no comments to offer.

In the future, when actions described by Environmental Assessments, Environmental Impact Statement Preparation Notices, Environmental Impact Statements, Plan Review Use, etc., do not impact on specific State plans or facilities, we, for work reasons, will not provide a "no comments" or a "good planning principles" type of response. But, since we are still interested in knowing what is going on planning-wise in our State, we would still appreciate the opportunity to review all such documents.

Should you have any questions, please contact Mr. Ronald Ching of our Planning Branch at 586-0490.

Sincerely,

GORDON MATSUOKA  
Public Works Administrator

RC/ET:jk

c: OEQC

County of Hawaii, Department of Public Works  
Oceanside 1250



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

Gordon Matsuoka  
Public Works Administrator  
State of Hawaii  
Department of Accounting and General Services  
Post Office 119  
Honolulu, Hawaii 96810

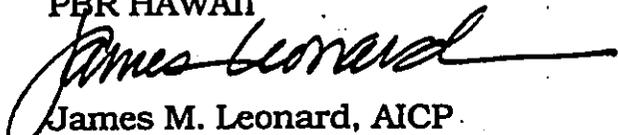
RE: MAMALAHOA HIGHWAY BYPASS ROAD,  
DRAFT ENVIRONMENTAL IMPACT STATEMENT  
NORTH AND SOUTH KONA, HAWAII

Dear Mr. Matsuoka:

Thank you for your August 5, 1999 letter concerning the Mamalahoa Bypass Road, Draft Environmental Impact Statement (EIS). Although you did not have any comments we appreciate the time you and your staff spent in reviewing the DEIS.

Your letter and this response will be included in the Final EIS.

Sincerely,  
PBR HAWAII

  
James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Genevieve Salmonson, Office of Environmental Quality Control

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

HONOLULU OFFICE

1001 BISHOP STREET, PACIFIC TOWER, SUITE 650, HONOLULU, HAWAII 96813-3429  
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BENJAMIN J. CAYETANO  
GOVERNOR

MAJOR GENERAL EDWARD V. RICHARDSON  
DIRECTOR OF CIVIL DEFENSE

ROY C. PRICE, SR.  
VICE DIRECTOR OF CIVIL DEFENSE



PHONE (808) 733-4300

FAX (808) 733-4287

**STATE OF HAWAII**  
DEPARTMENT OF DEFENSE  
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE  
3949 DIAMOND HEAD ROAD  
HONOLULU, HAWAII 96816-4495

July 27, 1999

TO: Mr. James M. Leonard  
PBR Hawaii  
101 Aupuni Street, Suite 310  
Hilo, Hawaii 96720

FROM: Roy C. Price, Sr.   
Vice Director of Civil Defense

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT, MAMALAHOA  
HIGHWAY BYPASS ROAD

We appreciate the opportunity to comment on the Department of Public Works, County of Hawaii, Mamalahoa Highway Bypass Road, North and South Kona, Hawaii, Tax Map Key: Portions of 8-1-9:03, 04, 08, 09, 33, 34; 8-1-7:01, 45, 54, 55; 8-1-4:01, 03, 54; 7-9-12:04, 05, 06, 09; 7-9-6:03, 04, 05, 07, 19, 25; 7-9-5:01, 05, 06, 09, 14; and 7-8-10:30.

While we do not have negative comments specifically directed at this draft environmental impact statement, we do wish to offer a proposal that the State and County should consider in this application. This proposal entails that the transportation engineers design and construct this highway for use as a potential emergency evacuation route. Additionally, consideration should be given to installing a four-inch conduit, with an adequate number of "pull boxes," alongside any planned drainage or utility infrastructure. This conduit would be reserved for future State telecommunications use. Just as parks, schools, fire hydrants, underground/overhead utilities and sidewalks are planned as integral parts of subdivisions and industrial areas, so must mitigation, early warning and emergency warning systems be planned for the safety of communities. No outdoor warning sirens will be required as part of this application. The purchase and installation of these devices and support infrastructure will be the responsibility of developers of adjacent properties who will benefit from this project.

Our SCD planners and technicians are available to discuss this further if there is a requirement. Please have your staff call Mr. Norman Ogasawara of my staff at (808) 733-4300.

Mr. James M. Leonard  
July 27, 1999  
Page 2

We will appreciate your consideration and such expressions of interest you may have on this matter.

c: Mr. Jiro A. Sumada  
Department of Public Works  
County of Hawaii  
25 Aupuni Street, Room 202  
Hilo, Hawaii 96720

Mr. Robert Stuit  
Oceanside 1250  
78-6831 Alii Drive, Suite K-15  
Kailua-Kona, Hawaii 96740

Hawaii Civil Defense Agency  
920 Ululani Street  
Hilo, Hawaii 96720

ICSD/Telecommunications Services  
Department of Accounting and  
General Services

Environmental Protection Office  
Department of Defense



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

Roy C. Price, Sr  
Vice Director of Civil Defense  
State of Hawaii  
Department of Defense  
Office of the Director of Civil Defense  
3949 Diamond Head Road  
Honolulu, Hawaii 96816-4495

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII

Dear Mr. Price:

Thank you for your July 27, 1999 letter concerning the Mamalahoa Bypass Road, Draft Environmental Impact Statement (DEIS). The following is offered in response to your comments.

We appreciate your suggestions regarding potential roadway planning and design elements your comments will be forward to the Department of Public Works (DPW) for their consideration. As noted in the Draft EIS, the proposed project is being planned as an integral component of the County roadway system and will be designed to meet the standards set forth by the County DPW.

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

**HONOLULU OFFICE**

1001 BISHOP STREET, PACIFIC TOWER, SUITE 650, HONOLULU, HAWAII 96813-3429  
TELEPHONE: (808) 521-5631 FAX: (808) 523-1402 E-MAIL: pbrhi@aloha.net

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**HILO OFFICE**

101 AUPUNI STREET, HILO LAGOON CENTER, SUITE 310, HILO, HAWAII 96720-4276  
TELEPHONE: (808) 961-3333 FAX: (808) 961-4989

Roy C. Price, Sr

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) MAMALAHOA  
HIGHWAY BYPASS ROAD NORTH AND SOUTH KONA, HAWAII

September 3, 1999

Page 2

Your letter and this response will be included in the Final EIS. Thank you for your input to this project.

