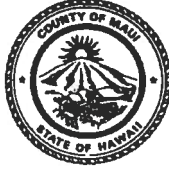


ALAN M. ARAKAWA
Mayor

DAVID C. GOODE
Director

ROWENA M. DAGDAG-ANDAYA
Deputy Director

Telephone: (808) 270-7745
Fax: (808) 270-7975



COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

APR 08 2012
RALPH NAGAMINE, L.S., P.E.
Development Services Administration

CARY YAMASHITA, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

FILE COPY

March 21, 2012

RECEIVED
12 MAR 27 PM 2:37
OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

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

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA) for the proposed
KAHEKILI HIGHWAY REPAIR project at TMK (2) 3-1-002:016 (por.),
Kahakuloa, Maui, Hawaii

Dear Mr. Hooser:

The County of Maui, Department of Public Works has reviewed the Draft Environmental Assessment (DEA) for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Please publish the notice of availability for this project in the next available publication of the Office of Environmental Quality Control (OEQC) Environmental Notice.

We have enclosed a completed OEQC Publication form, Project Summary as well as a CD (PDF file) and one (1) hard copy of the Draft EA.

Should you have any questions, please contact Annette Matsuda of the Department of Public Works at (808) 270-7745.

Sincerely,


DAVID C. GOODE
Director of Public Works

DG/CY/AM(ED12-315)

Enclosures

cc: Stan Watanabe, Austin, Tsutsumi & Associates, Inc.
Mark Alexander Roy, AICP, Munekiyo & Hiraga, Inc.

FILE COPY

**Agency Action EA
Chapter 343, HRS
Publication Form**

Project Name Proposed Kahekili Highway Repair Project - Draft Environmental Assessment

Island: Maui

District: Wailuku Judicial District

TMK: (2) 3-1-002:016(por.)

Permits: Work to Perform on County Highway, Building, Grading, Noise (as applicable), NPDES (as applicable)

Proposing/Determination

Agency: County of Maui, Department of Public Works, 200 South High Street, 4th Floor, Wailuku, Maui, Hawaii 96793, Contact: Annette Matsuda, P.E., (808) 270-7745

Consultant: Munekiyo & Hiraga, Inc., 305 High Street, Suite 104, Wailuku, Hawaii 96793, Contact: Mark Alexander Roy, AICP, Program Manager, (808) 244-2015

Status: 30-day comment period (Anticipated FONSI)

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page):

The County of Maui, Department of Public Works proposes to conduct roadway repairs to a section of Kahekili Highway between Mile Markers 15 and 16 in Kahakuloa, Maui, Hawaii. Kahekili Highway runs along Maui's northwest coast, providing access from the Wailuku-Waihee area to West Maui. The proposed project consists of recompacting and repaving eroded asphalt concrete along pavement areas, constructing a slope tie-back system along the makai areas of the roadway where the pavement is showing visible signs of cracking, paving turnout areas, and asphalt resurfacing of the entire roadway segment area. The proposed repair work will be confined within the existing 50-foot right-of-way of Kahekili Highway and will improve the structure and stability of this section of the roadway. The section of Kahekili Highway between Mile Markers 15 and 16 is in need of immediate repairs to maintain the roadway for public access between Kahakuloa and Kapalua in West Maui. Sections of the road have been worn down due to repeated use, with numerous cracks and fissures visible within the asphalt.

Revised February 2012

Draft Environmental Assessment

PROPOSED KAHEKILI HIGHWAY REPAIR PROJECT, KAHAKULOA, MAUI (TMK (2)3-1-002:016(por.))

Prepared for:

**County of Maui,
Department of Public Works**

April 2012

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by Munekiyo & Hiraga, Inc.**



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Executive Summary

Project Name: Kahekili Highway Repair Project

Type of Document: Draft Environmental Assessment

Legal Authority: Chapter 343, Hawaii Revised Statutes

Anticipated Determination: Finding of No Significant Impact (FONSI)

Applicable Environmental Assessment Review "Trigger": Use of County Funds
Use of State Lands
Use of State Conservation District

Location: Maui Island
Kahakuloa
TMK (2)3-1-002:016(por.)

Landowner: State of Hawaii

Proposing Agency: County of Maui
Department of Public Works
200 South High Street, 4th Floor
Wailuku, Maui, Hawaii 96793
Contact: Annette Matsuda, P.E.
Phone: (808) 270-7745

Approving Agency: County of Maui
Department of Public Works

Consultant: Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793
Contact: Mark Alexander Roy, AICP, Program Manager
Phone: (808) 244-2015

Project Summary: The County of Maui, Department of Public Works proposes to conduct roadway repairs to a section of Kahekili Highway between Mile Markers 15 and 16, in Kahakuloa, Maui, Hawaii. The proposed repair work consists of recompacting and repaving eroded asphalt concrete pavement areas, constructing a slope tie-back system along makai areas of the roadway where the pavement is showing visible signs of

cracking, paving turnout areas, and asphalt resurfacing of the entire roadway segment. The slope tie-back system is required to stabilize the road and slope and will aid in the future maintenance of the asphalt concrete pavement. The proposed repair work will be confined within the existing right-of-way of Kahekili Highway and is intended to improve the structure and stability of this particular section of the roadway near Kahakuloa Village.

The project site is located along the north side of Waihali Gulch just north of Kahakuloa Village and is surrounded by vacant Conservation lands. This particular section of roadway overlooks Kahakuloa Bay and abuts a private residence along its makai boundary.

Land underlying the project site is classified as "Conservation" by the State Land Use District, designated "Conservation" by the Wailuku-Kahului Community Plan, and zoned "Interim" by the County of Maui.

The proposed action involves the use of State lands, County funds and will occur within the State Conservation District. As such, an Environmental Assessment (EA) is being prepared in accordance with the requirements set forth by Chapter 343, Hawaii Revised Statutes (HRS). The County of Maui, Department of Public Works is serving as the Approving Agency for the EA. The State Department of Land and Natural Resources, Office of Conservation and Coastal Lands has determined that improvements within the existing highway right-of-way do not require a Conservation District Use Permit (CDUP) because the highway is an established transportation use.

The Kahekili Highway right-of-way between Mile Markers 15 and 16 is located outside of the County of Maui's Special Management Area (SMA). The Department of Planning has confirmed that a SMA Use Permit is not required for the proposed project.

I. PROJECT OVERVIEW

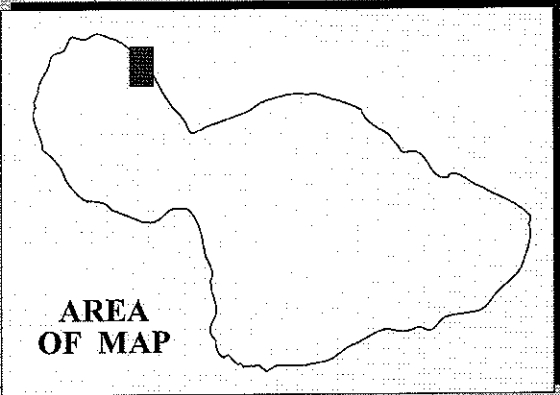
I. PROJECT OVERVIEW

A. PROJECT LOCATION, CURRENT LAND USE, AND OWNERSHIP

The County of Maui, Department of Public Works (DPW) proposes to conduct necessary roadway repairs to a 1,150 foot section of Kahekili Highway, between Mile Markers 15 and 16, in Kahakuloa, Maui, Hawaii. Kahekili Highway (County Route 340) runs along Maui's northwest coast, providing access from the Wailuku-Waihee area to West Maui, eventually connecting to Honoapiilani Highway in the Honolua-Kapalua area. The affected section of the roadway is located within TMK (2) 3-1-002:016 (por.), a State-owned parcel of land. See **Figure 1** and **Figure 2**. The proposed Project is intended to improve the structure and stability of this section of the highway. A topographic survey of the existing roadway corridor is presented in **Appendix "A"**. Photos of the project site are provided in **Appendix "A-1"**.

The project site consists of a 1,150 foot section of one-lane roadway that is approximately 10-feet to 12-feet wide. The project site covers approximately 1.4 acres and contains approximately 0.4 acres of existing asphalt concrete paved roadway. It is located along the north side of Waihali Gulch just north of Kahakuloa Village and is surrounded by vacant Conservation lands. This section of roadway overlooks Kahakuloa Bay and abuts a private residence along its makai boundary. The existing roadway at this location has steep rock cuts and embankments abutting the roadway. A 2-inch to 3-inch asphalt curb is located along the edges of the road at various locations. Several areas of the asphalt are showing visible cracks in the pavement that appear to be from soil loss due to the steep slopes on the makai side of the road. The DPW is proceeding with this project due to concern regarding the overall stability of this section of Kahekili Highway.

The land underlying the project site is classified as "Conservation" by the State Land Use District, designated "Conservation" by the Wailuku-Kahului Community Plan, and zoned "Interim" by the County of Maui.



Pacific Ocean

Project Site Vicinity

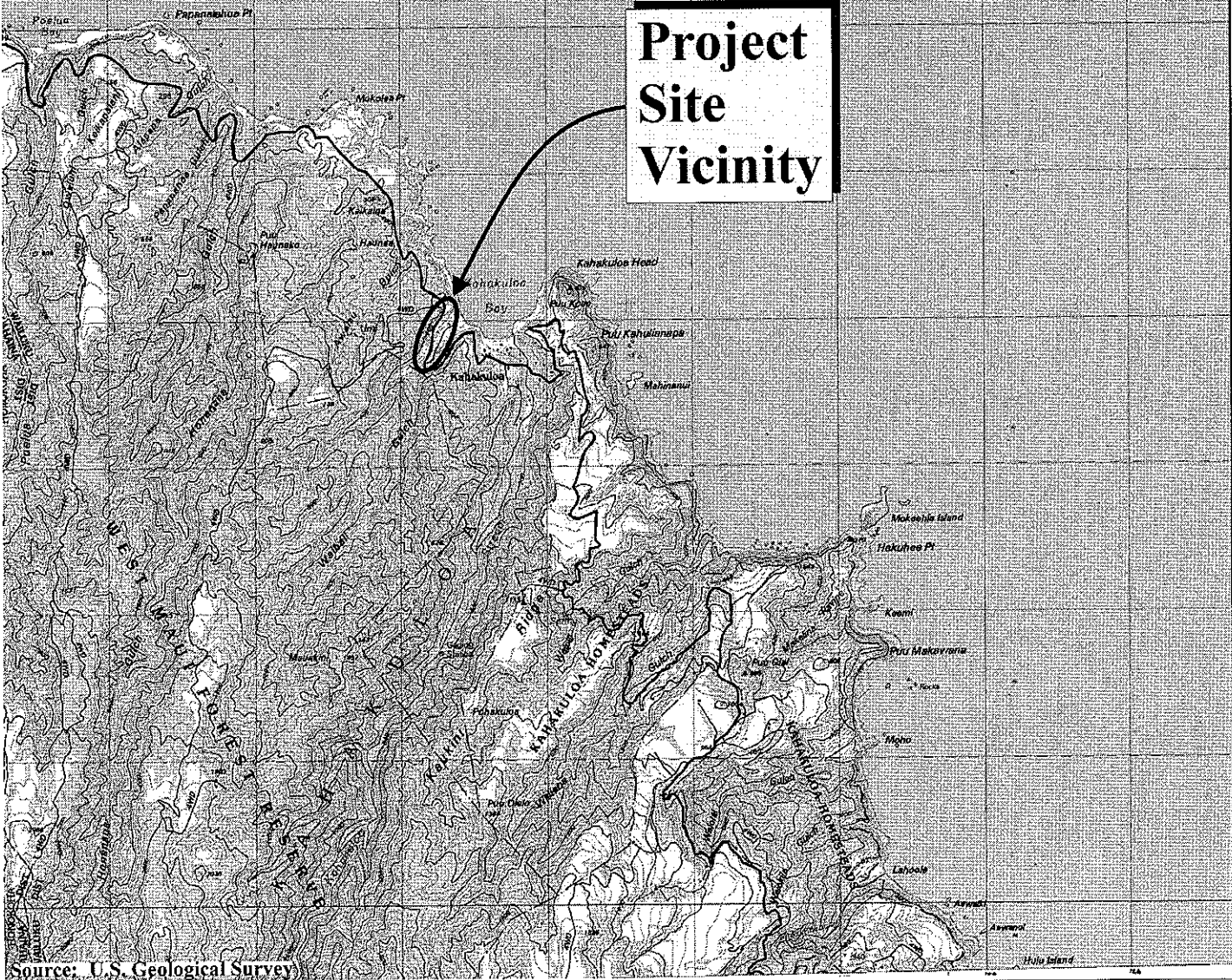


Figure 1

Proposed Kahekili Highway
Repair Project
Regional Location Map

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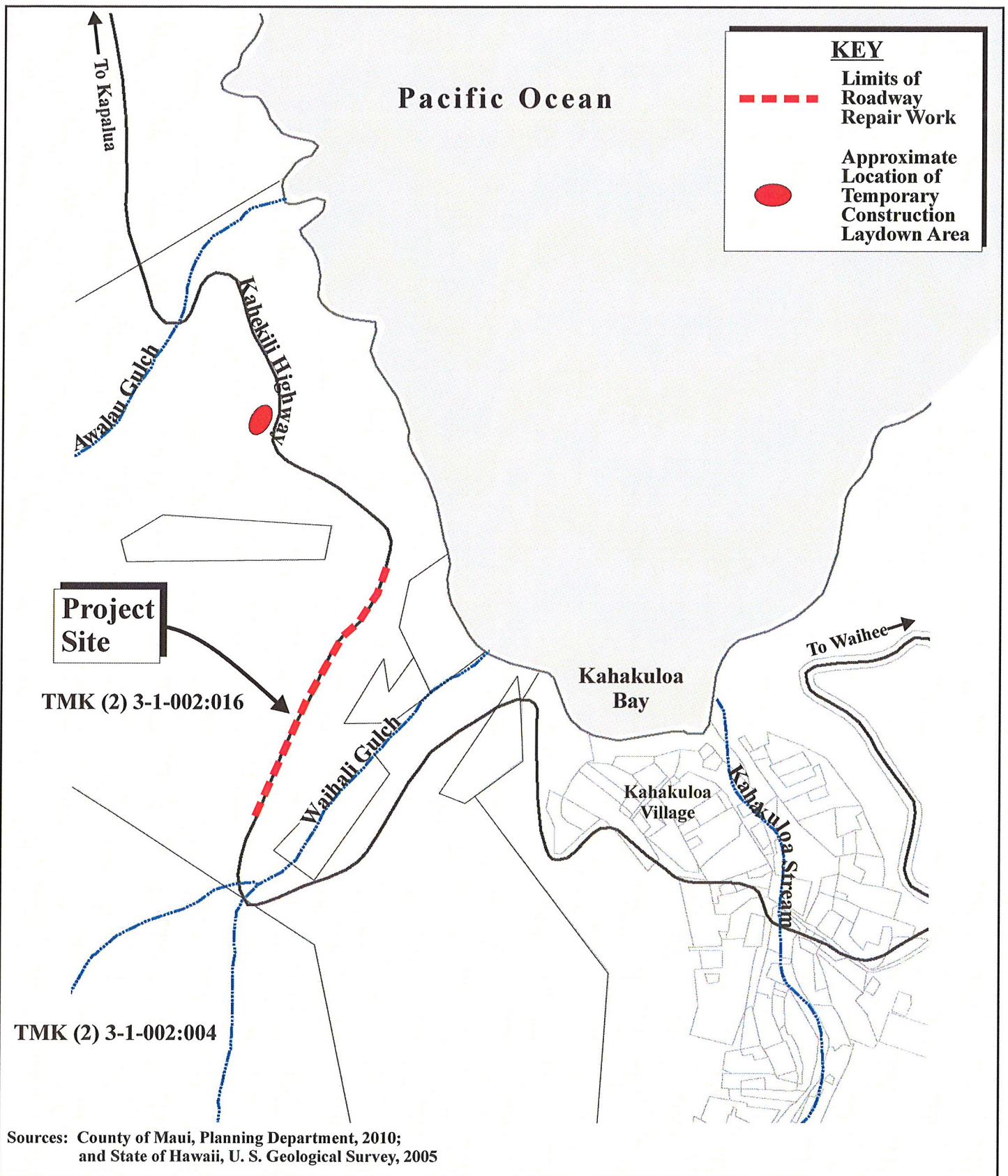


Figure 2

Proposed Kahekili Highway
Repair Project
Site Location Map



B. PROPOSED ACTION

The proposed repair work consists of recompacting and repairing eroded asphalt concrete pavement areas, constructing a slope tie-back system along makai areas of the roadway where the pavement is showing visible signs of cracking, paving turnout areas, and asphalt resurfacing of the entire roadway segment. The slope tie-back system is required to stabilize the road and will aid in the future maintenance of the asphalt concrete pavement. The proposed repair work will be confined within the existing 50-foot right-of-way of Kahekili Highway and will improve the structure and stability of this section of the roadway corridor. The proposed improvements will not widen this segment of the roadway; Kahekili Highway at this location will continue to be a one (1) lane roadway. A copy of the preliminary site plan for the repair project is presented in **Appendix "B"**.

Given the remote location of this section of Kahekili Highway, DPW will be implementing a temporary construction laydown area near the project site on a portion of the same parcel of land (TMK (2)3-1-002:016). Refer to **Figure 2**. The laydown area will be approximately 0.65 acre in area and will provide the contractor with an area to store construction equipment and material needed for the repair project. Once the highway repairs have been completed, the laydown area will be closed and returned to a natural condition.

C. PROJECT NEED

As mentioned previously, the section of Kahekili Highway between Mile Markers 15 and 16 is in need of immediate repairs to maintain the roadway for public access between Kahakuloa and Kapalua. Sections of the road have been worn down due to repeated use, with numerous cracks and fissures visible within the asphalt. The proposed project will improve the structure and stability of this section of Kahekili Highway. Additionally, the road itself is very narrow and in need of turnout areas to allow traffic to flow sufficiently in both directions.

D. ENTITLEMENTS REQUIRED

Lands underlying the project site are classified as "Conservation" by the State Land Use Commission. The State Department of Land and Natural Resources (DLNR), Office of Conservation and Coastal Lands (OCCL) has determined that improvements within the existing highway right-of-way do not require a Conservation District Use Permit (CDUP) because the highway is an existing transportation use. Processing of a Conservation District Use Application (CDUA) for a Board Permit is, however, required for the temporary

construction laydown area.

The Kahekili Highway right-of-way between Mile Markers 15 and 16 is located outside of the County's Special Management Area (SMA). The SMA boundary line is located immediately makai of the Kahekili Highway right-of-way in the vicinity of the project. As such, the Department of Planning has confirmed that a SMA Use Permit is not required for the proposed project.

Copies of the OCCL and Department of Planning determination letters are provided in Chapter IX of this document.

E. CHAPTER 343, HAWAII REVISED STATUTES REQUIREMENT

The proposed highway repair project will involve the use of State lands, County funds and use of the State Conservation District which are triggers for the preparation and processing of an Environmental Assessment (EA) pursuant to Chapter 343, Hawaii Revised Statutes (HRS). Based on the scope of work proposed, this Draft EA is being prepared in accordance with Chapter 200 of Title 11, Department of Health Administrative Rules, Environmental Impact Statement Rules to provide a technical evaluation of the Kahekili Highway repair project. The DPW will serve as the Approving Agency for the project.

It is noted that the implementation of the proposed temporary construction staging area for the roadway repair project has been determined to be exempt from EA processing requirements. A copy of the EA exemption determination issued by OCCL is provided in Chapter IX.

F. IMPLEMENTATION TIME FRAME AND ESTIMATED CONSTRUCTION COSTS

The implementation of the Kahekili Highway Repair Project will commence after the required permits are secured. Assuming all necessary approvals and entitlements are obtained, construction is expected to begin in 2012 and take approximately six (6) months to complete. During the construction period, the affected section of Kahekili Highway will be closed to through traffic, Monday to Friday, between the hours of 8:00 a.m. and 5:00 p.m. This schedule has been developed by DPW to avoid the need to implement a 24/7 road closure during construction of the repair work. Kahekili Highway will, therefore, be open for use by the motoring public all day on Saturday and Sunday and, on weekdays before 8:00 a.m. and after 5:00 p.m.

The proposed highway repair project is estimated to cost approximately \$2.8 million.

**II. DESCRIPTION OF
EXISTING CONDITIONS,
POTENTIAL IMPACTS,
AND PROPOSED
MITIGATION MEASURES**

II. DESCRIPTION OF EXISTING CONDITIONS, POTENTIAL IMPACTS, AND PROPOSED MITIGATION MEASURES

A. PHYSICAL ENVIRONMENT

1. Surrounding Land Uses

a. Existing Conditions

Kahekili Highway runs along Maui's northwest coast, providing access between the Wailuku-Waihee region and the Honolua-Kapalua area in West Maui.

The Kahekili Highway Repair project site is located between Mile Markers 15 and 16 in Kahakuloa, Maui, on the eastern slopes of the West Maui Mountains. The Kahakuloa region is characterized by numerous jagged cliffs and valleys with small private residences dotted along the vast expanse of rugged terrain.

The segment of Kahekili Highway in the vicinity of the project site is surrounded by vacant and rural lands. The project site is located north of Waihali Gulch and just north of Kahakuloa Village. Kahakuloa Village is an isolated community that is home to approximately 100 residents, two (2) churches, and several small businesses. The project site itself overlooks Kahakuloa Bay and abuts a private residence along its makai boundary.

b. Potential Impacts and Proposed Mitigation Measures

The proposed repair work will be confined within the existing right-of-way of Kahekili Highway and will improve the structure and stability of this section of highway. The proposed project will have no adverse impacts to existing land uses in the vicinity of the project site.

2. Climate

a. Existing Conditions

Like most areas of Hawaii, Maui's climate is relatively uniform year-round. Characteristic of Hawaii's climate, the plan area experiences mild and uniform temperatures year-round, moderate humidity, and a relatively consistent Northeasterly trade wind. Variation in climate on the island is largely left to local terrain.

Average temperatures for the Wailuku region range from lows in the 60's to highs in the 80's. August is historically the warmest month, while January to March are the coolest. Winds in the Wailuku region are predominantly out of the north-northeast and northeast (County of Maui, Office of Economic Development, 2010). During the rainy seasonal months of October through April, the region experiences strong wind conditions varying from trades from the northeast to southerly winds known as "Kona storms". The average annual rainfall for Kahakuloa is approximately 25 inches around the coastal area (Austin, Tsutsumi & Associates, Inc., 2011).

b. Potential Impacts and Proposed Mitigation Measures

The proposed action is not anticipated to alter local climatic conditions. Improvements are limited to the repair of an existing highway and will not involve roadway widening or substantial increases in impervious surface area.

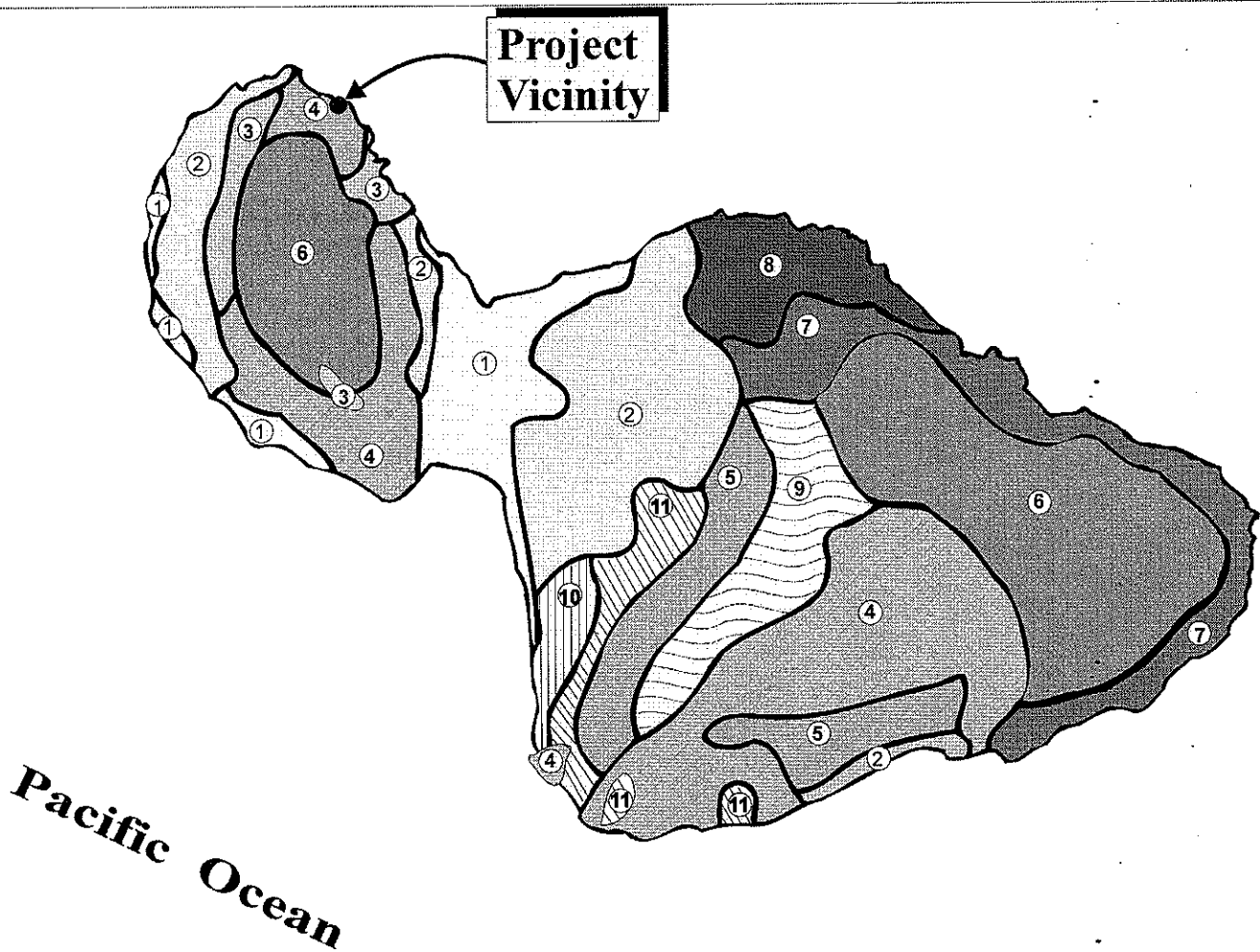
3. Topography and Soil Characteristics

a. Existing Conditions

Underlying the project site are soils belonging to the Rock land – Rough mountainous land association. See **Figure 3**. The Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii characterizes the soils of the Rock land – Rough mountainous land association as very shallow, steep and very steep, rock land and rough mountain land. These soils are nearly level to moderately sloping. This soil association makes up about four (4) percent of the island (USDA Soil Conservation Service, 1972).

LEGEND

- | | |
|--|-------------------------------------|
| ① Pulehu-Ewa-Iaucaas association | ⑦ Hana-Makaalae-Kailua association |
| ② Waiakoa-Keahua-Molokai association | ⑧ Pauwela-Haiku association |
| ③ Honolua-Olelo association | ⑨ Laumaia-Kaipoi-Olinda association |
| ④ Rock land-Rough mountainous land association | ⑩ Keawakapu-Makena association |
| ⑤ Puu Pa-Kula-Pane association | ⑪ Kamaole-Oanapuka association |
| ⑥ Hydrandepts-Tropaquods association | |



Map Source: USDA Soil Conservation Service

Figure 3

Proposed Kahekili Highway
Repair Project
Soil Association Map

NOT TO SCALE



Prepared for: County of Maui, Department of Public Works

MUNEKIYO & HIRAGA, INC.

ATAKahekiliSOILS

Underlying the project area are soils classified as rRK (Rock Land) and rSM (Stony Alluvial Land). See **Figure 4**.

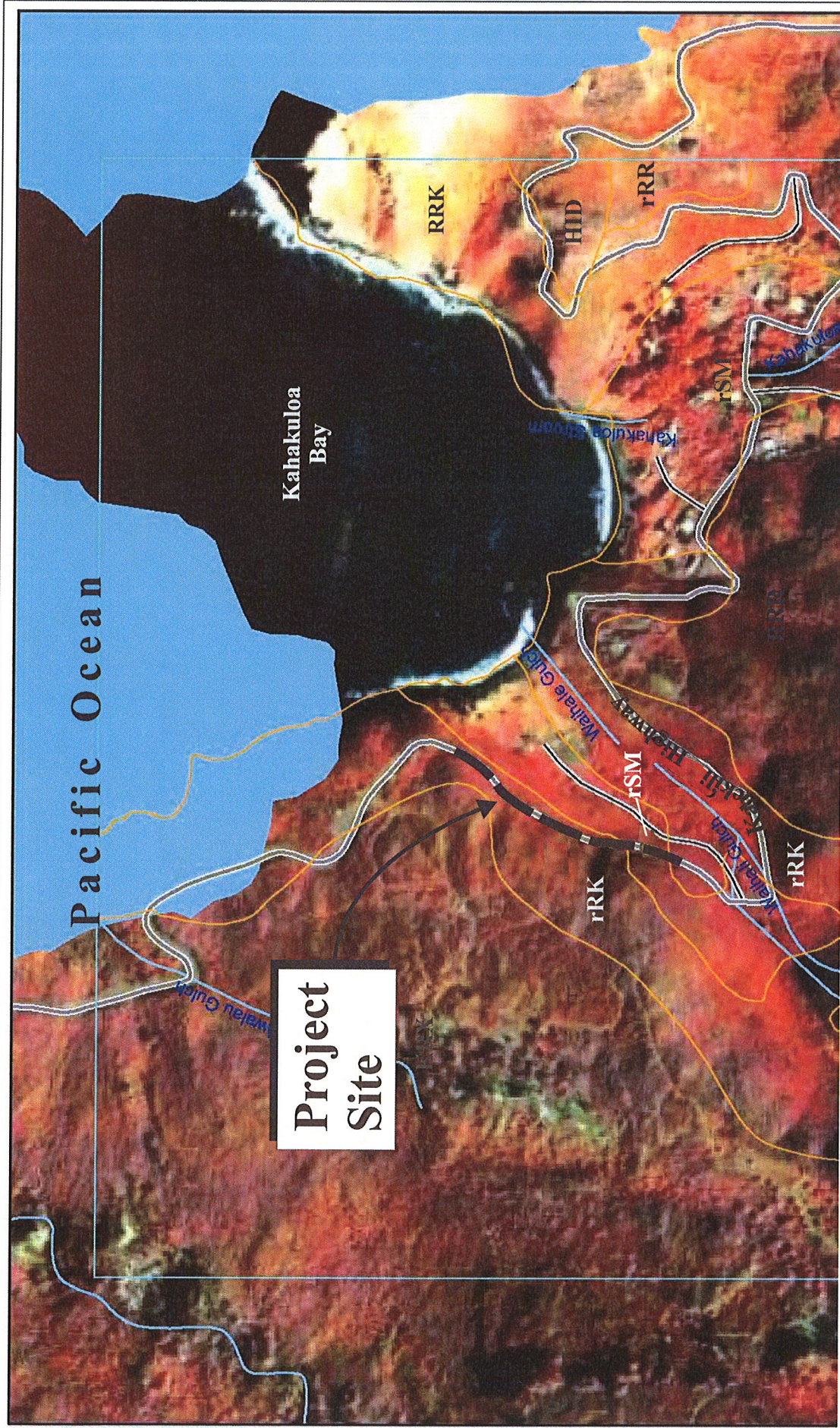
The project site consists of an existing asphalt concrete paved roadway bounded by steep rock formations and slopes on both sides. Onsite elevation ranges from 116 to 215 feet mean sea level (MSL). The average slope of the project site is approximately zero (0) to two (2) percent for the roadway cross slope and 70 percent on the existing embankments. See **Appendix "C"**. The project site is located approximately 400 feet away from the shoreline at its nearest point to the Kahakuloa Bay.

Rock Land (rRK) is made up of areas where exposed rock covers 25 to 90 percent of the surface. This land type is characterized by shallow soils and rock outcrops, which consist primarily of basalt and andesite. Rock Land is nearly level to very steep, with elevations ranging from nearly sea level to 6,000 feet. This land type is typically used for pasture, wildlife habitat, and water supply (USDA Soil Conservation Service, 1972).

Stony Alluvial Land (rSM) consists of stones, boulders, and soil deposited by streams along the bottom of gulches and on alluvial fans. This land type generally consists of slopes that are primarily 3 to 15 percent and occurs at elevations which range from nearly sea level to 1,000 feet. This land type is suited for pasture in the dry areas and for pasture and woodland in the wetter areas (USDA Soil Conservation Service, 1972).

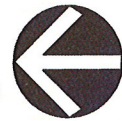
b. Potential Impacts and Proposed Mitigation Measures

To prevent soil erosion during site work, the applicant will implement Best Management Practices (BMPs), which will include, but not be limited to, installing and maintaining temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, slope protection, stabilized construction entrances, and truck wash-down areas. The BMPs will be developed in compliance with Section 20.08.035 of the Maui County Code (Ord. No. 2584) and the "Construction Best Management Practices for the County of Maui" (issued by the Department of Public Works and Waste Management in May 2001).



Source: USDA Natural Resources Conservation Service

Figure 4



Proposed Kahekili Highway
 Repair Project
 Soil Classification Map

NOT TO SCALE

Prepared for: County of Maui, Department of Public Works



MUNEKIYO & HIRAGA, INC.

ATA\Kahakili\SoilClass

Minimal excavation and embankment for the repair of the roadway segment is anticipated. Most of the excavation will involve the removal and recompaction of the eroded pavement areas and structural excavation for the slope tie-back system. The slope tie-back system will be required in order to stabilize the repaired roadway surface along the steep embankment. A natural colored gunite finish will be applied over the tie-back system to obscure the appearance of the structure. The longitudinal grade of the existing road will be maintained.

The total disturbed area for the proposed improvements (excluding road resurfacing) is estimated to be approximately 0.3 acres. Refer to **Appendix "C"**. To minimize soil erosion, the contractor will be required to submit a soil erosion control plan prior to issuance of a grubbing and grading permit. A National Pollutant Discharge Elimination System (NPDES) Permit will be obtained for the project, as required.

While terrain will be locally modified to implement the highway repairs, the proposed action is not anticipated to significantly adversely alter topographic characteristics in the vicinity of the project site.

4. Agriculture

a. Existing Conditions

(1) Agricultural Lands of Importance in the State of Hawaii (ALISH)

In 1977, the State Department of Agriculture developed a classification system to identify Agricultural Lands of Importance to the State of Hawaii (ALISH), based primarily, though not exclusively, on their soil characteristics. The three (3) classes of ALISH lands are: "Prime", "Unique", and "Other Important" agricultural land, with the remaining non-classified lands termed "Unclassified". When utilized with modern farming methods, "Prime" agricultural lands have a soil quality, growing season, and moisture supply needed to produce sustained crop yields economically; while "Unique" agricultural lands possess a combination of soil quality, growing season, and moisture supply to produce sustained high yields of a specific crop. "Other Important" agricultural lands include those that have not been rated

as “Prime” or “Unique”.

As reflected by the ALISH map for the Wailuku-Kahului region, the proposed project is comprised of lands that are not classified in the ALISH system and are, therefore, not considered important agricultural lands. See **Figure 5**.

(2) **Overall Productivity Rating**

The University of Hawaii, Land Study Bureau (LSB) developed the Overall Productivity Rating, which classifies soils according to five (5) levels, with “A” representing the class of highest productivity and “E” representing the lowest. The letters are followed by numbers which further classify the soil types by conveying such information as texture, drainage, and stoniness. The LSB classifications for the proposed project area is primarily classified as “E98”, the lowest productivity rating. A small portion of the site is classified as “C36”, a moderate productivity rating. See **Figure 6**.

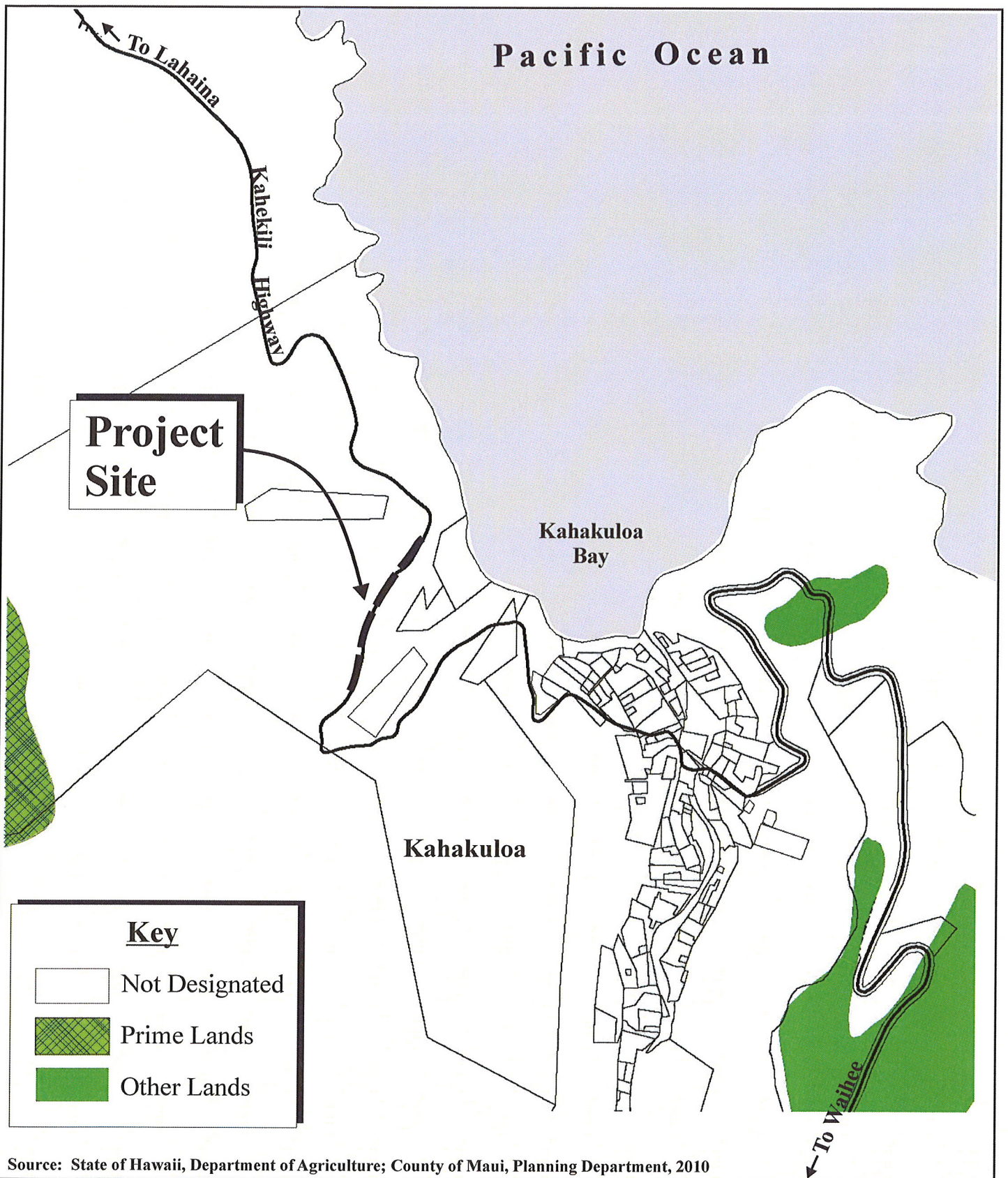
b. **Potential Impacts and Proposed Mitigation Measures**

The proposed project, limited to repair of an existing roadway, does not involve the use of productive agricultural lands. As a result, the proposed project will not adversely impact agricultural productivity in the region. The proposed project is deemed to have beneficial results in terms of long-range infrastructure considerations.