Sincerely,  
PBR HAWAII

  
James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Genevieve Salmonson, Office of Environmental Quality Control



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P.O. BOX 621  
HONOLULU, HAWAII 96809

AUG -3 1999

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

Ref:PS:EH

Mr. James M. Leonard  
PBR Hawaii  
101 Aupuni Street  
Suite 310  
Hilo, Hawaii 96720

Dear Mr. Leonard:

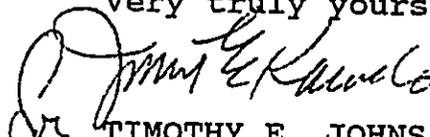
Subject: Draft Environmental Impact Statement (DEIS)  
Mamalahoa Highway Bypass Road, North and South  
Kona, Hawaii

We have reviewed the subject DEIS document and offer the attached comments from the Land Division, Engineering Branch for your consideration.

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

Should you have any questions or require further assistance, please contact staff planner Ed Henry at 587-0380.

Very truly yours,

  
TIMOTHY E. JOHNS  
Chairperson

Attachment

c.c. OEQC

Department of Public Works, County of Hawaii  
Atten: Tom Pack  
Oceanside 1250  
Atten: Robert Stuit

## ENGINEERING BRANCH

### COMMENTS

Project must comply with rules and regulations of the National Flood Insurance Program (NFIP), and all applicable County Flood Ordinances. If there are questions regarding the NFIP, please contact the State NFIP Coordinator, Sterling Yong, of the Department of Land and Natural Resources at 587-0248. If there are questions regarding flood ordinances, please contact the applicable County representative.

The proposed project shall be done according to Chapter 27 of the Hawaii County Code (sections related to construction in a flood zone).

We confirm that five drainageways pass through the bypass highway alignment. The Kawanui-Lehuula Drainageway is classified as Zone A, 100-year flood with no base flood elevations determined. The Kainaliu Drainageway is also classified as Zone A. The third through fifth drainageways are referred to as Watercourse No. 1 (Zone AE and X), No. 2 (Zone A), and No. 3 (Zone AE and X). Zone AE is an area located within the 100-year flood plain with base flood elevations determined. Zone X (shaded) is an area subject to either one of the following conditions:

1. Areas of 500-year flood.
2. Areas of 100-year flood with average depths less than one (1) foot or with drainage areas less than one square mile.
4. Areas protected by levees from 100-year flood.

mamalcom.h16



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

Timothy E. Johns, Chairperson  
State of Hawaii  
Department of Land and Natural Resources  
Post Office Box 621  
Honolulu, Hawaii 96809

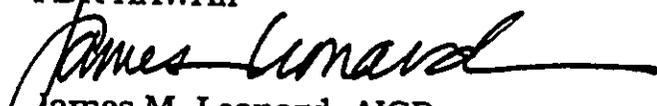
RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII

Dear Mr. Johns:

Thank you for your August 3, 1999 letter concerning the Mamalahoa Bypass Road. We appreciate your comments regarding the applicable rules and regulations pertaining to the National Flood Insurance Program (NFIP) and the applicable County Flood Ordinances. As stated within the DEIS, proposed roadway project will comply with all applicable State and County regulations regarding drainage and flood control. Additionally, the information your provided regarding drainageways in the project area will be included in the Final EIS

Your letter and this response will be included in the Final EIS. Thank you for your input to this project.

Sincerely,  
PBR HAWAII

  
James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Genevieve Salmonson, Office of Environmental Quality Control

Win. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell V. J. Chung

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BENJAMIN J. CAYETANO  
GOVERNOR  
STATE OF HAWAII



RAYNARD C. SOON  
CHAIRMAN  
HAWAIIAN HOMES COMMISSION

JOBIE M. K. M. YAMAGUCHI  
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII  
DEPARTMENT OF HAWAIIAN HOME LANDS  
P.O. BOX 1879  
HONOLULU, HAWAII 96805

August 5, 1999

Mr. James Leonard  
PBR Hawaii  
101 Aupuni Street, Suite 310  
Hilo, HI 96720

Dear Mr. Leonard:

Subject: Mamalahoa Highway Bypass Road, Draft Environmental  
Impact Statement, TMK 7-8-10, 7-9-5 & 6, 7-9-12,  
8-1-4, 8-1-7, 8-1-9, Kona, Hawaii, Dated June, 1999

Thank you for the opportunity to review the subject application.  
The Department of Hawaiian Home Lands has no comment to offer.

If you have any questions, please call Daniel Ornellas at  
586-3836.

Aloha,

*Daniel Ornellas*  
Raynard C. Soon, Chairman  
Hawaiian Homes Commission

*fn*



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

Raynard C. Soon, Chairman  
Hawaiian Homes Commission  
State of Hawaii  
Department of Hawaiian Home Lands  
Post Office Box 1879  
Honolulu, Hawaii 96805

RE: MAMALAHOA HIGHWAY BYPASS ROAD,  
DRAFT ENVIRONMENTAL IMPACT STATEMENT  
NORTH AND SOUTH KONA, HAWAII

Dear Mr. Soon:

Thank you for your August 5, 1999 letter concerning the Mamalahoa Bypass Road, Draft Environmental Impact Statement (EIS). Although you did not have any comments we appreciate the time you and your staff spent in reviewing the DEIS.

Your letter and this response will be included in the Final EIS.

Sincerely,  
PBR HAWAII

  
James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Genevieve Salmonson, Office of Environmental Quality Control

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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# CADES SCHUTTE FLEMING & WRIGHT

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Kristin S. Shigemura  
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Of Counsel:  
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Harold S. Wright  
James S. Campbell  
William M. Swope

C. Frederick Schutte  
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August 6, 1999

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Bernice Littman  
Nicholas C. Dreher  
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Larry T. Takumi  
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C. Michael Hare  
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Nelson N. S. Chun  
Darryl H. W. Johnston  
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Cary S. Matsushige  
David Schulmeister

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Gino L. Gabrio  
Colin O. Miwa  
Martin E. Hsia  
Peter W. Olson  
Stewart J. Martin  
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Dennis W. Chong Kee  
Laurie A. Kuribayashi  
Catherine Carey

James M. Leonard, AICP  
PBR Hawaii  
Hilo Lagoon Center, Suite 310  
101 Aupuni Street  
Hilo, Hawaii 96720

Re: Mamalaho Highway Bypass Road Draft EIS

Dear Mr. Leonard:

This office represents Ackerman Ranch. The purpose of this letter is to make comments with respect to the Draft Environmental Impact Statement (EIS) prepared by PBR Hawaii for Oceanside 1250.

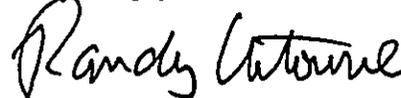
Ackerman Ranch owns land which adjoins the proposed bypass road. While Ackerman Ranch supports the Oceanside 1250 project and the bypass road, the Ranch is concerned that appropriate measures be taken to mitigate any adverse environmental impacts which the project may have.

Specifically, Ackerman Ranch is concerned about possible drainage and flooding problems, noise and air quality, scenic and open space resources, archaeological and cultural issues, impacts on agricultural lands, and transportation issues including access points, intersections, and the like.

Ackerman Ranch is concerned that the proposed project will have impacts on their property. In fact, portions of the Ranch property would have to be acquired to build the road as currently proposed. The Ranch wants to be sure that all appropriate steps are taken to identify and mitigate adverse environmental effects.

Thank you for the opportunity to comment on the Draft EIS.

Very truly yours,



Roy A. Vitousek III  
CADES SCHUTTE FLEMING & WRIGHT

cc: Ackerman Ranch



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

Roy A. Vitousek III  
Cades Schutte Fleming & Wright  
75-170 Hualalai Road, Suite B-303  
Kailua-Kona, Hawaii 96740

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII

Dear Mr. Vitousek:

Thank you for your August 6, 1999 letter on behalf of Ackerman Ranch regarding the DEIS for the Mamalahoa Highway Bypass Road. We appreciate your comments and concerns regarding the potential impact of the proposed bypass road to the adjoining properties. In relation to your specific concerns we have the following response.

***Drainage and Flooding:***

The proposed project will include appropriate drainage improvements which will be designed in a manner so as not to negatively impact adjoining properties and will not increase the surface runoff to existing drainageways crossed by the roadway corridor.

***Air and Noise:***

As noted within the DEIS, over the long-term, neither air or noise quality of the project area is projected to be significantly impacted by the roadway project. Based on the findings of an Environmental Noise Assessment for the project (Appendix F), the project may, impart, be a positive impact to noise levels for several study locations.

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

**HONOLULU OFFICE**

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Roy Vitousek

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) MAMALAHOA  
HIGHWAY BYPASS ROAD NORTH AND SOUTH KONA, HAWAII

September 3, 1999

Page 2

The Air Quality Study for the project (Appendix G) notes that the roadway project is itself a measure to mitigate traffic related impacts, by distributing traffic over alternative routes and thereby improving air quality and any additional measures to mitigate long-term project-related air quality impacts are probably unwarranted.

Additionally, it is noted within the DEIS that, for those sections of the roadway that are within the 500-feet of existing dwellings, a landscape buffer will be provided along the to help mitigate potential noise and air quality impacts that may result from the roadway project. We note, however, that your client's residence is located approximately 3,200-feet mauka of the corridor boundary.

***Scenic and Open Space Resource:***

The potential impact to the scenic and open space resources of the region are addressed within Section 5.1.5 of the DEIS. In sum many portions of the bypass road may be visible from existing residential areas in the vicinity and the project will not significantly alter existing view planes in the area. There may, however, be added benefits derived from the roadway opening up new vistas to the traveling public, as the project traverses an area consisting primarily of open ranch lands with some direct views to the shoreline and the ocean beyond.

***Archaeological and Cultural Issues:***

As noted in Section 5.2 of the DEIS, a full archaeological inventory survey was conducted for the project. To mitigate potential adverse impacts to the archaeological, historical and cultural sites, the treatments recommend by the consulting archaeologist will be implemented subject to the concurrence of the Department of Land and Natural Resources, State Historic Preservation Division. It should be noted, however, that the proposed roadway alignment has been planned to have as little impact to significant archaeological sites, as practical. This has included accommodating several adjustments to the corridor alignment to avoid potential impacts to known archaeological sites. The primary impact of the proposed roadway will be the unavoidable breaching of several existing historical cattle and boundary walls and the remains of a railroad berm in the area.

Roy Vitousek

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) MAMALAHOA  
HIGHWAY BYPASS ROAD NORTH AND SOUTH KONA, HAWAII

September 3, 1999

Page 3

***Agricultural Lands***

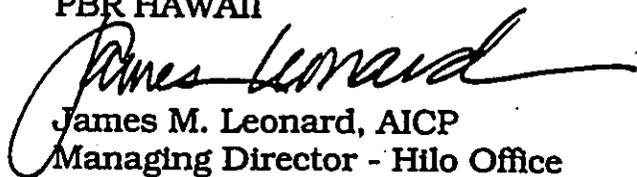
As noted in Section 5.1.6 of the DEIS, the lands surrounding the proposed roadway corridor consist primarily of grazed and fallow pasture lands. The proposed roadway may, in fact, improve the agricultural productivity of the surrounding lands by providing additional or improved access to lands that will facilitate the transportation of livestock or agricultural products to market. The EIS notes, however, that planning for the roadway needs to be coordinated with the various property owners to insure that access connections are appropriately located and integrated as part of the roadway design. In addition fencing will be placed in areas of existing cattle or grazing operation to mitigate potential disruptions to the existing ranching activities in the area.