5. **Flood and Tsunami Hazards**

a. **Existing Conditions**

As indicated by the Flood Insurance Rate Map (FIRM) for the area, the subject property is located in Zone X, which denotes an area of minimal flooding and low flood risk. See **Figure 7**. Specifically, the Federal Emergency Management Agency (FEMA) describes areas in Flood Zone X as follows:



Source: State of Hawaii, Department of Agriculture; County of Maui, Planning Department, 2010

Figure 5 Proposed Kahekili Highway Repair Project
 Agricultural Lands of Importance to the State of Hawaii

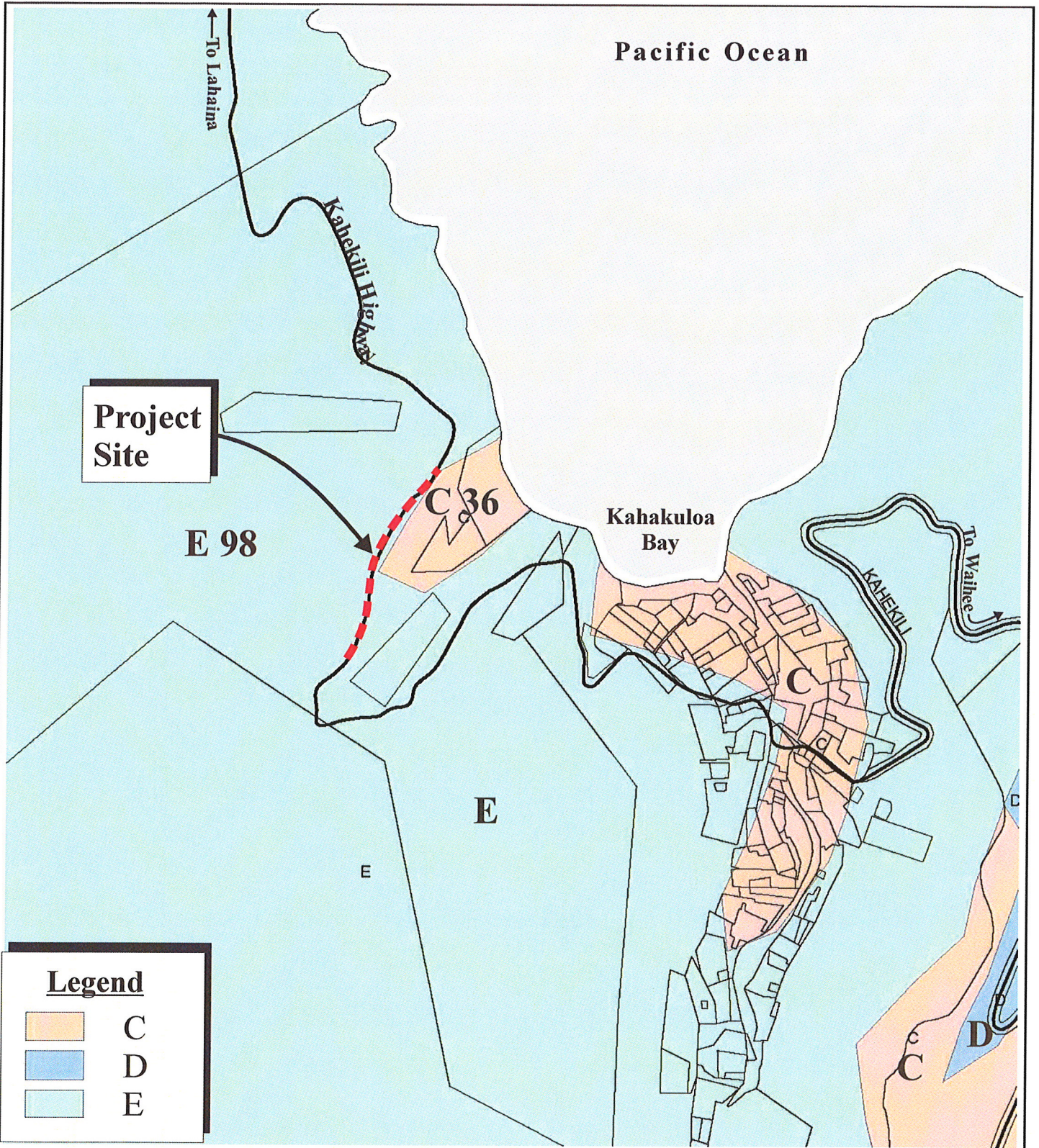
NOT TO SCALE



Prepared for: County of Maui, Department of Public Works

MUNEKIYO & HIRAGA, INC.

ATA\Kahakili\ALISH



Source: University of Hawaii, Land Study Bureau; County of Maui, Planning Department, 2010

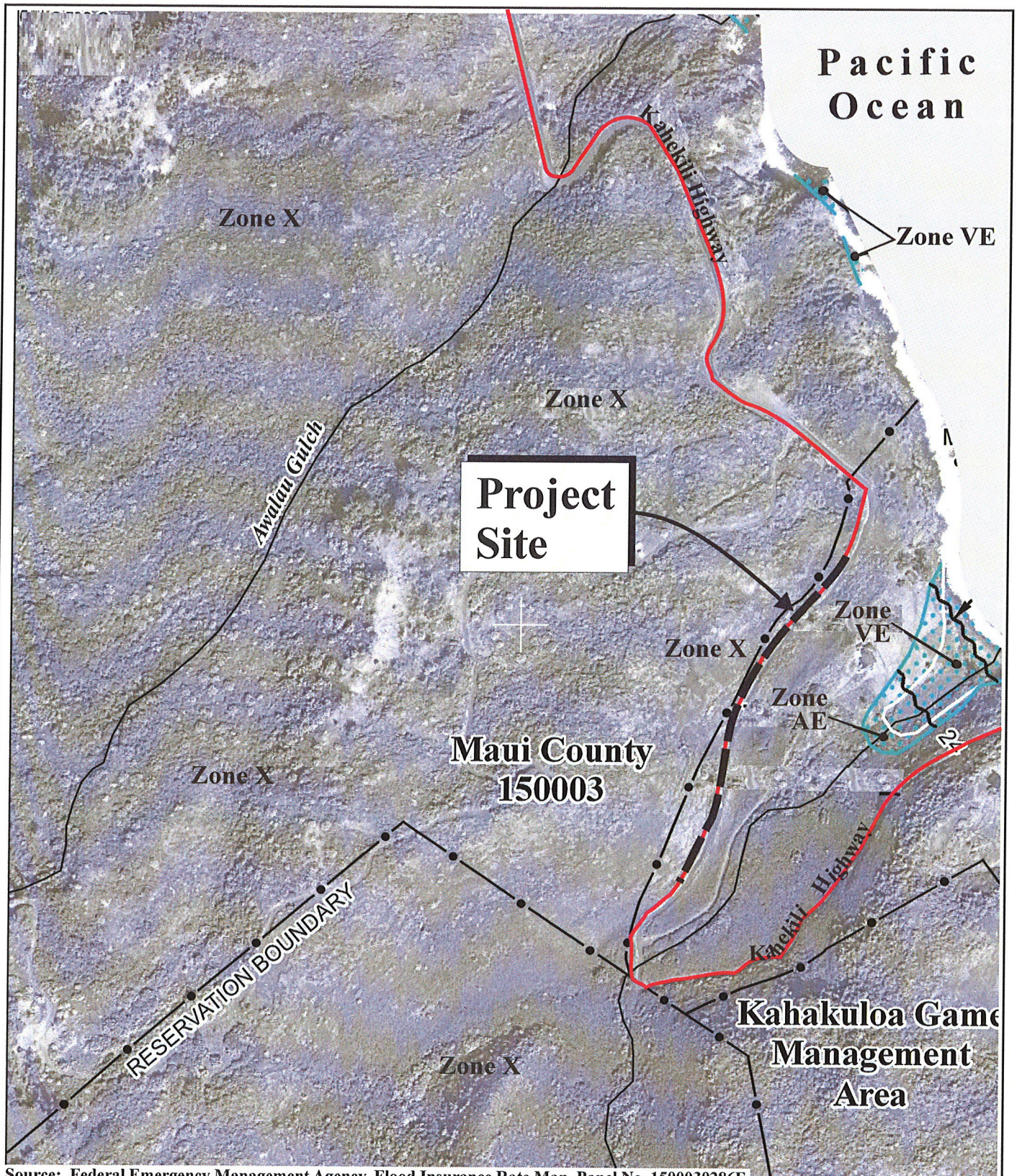
Figure 6

**Proposed Kahekili Highway
Repair Project**

NOT TO SCALE



Land Study Bureau Overall Productivity Rating Map



Source: Federal Emergency Management Agency, Flood Insurance Rate Map, Panel No. 1500030286E

Figure 7

Proposed Kahekili Highway
Repair Project
Flood Insurance Rate Map

NOT TO SCALE



Areas outside the 1-percent annual chance floodplain, areas of 1% annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1% annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1% annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.

In addition, the project is not identified in the Tsunami Flood Zone Evacuation Maps as being located within a tsunami evacuation area (County of Maui, Civil Defense Agency, 2011).

b. Potential Impacts and Proposed Mitigation Measures

The proposed project is not located within a Special Flood Hazard Area nor is it identified as being located within a tsunami evacuation area. No adverse impacts with regards to flood and tsunami hazard parameters are, therefore, anticipated with project implementation.

6. Flora and Fauna

a. Existing Conditions

Vegetation in the region is generally characterized by non-native grasses and shrubs. A flora and fauna survey was conducted at the project site by Robert Hobdy in April 2010. See **Appendix "D"**. Vegetation on the project site is composed primarily of non-native species such as Guinea grass, koa haole, and Mauritius hemp. Native vegetation includes one endemic species, pau o Hiiaka, and four indigenous species, uhaloa, alaala wai nui, uulei, and alahee.

Terrestrial fauna in the region include introduced species such as the mongoose and the Roof rat. Some of the avifauna introduced to the area include the House finch, Northern Cardinal, and Japanese bush-warbler. Refer to **Appendix "D"**.

There are no known rare, endangered or threatened species of flora and fauna located within or in the vicinity of the project site.

b. **Potential Impacts and Proposed Mitigation Measures**

There are no rare, federally threatened, or endangered species of plants on the property. The proposed project is not expected to have a significant adverse impact on botanical resources in this region.

The flora and fauna study indicated that there are no known rare or federally endangered or threatened species of fauna or avifauna in the vicinity of the project site. A special effort was made to look for any occurrence of the Native Hawaiian Hoary Bat by making an evening survey on the property, using both visual and electronic techniques. No evidence of the presence of the Native Hawaiian Hoary Bat was detected.

Although no seabirds were identified during the biological survey, potential impacts to these species will be minimized by limiting construction activities to daylight hours only. Construction activity at night is not planned for.

The proposed project is not anticipated to have a significant adverse impact on biological resource parameters. Refer to **Appendix "D"**.

7. **Wetlands and Streams**

a. **Existing Conditions**

Waihali Gulch, a non-perennial stream is located to the south of the project site. Refer to **Figure 2**. Kahekili Highway crosses the gulch at this location before the roadway slopes uphill towards the project site. Refer to **Appendix "A-1"** for a photo of this gulch crossing.

Awalau Gulch is located approximately 0.25 mile northwest of the project site, while Kahakuloa Stream is located 0.4 mile east of the Kahekili Highway project site segment. Kahakuloa Stream is the only perennial stream in the vicinity of the project area. There are no State Department of Health designated impaired waters in the vicinity of the project area (State of Hawaii, Department of Health, 2008).

There are no wetlands or reservoirs in the immediate vicinity of the project. The nearest wetland is a freshwater forested/shrub wetland, located

approximately 1.25 miles southwest and mauka of the project site within the West Maui Mountain range.

b. Potential Impacts and Proposed Mitigation Measures

There are no improvements proposed to occur within Waihali Gulch, the nearest drainageway to the proposed highway repairs. Best Management Practices (BMPs) will be utilized during implementation of the repair work to mitigate stormwater runoff from potentially impacting this particular gulch.

8. Cultural Resources

a. Existing Conditions

The project site is located just north of Kahakuloa Village, an isolated community with approximately 100 residents, two (2) churches, and several small businesses.

Kahekili Highway serves as the primary transportation route to and from the Kahakuloa area. The present-day Kahekili Highway that runs through Kahakuloa follows an old pathway that was once used by King Kahekili and his court, known later as King Kahekili Trail. According to one historical account, the original dirt road that would later become Kahekili Highway was constructed by prisoners stationed at a prison camp in Kahakuloa, located farther north of the project site. The original construction of the road is estimated to have taken place during the 1930s. The road was later used by the military during World War II to transport tanks and other military vehicles. The military conducted road improvements and stabilizations during this time to accommodate an increased level of vehicular movement. However, the transportation pathway existed as a simple dirt road that would often get flooded and slippery with the onset of rains in the area.

In addition to military vehicles, the road also served the needs of plantation workers and other residents who lived in the area. Land directly beyond the project site to the north was utilized for pineapple cultivation and owned by Baldwin Packers, now known as Maui Land and Pineapple Company, Inc.

Following World War II, the County added its own improvements and paved Kahekili Highway in the 1960s. The paving of Kahekili Highway improved access to Kahakuloa Village and surrounding areas. Prior to the paving of the roadway, Kahakuloa Village was much more isolated. Travel in and out of the village happened only once or twice a week, and only out of necessity. The scarcity of travel during those times was due to the difficult roadway conditions in Kahakuloa.

Cultural practices known to occur in the vicinity of the project site include hunting activities mauka of the highway, and opihi picking and fishing near the shoreline.

b. Potential Impacts and Proposed Mitigation Measures

Cultural Impact Assessment interviews were conducted for the proposed project with two (2) individuals who live in and are knowledgeable about the Kahakuloa area. The interviews conducted identified the presence of iwi kupuna burial sites in the vicinity of the project site, as well as other cultural practices such as hunting, opihi picking, and fishing. Summaries of the cultural interviews are provided below.

Jo-Ann Ridao

Jo-Ann Ridao was born and raised in Wailuku, Maui. She graduated from Saint Anthony School in the 1960's before traveling to the mainland to attend San Francisco State University. Afterwards, she returned to Maui and held various employment positions until settling at Lokahi Pacific, where she would eventually become Executive Director. Currently, she is the Director of the County of Maui, Department of Housing and Human Concerns.

During the 1970's, Ms. Ridao's father acquired land in the Kahakuloa area, near Camp Maluhia. Their family would often visit the land, and Ms. Ridao later moved there herself. Currently, Ms. Ridao lives in a new house in the Cliffs at Kahakuloa subdivision, and has resided in the Kahakuloa area for over 30 years.

In discussing the proposed Kahekili Highway Repair Project, Ms. Ridao noted that she is familiar with the area around the project site as her family would often travel to Kahakuloa Village to visit friends and family. She refers to the gulch where the project site is located as "Hoopii Gulch", since many members of the Hoopii family own land in the area. She knows the Hoopii family well and explained that one of the grandsons of the Hoopii family currently lives on the property which abuts the project site. Ms. Ridao's son also hunts in the gulch.

Ms. Ridao explained that when she was younger, Kahakuloa Village was a lot more isolated than it is now. Travel in and out of the village happened only once or twice a week, and only out of necessity. One reason for the scarcity of travel back then was due to the difficulty of roadway conditions in Kahakuloa. Ms. Ridao explained that back then, Kahekili Highway was simply a dirt road and wasn't paved until the 1960's. She also explained that the dirt road was originally built by prisoners stationed at a prison camp in Kahakuloa, located farther north beyond the project site. The prisoners worked to make the original dirt road that ran through Kahakuloa and lived at the prison camp during that time. Ms. Ridao thought that construction of this original dirt road through Kahakuloa could have happened during the 1930's.

Ms. Ridao is not aware of any prominent cultural sites in the immediate area of the project site. However, she is aware of cultural practices that occur in the vicinity of Hoopii Gulch, including hunting mauka of the highway, and opihi picking and fishing near the shoreline.

Ms. Ridao is supportive of the proposed project. She cites the need to fix the deteriorating conditions of Kahekili Highway and improve the overall safety of the road. She also hopes that the roadway improvements will go beyond the project site and continue throughout all of Kahakuloa, as there are many

other areas in need of repair. However, she hopes that the County will maintain the original integrity of the road and not expand or widen it unnecessarily.

Richard Ho`opi`i

Richard Kealoha Ho`opi`i Sr. was born on March 15, 1941 in Kahakuloa Village, a place that was home to his family for five generations. It was here in Kahakuloa Village that Mr. Ho`opi`i was educated about his Kanaka Maoli (Native Hawaiian) heritage. From a young age, he was told many stories by his kupuna, helped his family tend to their lo`i (taro patch), and played many traditional Hawaiian games with other kids in the village. These early experiences helped to ingrain within Mr. Ho`opi`i a sense of respect for his culture and for the cultures of others. Now that he is a Kupuna himself, Mr. Ho`opi`i looks forward to sharing his wisdom and knowledge with others, especially the youth of Hawaii, as it is the only way to preserve the cultural knowledge that was passed to him, by his kupuna before him.

Mr. Ho`opi`i has lived in Kahakuloa for most of his life. As a youth, he attended Kahakuloa School from 1st grade to 8th grade and also frequently attended Kahakuloa church. Within these nurturing environments, Mr. Ho`opi`i's unique gift for singing was allowed to flourish. Becoming adept at both Hawaiian slack key guitar and le`o ki`eki`e (falsetto singing) from a young age, Mr. Ho`opi`i would go on to achieve fame and recognition on an international stage, traveling the world to perform his music and winning two Grammy Awards in the process. No matter where he found himself in his travels however, Mr. Ho`opi`i always knew that there was only place on this earth that he could call home. "I was born here, and I will die here", he declared proudly. No matter where he went, he always returned back to Kahakuloa.

There was only one instance when Mr. Ho`opi`i moved out of the village. After attending Lahainaluna High School in 1956, Mr. Ho`opi`i began raising a family of his own. In order to support them and provide them with access to more opportunities, he decided to move to Wailuku sometime during the 1970's. During this time Mr. Ho`opi`i worked for the County Department of Parks and Recreation, first as a groundskeeper at the Waiehu Golf Course and later as a cultural specialist. His time with the County lasted for about 25 years. After he retired, he kept busy by staying involved within the community. He managed a little league baseball team, became a kupuna of music, and continued to perform his music for others. Mr. Ho`opi`i moved back to Kahakuloa sometime in the 1980's.

Because he has lived there his whole life, Mr. Ho`opi`i is very knowledgeable about the Kahakuloa area. Historically, Mr. Ho`opi`i explained that the present-day Kahekili Highway that runs through Kahakuloa follows an old pathway that was once used by King Kahekili and his court, known as the King Kahekili Trail. Later, this pathway was used by the military during World War II, to transport tanks and other military vehicles. The military enacted road improvements and stabilizations of their own during this time to accommodate an increased level of vehicular movement. At this time, the transport pathway existed as a simple dirt road that would often get flooded and slippery with the onset of rains in the area. After the war ended, the County added their own improvements and built the paved road that is currently in use today.

Besides the transport of military vehicles, the road also served the needs of plantation workers and other residents who lived in the area. Land directly beyond the project site, to the north, was used for pineapple cultivation and owned by Baldwin Packers, now known as Maui Land and Pineapple Company, Inc. (ML&P). Along with the vast fields of pineapple, many

of the plantation workers who worked in the fields also lived in the area. Mr. Ho`opi`i remembers several shacks and huts belonging to workers of Chinese and Japanese descent being located north of the project site.

Regarding the physical environment, Mr. Ho`opi`i described the Kahakuloa area as having a larger abundance of shrubs, ti leaf plants, trees (such as plum, guava, and banana), and lo`i along the roads. A lot of the trees and shrubs in the area were cut down as the Kahekili Highway was built. Furthermore, as families moved away from Kahakuloa to seek opportunities elsewhere, many of the lo`i disappeared.

Mr. Ho`opi`i explained that the gulch in which the project site is located is known as Waihali Gulch. He confirmed that there are several iwi kupuna, or ancient Hawaiian burial sites, located within the gulch. At the project site itself, Mr. Ho`opi`i stated that his Kupuna had told him about three burial sites which were located in caves above the road. One of the sites Mr. Ho`opi`i had personally entered to help restore. He explained that this iwi kupuna site contains numerous graves and that the deceased could have been of Hawaiian, Japanese, or Chinese descent. Most likely they were the remains of the pineapple plantation workers who had lived in the area.

Mr. Ho`opi`i is concerned about the preservation of the iwi kupuna sites located above the project site. He wants to ensure that the iwi kupuna sites will remain undisturbed throughout the course of the proposed project's construction. If possible, he recommends that road repairs be concentrated on the makai side of the highway, as there are no burial sites there. He also voiced his concerns about the trees which line the roadway on either side. Destroying the trees could potentially cause a landslide or alteration of the cliff face, as the tree roots serve as structural foundations which hold up the dirt and rocks of the mountain side.

If the iwi kupuna sites are protected from disturbance and the mountain side is not adversely affected, Mr. Ho`opi`i believes this project will be beneficial to all users of the road.

The Archaeological Inventory Survey (AIS) prepared for the proposed project assessed the burial cave described by Mr. Ho`opi`i. See **Appendix “E”**. In addition, the State Historic Preservation Division (SHPD) and the Maui/Lanai Islands Burial Council were consulted regarding the burial site. Both agencies concurred that all construction related activities should only occur on the road, and within the downslope or makai portion of the road right-of-way. A Burial Treatment Plan and a Preservation Plan will be prepared for the burial site. These plans will be reviewed by SHPD in consultation with the Maui/Lanai Islands Burial Council. Separately, an Archaeological Monitoring Plan will be prepared for the proposed project for SHPD review and approval. These efforts are intended to ensure that the burial site described by Mr. Ho`opi`i is protected.