***Access/Intersection:***

The developer, Oceanside 1250, will continue to work with the affected property owners to insure that appropriate access improvements are provided and to identify and mitigate potential adverse environmental effects of the project.

Thank you for your input on this project. Your letter and this response will be included in the Final EIS.

Sincerely  
PBR HAWAII

  
James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Genevieve Salmonson, Office of Environmental Quality Control

# CADES SCHUTTE FLEMING & WRIGHT

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August 6, 1999

James M. Leonard, AICP  
PBR Hawaii  
Hilo Lagoon Center, Suite 310  
101 Aupuni Street  
Hilo, Hawaii 96720

Re: Mamalaho Highway Bypass Road Draft EIS

Dear Mr. Leonard:

This office represents Caroline Smith, Trustee of the Alfred Whitaker Smith Family Trust (the "Trust"). The purpose of this letter is to make comments with respect to the Draft Environmental Impact Statement (EIS) prepared by PBR Hawaii for Oceanside 1250.

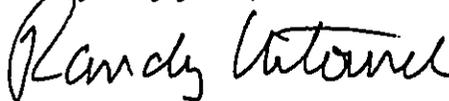
The Trust owns land which adjoins the proposed bypass road. The Trust is concerned that appropriate measures be taken to mitigate any adverse environmental impacts which the project may have.

Specifically, the Trust is concerned about possible drainage and flooding problems, noise and air quality, scenic and open space resources, archaeological and cultural issues, impacts on agricultural land, and transportation issues including access points, intersections, access to Trust property, and the like.

The Trust has concerns that the proposed project will have impacts on their property. In fact, portions of the road will be built on their property. The Trust wants to be sure that all appropriate steps are taken to identify and mitigate adverse environmental effects.

Thank you for the opportunity to comment on the Draft EIS.

Very truly yours,



Roy A. Vitousek III  
CADES SCHUTTE FLEMING & WRIGHT

cc: Caroline Smith, Trustee



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

Roy A. Vitousek III  
Cades Schutte Fleming & Wright  
75-170 Hualalai Road, Suite B-303  
Kailua-Kona, Hawaii 96740

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII

Dear Mr. Vitousek:

Thank you for your August 6, 1999 letter on behalf of Caroline Smith regarding the DEIS for the Mamalahoa Highway Bypass Road. We appreciate your comments and concerns regarding the potential impact of the proposed bypass road to the adjoining properties. In relation to your specific concerns we have the following response.

***Drainage and Flooding:***

The proposed project will include appropriate drainage improvements which will be designed in a manner so as not to negatively impact adjoining properties, especially those which are "down slope" of the planned roadway, and will not increase the surface runoff to existing drainageways crossed by the roadway corridor.

***Air and Noise:***

We note that your client's property (Smith Property) is located in the vicinity of the Mamalahoa Highway/Napo'opo'o Road intersection. As noted in the DEIS, based on the findings of the Air Quality Study for the project, air quality at this intersection, and elsewhere along the Mamalahoa Highway will likely improve as a result of the improved traffic conditions brought about from the proposed roadway project.

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

**HONOLULU OFFICE**

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Roy Vitousek

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) MAMALAHOA  
HIGHWAY BYPASS ROAD NORTH AND SOUTH KONA, HAWAII

September 3, 1999

Page 2

Additionally, it is noted within the DEIS that, for those sections of the roadway that are within the 500-feet of existing dwellings, a landscape buffer will be provided along the to help mitigate potential noise and air quality impacts that may result from the roadway project.

***Scenic and Open Space Resource:***

The potential impact to the scenic and open space resources of the region are addressed within Section 5.1.5 of the DEIS. In sum, portions of the bypass road may be visible from existing residential areas in the vicinity.

***Archaeological and Cultural Issues:***

As noted in Section 5.2 of the DEIS, a full archaeological inventory survey was conducted for the project. To mitigate potential adverse impacts to the archaeological, historical and cultural sites, the treatments recommend by the consulting archaeologist will be implemented subject to the concurrence of the Department of Land and Natural Resources, State Historic Preservation Division. It should be noted, however, that the proposed roadway alignment has been planned to have as little impact to significant archaeological sites, as practical. This has included accommodating several adjustments to the corridor alignment to avoid potential impacts to known archaeological sites. The primary impact of the proposed roadway will be the unavoidable breaching of several existing historical cattle and boundary walls and the remains of a railroad berm in the area.

***Agricultural Lands***

As noted in Section 5.1.6 of the DEIS, the lands surrounding the proposed roadway corridor consist primarily of grazed and fallow pasture lands. The proposed roadway may, in fact, improve the agricultural productivity of the surrounding lands by providing additional or improved access to lands that will facilitate the transportation of livestock or agricultural products to market. The EIS notes, however, that planning for the roadway needs to be coordinated with the various property owners to insure that access connections are appropriately located and integrated as part of the roadway design.

Roy Vitousek

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) MAMALAHOA  
HIGHWAY BYPASS ROAD NORTH AND SOUTH KONA, HAWAII

September 3, 1999

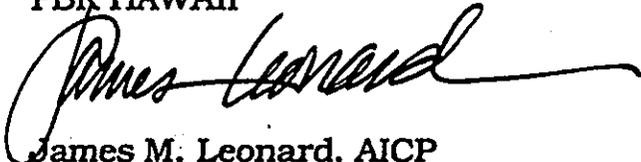
Page 3

***Access/Intersection:***

The developer, Oceanside 1250, will continue to work with the affected property owners to insure that appropriate access improvements are provided and to identify and mitigate potential adverse environmental effects of the project.

Thank you for your input on this project. Your letter and this response will be included in the Final EIS.