The proposed improvements are intended to improve the structure and stability of the roadway in the area and are limited to repair work within the existing right-of-way. As such, the affected section of the roadway will be maintained as a single (1) lane corridor. Given its limited scope, the project is not anticipated to present long-term impacts to cultural practices, such as hunting, opihi picking, and fishing in the areas mauka and makai of the road. In addition, care will be taken during completion of the repair work to ensure that there are no vibration impacts from construction activities on the burial cave that is located on the hillside above the roadway corridor.

9. Archaeological and Historical Resources

a. Existing Conditions

An Archaeological Inventory Survey (AIS) was prepared for the proposed project by Xamanek Researches, LLC in February, 2012. Refer to **Appendix “E”**. The AIS has been submitted to the State Historic Preservation Division for review and acceptance.

The AIS consisted of a 100 percent pedestrian survey and very limited subsurface testing. Along with fieldwork, archival research was conducted,

including review of previous archaeological reports in the region and archival and historical literature relating to Land Commission Awards (LCAs).

The segment of Kahekili Highway proposed for repair is located within the Kahakuloa ahupuaa. The name Kahakuloa refers to a small and famous loi (irrigated terrace) located at the bottom of the Kahakuloa Valley. This kalo patch belonged to the haku or lord of the land. Due to the isolation of the area, the haku became known as the “far away master” – “ka haku loa”. The entire Kahakuloa Valley complex, which includes wet and dry agricultural terracing, has been designated as a historical district. The project site is located approximately 2 kilometers north of Kahakuloa Valley.

The project site sits mauka of substantial coastal bluffs that overlook the ocean. In precontact times, this area would have afforded marine resources to those willing to scale the more manageable cliff sections. The Kahakuloa Stream and Kahakuloa Valley, located to the south of the project site, would have provided for areas of permanent habitation and wet agriculture. The rugged portion of Kahakuloa where the project site is located likely contained less potable water, and may have been utilized on a more temporary basis in precontact times.

According to the Mahele land records, much of the land in the vicinity of the project area consisted of Crown lands. Two (2) LCAs are located east of the roadway improvement project in a nearby gully. These awards were for loi and a house lot.

According to the AIS, previous archaeological studies carried out for the Waiehu, Waihee, and Kahakuloa regions documented the presence of several heiaus. Seven (7) heiaus were recorded in Kahakuloa by Winslow M. Walker in 1928 and 1929. Heiaus in Kahakuloa included Hononana, Kaneaola, Kuewa, Keahialoa, Pakai, Waipiliamoo, and Kukuipuka. The Kuewa site, however, was later reevaluated and reinterpreted as a 19th century habitation site in 1996. With the exception of those found near the shore, most of the heiaus in the Kahakuloa region had been destroyed to make way for sugar cane fields.

b. **Potential Impacts and Proposed Mitigation Measures**

As previously discussed, Mr. Richard Ho`opi`i was interviewed by Munekiyo & Hiraga, Inc. for a Cultural Impact Assessment. Xamanek Researches, the consultant that prepared the AIS, participated in the meeting and interview with Mr. Ho`opi`i. At that time, Mr. Ho`opi`i disclosed the presence of a previously undocumented burial cave on the mauka side of Kahekili Highway. Mr. Ho`opi`i believed that the burial cave, now designated as SIHP No. 50-50-02-7168 (Site 7168), contained several post-contact burials. Some of the burials are thought to be Native Hawaiian individuals, possibly associated with the plantation era. The archaeological inventory investigation revealed the cave entrance to be mostly sealed with a dry laid rock wall. Some weathered mill wood, thought to be redwood, was partially visible through a small gap in the rock wall.

A second surface site, also previously undocumented, was identified in the AIS. SIHP No. 50-50-02-7169 (Site 7169) is an overhang rock shelter that was interpreted as a burial cave. The entrance to the shelter was largely sealed with a dry laid rock wall. A test unit was excavated from the rock shelter, indicating that there is less than 5 centimeters of soil deposit in the cave. Surface cultural materials were not found in the cave and no cultural materials were present in the minimal amounts of soil that could be scraped off the floor.

The two (2) sites (Site 7168 and Site 7169) identified by the AIS were assessed for significance based on broad criteria established for the State and National Register of Historic Places. These criteria are as follows:

Criterion A: Sites that are associated with events that have made a significant contribution to the broad patterns of our history.

Criterion B: Sites that are associated with the lives of persons significant to our past.

Criterion C: Sites that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value or that represent a significant and distinguishable entity, whose components may lack individual construction.

Criterion D: Sites which have yielded, or may be likely to yield, information important to prehistory or history.

Criterion E: Sites which have an important value to the native Hawaiian people or to another ethnic group of the State due to associations with traditional cultural practices once carried-out, or still carried-out, at the property or due to associations with traditional beliefs, events, or oral accounts – these associations being important to the groups’ history and cultural identity (State of Hawaii criterion only).

Both sites qualify for significance under Criterion “D” as they are important for the information they are likely to yield. Site 7168 also qualifies for its cultural significance under Criterion “E”. Due to the presence of Site 7168 and 7169, an Archaeological Monitoring Plan will be prepared for the proposed roadway improvement project for review and approval by SHPD. Should any archaeological remains or cultural materials be encountered during construction and excavation activities, work in the vicinity of the find will be stopped and the State Historic Preservation Division (SHPD) will be contacted to establish appropriate mitigation measures in accordance with Chapter 6E, Hawaii Revised Statutes.

Both SHPD and the Maui/Lanai Islands Burial Council have been consulted regarding Site 7168, with both agencies concurring that all construction related activities should only occur on the road, and within the downslope or makai portion of the road right-of-way. In addition, a Burial Treatment Plan and a Preservation Plan will be prepared for Site 7168. These plans will be reviewed by SHPD in consultation with the Maui/Lanai Islands Burial Council.

10. Air and Noise Quality

a. Existing Conditions

Air quality in the region is considered good as emissions from point sources, including Maui Electric Company's (MECO) power plant and Hawaiian Commercial and Sugar Company's (HC&S) sugar mill in Central Maui as well as non-point sources, such as automobile emissions, do not generate problematic concentrations of pollutants. The relatively high quality of air can also be attributed to the region's constant exposure to winds that quickly

disperse concentrations of emissions. This rapid dispersion is evident during burning of sugar cane in fields located to the southeast of the Kahului residential core.

There are no point sources of airborne emission in the immediate vicinity of the project site. The air in the Kahakuloa region is of good quality, with existing airborne pollutants attributable to automobile exhaust from the region's roadways. Other sources of airborne pollutants typically include dust and equipment emissions resulting from agricultural activities. These sources are intermittent and the generated particulates are quickly dispersed by the prevailing tradewinds. Noise generated in the vicinity of the subject property may be attributable to natural (e.g. wind, wave) conditions, traffic along Kahekili Highway, and agricultural-related activity involving the intermittent operation of equipment, such as tractors and trucks.

The State of Hawaii, Department of Health maintains one (1) air quality monitoring station on the island of Maui, located in Kihei. The site monitors for particulate matter less than or equal to 2.5 micrometers ($PM_{2.5}$). The measurement of air quality is expressed as mass per unit volume or micrograms per cubic meter ($\mu g/m^3$).

According to data collected at the station in 2009, the average annual concentration of $PM_{2.5}$ over a 24-hour period was $3.9 \mu g/m^3$ (State of Hawaii, Department of Health Clean Air Branch, 2009 Annual Summary Hawaii Air Quality Data). These readings are well below the national standard of $35 \mu g/m^3$ of $PM_{2.5}$ over a 24-hour period (State of Hawaii, Department of Health, 2010). Although levels of particulate matter increase when agricultural burning takes place, prevalent tradewinds from the north and northeast minimize nuisance air quality problems in the vicinity.

In regards to noise quality, there are no significant fixed noise generators in the vicinity. Existing background noise in the project area is attributed to vehicles traveling along Kahekili Highway and natural conditions such as wind.

b. **Potential Impacts and Proposed Mitigation Measures**

Air quality attributed to the project will include dust generated by short-term construction related activities. Roadwork and construction will generate airborne particulates. Dust control measures, such as periodic sprinkling of loose soils, will be implemented to minimize wind-blown emissions. In the long term, the proposed project is not expected to adversely impact local and regional ambient air quality.

Ambient noise conditions will be temporarily impacted by construction activities. Heavy construction equipment, such as bulldozers, front-end loaders, and material-transport vehicles, will likely be the dominant source of noise during the construction period. However, the proposed project is not anticipated to adversely impact noise quality in the area in the long term because the project is limited to repair work within the existing right-of-way of Kahekili Highway.

11. **Scenic and Open Space Resources**

a. **Existing Conditions**

The project site is located in a scenic area of Maui near the village of Kahakuloa. The Pacific Ocean is visible downhill of the project site.

b. **Potential Impacts and Proposed Mitigation Measures**

The proposed project involves the repair of an existing 1,150 ft. section of Kahekili Highway between Mile Markers 15 and 16. The project does not involve the construction of vertical structures that would obstruct scenic views. The proposed action will improve the structure and stability of the affected section of roadway. Project implementation will not pose any impacts to existing scenic and open space resources in the Kahakuloa area.

12. **Traditional Beach and Mountain Access**

a. **Existing Conditions**

There are no known traditional beach and mountain access trails in or around the project site.

b. **Potential Impacts and Proposed Mitigation Measures**

The proposed project involves the repair of an existing segment of Kahekili Highway. There are no impacts on traditional beach and mountain access trails anticipated as a result of the proposed improvements.

B. SOCIO-ECONOMIC ENVIRONMENT

1. **Regional Setting**

a. **Existing Conditions**

As discussed previously, the project site is located in the midst of surrounding Conservation lands near Kahakuloa Village and other outlying residences.

b. **Potential Impacts and Proposed Mitigation Measures**

The proposed project is considered compatible with surrounding land uses. The regional character of Kahakuloa will not be adversely impacted by the implementation of the proposed roadway repair work.

2. **Population**

a. **Existing Conditions**

The population of the County of Maui has exhibited relatively strong growth over the past decade. The County's resident population grew by 20.9 percent between 2000 and 2010, compared to a 12.3 percent increase in the State of Hawaii as a whole during the same time period. Maui County's population increased from 128,094 residents in 2000 to 154,834 residents in 2010. Population on the island of Maui exhibited even stronger growth than the County as a whole, with a 22.8 percent population increase over the decade. Approximately 144,444 residents lived on the island of Maui in 2010 (U.S. Census Bureau, 2000 and 2010). Maui County's resident population is projected to rise to 174,450 people in 2020 and to 199,550 people in 2030 (County of Maui, Department of Planning, 2006).

The proposed project is located on the northwestern coast of Maui, within the Wailuku-Kahului Community Plan region. Just as Maui County and Maui

Island's populations have grown, the resident population of the Central Maui region has also increased. The estimated population of the Wailuku-Kahului region in 2000 was 41,503 (County of Maui, Department of Planning, June 2006), which comprised 35.3 percent of the island's population. In 2010, the region's population stood at approximately 54,400 residents, a 31.2 percent increase over 10 years (U.S. Census Bureau, 2010). The population of the Wailuku-Kahului region is projected to increase to 60,877 people in 2020 and to 71,223 people in 2030 (County of Maui, Department of Planning, June 2006).

b. Potential Impacts and Proposed Mitigation Measures

The proposed project is not a population generator and is not anticipated to have any substantial impacts on the population of Maui County.

3. Economy and Labor Force

a. Existing Conditions

The Kahului region is the island's center of commerce. Combined with the neighboring region of Wailuku, the Wailuku-Kahului region encompasses a broad range of commercial, service, and governmental activities.

The Kahului Harbor, a deep sea port, and Kahului Airport, both located in the Wailuku-Kahului region, provide vital links to off-island economies and links through which virtually all imports and exports pass. The County government and a majority of private companies are located in the Wailuku-Kahului region.

As of November 2010, the County of Maui supported an estimated 66,500 jobs. This included approximately 63,400 jobs on the island of Maui (State Department of Labor and Industrial Relations, Research and Statistics Office, Current Employment Statistics 2010).

The State and County economies have been impacted by the global economic recession, with the major industries of tourism, construction, and real estate being particularly hardest hit due to, among other factors, reduction in discretionary spending and tightening of credit. Unemployment rates in the State and County peaked in the summer of 2009. Since that time, the

unemployment rate has slowly declined. In December 2011, the seasonally unadjusted unemployment rate in Hawaii stood at 6.2 percent. The unemployment rate on the island of Maui was higher at 7.2 percent (State Department of Labor and Industrial Relations, January 2012).

b. Potential Impacts and Proposed Mitigation Measures

On a short-term basis, the project will support construction and construction-related employment. Accordingly, the project will have a beneficial impact on the local economy during the period of construction.

In the long term, the proposed project will improve the overall traffic conditions on Kahekili Highway for Maui residents, visitors and businesses. It will allow for improved road conditions and continued public access between Kahakuloa and Kapalua upon completion of construction. In summary, the proposed action is expected to have a positive benefit to the economy of Maui County.

4. Housing

a. Existing Conditions

The average household size in the Wailuku-Kahului area in the year 2000 was 3.17 compared to an island wide average of 2.90. The average household size in the Wailuku-Kahului area is projected to decrease to an average of 2.91, by the year 2015 (County of Maui, Department of Planning, 2006).

In 2010, Maui County's housing supply totaled approximately 70,400 units. The Wailuku-Kahului region comprised the largest percentage of housing units in the County with approximately 25.4 percent, or 17,900 units, of the County's total housing stock (U.S. Census Bureau, 2010). The demand for housing in the Wailuku-Kahului region was projected to be 18,901 units in 2010. As the number of households increases, so will the demand for housing. By the year 2030, the number of households in the region is expected to increase to 25,855; housing demand is projected to grow up to 28,720 units (County of Maui, Department of Planning, June 2006).

b. Potential Impacts and Proposed Mitigation Measures

The proposed project involves roadway repairs to the existing Kahekili Highway, between Mile Markers 15 and 16. No adverse effects to housing are anticipated as a result of this project.

C. PUBLIC SERVICES

1. Recreational Facilities

a. Existing Conditions

The Wailuku-Kahului region provides a full range of recreational opportunities, including shoreline and boating activities at the Kahului Harbor and adjoining beach parks, and individual and organized athletic activities at numerous County parks. The War Memorial Complex, for example, located along Kaahumanu Avenue, includes a gymnasium, swimming pool, tennis courts, youth baseball fields, football and soccer practice areas, the War Memorial Stadium, and a baseball stadium. Also found in the Wailuku-Kahului area are the Kahului Community Center, Kanaha Beach Park, and Keopuolani Park, a regional recreational facility. The Waiehu Terrace subdivision also provides park space for residents and community members.

In the vicinity of the project site, a range of shoreline and ocean recreation activities such as boating, fishing, diving, surfing, canoeing, kayaking, and picnicking is available around Kahakuloa Bay.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project is not anticipated to adversely impact recreational facilities or opportunities in the Wailuku-Kahului region.

2. Police and Fire Services

a. Existing Conditions

Police protection for the Wailuku-Kahului region is provided by the County Police Department headquartered at the Wailuku Station, approximately 16

miles southeast of the project site, in Wailuku on Mahalani Street. The Kahakuloa area is served by the Department's Wailuku Patrol Division.

Fire prevention, suppression, and protection services for the Wailuku-Kahului region and Kahakuloa area are provided by the County Department of Fire and Public Safety's Wailuku Station, located approximately 14.8 miles southeast of the project site, and the department's Kahului Station, which lies about 17 miles to the southeast of the project site.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project will not affect the service area limits or personnel for police and fire protection. The proposed highway repair projects will benefit emergency response time for both the Department of Fire and Public Safety and the Police Department.

During the construction phase, this particular segment of Kahekili Highway will be closed to through traffic during weekdays between the hours of 8:00 a.m. and 5:00 p.m. The construction period is anticipated to last approximately six (6) months. The project construction manager will coordinate with emergency dispatchers to provide a line of communication that will allow for clearance of the construction work zone for safe passage of police and fire vehicles when necessary.

3. Medical Services

a. Existing Conditions

Maui Memorial Medical Center, located on Mahalani Street, the only major medical facility on the island, services the Wailuku-Kahului region and Kahakuloa area. Acute, general, and emergency care services are provided by the 231-bed facility. In addition, numerous privately operated medical/dental clinics and offices are located in the Central Maui area to serve the region's residents.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project, limited to necessary roadway repairs to a section of Kahekili Highway, is not anticipated to impact regional health facilities. The

proposed repair work will facilitate increased emergency response times for EMT services traveling throughout the Kahakuloa area.

As previously mentioned, coordination will be undertaken with emergency dispatchers to provide a line of communication that will allow for clearance of the construction work zone for safe passage of medical vehicles when necessary.

4. Solid Waste

a. Existing Conditions

Single-family residential solid waste collection service for the Kahakuloa area is provided by the County of Maui, Department of Environmental Management (DEM) on a weekly basis. Residential solid waste collected by County crews is disposed at the County's Central Maui Landfill, located 4.0 miles southeast of the Kahului Airport. In addition to County-collected refuse, the Central Maui Landfill accepts commercial waste from private collection companies.

b. Potential Impacts and Proposed Mitigation Measures

Strategies for effective construction waste management to reduce, reuse, and recycle solid waste materials will be evaluated for implementation during project construction. Strategies to be evaluated may involve the use of efficient design to promote waste reduction, and by separating recyclable and non-recyclable materials for proper recycling and disposal. All materials deemed unfit for reuse or recycling will be disposed at an approved construction waste disposal site. Once completed, the repaired section of Kahekili Highway will provide improved access for DEM's solid waste collection trucks servicing the Kahakuloa area. The proposed project will not impact the long-term ability of the Central Maui Landfill to handle solid waste.

5. Schools

a. Existing Conditions

The Wailuku-Kahului region and Kahakuloa area is served by the State Department of Education's (DOE) public school system, as well as several privately operated schools accommodating elementary, intermediate, and high school students. Department of Education facilities in the Kahului area include Lihikai, Kahului, and Pomaikai Elementary Schools (Grades K-5), Maui Waena Intermediate School (Grades 6-8), and Maui High School (Grades 9-12). Existing facilities in the Wailuku area include Wailuku Elementary School (Grades K-5), Iao Intermediate School (Grades 6-8), and Baldwin High School (Grades 9-12). University of Hawaii Maui College, a branch of the University of Hawaii, is located in Kahului along Kaahumanu Avenue and serves as the island's primary higher education institution. Waihee School (Grades K-5) is located approximately 10.8 miles to the southeast of the proposed project site.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project is limited in scope to necessary roadway repair work to a section of the existing Kahekili Highway. As such, the project is not anticipated to impact regional public education facilities.

D. INFRASTRUCTURE

1. Roadways

a. Existing Conditions

The project site is located on Kahekili Highway, a two-lane, two-way County and State road with paved shoulders and a posted speed limit of 30 mph. Kahekili Highway begins in Wailuku Town and extends north toward Kahakuloa. Beyond Waihee, this roadway becomes a substandard road which encircles the West Maui Mountains, ultimately connecting to the fully improved Honoapiilani Highway in the vicinity of Honolua in West Maui. In the vicinity of the project site, Kahekili Highway is a one-lane roadway, approximately 10-feet to 12-feet in width.

b. Potential Impacts and Proposed Mitigation Measures

The proposed roadway stabilization project includes constructing a slope tie-back system to stabilize the existing roadway and slope in critical areas, recompacting and repairing eroded asphalt concrete pavement areas, paving turnout areas, and asphalt resurfacing of the entire roadway segment. The proposed repair work will be confined to within the existing right-of-way of Kahekili Highway and is intended to improve the structure and stability of the highway between Mile Markers 15 and 16.

A Traffic Assessment has been prepared for the project by Austin, Tsutsumi & Associates, Inc. See **Appendix "F"**.

The Traffic Assessment found that total weekday average daily traffic is generally low, with approximately 335 vehicles (205 northbound vehicles and 130 southbound vehicles) traveling through the project area per day. Hourly traffic was generally lower during the morning and afternoon peak periods of traffic and higher during the mid-day, suggesting that the majority of traffic is non-work related. Based on the foregoing findings, the assessment concluded that a road closure along Kahekili Highway in the vicinity of the project can be implemented to allow the repair work to be completed.

To avoid a 24/7 road closure, the DPW has selected a limited daily closure scenario for the project. Under this scenario, the affected section of roadway will be closed to through traffic during weekdays between the hours of 8:00 a.m. and 5:00 p.m. The proposed project is expected to take approximately six (6) months to complete. The project's construction manager will coordinate with emergency dispatchers to provide a line of communication that will allow for clearance of the construction work zone for safe passage of emergency vehicles when necessary.