Sincerely  
PBR HAWAII



James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Genevieve Salmonson, Office of Environmental Quality Control

KEAUHOU GARDENS I, INC. AOA  
78-6842 Alii Drive  
Kailua-Kona, HI 96740

August 6, 1999  
Via Fax 324-0171

Received

AUG 06 1999

Oceanside 1250

Mr. Robert A. Stuit  
Director of Planning  
Oceanside 1250  
78-6831 Alii Drive, Suite K15  
Kailua-Kona, HI 96740

Re: Environmental Impact Statement  
Oceanside 1250 Development  
Traffic Analysis

Dear Bob:

Thank you for meeting with me on July 27 to discuss the traffic study conducted in connection with the proposed new highway planned as a southward extension of Alii Drive from Keauhou. This highway is sometimes referred to as the Mamalahoa bypass road. I understand that the period for submitting comments on the Environmental Impact Statement (EIS) concludes August 8, 1999.

As we discussed, I serve on the Board of Directors for the Association of Apartment Owners (AOAO) of Keauhou Gardens I. Our Board is keenly interested in development which might adversely impact the quality of life in Keauhou. As such, we are interested in any project which would significantly increase the flow of traffic and associated traffic noise in Keauhou.

Upon reviewing the traffic analysis portion of the EIS, it is evident that one key argument proffered for approval of the Mamalahoa bypass road is to relieve the objectionably high volume of traffic on the upper Belt Road (Kuakini and Mamalahoa Highways). In this regard, the EIS indicates that the current daily traffic volume on the upper belt road (at the intersection with Kamehameha III Road) is about 20,000 vehicles per day. The EIS further indicates that the traffic volume at this intersection during one peak morning hour and during one peak evening hour is about 1,500 vehicles per hour. Thus, during non-peak hours, the Belt Road - Kam III intersection is handling about 17,000 vehicles per day. This number indicates that the non-peak traffic volume is also extremely high -- probably averaging 1,000 vehicles per hour during non-peak daylight hours.

Mr. Robert A. Stuit  
August 6, 1999  
Page 2

Upon construction of the new bypass road, some of this traffic volume would be shifted to Alii Drive through Keauhou. While some of this traffic might eventually be routed from Keauhou to Kailua through the proposed new Alii Highway corridor, traffic through Keauhou proper would still follow Alii Drive between Kaleiopapa Street and the North boundary of the Keauhou Shopping Village. This stretch of Alii Drive fronts several residential condominiums, including Keauhou Gardens.

The EIS indicates that the current traffic volume along Alii Drive at its intersection with Kamehameha III Road is about 4,200 vehicles per day, with peak morning and evenings volumes of about 300 vehicles per hour. The traffic volume during non-peak hours is thus about 3,600 vehicles per day – once again, these numbers suggest that the traffic volume during non-peak hours does not fall off dramatically and is probably in the range of about 200+ vehicles per hour during daylight hours. These traffic volumes have been sufficiently high to cause residents along Alii Drive between Keauhou and Kailua to complain, resulting in the perceived need to construct the new Alii Highway bypass route.

Against this factual backdrop, the EIS projects a huge increase in the traffic volume along Alii Drive at the Kam III intersection upon construction of the Mamalahoa bypass road and the Oceanside 1250 development. Specifically, **traffic volumes of 1,500 - 1,700 vehicles per hour are projected for the peak morning and evening periods by the year 2010.** Assuming non-peak traffic volumes based on the current peak/non-peak ratio, **this would yield a daily traffic volume through Keauhou of more than 20,000 vehicles per day.** In the year 2015, this traffic volume is projected by the EIS to increase further during the peak one hour morning and evening periods to about **2,000 vehicles per hour.** By a similar extrapolation, these numbers yield a daily traffic volume through Keauhou approaching **25,000 vehicles per day.**

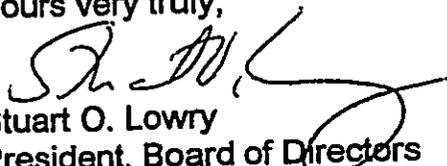
If these traffic volumes (1,500 - 1,700 vehicles per hour and 20,000 vehicles per day) are excessive and objectionable for the current design of the upper Belt Road, they are even more excessive and objectionable for the stretch of Alii Drive passing through Keauhou. Yet, as I understand it, there are no plans to protect the residents of Keauhou Gardens or the other residential projects fronting Alii Drive from the increased traffic and noise, beyond some planting of additional vegetation near Kaleiopapa Street in the immediate vicinity of the intersection between Alii Drive and the new bypass road.

Mr. Robert A. Stuit  
August 6, 1999  
Page 3

The new Mamalahoa bypass road and the new Alii Highway presumably will be constructed to handle these large projected traffic volumes in a manner to shield adjoining properties against negative impact. However, the section of Alii Drive between Kaleiopapa Street and the north boundary of the Keauhou Shopping Village will be required to accommodate the increased traffic volume in its current configuration, **while providing no protection for adjoining property owners and residents.** In effect, this stretch of Alii Drive through Keauhou will look and sound like the upper Belt Road. The consequences are potentially devastating to the quality of life in Keauhou.

The magnitude of the Oceanside 1250 development, particularly when considered in conjunction with the proposed Bishop Estates project at the north side of the Keauhou Shopping Village (along the proposed Alii Highway corridor), argues strongly in favor of some additional protection for Keauhou Gardens and other residential properties adjoining Alii Drive through Keauhou. Such additional protection could be in the form of alternative roadway configurations and traffic control signals. **However, as an absolute minimum, sound barriers of proven effectiveness should be required.** The condominium projects along Alii Drive should not be forced to erect such sound barriers at their own expense.

Yours very truly,

  
Stuart O. Lowry  
President, Board of Directors  
Keauhou Gardens I  
Association of Apartment Owners

cc: Joe Spencer  
Kamehameha Investment Corporation

Sue Kelley  
Shell Management Hawaii



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

Stuart O. Lowry, President, Board of Directors  
Keauhou Gardens I  
78-6842 Ali'i Drive  
Kailua-Kona, Hawaii 96740

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII

Dear Mr. Lowry:

We appreciate your letter of August 6, 1999 concerning the subject document and comments regarding the potential impact to area residents, including the apartment owners of Keauhou Gardens I as a result of the planned roadway improvements in the area, including the subject project and the County's planned Ali'i Highway project. The following is offered in response to your concerns.