2. Wastewater

a. Existing Conditions

Domestic wastewater generated in the Wailuku-Kahului region is conveyed to the County's Wailuku-Kahului Wastewater Treatment Facility located 15.9 miles southeast of the project site. The design capacity of the facility is 7.9

million gallons per day (MGD). Cumulative wastewater flow allocated is approximately 6.6 MGD. Kahakuloa is beyond the service area of the Wailuku-Kahului Wastewater Treatment Facility. Residences and businesses in the area are served by private septic systems.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project is limited in scope to necessary roadway repairs to a section of the existing Kahekili Highway near Kahakuloa Village. As such, the project is not anticipated to impact regional wastewater treatment facilities.

3. Water

a. Existing Conditions

Domestic water for the Wailuku-Kahului region is provided by the Department of Water Supply's (DWS) Central Maui System. Water for the Central Maui System is provided by wells in Mokuahau in Iao Valley and in Upper Waiehu. These well sources draw water from the basal lens referred to as the Iao Aquifer, which has an estimated sustainable yield of 20 million gallons per day (MGD).

b. Potential Impacts and Proposed Mitigation Measures

The proposed project is limited in scope to roadway repairs to the existing Kahekili Highway. Consequently, no significant impacts to the domestic water systems are anticipated as a result of the proposed project.

4. Drainage

a. Existing Conditions

A Preliminary Engineering and Drainage Report was prepared for the project in April 2011 by Austin Tsutsumi & Associates, Inc. Refer to **Appendix "C"**. There are no existing drainage system improvements within the project site. Runoff from the mountains collects behind the existing curb on the mauka side of the road and eventually discharges across the roadway and down the steep embankment. Runoff generally flows in a southeasterly

direction through the project site. The existing onsite runoff is estimated to be approximately 3.20 cubic feet per second (cfs), based on a 10 year-1 hour storm recurrence interval.

b. Potential Impacts and Proposed Mitigation Measures

There are no drainage improvements proposed as part of the highway repair project and the existing drainage patterns will be maintained. Post-improvement onsite runoff for a 10 year – 1 hour storm is estimated to be 3.31 cfs, an increase of 0.11 cfs over existing conditions. This estimated increase in runoff from the proposed project is deemed negligible and will be allowed to pass through the project site via existing drainage patterns.

During the construction phase, BMPs will be implemented to minimize soil loss and erosion hazards. These practices may include installation and maintenance of temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, slope protection, stabilized construction entrances, and truck wash-down areas.

Given the foregoing, project implementation is not expected to present significant adverse impacts on downstream resources.

5. Electrical, Telephone, and Cable Television Services

a. Existing Conditions

There are no existing electrical, telephone, or cable television facilities along the project site corridor.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project involves repairs to a section of the existing Kahekili Highway. Electrical, telephone, and cable television services will not be necessary for the proposed project. Therefore, the proposed project is not anticipated to have significant adverse impacts on service providers.

E. CUMULATIVE AND SECONDARY IMPACTS

Cumulative impacts are defined as the impact on the environment which results from the

incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions.

The proposed project is not part of a larger action, nor would it occur within the context of such actions. The project is limited to completion of necessary repairs to a section of the existing Kahekili Highway to improve the structure and stability of the roadway.

Secondary impacts are those which have the potential to occur later in time or farther in distance, but are still reasonably foreseeable. They can be viewed as actions of others that are taken because of the presence of the project. The proposed action is not anticipated to result in significant adverse secondary impacts.

**III. RELATIONSHIP TO
GOVERNMENTAL PLANS,
POLICIES, AND
CONTROLS**

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A. STATE LAND USE DISTRICTS

Pursuant to Chapter 205, Hawaii Revised Statutes, all lands in the State have been placed into one (1) of four (4) major land use districts by the State Land Use Commission. These land use districts are designated "Urban", "Rural", "Agricultural", and "Conservation". The project site is located within the "Conservation" district. See **Figure 8**. As previously mentioned, the State of Hawaii, Department of Land and Natural Resources, Office of Conservation and Coastal Lands (OCCL) determined that improvements within the existing right-of-way do not require a Conservation District Use Permit (CDUP) as it is an established transportation use. A CDUP (Board Permit) is, however, required for implementation of the temporary construction laydown area that will be located to the northwest of the project site. Refer to **Figure 2**. Copies of the OCCL determination letters are provided in Chapter IX of this document.

B. CHAPTER 226, HRS, HAWAII STATE PLAN

Chapter 226, HRS, also known as the Hawaii State Plan, is a long-range comprehensive plan which serves as a guide for the future long-range development of the State by identifying goals, objectives, policies, and priorities, as well as implementation mechanisms. The objectives and policies which contribute to the implementation rationale for the proposed project include the following:

SEC. 226-14 OBJECTIVE AND POLICIES FOR FACILITY SYSTEMS - IN GENERAL

Objective

- (a) *Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.*

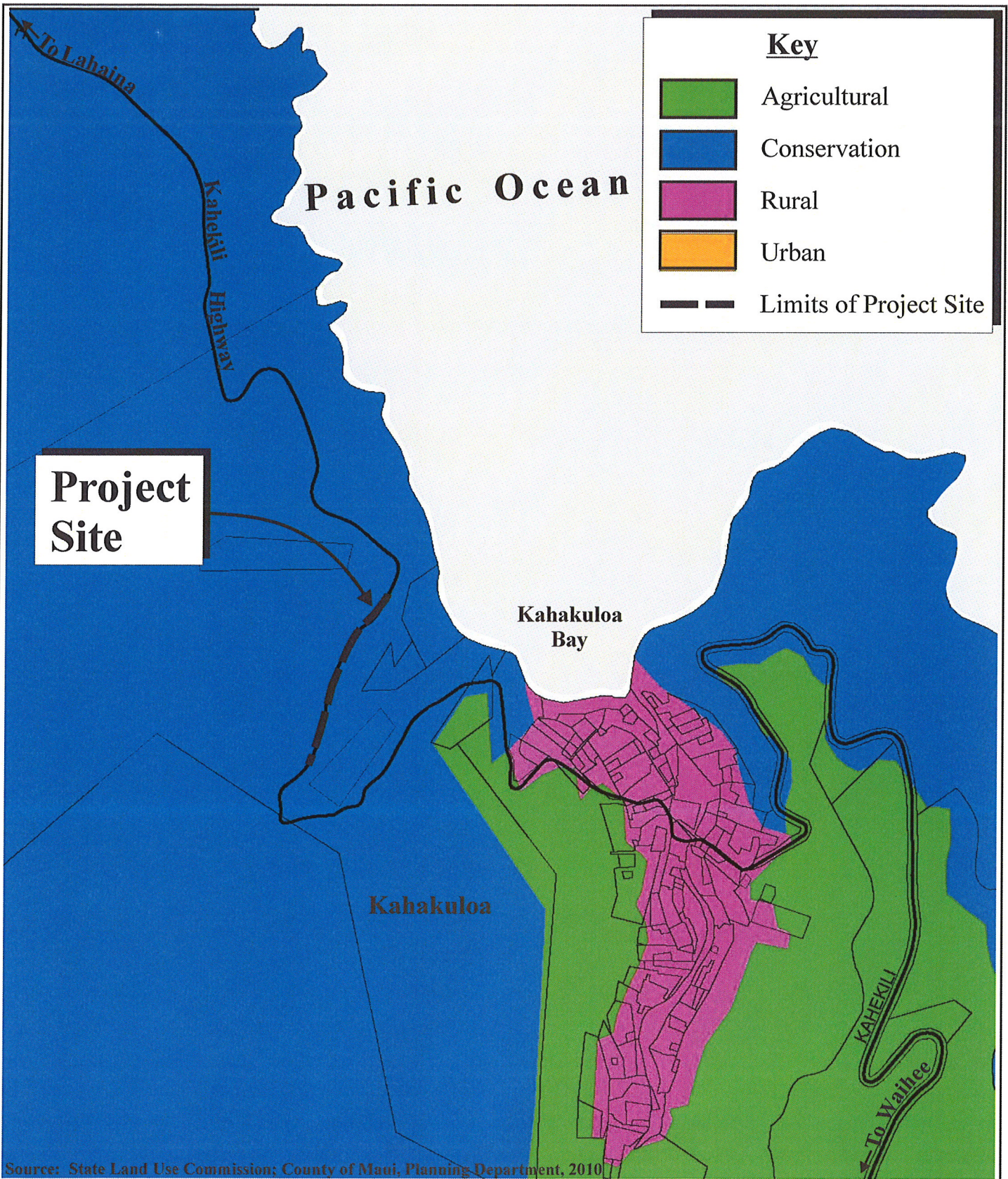


Figure 8

Proposed Kahekili Highway
Repair Project
State Land Use District Map

NOT TO SCALE



Policy

- (b) (1) *Accommodate the needs of Hawaii's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.*

SEC. 226-17 OBJECTIVES AND POLICIES FOR FACILITY SYSTEMS - TRANSPORTATION

Policy

- (b) (2) *Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives.*
- (b) (6) *Encourage transportation systems that serve to accommodate present and future development needs of communities.*
- (b) (10) *Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawaii's natural environment.*

The proposed project will improve the structure and stability of this segment of Kahekili Highway for vehicles, bicyclists, and others who use the road.

C. MAUI COUNTY GENERAL PLAN

As indicated by the Maui County Charter, the purpose of the general plan shall be to:

... indicate desired population and physical development patterns for each island and region within the county; shall address the unique problems and needs of each island and region; shall explain opportunities and the social, economic, and environmental consequences related to potential developments; and shall set forth the desired sequence, patterns and characteristics of future developments. The general plan shall identify objectives to be achieved, and priorities, policies, and implementing actions to be pursued with respect to population density; land use maps, land use regulations, transportation systems, public and community facility locations, water and sewage systems, visitor destinations, urban design, and other matters related to development.

Chapter 2.80B of the Maui County Code, relating to the General Plan and Community Plans, implements the foregoing Charter provision through enabling legislation which calls for a Countywide Policy Plan and a Maui Island Plan. The Countywide Policy Plan was adopted as Ordinance No. 3732 on March 24, 2010. The Maui Island Plan is currently in the process of review and formulation by the Maui County Council.

With regard to the Countywide Policy Plan, Section 2.80B.030 of the Maui County Code states the following:

The countywide policy plan shall provide broad policies and objectives which portray the desired direction of the County's future. The countywide policy plan shall include:

1. *A vision for the County;*
2. *A statement of core themes or principles for the County; and*
3. *A list of countywide objectives and policies for population, land use, the environment, the economy, and housing.*

Core principles set forth in the Countywide Policy Plan are listed as follows:

1. *Excellence in the stewardship of the natural environment and cultural resources;*
2. *Compassion for and understanding of others;*
3. *Respect for diversity;*
4. *Engagement and empowerment of Maui County residents;*
5. *Honor for all cultural traditions and histories;*
6. *Consideration of the contributions of past generations as well as the needs of future generations;*
7. *Commitment to self-sufficiency;*
8. *Wisdom and balance in decision making;*
9. *Thoughtful, island appropriate innovation; and*
10. *Nurturance of the health and well-being of our families and our communities.*

Congruent with these core principles, the Countywide Policy Plan identifies goals objectives, policies and implementing actions for pertinent functional planning categories, which are identified as follows:

1. *Natural environment*
2. *Local cultures and traditions*
3. *Education*
4. *Social and healthcare services*
5. *Housing opportunities for residents*
6. *Local economy*
7. *Parks and public facilities*
8. *Transportation options*
9. *Physical infrastructure*
10. *Sustainable land use and growth management*
11. *Good governance*

With respect to the Kahekili Highway Repair Project the following goals, objectives, policies and implementing actions are illustrative of the project's compliance with the Countywide Policy Plan:

Goal:

Maui County's natural environment and distinctive open spaces will be preserved, managed, and cared for in perpetuity.

Objective:

Improve the stewardship of the natural environment.

Policies:

Evaluate development to assess potential short-term and long-term impacts on land, air, aquatic, and marine environments.

Provide public access to beaches and shorelines for recreational and cultural purposes where appropriate.

Goal:

A range of island-appropriate public facilities and recreational opportunities will be provided to improve the quality of life for residents and visitors.

Objective:

Expand access to recreational opportunities and community facilities to meet the present and future needs of residents of all ages and physical abilities.

Policy:

Protect, enhance, and expand access to public shoreline and mountain resources.

Goal:

Maui County will have an efficient, economical, and environmentally sensitive means of moving people and goods.

Objective:

Provide an effective, affordable, and convenient ground-transportation system that is environmentally sustainable.

Policies:

Execute planning strategies to reduce traffic congestion.

Ensure that roadway systems are safe, efficient, and maintained in good condition.

Preserve roadway corridors that have historic, scenic, or unique physical attributes that enhance the character and scenic resources of communities.

Design new roads and roadway improvements to retain and enhance the existing character and scenic resources of the communities through which they pass.

Evaluate all alternatives to preserve quality of life before widening roads.

Objective:

Improve and expand the planning and management of transportation systems.

Policies:

Support the revision of roadway-design criteria and standards so that roads are compatible with surrounding neighborhoods and the character of rural areas.

Goal:

Maui County's physical infrastructure will be maintained in optimum condition and will provide for and effectively serve the needs of the County through clean and sustainable technologies.

Objective:

Improve the planning and management of infrastructure systems.

Policy:

Provide a reliable and sufficient level of funding to enhance and maintain infrastructure systems.

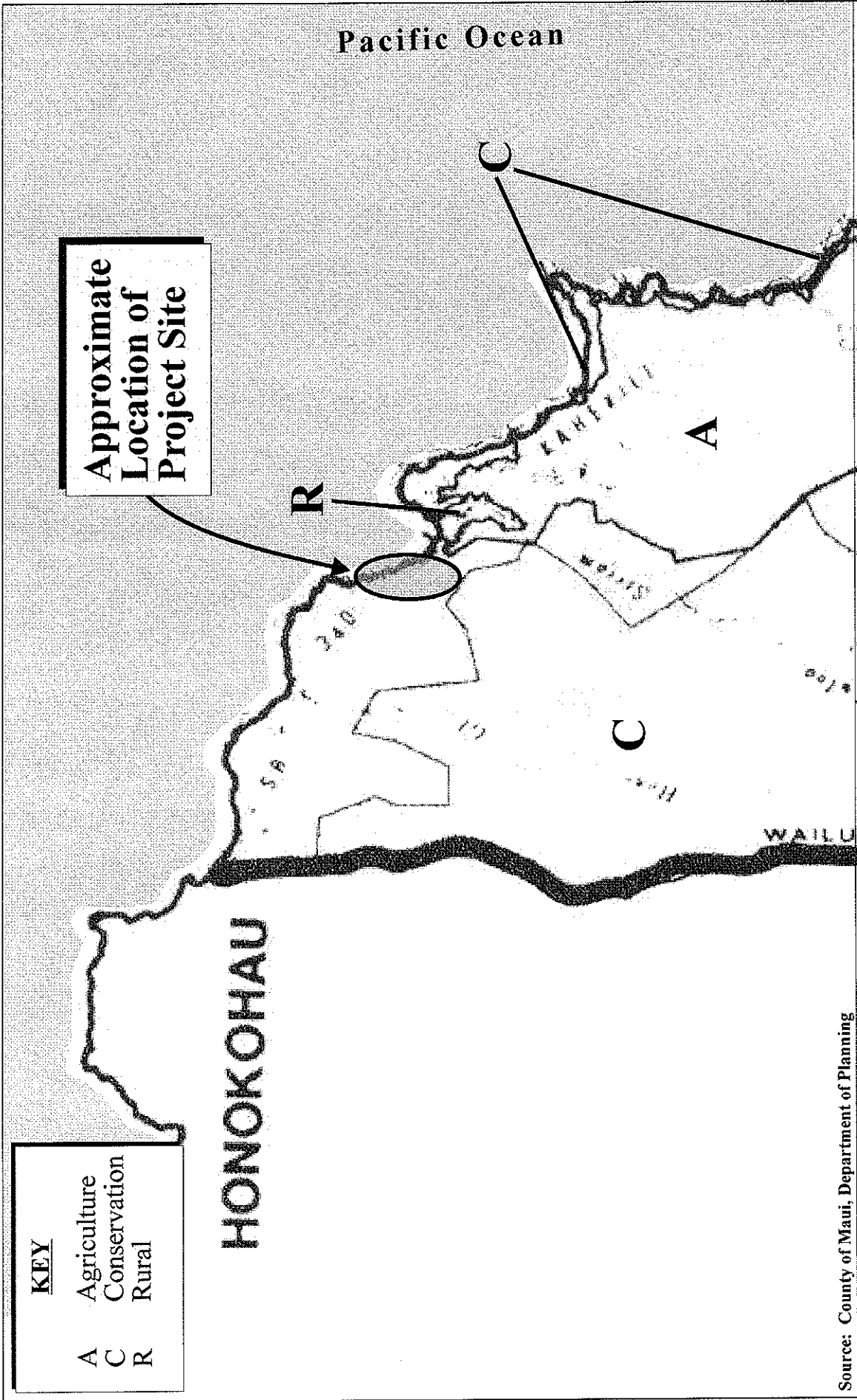
In summary, the Kahekili Highway Repair Project is consistent with the themes and principles of the Countywide Policy Plan.

D. WAILUKU-KAHULUI COMMUNITY PLAN

The project site is located in the Wailuku-Kahului Community Plan region which is one (1) of nine (9) Community Plan regions established in the County of Maui. Planning for each region is guided by the respective Community Plans, which are designed to implement the Maui County General Plan. Each Community Plan contains recommendations and standards that guide the sequencing, patterns, and characteristics of future development in the region.

The land use map for the Wailuku-Kahului Community Plan designates the property for "Conservation" use. See **Figure 9**.

The proposed action is in keeping with the following Wailuku-Kahului Community Plan goals, objectives, policies, and implementing actions:



Source: County of Maui, Department of Planning

Figure 9

Proposed Kahekili Highway
Repair Project
Wailuku-Kahului Community Plan Map



Prepared for: County of Maui, Department of Public Works

NOT TO SCALE



MUNEKIYO HIRAGA, INC.
ATA/Kahekili Hwy/Wailuku/Kahului/Community Plan

INFRASTRUCTURE

Goal:

Timely and environmentally sound planning, development and maintenance of infrastructure systems which serve to protect and preserve the safety and health of the region's residents, commuters and visitors through the provision of clean water, effective waste disposal and drainage systems, and efficient transportation systems which meet the needs of the community.

TRANSPORTATION

Objective and Policy:

Enhance circulation by improving road maintenance; improving or providing traffic signals and turning lanes at congested intersections; and by providing street and destination signs. Important intersections include Lono and Papa Avenues, and intersections along Papa Avenue, Wakea Avenue, and North Market Street. Additional turning lanes, traffic signals and roadway improvements in the Wailuku Town core should be designed to facilitate safe traffic movement and be compatible with the traditional character of the area.

URBAN DESIGN

Goal:

An attractive and functionally integrated urban environment that enhances neighborhood character, promotes quality design, defines a unified landscape planting and beautification theme along major public roads and highways, watercourses and at major public facilities, and recognizes the historic importance and traditions of the region.

Objective and Policy for the Wailuku-Kahului Region in General:

Enhance the appearance of major public roads and highways in the region.

In summary, the proposed action is consistent with the applicable provisions of the Wailuku-Kahului Community Plan.

E. COUNTY ZONING

The proposed Kahekili Highway Repairs project site is zoned “Interim” by Maui County zoning. The Interim Zoning Ordinance allows for the construction of new, or the expansion of existing public/quasi-public facilities owned or operated by private or governmental agencies. As the proposed project is limited to improvements to an existing County roadway, it is in compliance with the interim zoning designation.

F. COASTAL ZONE MANAGEMENT PROGRAM

Pursuant to Chapter 205A, Hawaii Revised Statutes, projects should be evaluated with respect to Coastal Zone Management (CZM) objectives, policies, and goals. The subject property is located outside of the County of Maui’s Special Management Area (SMA). In vicinity of the project site, the SMA boundary is located immediately makai of the Kahekili Highway right-of-way. As such, the Department of Planning has confirmed that there is no SMA Use Permit required for the project. Nevertheless, an evaluation of the project in regards of the SMA criteria is presented below:

(1) Recreational Resources

Objective:

Provide coastal recreational opportunities accessible to the public.

Policies:

- (A) Improve coordination and funding of coastal recreational planning and management; and*
- (B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:
 - (i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*
 - (ii) Requiring replacement of coastal resources having significant recreational value, including but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;**

- (iii) *Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;*
- (iv) *Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;*
- (v) *Ensuring public recreational use of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;*
- (vi) *Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;*
- (vii) *Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and*
- (viii) *Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of Section 46-6.*

Response: The proposed repair work is not anticipated to impact coastal recreational opportunities or alter shoreline recreational access.