Regarding the potential noise impacts to residential areas of Keauhou, we note that the existing segment of Ali'i Highway from the north end of Keauhou Shopping Center to the junction with the proposed Mamalahoa Bypass Road includes setbacks, vegetative and physical barriers between the roadway and nearby condominium buildings. To this extent, certain mitigative measures have been incorporated into the planning and design of the residential development of the Keauhou Resort area in relation to the long range transportation planning for the region as reflected within the County General Plan. Both the Ali'i Highway and the Bypass Road are included as elements of the County General Plan Facilities Map and were anticipated in the planning for the Keauhou Resort area.

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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Stuart O. Lowry

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) MAMALAHOA  
HIGHWAY BYPASS ROAD NORTH AND SOUTH KONA, HAWAII

September 3, 1999

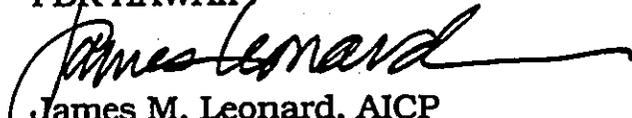
Page 2

Potential noise impacts to nearby residences, were analyzed as part of the Environmental Noise Assessment for the project (Appendix F). The Assessment examined the potential noise impacts of the project at several locations under scenarios including the construction of both Ali'i Highway and the Mamalahoa Bypass Road, as well as the Villages at Hokukano (Hokuli'a) development. The Noise Assessment calculated noise levels at a distance of 100' from the centerline of the affected roadways, including the Kamehameha III Road. At these distances noise levels remained below the Housing and Urban Development (HUD) defined levels for "acceptable" sites, assuming no mitigation or alterations due to topographic variation or vegetative barriers. As noted, for those residential buildings located off of Ali'i Drive are either set back from the roadway and/or have vegetative or physical barriers have been integrated as part of the site planning for Keauhou.

Therefore, while noise levels are likely to increase with the corresponding increase in traffic, based on the above analysis these levels when measured residential sites are expected to be well within HUD guidelines. Additionally, for those sections of the proposed bypass roadway which are within 500-feet of existing residents, vegetative buffers, if not currently present, will be provided.

We thank you for your input on this project and for your thoughtful comments. Please be aware that your letter and this response will be included in the Final EIS.

Sincerely  
PBR HAWAII

  
James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Genevieve Salmonson, Office of Environmental Quality Control

Nancy Pisicchio  
Councilmember



Tel: (808) 961-8273  
Fax: (808) 961-8912

## COUNTY COUNCIL

County of Hawai'i  
Hawai'i County Building  
25 Aupuni Street  
Hilo, Hawai'i 96720

August 9, 1999

PBR HAWAII  
Attention: Mr. James M. Leonard  
101 Aupuni Street, Suite 310  
Hilo, Hawaii 96720

Re: Mamalaho Highway Bypass Road  
Draft Environmental Impact Statement

Dear Mr. Leonard:

Thank you for this opportunity to comment on the Draft EIS for the proposed Mamalaho Highway Bypass.

Regarding this document, I wish to address two sections:

The Hawaii County General Plan states on Page 41, under Courses of Action:  
*"Construct a scenic drive from Keauhou above the Kealakekua cliffs to Napoopoo".*

First, on Page 46, in Section 5.1.5, under Scenic and Open Space Resources,  
it states that:

*"The County has not established standards for a scenic drive and bases on discussions with the Planning staff, reference within the County General Plan to a scenic drive is intended to denote the scenic quality of the area rather than to prescribe construction standards for the road itself."*

I believe that the County must adopt a "Scenic Corridor" ordinance prior to the opening of this road in order to guarantee that the scenic quality of the drive is preserved in the years ahead. This would include standards to define and preserve view planes both mauka and makai of this road.

77-6399 Nalani St., Suite 104 Kailua-Kona, Hawai'i 96740 Kona Telephone: (808) 326-5684 Kona Fax: (808) 326-5697

PBR Hawaii  
Page 2  
August 9, 1999

Second, On Page 52, under Business Impacts, Section 5.3.1:  
This section concludes that the bypass will have a positive impact on the business corridor because *"with improved traffic conditions, drivers would be more inclined to shop in the area."*

I do not believe, in reviewing the impact of bypass highways nationwide, that this opinion is supportable. Beyond that, I believe the county needs to adopt a "scenic corridor" ordinance that would serve to preserve the view plane and prevent future commercial development from being established along the bypass in the future. A new commercial destination along the bypass would most certainly strike a fatal blow to the mauka business community. I suggest that a "scenic corridor" ordinance, similar to the one in place within the Napa Valley, should be considered.

I wish to offer my assistance in working with Oceanside 1250, the County Department of Planning and this community to create an ordinance to fill this need.

Sincerely,



NANCY PISICCHIO  
Council Member (District 7)



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

Councilmember Nancy Pisicchio  
Hawaii County Council  
25 Aupuni Street  
Hilo, Hawaii 96720

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII

Dear Councilmember Pisicchio:

Thank you for your August 9, 1999 letter concerning the subject document. The following is offered in response to your comments.

1. We appreciate your comments on the need for greater definition in the County General Plan as to the standards for scenic-drives. In that the County is currently under going its ten-year General Plan update process, it may provide the appropriate mechanism to integrate such suggestions as part of the General Plan.
2. The statement within the DEIS that the potential for improvements to traffic conditions along Mamalahoa Highway may induce greater shopping among local businesses was based on the findings of the Socio-Economic report prepared for the subject project (Appendix I). The socio-economic study, which included an analysis of other bypass roadway projects in the State, along with other survey methodology, served to support the report findings with regards to potential impacts to area businesses.
3. Regarding the potential for commercial development along the proposed bypass road, currently a small area near the planned intersection with Mamalahoa Highway is zoned for commercial use. The developer, Oceanside 1250, has expressed it support towards limiting commercial development along the roadway corridor, as it would potentially have a negative impact on existing businesses along Mamalahoa Highway and would not be in keeping with the open space and scenic quality of much of the project area.