(2) Historic Resources

Objective:

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

Policies:

- (A) *Identify and analyze significant archeological resources;*
- (B) *Maximize information retention through preservation of remains and artifacts or salvage operations; and*

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

Response: The proposed project is limited to repair of a section of the existing Kahekili Highway and is not anticipated to adversely impact archaeological resources or Native Hawaiian cultural practices. A Burial Treatment Plan and Preservation Plan will be prepared for the burial cave (Site 7168) identified in the Cultural Impact Assessment and Archaeological Inventory Survey. These plans will be reviewed by the State Historic Preservation Division (SHPD) in consultation with the Maui/Lanai Islands Burial Council. Separately, an Archaeological Monitoring Plan will be prepared for the proposed project for SHPD review and approval. Refer to **Appendix "E"**.

(3) **Scenic and Open Space Resources**

Objective:

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

Policies:

- (A) *Identify valued scenic resources in the coastal zone management area;*
- (B) *Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;*
- (C) *Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and*
- (D) *Encourage those developments which are not coastal dependent to locate in inland areas.*

Response: The project site is located in Kahakuloa, on Kahekili Highway between Mile Markers 15 and 16. Scenic and open space resources will not be adversely affected by the proposed action as the project is limited to repairing a section of the existing Kahekili Highway. No vertical structures are proposed as part of the project. Thus, the project is not anticipated to adversely impact view corridors.

(4) **Coastal Ecosystems**

Objective:

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

Policies:

- (A) *Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;*
- (B) *Improve the technical basis for natural resource management;*
- (C) *Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;*
- (D) *Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and*
- (E) *Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.*

Response: The proposed repair work is not anticipated to result in any adverse impacts to coastal ecosystems. Waihali Gulch, a non-perennial stream, crosses Kahekili Highway near the southern end of the project site. There are no improvements proposed to the Waihali Gulch crossing. BMPs and erosion-control measures will be implemented during implementation of the repair work to mitigate potential runoff from construction-related activities. Such measures include installation and maintenance of temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, slope protection, stabilized construction entrances, and truck wash-down areas. With implementation of BMPs, the proposed project is not anticipated to present significant adverse impacts on downstream properties.

(5) **Economic Uses**

Objective:

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

Policies:

- (A) *Concentrate coastal dependent development in appropriate areas;*
- (B) *Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and*
- (C) *Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:*
 - (i) *Use of presently designated locations is not feasible;*
 - (ii) *Adverse environmental effects are minimized; and*
 - (iii) *The development is important to the State's economy.*

Response: The proposed improvements will generate short-term construction-related employment which will benefit the local economy. The proposed action does not contradict the objectives and policies for economic uses. In the long term, the proposed action will improve transportation infrastructure in the Kahakuloa area.

(6) **Coastal Hazards**

Objective:

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

Policies:

- (A) *Develop and communicate adequate information about storm wave, tsunami,*

flood, erosion, subsidence, and point and nonpoint source pollution hazards;

- (B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;*
- (C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and*
- (D) Prevent coastal flooding from inland projects.*

Response: The project site is located in Zone X, an area of minimal flooding. Furthermore, the project site is not identified in the Tsunami Flood Zone Evacuation Maps as being located within a tsunami evacuation area (County of Maui, Civil Defense Agency, 2011). Implementation of the project will improve the structure and stability of Kahekili Highway at this location and will not increase the susceptibility of the roadway to coastal hazards.

(7) Managing Development

Objective:

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

Policies:

- (A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;*
- (B) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and*
- (C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.*

Response: In compliance with the requirements of Chapter 343, Hawaii Revised Statutes (HRS), this Environmental Assessment (EA) has been prepared to facilitate public understanding and input regarding the proposed project. All aspects of the development will be conducted in accordance with applicable Federal, State, and

County standards.

(8) Public Participation

Objective:

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

Policies:

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

Response: As discussed above, public awareness and participation for the project are facilitated through the Chapter 343, HRS EA process.

(9) Beach Protection

Objective:

Protect beaches for public use and recreation.

Policies:

- (A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;*
- (B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and*
- (C) Minimize the construction of public erosion-protection structures seaward of the shoreline.*

Response: The proposed project is located inland from the shoreline and is not anticipated to present adverse impacts on local beach environments. It is noted that during implementation of the repair work, appropriate BMPs will be utilized to ensure that the downstream coastal environment is not adversely impacted.

(10) **Marine Resources**

Objective:

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

Policies:

- (A) *Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;*
- (B) *Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;*
- (C) *Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;*
- (D) *Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and*
- (E) *Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.*

Response: The proposed project is located inland of the coastline and is not anticipated to present adverse effects upon marine and coastal resources in the area.

In addition to the foregoing objectives and policies, Section 205A-30.5, HRS, Prohibitions, provides specifications for the limitation of lighting in coastal shoreline areas:

- (a) *No special management area use permit or special management area minor permit shall be granted for structures that allow artificial light from floodlights, uplights, or spotlights used for decorative or aesthetic purposes when the light:*

- (1) *Directly illuminates the shoreline and ocean waters; or*
 - (2) *Is directed to travel across property boundaries toward the shoreline and ocean waters.*
- (b) *Subsection (a) shall not apply to special management area use permits for structures with:*
- (2) *Artificial lighting provided by a government agency or its authorized users for government operations, security, public safety, or navigational needs; provided that a government agency or its authorized users shall make reasonable efforts to properly position or shield lights to minimize adverse impacts.*

Kahekili Highway in the vicinity of the project site does not have any existing street lighting. There is no new street lighting being proposed as part of the highway repair project. Further, there will be no construction activities conducted at night for the project.

G. OTHER REGULATORY APPROVALS

As confirmed by early consultation input (refer to Chapter IX), the proposed project does not require processing of a Department of the Army (DA) permit, a Section 401 Water Quality Certification approval or a Coastal Zone Management Consistency determination.

**IV. SUMMARY OF
ADVERSE
ENVIRONMENTAL
EFFECTS WHICH
CANNOT BE AVOIDED**

IV. SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Assessment of construction-related impacts, noise and air quality impacts, and potential impacts on the physical and socio-economic environment, as well as an archaeological inventory survey were carried out as part of the environmental assessment documentation process. The proposed highway repair project will have a limited, unavoidable construction-related impact on the environment, as described in Chapter II.

In the short term, construction associated with the project will have a temporary impact on air quality in the form of dust generation and discharge of exhaust from construction equipment during ground altering activities. Appropriate BMPs will be incorporated to mitigate adverse impacts, including sprinkling of exposed surfaces and regular maintenance of construction equipment, to minimize construction-related impacts.

Implementation of the proposed roadway repair work will also generate short-term noise impacts which will be unavoidable. The use of properly maintained construction equipment will mitigate noise impacts caused by equipment. A community noise permit will be obtained for the project for activities that exceed the State Department of Health construction noise limits.

V. ALTERNATIVES TO THE PROPOSED ACTION

V. ALTERNATIVES TO THE PROPOSED ACTION

A. PREFERRED ALTERNATIVE

The proposed action has been selected as the preferred alternative and involves roadway repairs to an approximately 1,150 foot section of Kahekili Highway between Mile Markers 15 and 16, in Kahakuloa, Maui, Hawaii. The proposed project is necessary to improve the structure and stability of the road itself. The project will involve the constructing a slope tie-back system to stabilize the existing roadway and slope in critical areas, recompacting and repairing eroded asphalt concrete pavement areas, paving turnout areas, and asphalt resurfacing of the entire roadway segment. These repairs are necessary to maintain the roadway for public access between Kahakuloa and Kapalua.

B. NO ACTION ALTERNATIVE

The “no action” alternative would maintain the existing roadway conditions of the 1,150 ft. section of Kahekili Highway, between Mile Markers 15 and 16. Without the proposed project, impacts identified in the earlier sections of this EA document would not occur. Nor, would the proposed project benefits occur. The proposed project is necessary to address structural stability issues to maintain the roadway for public access between Kahakuloa and Kapalua. The “no action” alternative has not been selected for implementation as it would not meet the objective of improved structural stability and accessibility objectives of the proposed project.

C. DEFERRED ACTION ALTERNATIVE

The “deferred action” alternative would merely defer improvements to a later time. The “deferred action” alternative would be similar to the “no action” alternative and would not meet the structural stability and accessibility objectives of the project. In addition, by deferring the action to a later time, road wear and debilitation to the project site would increase, causing potentially higher costs and increasing the possibility of structural failure occurring along this section of Kahekili Highway. For these reasons, it was determined that the “deferred action” alternative was not appropriate.

D. ROADWAY REPAIR AND STABILIZATION ALTERNATIVES

The DPW has considered various alternatives for repairing and stabilizing the segment of Kahekili Highway between Mile Markers 15 and 16. In addition to recompacting and repairing deteriorated pavement areas and constructing a retaining wall along the makai side of the road, these alternatives included the addition of an asphalt concrete paved shoulder on the makai side of the road and installation of metal beam guardrails. These alternatives would necessitate the widening of the existing 10- to 12-foot wide roadway. These alternatives, however, are more costly than the preferred alternative, which does not involve adding to the total pavement width of the roadway. Given the current fiscal challenges being faced by the County of Maui, the preferred alternative was selected as the more cost-effective alternative to achieving the roadway stabilization objectives of the project.

**VI. IRREVERSIBLE AND
IRRETRIEVABLE
COMMITMENTS OF
RESOURCES**

VI. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The proposed action will not entail a substantial commitment of public services or facilities. Implementation of the proposed project will involve a commitment of energy, labor, fiscal, and material resources. The use of these resources, when weighed against the expected benefit to be derived from the project, is not considered an adverse commitment.

VII. SIGNIFICANCE CRITERIA ASSESSMENT

VII. SIGNIFICANCE CRITERIA ASSESSMENT

The "Significance Criteria", Section 12 of the Hawaii Administrative Rules, Title 11, Chapter 200, "Environmental Impact Statement Rules", were reviewed and analyzed to determine whether the proposed project will have significant impacts to the environment. The following criteria and preliminary analysis are provided.

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

Temporary environmental effects due to construction of roadway repairs will occur. There are no known rare, threatened, or endangered species of flora, fauna, avifauna, or important habitats located within the project site. As mentioned previously, an Archaeological Monitoring Plan will be implemented to identify, protect, and preserve historic resources discovered during ground altering activities. Should archaeological features, cultural artifacts, or human burials be located during construction activities, work in the immediate area of the find shall be promptly halted and the find protected from further disturbance. The State Historic Preservation Division (SHPD) will be immediately contacted to determine the significance of the find and establish appropriate mitigative measures, if necessary. In addition, a Burial Treatment Plan and a preservation plan will be prepared for the burial cave (Site 7168) identified in the vicinity of the project site. These plans will be reviewed by SHPD and the Maui/Lanai Islands Burial Council. Refer to Appendix "E".

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

The project involves the repairs to an existing 1,150 ft. section of Kahekili Highway, between Mile Markers 15 and 16. The proposed action will take place entirely within the existing 50-foot right-of-way. The proposed action will not involve the commitment of new land resources and will not curtail the range of beneficial uses of the environment.

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

The State's Environmental Policy and Guidelines are set forth in Chapter 344, Hawaii Revised Statutes (HRS). The proposed action is consistent with the policies and guidelines of Chapter 344, HRS.

4. **Substantially affects the economic welfare, social welfare, and cultural practices of the community or State. Substantially affects the economic welfare, social welfare, and cultural practices of the community or State.**

The proposed action will have a beneficial effect on the local economy by providing construction and construction-related employment. In the long term, the proposed project will produce benefits for the community by facilitating improved structural stability at this section of Kahekili Highway and providing for continued public access between Kahakuloa and Kapalua.

5. **Substantially affects public health.**

No adverse impact to public health or welfare is anticipated as a result of the proposed action. Suitable mitigation measures will be implemented to address anticipated noise and air quality impacts in the area, resulting from the proposed roadway repairs.

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

A secondary impact is generally defined as an impact which is caused by a specific action and which takes place later in time or further removed in distance but is still reasonably foreseeable. The proposed action is intended to improve the structure and stability of the 1,150 ft. section of Kahekili Highway, between Mile Markers 15 and 16. No substantial secondary impacts or effects on public facilities are anticipated as a result of project implementation.

There are no existing drainage improvements within this segment of Kahekili

Highway and no drainage improvements are proposed for the repair project. The increase in stormwater runoff generated from the proposed improvements will be negligible and will be allowed to pass through the project site via existing drainage patterns. Implementation of the project is not expected to present significant adverse impacts on downstream resources. Refer to **Appendix "C"**.

7. **Involves a substantial degradation of environmental quality.**

During the construction phase of the project, there will be short-term air quality and noise quality impacts as a result of the project. In the long term, there will be no significant adverse impacts on air quality and ambient noise levels. The proposed action will not significantly affect the open space and scenic character of the area.

No substantial degradation of environmental quality resulting from the action is anticipated.

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

The proposed development does not represent a commitment for larger actions. The scope of the project is focused on improving the roadway structure and stability along a section of the existing Kahekili Highway.

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

There are no rare, threatened, or endangered species of flora, fauna, avifauna, or important habitats that will be adversely affected by the project. Refer to **Appendix "D"**.

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

Construction activities will have an impact on air and noise quality; however, it will be minimal and temporary. Dust control measures, such as regular watering and sprinkling, will be implemented to minimize wind-blown emissions. Noise impacts will be mitigated by limiting construction activities to daylight work hours. Implementation of approved BMPs will also ensure protection of water quality and coastal resources in the area.

In the long term, the proposed action is not anticipated to have a significant impact

on air and water quality or ambient noise levels.

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

The project site is located in Flood Zone X, an area of minimal flooding. Waihali Gulch crosses Kahekili Highway to the south of the project site. Appropriate mitigation measures will be developed in consultation with applicable governmental agencies during the permitting process. During construction, BMPs will be implemented for erosion and sedimentation control to mitigate potential impacts from construction on Waihali Gulch and nearby coastal waters.

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

The proposed action does not present significant adverse impacts on scenic vistas or viewplanes in the Kahakuloa area. The proposed action is limited to roadway repairs intended to improve the structure and stability of this section of Kahekili Highway.

13. **Requires substantial energy consumption.**

The proposed action will involve the short-term commitment of fuel for equipment, vehicles, and machinery during construction activities. However, this use is not anticipated to result in a substantial consumption of energy resources.

In summary, the proposed action involves the repair of an existing 1,150 ft. section of Kahekili Highway, between Mile Markers 15 and 16 near Kahakuloa Village. The proposed action will take place within the existing 50-foot right-of-way of Kahekili Highway. Based on review of the significance criteria outlined in the preceding section, this roadway repair work is not expected to have a significant adverse impact on the environment. In this context, a Finding of No Significant Impact (FONSI) is anticipated for the proposed Kahekili Highway Repair Project.

VIII. LIST OF PERMITS AND APPROVALS

VIII. LIST OF PERMITS AND APPROVALS

The following permits and approvals may be required prior to the implementation of the project:

State of Hawaii

- Community Noise Permit, as applicable.
- National Pollutant Discharge Elimination System (NPDES) Permit, as applicable.

County of Maui

- Construction Permits (including Building Permit for Slope Tie-Back Structures).
- Work to Perform on County Highway.

**IX. PARTIES
CONSULTED DURING
THE PREPARATION OF
THE DRAFT
ENVIRONMENTAL
ASSESSMENT; LETTERS
RECEIVED; AND
RESPONSES TO
SUBSTANTIVE
COMMENTS**

IX. PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED; AND RESPONSES TO SUBSTANTIVE COMMENTS

- | | |
|---|--|
| <p>1. Larry Yamamoto, State Conservationist U.S. Department of Agriculture Natural Resources Conservation Service P.O. Box 50004 Honolulu, Hawaii 96850-0001</p> | <p>7. Kathryn Matayoshi, Superintendent State of Hawaii Department of Education P.O. Box 2360 Honolulu, Hawaii 96804</p> |
| <p>2. Ranae Ganske-Cerizo, Soil Conservationist Natural Resources Conservation Service U.S. Department of Agriculture 77 Hookele Street, Suite 202 Kahului, Hawaii 96732</p> | <p>8. Kaulana Park, Chairman Department of Hawaiian Home Lands P. O. Box 1879 Honolulu, Hawaii 96805</p> |
| <p>3. George Young Chief, Regulatory Branch U.S. Department of the Army U.S. Army Engineer District, Honolulu Regulatory Branch Building 230 Fort Shafter, Hawaii 96858-5440</p> | <p>9. Chiyome Fukino, M.D., Director State of Hawaii Department of Health 919 Ala Moana Blvd., Room 300 Honolulu, Hawaii 96814</p> |
| <p>4. Loyal Mehrhoff Field Supervisor U. S. Fish and Wildlife Service 300 Ala Moana Blvd., Rm. 3-122 Box 50088 Honolulu, Hawaii 96813</p> | <p>10. Alec Wong, P.E., Chief Clean Water Branch State of Hawaii Department of Health 919 Ala Moana Blvd., Room 300 Honolulu, Hawaii 96814</p> |
| <p>5. Russ K. Saito, State Comptroller Department of Accounting and General Services 1151 Punchbowl Street, #426 Honolulu, Hawaii 96813</p> | <p>11. Patti Kitkowski Acting District Environmental Health Program Chief State of Hawaii Department of Health 54 High Street Wailuku, Hawaii 96793</p> |
| <p>6. Theodore E. Liu, Director State of Hawaii Department of Business, Economic Development & Tourism P.O. Box 2359 Honolulu, Hawaii 96804</p> | <p>12. Laura Thielen, Chairperson State of Hawaii Department of Land and Natural Resources P. O. Box 621 Honolulu, Hawaii 96809</p> |

13. Dr. Puaalaokalani Aiu, Administrator
State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, Hawaii 96707
14. Morgan Davis
Department of Land and Natural Resources
State Historic Preservation Division
130 Mahalani Street
Wailuku, Hawaii 96793
15. Michael Formby, Acting Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813
cc: Fred Cajigal
16. Major General Robert G.S. Lee, Director
Hawaii State Civil Defense
3949 Diamond Head Road
Honolulu, Hawaii 96816-4495
17. Katherine Kealoha, Director
Office Of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawaii 96813
18. Clyde Nāmuo, Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813
19. Abbey Seth Mayer, Director
State of Hawaii
Office of Planning
P.O. Box 2359
Honolulu, Hawaii 96804
20. Dan Davidson, Executive Officer
State of Hawaii
State Land Use Commission
P.O. Box 2359
Honolulu, Hawaii 96804
21. Rebecca Lauricella, Acting Administrator
Maui Civil Defense Agency
200 South High Street
Wailuku, Hawaii 96793
22. Jeffrey A. Murray, Fire Chief
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawaii 96732
23. Lori Tshako, Director
County of Maui
Department of Housing and Human Concerns
One Main Plaza
2200 Main Street, Suite 546
Wailuku, Hawaii 96793
24. Tamara Horcajo, Director
County of Maui
Department of Parks and Recreation
700 Halia Nako Street, Unit 2
Wailuku, Hawaii 96793
25. Kathleen Aoki, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii 96793
26. Gary Yabuta, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawaii 96793
27. Cheryl Okuma, Director
County of Maui
Department of Environmental Management
One Main Plaza
2200 Main Street, Suite 100
Wailuku, Hawaii 96793
28. Donald Medeiros, Director
County of Maui
Department of Transportation
200 South High Street
Wailuku, Hawaii 96793
29. Jeffrey Eng, Director
Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793

30. Councilmember Jo Anne Johnson
Maui County Council
200 South High Street
Wailuku, Hawaii 96793
31. Councilmember Mike Victorino
Maui County Council
200 South High Street
Wailuku, Hawaii 96793
32. **Hawaiian Telcom**
60 South Church Street
Wailuku, Hawaii 96793
33. Greg Kauhi, Manager, Customer Operations
Maui Electric Company, Ltd.
P.O. Box 398
Kahului, Hawaii 96733
34. Joe Pluta, President
West Maui Improvement Foundation
P. O. Box 10338
Lahaina, Hawaii 96761
35. Zeke Kalua, Executive Director
West Maui Taxpayers Association
P.O. Box 10338
Lahaina, Hawaii 96761
36. **Kahakuloa Community Association**
3499 Kahekili Highway
Wailuku, Hawaii 96793
37. **Waihee Community Association**
RR1 Box 88
Wailuku, Hawaii 96793

NOV 04 2010



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

November 2, 2010

REPLY TO
ATTENTION OF:

Regulatory Branch

File Number POH-2010-00297

Munekiyo & Hiraga, Inc.
Attention: Mark Alexander Roy
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

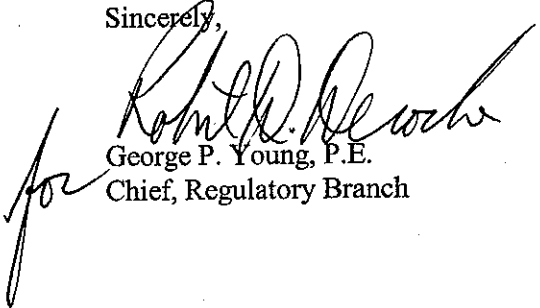
We have received your request dated October 22, 2010 for the Department of the Army to review and comment on the proposed repairs to Kahekili Highway, Kahakuloa, Island of Maui, Hawaii. We have assigned the project the reference number **POH-2010-00297**. Please cite the reference number in any future correspondence concerning this project. We completed our review of the submitted document pursuant to Section 10 of the Rivers and Harbors Act of 1899 (Section 10) and Section 404 of the Clean Water Act (Section 404).