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Councilmember Nancy Pisicchio

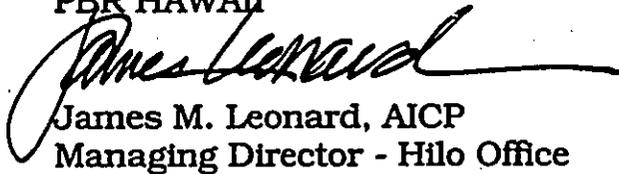
RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) MAMALAHOA  
HIGHWAY BYPASS ROAD NORTH AND SOUTH KONA, HAWAII

September 3, 1999

Page 2

We appreciate your input on this project. Please note that your letter and this response will be included in the Final EIS.

Sincerely,  
PBR HAWAII



James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Genevieve Salmonson, Office of Environmental Quality Control

August 9, 1999

PBR Hawai'i  
Attn: James M. Leonard  
101 Aupuni St. (Suite 310)  
Hilo, HI 96720

Re: Comments regarding Oceanside 1250 and the intersection of Napo'opo'o Road.

Aloha,

I am filing a comment regarding a lack of signal light at the Napo'opo'o Road intersection. After reviewing the Draft Environmental Impact Statement (DEIS), it is obvious that Oceanside 1250 does **NOT** intend to put in a **SIGNAL LIGHT** at the intersection of Napo'opo'o and Mamalahoa Highway "until warranted" (page xiv).

It is unfair for the taxpayers of this County to pay 100% for a signal light at the Napo'opo'o Road intersection to allow the development of a subdivision (Oceanside 1250).

The DEIS states that "traffic growth in the area would increase by 52% by the year 2010" (Section 3, page 10). A split of the cost seems reasonable and the County needs to require Oceanside 1250 to pay for a portion with the money to be in bond now and the County needs to lay aside funds for their share now.

The Napo'opo'o Road intersection is currently:

1. on a blind curve (Section 2, figure 4),
2. has traffic moving at 40-55 MPH despite the posted speed limits,
3. has an traffic density of LOS E (serious congestion) now (Section 1, page 2) and "based on the Traffic Analysis for the proposed roadway, the level of service for the intersections [including Napo'opo'o] .... all currently operate under a level of Service "F" during both the morning and afternoon peak periods" (Section 4, page 37),
4. had 16,900 (ADT) vehicles moving along the Mamalahoa Highway per day in 1996 and traffic is expected to increase to 25,000 ADT in 2010 (Section 1, page 2),
5. thousands of cars of residents are trying to merge from and turn into Napo'opo'o Road daily plus many visitors to/from Kealahou Bay attempt the same, and
6. Table 3, Section 5, page 59 does **NOT indicate any funds from County** for signal lights now or in the future. Historically, the County Council dominated by the East side members refuses to commit or spend reasonable or adequate funds on the West side. We currently need the signal light at Napo'opo'o Rd.

The new Napo'opo'o Road intersection will have (per the DEIS):

- a. design speed of 50 MPH and posted speed of 35-45 MPH (Section 2, page 6),

- b. 11 percent grade (Section 2, page 6) [difficult for large, slow-moving trucks] near the Napo'opo'o end,
- c. construction is estimated to take from April 2000 through April 2004 (Section 2, page 7) [construction vehicles could cause many more problems in this area],
- d. worse case basis on carbon monoxide pollution (Section 4, page 4) is that emissions would exceed that State standard (Section 5, page 45), and
- e. noise levels at the intersection by 2010 and 2015 should reach 63.1dBA and 64.2 dBA respectively. HUD recommended Level Decibel Noise in a residential area should not exceed 65 dBA. (Section 4, page 22). If the DEIS is accurate, the noise is too close to unacceptable in a residential area.
- f. blind curve will remain (Section 2, figure 4) and continue to obscure the intersection.
- g. no signal light "until warranted" (see above). **A signal light is warranted now.**
- h. will continue to have LOS F traffic density through the Napo'opo'o intersection. Only the section from Napo'opo'o Road to Honalo will have a lessened traffic density.

The bypass highway is intended to correct congestion rated LOS E from Napo'opo'o Rd. to Honalo. "E" is serious congestion today. [LOS A = traffic in free flow condition and LOS F = traffic with serious congestion (Section 1, page 2.)]. While the bypass may relieve traffic between Capt. Cook and Honalo, it does nothing to relieve traffic at the Napo'opo'o intersection. It certainly will not assist the thousands of cars moving up and down Napo'opo'o Road which is a major thoroughfare and the road to Kealahakua Bay. With thousands more visitors trying to use that intersection and not realizing the speed of oncoming cars or the blind nature of the curve, and the increase in residents due to the sale of more subdivision lots, deaths will certainly occur at the Napo'opo'o Road intersection.

Oceanside 1250 should be required to:

1. complete the Napo'opo'o Road intersection first and install a signal light immediately,
2. have a signal light installed at Napo'opo'o Road with the completion of the Napo'opo'o road intersection based on the current timetable, or
3. have a signal light installed at Napo'opo'o Road as soon as the grading of the road in the Napo'opo'o area is complete to allow construction vehicles, residents, and visitors to enter and merge safely to and from the highway.



Brenda Ford  
81-6195 Napo'opo'o Road  
Captain Cook, HI 96704



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

Brenda Ford  
81-6195 Napo'opo'o Road  
Captain Cook, Hawaii 96704

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII

Dear Ms. Ford:

Thank you for your August 9, 1999 letter concerning the subject document. The following is offered in response to your comments.

While we concur with your assessment of the current conditions at Napo'opo'o Road, we would like to provide the following clarification regarding the future conditions.