Section 10 requires that a Department of the Army (DA) permit be obtained from the U.S. Army Corps of Engineers (Corps) prior to undertaking any construction, dredging and other activities occurring in, over, or under navigable waters of the U.S. The line of jurisdiction extends to the Mean High Tide Line for tidal waters. Section 404 requires that a DA permit be obtained for the discharge (placement) of dredge and/or fill material into waters of the U.S., including wetlands. The line of jurisdiction extends to the Mean Higher High Water (MHHW) mark for tidally influenced waters, the Ordinary High Water (OHW) mark for non-tidal waters and the approved delineated boundary for wetlands.

Based on the information you submitted, it appears the review area consists entirely of uplands and is absent of waters of the U.S., including adjacent wetlands, subject to Corps jurisdiction. We anticipate any proposed development activities will not involve the placement or discharge of dredged and/or fill material into waters of the U.S.; therefore, it appears a **DA permit will not be required**. This determination does not relieve you of the responsibility to obtain any other permits, licenses, or approvals that may be required under County, State, or Federal law for your proposed work.

Thank you for contacting us regarding this project and providing us with the opportunity to comment. Should you have any questions, please contact Ms. Jessie Pa'ahana at 808.438.0391 or via e-mail at Jessie.K.Paahana@usace.army.mil. Please be advised you can provide comments on your experience with the Honolulu District Regulatory Branch by accessing our web-based customer survey form at <http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,

for 
George P. Young, P.E.
Chief, Regulatory Branch



MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

March 21, 2012

George P. Young, P.E., Chief
U.S. Army Corps of Engineers
Department of Army
Honolulu District
Fort Shafter, Hawaii 96858-5440

SUBJECT: Early Consultation Request for Proposed Kahekili Highway Repair Project, TMK (2)3-1-002:016(por.), Kahakuloa, Maui, Hawaii (Ref. POH-2010-00297)

Dear Mr. Young:

Thank you for your letter, dated November 2, 2010, providing early consultation comments on the proposed Kahekili Highway Repair Project. On behalf of the applicant, the County of Maui, Department of Public Works, we acknowledge your determination that the project site consists entirely of uplands and is absent of waters of the U.S.; therefore, a DA permit will not be required for the project.

We appreciate the input provided by your office and will include a copy of your letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,

Mark Alexander Roy, AICP
Program Manager

MAR:lh

cc: Annette Matsuda, County of Maui, Department of Public Works
Stan Watanabe, Austin Tsutsumi & Associates; Inc.

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LINDA LINGLE
GOVERNOR



NOV 16 2010

RUSS K. SAITO
COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)1272.0

NOV 15 2010

Mr. Mark Alexander Roy, AICP, Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Dear Mr. Roy:

Subject: Early Consultation Request for Proposed Kahekili Highway Repair Project
Between Mile Markers 15 and 16 Kahakuloa, Maui, Hawai'i

Thank you for the opportunity to provide comments on the Early Consultation Request for the Proposed Kahekili Highway Repair Project, Between Mile Markers 15 and 16. The project does not impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer at this time.

If you have any questions, please call me at 586-0400 or have your staff call Mr. Clarence Kubo of the Public Works Division at 586-0488.

Sincerely,

RUSS K. SAITO
State Comptroller



MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

March 21, 2012

Jan S. Gouveia, Acting Comptroller
Department of Accounting and General Services
State of Hawaii
P.O. Box 119
Honolulu, Hawaii 96810-0119

SUBJECT: Early Consultation Request for Proposed Kahekili Highway Repair Project, TMK (2)3-1-002:016(por), Kahakuloa, Maui, Hawaii

Dear Ms. Gouveia:

Thank you for your department's letter, dated November 15, 2010, providing early consultation comments on the proposed Kahekili Highway Repair Project. On behalf of the applicant, the County of Maui, Department of Public Works, we acknowledge the determination that the project does not impact any of the Department of Accounting and General Services' projects or existing facilities.

We appreciate the input provided by your office and will include a copy of your letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,

Mark Alexander Roy, AICP
Program Manager

MAR:lh

cc: Annette Matsuda, County of Maui, Department of Public Works
Stan Watanabe, Austin Tsutsumi & Associates, Inc.

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NOV 10 2010

XXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXX
KATHRYN S. MATAYOSHI
SUPERINTENDENT



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

November 5, 2010

Mr. Mark Alexander Roy, AICP, Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

Subject: Early Consultation Request for Proposed Kahekili Highway Repair
Project, Between Mile Markers 15 and 16, Kahakuloa, Maui, Hawaii

The Department of Education (DOE) has reviewed the early consultation request for the proposed Kahekili Highway Repair Project.

The DOE has no comment to offer.

Thank you for the opportunity to comment. If you have any questions, please call Jeremy Kwock of the Facilities Development Branch at (808) 377-8301.

Very truly yours,

A handwritten signature in black ink, appearing to read "Kathryn S. Matayoshi".

Kathryn S. Matayoshi
Superintendent

KSM:jmb

c: Randolph Moore, Assistant Superintendent, OSFSS
Bruce Anderson, CAS, Baldwin/Kekaulike/Maui Complex Areas

DEC 08 2010

LINDA LINGLE
GOVERNOR OF HAWAII



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

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

In reply, please refer to:
DOH/CWB

12031PKP.10

December 6, 2010

Mr. Mark Alexander Roy, AICP
Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

SUBJECT: Early Consultation Request for the Proposed Kahekili Highway Repair Project Between Mile Markers 15 and 16 Kahakuloa, Island of Maui, Hawaii

The Department of Health, Clean Water Branch (CWB), has reviewed the subject document and offers these comments on your project. Please note that our review is based solely on the information provided in the subject document and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at <http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf>.

1. Any project and its potential impacts to State waters must meet the following criteria:
 - a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
 - b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
 - c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).
2. The Army Corps of Engineers should be contacted at (808) 438-9258 to see if this project requires a Department of the Army (DA) permit. Permits may be required for work performed in, over, and under navigable waters of the United States. Projects requiring a DA permit also require a Section 401 Water Quality Certification (WQC) from our office.

3. You may be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for NPDES general permit coverage by submitting the applicable Notice of Intent (NOI) form:
 - a. Storm water associated with construction activities, including excavation, grading, clearing, demolition, uprooting of vegetation, equipment staging, and storage areas that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the start of the construction activities.
 - b. Discharges of hydrotesting water.
 - c. Discharges of construction dewatering effluent.

You must submit a separate NOI form for each type of discharge at least 30 calendar days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 calendar days before the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website at <http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html>.

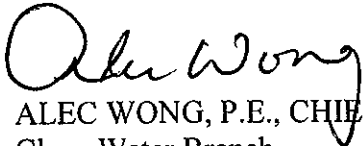
4. For types of wastewater discharges not listed above or wastewater discharging into Class 1 or Class AA waters, you may need to obtain an NPDES individual permit. Class 1 waters include, but is not limited to, all State waters in natural reserves, preserves, sanctuaries, and refuges established by the Department of Land and Natural Resources (DLNR) under Hawaii Revised Statutes (HRS), Chapter 195, or similar reserves for the protection of aquatic life established under HRS, Chapter 195.
5. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 Water Quality Certification are required, must comply with the Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of \$25,000 per day per violation.

Mr. Mark Alexander Roy, AICP
December 6, 2010
Page 3

12031PKP.10

If you have any questions, please visit our website at
<http://www.hawaii.gov/health/environmental/water/cleanwater/index.html>, or contact the
Engineering Section, CWB, at (808) 586-4309.

Sincerely,


ALEC WONG, P.E., CHIEF
Clean Water Branch

KP:ml

c: DOH-EPO #1-3406 [via email only]



MICHAEL T. MUNEKIYO
GWEN OKASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

March 21, 2012

Alec Wong, P.E., Chief
Clean Water Branch
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, Hawaii 96801

SUBJECT: Early Consultation Request for Proposed Kahekili Highway Repair Project, TMK (2)3-1-002:016(por.), Kahakuloa, Maui, Hawaii

Dear Mr. Wong:

Thank you for your letter, dated December 6, 2010, providing early consultation comments on the proposed Kahekili Highway Repair Project. On behalf of the applicant, the County of Maui, Department of Public Works, we offer the following information in response to the comments noted in your letter:

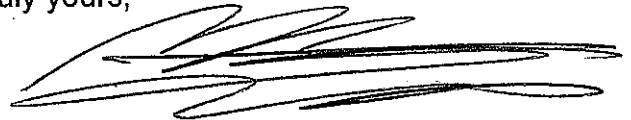
1. We note your comment that the proposed project must meet the criteria set forth in Sections 11-54-1.1 (Antidegradation Policy), 11-54-3 (Designated Uses) and 11-54-4 through 11-54-8 (Water Quality Criteria) of the Hawaii Administrative Rules (HAR).
2. The Army Corps of Engineers was contacted during the Early Consultation process for the proposed project and concluded that a Department of the Army Permit will not be required as that the proposed Kahekili Highway improvements consists entirely of uplands and is absent of waters of the U.S. See **Exhibit "A"**.
3. A National Pollutant Discharge Elimination System (NPDES) permit will be obtained for the project, as applicable.
4. Coordination will be carried out with the Department of Health prior to project implementation to identify applicable NPDES permit requirements.
5. The project will comply with all applicable State Water Quality Standards and related permitting requirements as specified in Chapter 11-54 and 55, HAR.

Alec Wong, P.E., Chief
March 21, 2012
Page 2

The standard comments relating to Environmental Health programs, as listed on the department's website, have also been reviewed. We are enclosing a list of applicable comments as well as the applicant's response to each. See **Exhibit "B"**.

We appreciate the input provided by your office and will include a copy of your letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please do not hesitate to contact me at (808)244-2015.

Very truly yours,



Mark Alexander Roy, AICP
Program Manager

MAR:lh

Enclosure

cc: Annette Matsuda, County of Maui, Department of Public Works (w/enclosure)
Stan Watanabe, Austin Tsutsumi & Associates, Inc. (w/enclosure)

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NOV 04 2010



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

November 2, 2010

REPLY TO
ATTENTION OF:

Regulatory Branch

File Number POH-2010-00297

Munekiyo & Hiraga, Inc.
Attention: Mark Alexander Roy
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

We have received your request dated October 22, 2010 for the Department of the Army to review and comment on the proposed repairs to Kahekili Highway, Kahakuloa, Island of Maui, Hawaii. We have assigned the project the reference number **POH-2010-00297**. Please cite the reference number in any future correspondence concerning this project. We completed our review of the submitted document pursuant to Section 10 of the Rivers and Harbors Act of 1899 (Section 10) and Section 404 of the Clean Water Act (Section 404).

Section 10 requires that a Department of the Army (DA) permit be obtained from the U.S. Army Corps of Engineers (Corps) prior to undertaking any construction, dredging and other activities occurring in, over, or under navigable waters of the U.S. The line of jurisdiction extends to the Mean High Tide Line for tidal waters. Section 404 requires that a DA permit be obtained for the discharge (placement) of dredge and/or fill material into waters of the U.S., including wetlands. The line of jurisdiction extends to the Mean Higher High Water (MHHW) mark for tidally influenced waters, the Ordinary High Water (OHW) mark for non-tidal waters and the approved delineated boundary for wetlands.

Based on the information you submitted, it appears the review area consists entirely of uplands and is absent of waters of the U.S., including adjacent wetlands, subject to Corps jurisdiction. We anticipate any proposed development activities will not involve the placement or discharge of dredged and/or fill material into waters of the U.S.; therefore, it appears a **DA permit will not be required**. This determination does not relieve you of the responsibility to obtain any other permits, licenses, or approvals that may be required under County, State, or Federal law for your proposed work.

Thank you for contacting us regarding this project and providing us with the opportunity to comment. Should you have any questions, please contact Ms. Jessie Pa'ahana at 808.438.0391 or via e-mail at Jessie.K.Paahana@usace.army.mil. Please be advised you can provide comments on your experience with the Honolulu District Regulatory Branch by accessing our web-based customer survey form at <http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,

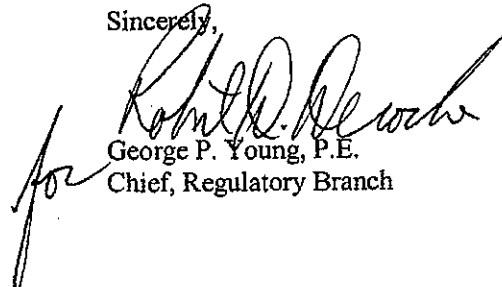
for 
George P. Young, P.E.
Chief, Regulatory Branch

EXHIBIT "A"

REVIEW OF
STANDARD COMMENTS RELATING TO STATE
ENVIRONMENTAL HEALTH PROGRAMS

Environmental Planning Office

- *Identify the waterbody type and class, as defined in Hawaii Administrative Rules Chapter 11-54 (<http://www.state.hi.us/health/about/rules/11-54.pdf>), of all potentially affected water bodies.*

Response:

The project site is located approximately 400 feet east of Kahakuloa Bay and over 2,000 feet north of Kahakuloa Stream. Kahakuloa Bay (in vicinity of Kahakuloa Stream) is considered to be a potentially affected water body in the context of analyzing the potential impacts of the proposed project. Kahakuloa Bay is designated a Class AA waterbody by the State Department of Health.

- *Identify any existing National Pollutant Discharge Elimination System (NPDES) permits and related connection permits (issued by permittees) that will govern the management of water that runs off or is discharged from the proposed project site or facility. Please include NPDES and other permit numbers; names of permittees, permitted facilities, and receiving waters (including waterbody type and class as in 1. above); diagrams showing drainage/discharge pathways and outfall locations; and note any permit conditions that may specifically apply to the proposed project.*

Response:

There are no existing NPDES permits or related connection permits governing water quality management at the project site.

- *Identify any planning documents, groups, and projects that include specific prescriptions for water quality management at the proposed project site and in the potentially affected waterbodies. Please note those prescriptions that may specifically apply to the proposed project.*

Response:

There are no existing water quality actions being undertaken at the project site.

- *Identify all potentially affected water bodies that appear on the current List of Impaired Waters in Hawaii Prepared under Clean Water Act.*

Response:

Kahakuloa Bay does not appear on the current "List of Impaired Waters in Hawaii".

- *We suggest that each submittal identify and analyze potential project impacts at a watershed scale by considering the potential contribution of the proposed project to cumulative, multi-project watershed effects on hydrology, water quality, and aquatic and riparian ecosystems.*

We also suggest that each submittal broadly evaluate project alternatives by identifying more than one engineering solution for proposed projects. In particular, we suggest the consideration of "alternative," "soft," and "green" engineering solutions for channel modifications that would provide a more environmentally friendly and aesthetically pleasing channel environment and minimize the destruction of natural landscapes.

Response:

With implementation of BMPs during construction, the proposed project is not expected to significantly adversely impact hydrology, water quality and aquatic and riparian ecosystems in vicinity of the project site. There are no channel modifications proposed as part of the project. There are no existing drainage improvements within this segment of Kahekili Highway and no drainage improvements are proposed for the repair project. The increase in stormwater runoff generated from the proposed improvements is deemed negligible and will be allowed to pass through the project site via existing drainage patterns.

Clean Air Branch

- *A significant potential for fugitive dust emissions exists during all phases of construction and operations. Proposed activities that occur in proximity to existing residences, businesses, public areas or thoroughfares, exacerbate potential dust problems. It is recommended that a dust control management plan be developed which identifies and addresses all activities that have a potential to generate fugitive dust. The plan, which does not require DOH approval, would help with recognizing and minimizing the dust problems from the proposed project.*

Activities must comply with the provisions of Hawaii Administrative Rules, § 11-60-1-33 on Fugitive Dust. In addition, for cases involving mixed land use, we strongly recommend that buffer zones be established, wherever possible, in order to alleviate potential nuisance problems.

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

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

Response:

A Best Management Practices Plan, including dust control measures, will be developed for the project to minimize the potential for dust-related impacts from construction. Project-related activities will comply with applicable provisions of Section 11-60-1.33, HAR.

Solid and Hazardous Waste Branch

- *The state regulations for hazardous waste are in Chapters 11-260 to 11-280, Hawaii Administrative Rules (HAR). These rules apply to the identification, handling, transportation, storage and disposal of regulated hazardous waste. Generators, transporters and treatment, storage and disposal facilities of hazardous waste must adhere to these requirements or be subject to fines and penalties.*

Response:

The proposed project will comply with applicable requirements of HAR, Chapters 11-260 to 11-280.

- *Generators of solid waste are required to ensure that their wastes are properly delivered to permitted solid waste management facilities. Managers of construction and demolition projects should require their waste contractors to submit disposal receipts and invoices to ensure proper disposal of wastes.*

Response:

Construction waste for the project will be properly disposed of at an approved construction waste disposal facility.

- *HRS Chapter 342G encourages the reduction of waste generation, reuse of discarded materials, and the recycling of solid waste. Businesses, property managers and developers, and government entities are highly encouraged to develop solid waste management plans to ensure proper handling of wastes. Solid waste management plans should also seek to maximize waste diversion and minimize disposal. Such plans should include designated areas to promote the collection of reusable and recyclable materials.*

Response:

Upon completion, the project will not generate solid waste.

Noise, Radiation, and Indoor Air Quality Branch

- *Project activities shall comply with Chapter 11-39 (Air Conditioning and Ventilating), Chapter 11-45 (Radiation Control) and 11-46 (Community Noise Control) of the Administrative Rules of the Department of Health.*

- **Response:**

The proposed project will comply with the applicable requirements of HAR, Chapter 11-46 regulating community noise control. Chapter 11-39 (Air Conditioning and Ventilation) and Chapter 11-45 (Radiation Control) do not apply to the proposed project.

ATA\Kahekili Hwy\ECL Response Letters\DOH-CWB ECL response.ltr.Exhibit A.doc

LINDA LINGLE
GOVERNOR OF HAWAII



NOV 09 2010

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

LORRIN W. PANG, M. D., M. P. H.
DISTRICT HEALTH OFFICER

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2102

November 8, 2010

Mr. Mark Alexander Roy, AICP
Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

Subject: Early Consultation Request for Proposed Kahekili Highway Repair Project, Between Mile Markers 15 & 16, Kahakuloa, Maui, Hawaii

Thank you for the opportunity to review this project. We have these comments to offer:

1. National Pollutant Discharge Elimination System (NPDES) permit coverage maybe required for this project. The Clean Water Branch should be contacted at 808 586-4309.
2. The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules (HAR), Chapter 11-46, "Community Noise Control." A noise permit may be required and should be obtained before the commencement of work.

It is strongly recommended that the Standard Comments found at the Department's website: <http://hawaii.gov/health/environmental/env-planning/landuse/landuse.html> be reviewed, and any comments specifically applicable to this project should be adhered to.

Should you have any questions, please call me at 808 984-8230 or E-mail me at patricia.kitkowski@doh.hawaii.gov.

Sincerely,

A handwritten signature in cursive script that reads "Patti Kitkowski".

Patti Kitkowski
Acting District Environmental Health Program Chief

c EPO



MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

March 21, 2012

Patti Kitkowski, Acting District Environmental Health Program Chief
Department of Health
Maui District Health Office
State of Hawaii
54 High Street
Wailuku, Hawaii 96793

SUBJECT: Early Consultation Request for Proposed Kahekili Highway Repair Project, TMK (2)3-1-002:016(por.), Kahakuloa, Maui, Hawaii

Dear Ms. Kitkowski:

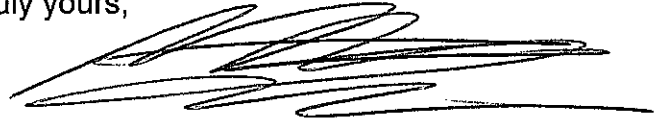
Thank you for your letter, dated November 8, 2010, providing early consultation comments on the proposed Kahekili Highway Repair Project. On behalf of the applicant, the County of Maui, Department of Public Works, we offer the following information in response to the comments noted in your letter:

- A National Pollutant Discharge Elimination System (NPDES) permit will be obtained for the project, as applicable.
- We further acknowledge that a Community Noise Permit may be required during the construction phase of the project if noise generated exceeds maximum allowable levels. The applicant will coordinate with the Department of Health to identify applicable Community Noise Permit requirements.
- The standard comments listed on the Department's website have been reviewed. We are enclosing a list of applicable comments as well as the applicant's response to each. See **Exhibit "A"**.