- a. **Design/Posted Speeds:** The design speed of 50 MPH and posted speed of 35-45 MPH indicated in your letter is correct.
- b. **Passing Lanes:** Passing lanes to accommodate slow-moving vehicles are planned in all areas of 11% grade or greater.
- c. **Construction Period:** Although the construction of the entire roadway is anticipated to take from four to five years, the construction period for the planned intersection with Napo'opo'o Road would likely occur near the end of the construction period. Construction of the intersection improvements is expected to take place over a three to six month period, and while there may be some disruption to traffic flow at this intersection during this period, the resulting improvements to safety and traffic flow will benefit area residents far into the future. We also anticipate that there would be minimal disruptions during peak traffic periods as construction at this intersection would generally be confined to non-peak hours.

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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Brenda Ford

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII

September 3, 1999

Page 2

- d. **Air Quality:** While air emissions at the Napo'opo'o intersection may exceed State standards with or without the project, because State standards are set at such stringent levels this is a common occurrence at locations throughout the State, including several locations in the Kailua-Kona area that have only moderate traffic volumes. However, based on the findings of the Air Quality Study for the proposed project (Appendix G), air quality at this intersection is projected to improve as a result of the roadway project.
- e. **Noise Quality:** The noise levels referenced in your letter were calculated for those residences at the southern portion of the corridor, closest to the proposed roadway. It should be pointed out that this calculation was based on a "worst case" scenario and does not reflect any attenuation provided by the topography or intervening vegetation. These measurements also represent the highest potential noise level at this location with no mitigation measures. As stated in Section 5.1.4, a landscaped buffer is planned along roadway sections that are within 500 feet of existing dwellings, which would include section near these residences.
- f. **Blind Curve:** As proposed, the planned intersection improvements will correct the "blind" curve that currently exists, resulting in a substantial improvement to the safety of this intersection.
- g. **Warrants for Traffic Signals:** The traffic analysis report recommends signalization of the Bypass Road/Mamalahoa Highway Intersection "when warranted," because warrants are generally based on actual traffic counts rather than medium or long-range traffic forecasts. The decision on whether to install a traffic signal, therefore, would be made following the opening of the Bypass Road at which time actual traffic volumes can be determined. The County of Hawaii uses the procedures within the Manual On Uniform Traffic Control Devices (MUTCD) as guidance regarding the warrants for traffic signals. MUTCD has over ten warrants for when to install traffic signals most based on existing traffic volumes.

It should be noted, however, that the proposed intersection would be designed and constructed with the appropriate conduits in place to facilitate installation of traffic signals, when warranted.

Brenda Ford

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII

September 3, 1999

Page 3

- h. While your statement that the level of service (LOS) for Napo'opo'o Road, left turn movement, if unsignalized, is projected to remain at LOS F for the forecast year 2015 is correct, it is likely that traffic signalization at this intersection would be warranted within this period thereby improving the LOS for this movement. Also, the reconfiguration of the existing intersection is expected to substantially improve the traffic safety at this intersection.

We thank you for your input to this project and for your thoughtful comments. Please note that your letter and this response will be included in the Final EIS.

Sincerely,  
PBR HAWAII



James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Genevieve Salmonson, Office of Environmental Quality Control

BENJAMIN J. CAYETANO  
GOVERNOR



GENEVIEVE SALMONSON  
DIRECTOR

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

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

August 9, 1999

Mr. Robert Stuit  
Oceanside 1250  
74-5620A Palani Road, Suite 200  
Kailua-Kona, Hawai'i 96740

Dear Mr. Stuit:

Having reviewed the draft environmental impact statement, we submit the following comments for your point-by-point response as required by Section 11-200-22(c), Hawai'i Administrative Rules.

**ALTERNATIVE FORMS OF TRANSPORTATION:** State policy (Chapters 26, 226, 264 and 344, Hawai'i Revised Statutes) requires the promotion of alternative forms of transportation that reduce reliance on the private automobile, conserve energy, reduce pollution and provide safe accommodations for their users. Please discuss what provisions are being made to: (1) create bicycle lanes along this corridor; (2) promote pedestrian safety; and (3) encourage other non-motorized modes of transportation.

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

Sincerely,

  
GENEVIEVE SALMONSON  
Director

c: ✓ Mr. James Leonard, PBR Hawaii  
Messrs. Jiro Sumida and Tom Pack, Department of Public Works



LAND PLANNING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES

September 3, 1999

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

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)  
MAMALAHOA HIGHWAY BYPASS ROAD  
NORTH AND SOUTH KONA, HAWAII

Dear Ms. Salmonson:

Thank you for your August 9, 1999 letter concerning the subject document. The following is offered in response to your comments.

At this point in time the County or State has no plans to implement an integrated system of bicycle lanes, walkways, or other pathways for non-motorized modes of transportation as part of their planned roadway or highway improvements for the region.

Please be aware that the proposed roadway is being planned and designed to meet the standards set-forth by the Hawaii County Department of Public Works. Although provisions for alternative mode of transportation are not included as formal part of the proposed roadway improvements, the roadway has been planned with eight to ten feet shoulder which are of sufficient width to be used by bicyclists and pedestrians.

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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Genevieve Salmonson

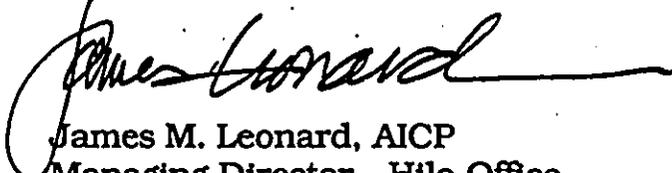
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HIGHWAY BYPASS ROAD NORTH AND SOUTH KONA, HAWAII

September 3, 1999

Page 2

Thank you for your input on this project. Your letter and this response will be included in the Final EIS.

Sincerely  
PBR HAWAII



James M. Leonard, AICP  
Managing Director - Hilo Office

xc: Robert Stuit, Hokuli'a by Oceanside 1250  
Jiro Sumada, Department of Public Works  
Genevieve Salmonson, Office of Environmental Quality Control

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## REFERENCES

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## REFERENCES

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