Patti Kitkowski, Acting District Environmental Health Program Chief
March 21, 2012
Page 2

We appreciate the input provided by your office and will include a copy of your letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,



Mark Alexander Roy, AICP
Program Manager

MAR:lh

Enclosure

cc: Annette Matsuda, County of Maui, Department of Public Works (w/enclosure)
Stan Watanabe, Austin Tsutsumi & Associates, Inc. (w/enclosure)

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REVIEW OF
STANDARD COMMENTS RELATING TO STATE
ENVIRONMENTAL HEALTH PROGRAMS

Environmental Planning Office

- *Identify the waterbody type and class, as defined in Hawaii Administrative Rules Chapter 11-54 (<http://www.state.hi.us/health/about/rules/11-54.pdf>), of all potentially affected water bodies.*

Response:

The project site is located approximately 400 feet east of Kahakuloa Bay and over 2,000 feet north of Kahakuloa Stream. Kahakuloa Bay (in vicinity of Kahakuloa Stream) is considered to be a potentially affected water body in the context of analyzing the potential impacts of the proposed project. Kahakuloa Bay is designated a Class AA waterbody by the State Department of Health.

- *Identify any existing National Pollutant Discharge Elimination System (NPDES) permits and related connection permits (issued by permittees) that will govern the management of water that runs off or is discharged from the proposed project site or facility. Please include NPDES and other permit numbers; names of permittees, permitted facilities, and receiving waters (including waterbody type and class as in 1. above); diagrams showing drainage/discharge pathways and outfall locations; and note any permit conditions that may specifically apply to the proposed project.*

Response:

There are no existing NPDES permits or related connection permits governing water quality management at the project site.

- *Identify any planning documents, groups, and projects that include specific prescriptions for water quality management at the proposed project site and in the potentially affected waterbodies. Please note those prescriptions that may specifically apply to the proposed project.*

Response:

There are no existing water quality actions being undertaken at the project site.

- *Identify all potentially affected water bodies that appear on the current List of Impaired Waters in Hawaii Prepared under Clean Water Act.*

Response:

Kahakuloa Bay does not appear on the current "List of Impaired Waters in Hawaii".

- *We suggest that each submittal identify and analyze potential project impacts at a watershed scale by considering the potential contribution of the proposed project to cumulative, multi-project watershed effects on hydrology, water quality, and aquatic and riparian ecosystems.*

We also suggest that each submittal broadly evaluate project alternatives by identifying more than one engineering solution for proposed projects. In particular, we suggest the consideration of "alternative," "soft," and "green" engineering solutions for channel modifications that would provide a more environmentally friendly and aesthetically pleasing channel environment and minimize the destruction of natural landscapes.

Response:

With implementation of BMPs during construction, the proposed project is not expected to significantly adversely impact hydrology, water quality and aquatic and riparian ecosystems in vicinity of the project site. There are no channel modifications proposed as part of the project. There are no existing drainage improvements within this segment of Kahekili Highway and no drainage improvements are proposed for the repair project. The increase in stormwater runoff generated from the proposed improvements is deemed negligible and will be allowed to pass through the project site via existing drainage patterns.

Clean Air Branch

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Activities must comply with the provisions of Hawaii Administrative Rules, § 11-60-1-33 on Fugitive Dust. In addition, for cases involving mixed land use, we strongly recommend that buffer zones be established, wherever possible, in order to alleviate potential nuisance problems.

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

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- b) Providing an adequate water source at the site prior to start-up of construction activities;*
- c) Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase;*
- d) Minimizing dust from shoulders and access roads;*
- e) Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and*
- f) Controlling dust from debris being hauled away from the project site.*

Response:

A Best Management Practices Plan, including dust control measures, will be developed for the project to minimize the potential for dust-related impacts from construction. Project-related activities will comply with applicable provisions of Section 11-60-1.33, HAR.

Solid and Hazardous Waste Branch

- *The state regulations for hazardous waste are in Chapters 11-260 to 11-280, Hawaii Administrative Rules (HAR). These rules apply to the identification, handling, transportation, storage and disposal of regulated hazardous waste. Generators, transporters and treatment, storage and disposal facilities of hazardous waste must adhere to these requirements or be subject to fines and penalties.*

Response:

The proposed project will comply with applicable requirements of HAR, Chapters 11-260 to 11-280.

- *Generators of solid waste are required to ensure that their wastes are properly delivered to permitted solid waste management facilities. Managers of construction and demolition projects should require their waste contractors to submit disposal receipts and invoices to ensure proper disposal of wastes.*

Response:

Construction waste for the project will be properly disposed of at an approved construction waste disposal facility.

- *HRS Chapter 342G encourages the reduction of waste generation, reuse of discarded materials, and the recycling of solid waste. Businesses, property managers and developers, and government entities are highly encouraged to develop solid waste management plans to ensure proper handling of wastes. Solid waste management plans should also seek to maximize waste diversion and minimize disposal. Such plans should include designated areas to promote the collection of reusable and recyclable materials.*

Response:

Upon completion, the project will not generate solid waste.

Noise, Radiation, and Indoor Air Quality Branch

- *Project activities shall comply with Chapter 11-39 (Air Conditioning and Ventilating), Chapter 11-45 (Radiation Control) and 11-46 (Community Noise Control) of the Administrative Rules of the Department of Health.*

- **Response:**

The proposed project will comply with the applicable requirements of HAR, Chapter 11-46 regulating community noise control. Chapter 11-39 (Air Conditioning and Ventilation) and Chapter 11-45 (Radiation Control) do not apply to the proposed project.

ATA\KahekiliHwy\ECL Response Letters\DOH-CWB ECL response.ltr.Exhibit A.doc

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

NOV 15 2010
LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

PAUL J. CONRY
ACTING FIRST DEPUTY

LENORE N. OHYE
ACTING DEPUTY DIRECTOR - WATER

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

REF:OCCL:TM

Correspondence: MA 11-96

NOV 12 2010

Mark Alexander Roy
Munekiyo & Haraga, Inc.
305 High Street, Suite 304
Wailuku, HI 96793

SUBJECT: Proposed Kahekili Highway Repair Project Mile Marker 15-16 Located at Kahakuloa, Maui, TMK: (2) 3-1-002: xxx

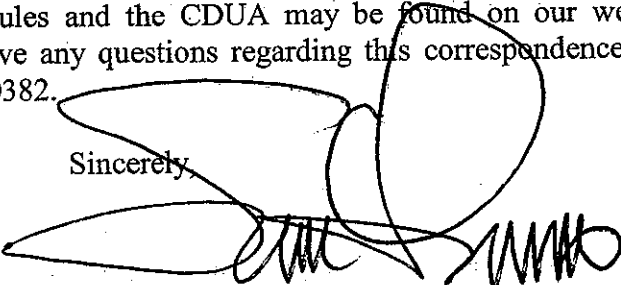
Dear Mr. Roy:

The Office of Conservation and Coastal Lands (OCCL) is in receipt of your correspondence regarding the subject matter. According to your information, Maui County's Department of Public Works is proposing to do repairs to Kahekili Highway at the subject location. The proposed work consists of adding a 2' wide asphalt concrete shoulder on the makai side of the roadway and 6' wide asphalt concrete turnouts where feasible on the mauka side of the road in addition to reconstruction of the existing pavement, excavation and embankment, construction of retaining walls and installation of metal beam guardrails.

The OCCL notes the subject area appears to lie within the General subzone of the Conservation District. It is unclear where improvements to the existing highway are proposed. Regarding improvements within the existing right-of-way, as this is an established transportation use, we would have no objections to the proposed improvements within this corridor. Proposed improvements outside of the highway right-of-way would require the filing of a Conservation District Use Application (CDUA) for a Board permit for Public Purpose.

For your information and use, the Conservation District rules and regulations known as Chapter 13-5 of the Hawaii Administrative Rules and the CDUA may be found on our website at: hawaii.gov/dlnr/occl. Should you have any questions regarding this correspondence, contact Tiger Mills of our Office at (808) 587-0382.

Sincerely,


Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

c: MDLO
County of Maui
-Dept. of Planning



MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

March 21, 2012

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

SUBJECT: Early Consultation Request for Proposed Kahekili Highway Repair Project, TMK (2)3-1-002:016(por.), Kahakuloa, Maui, Hawaii

Dear Mr. Lemmo:

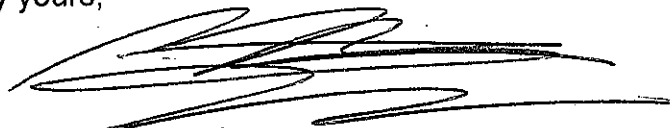
Thank you for your letter, dated November 12, 2010, providing early consultation comments on the proposed Kahekili Highway Repair Project. On behalf of the applicant, the County of Maui, Department of Public Works, we offer the following information in response to the comments noted in your letter:

- We acknowledge that the Kahekili Highway project site lies within the General subzone of the Conservation District.
- We further acknowledge that the Office of Conservation and Coastal Lands (OCCL) does not object to improvements within the existing Kahekili Highway right-of-way, as the corridor is an established transportation use. As such, we understand that a Conservation District Use Permit is not required for the proposed highway repair work.
- As discussed in our letter to your office, dated November 15, 2011, a temporary construction laydown area will be implemented in conjunction with the highway repair project. See **Attachment "A"**. As the site for the laydown area is outside of the existing highway right-of-way, OCCL has confirmed by letter dated December 13, 2011 that a Conservation District Use Application (CDUA) for a Board Permit will need to be processed for this specific project component. See **Attachment "B"**. As such, we are in the process of preparing the CDUA for the temporary construction laydown area and will soon be submitting it to your office for processing.

Samuel J. Lemmo, Administrator
March 21, 2012
Page 2

We appreciate the input provided by your office and will include a copy of your letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,



Mark Alexander Roy, AICP
Program Manager

MAR:lh

Enclosure

cc: Annette Matsuda, County of Maui, Department of Public Works (w/enclosure)
Stan Watanabe, Austin Tsutsumi & Associates, Inc. (w/enclosure)

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MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

November 15, 2011

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

**SUBJECT: Proposed Kahekili Highway Repair Project, Between Mile Markers
15 and 16, Kahakuloa, Maui, Hawaii (MA 11-96)**

Dear Mr. Lemmo:

This letter is intended to follow up on your November 12, 2010 letter (MA 11-96) providing early consultation comments on the proposed Kahekili Highway Repair Project. We acknowledge that the project site lies within the General subzone of the State Conservation District and that the Office of Conservation and Coastal Lands (OCCL) does not object to improvements within the existing Kahekili Highway right-of-way, as the corridor is an established transportation use. We further acknowledge that because the proposed highway repair work is located within the existing right-of-way, a Conservation District Use Application (CDUA) for a Board Permit is not required. See **Exhibit "A"**.

Since our previous correspondence, the Department of Public Works (DPW) has been refining its plans for the proposed project. The process of formulating engineering and construction management plans has identified the need for a temporary construction laydown area for the project. This is due to the limited space that is available along the Kahekili Highway right-of-way in the vicinity of the repair project. The DPW has been in consultation with Mr. Daniel Ornellas of the Department of Land and Natural Resources, Land Division (Maui District Office) regarding the potential use of a site for the temporary laydown area located mauka of Kahekili Highway and north of the roadway segment proposed for repair. The proposed site is approximately 40,000 square feet in size and is located on a portion of a State-owned parcel identified as TMK: (2)3-1-002:016. See **Exhibit "B"** and **Exhibit "C"**. The lands underlying the temporary laydown area are also located within the General subzone of the Conservation District.

The temporary construction laydown area site is currently vegetated with brush and interspersed with trees. See **Exhibit "D"**. Site preparation of the laydown area will require the site to be cleared of brush. However, removal of existing trees is not

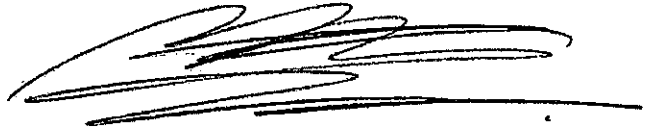
anticipated. Due to the relatively gentle slope of the existing ground surface, ground disturbance is not anticipated to be necessary. A temporary gravel ingress/egress will provide access to the laydown area and will help to prevent erosion and tracking of sediment onto the highway. The temporary laydown area will provide for construction vehicles and equipment parking and material storage. Temporary chain link fencing may be necessary around the perimeter of the laydown area to help protect construction equipment and materials against vandalism and theft. It is anticipated that access to the site by the contractor would be via Honokowai (about a 40 minute drive from the project site). Contractor personnel will be shuttled to the work site and personnel vehicles will not be permitted at the laydown area.

Upon completion of the highway repair project (anticipated to be six (6) to eight (8) months in duration), the site would be re-vegetated and would no longer be utilized as a construction laydown area.

As previously mentioned, we understand that a Conservation District Use Permit (CDUP) is not required for the proposed Kahekili Highway repair project because work will be limited to within the existing right-of-way. We are writing to you today to request a determination from your office on the CDUP requirements for the proposed temporary construction laydown area given that the site is also located within the General Subzone of the State Conservation District.

Should you have any questions, please feel free to contact me at (808) 244-2015.

Very truly yours,



Mark Alexander Roy, AICP
Program Manager

MAR:lh

Enclosures

cc: Daniel Ornellas, State of Hawaii, Department of Land and Natural Resources
(w/enclosures)
Annette Matsuda, County of Maui, Department of Public Works (w/enclosures)
Stan Watanabe, Austin Tsutsumi & Associates, Inc. (w/enclosures)

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LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

PAUL J. CONRY
ACTING FIRST DEPUTY

LENORE N. OHYE
ACTING DEPUTY DIRECTOR - WATER

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

NOV 15 2010

REF:OCCL:TM

Correspondence: MA 11-96

NOV 12 2010

Mark Alexander Roy
Munekiyo & Haraga, Inc.
305 High Street, Suite 304
Wailuku, HI 96793

SUBJECT: Proposed Kahakili Highway Repair Project Mile Marker 15-16 Located at Kahakuloa, Maui, TMK: (2) 3-1-002: xxx

Dear Mr. Roy:

The Office of Conservation and Coastal Lands (OCCL) is in receipt of your correspondence regarding the subject matter. According to your information, Maui County's Department of Public Works is proposing to do repairs to Kahakili Highway at the subject location. The proposed work consists of adding a 2' wide asphalt concrete shoulder on the makai side of the roadway and 6' wide asphalt concrete turnouts where feasible on the mauka side of the road in addition to reconstruction of the existing pavement, excavation and embankment, construction of retaining walls and installation of metal beam guardrails.

The OCCL notes the subject area appears to lie within the General subzone of the Conservation District. It is unclear where improvements to the existing highway are proposed. Regarding improvements within the existing right-of-way, as this is an established transportation use, we would have no objections to the proposed improvements within this corridor. Proposed improvements outside of the highway right-of-way would require the filing of a Conservation District Use Application (CDUA) for a Board permit for Public Purpose.

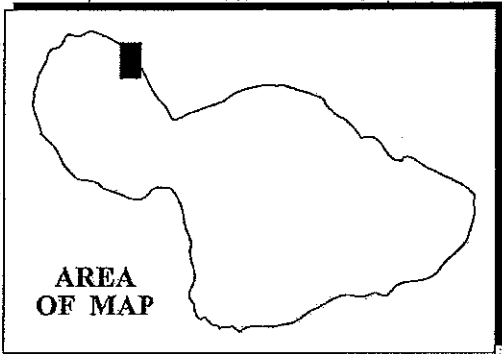
For your information and use, the Conservation District rules and regulations known as Chapter 13-5 of the Hawaii Administrative Rules and the CDUA may be found on our website at: hawaii.gov/dlnr/occl. Should you have any questions regarding this correspondence, contact Tiger Mills of our Office at (808) 587-0382.

Sincerely,

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

cc: MDLO
County of Maui
Dept. of Planning

EXHIBIT "A"



Pacific Ocean

Project Site Vicinity

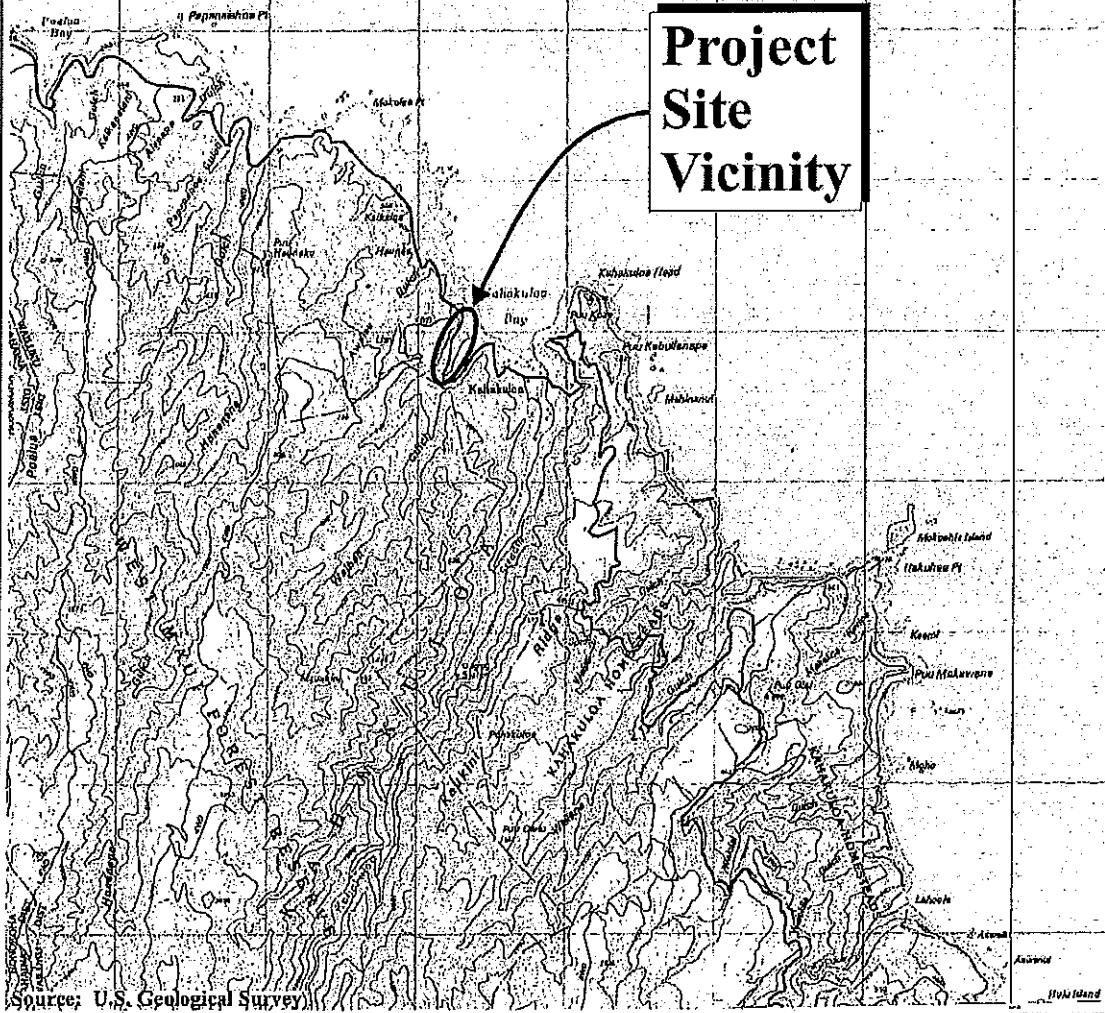


Exhibit "B"

Proposed Kahekili Highway
Repair Project
Regional Location Map

NOT TO SCALE



Prepared for: County of Maui, Department of Public Works

MUNEKIYO & HIRAGA, INC.

ATA\Kahekili\regional

Pacific Ocean

Kahakuloa Bay

"Kahakuloa"
(Pua Koa)
State Of Hawaii
Wahigata Kanaka, Inc.
Res. From S-3000

Approximate
Location of
Highway
Repair Site

Proposed
Location for
Temporary
Laydown Area

Source: Austin Tsutsumi & Associates, Inc.

Exhibit "C" Proposed Kahekili Highway Repair Project Temporary Laydown Area Map

NOT TO SCALE



Prepared for: County of Maui, Department of Public Works

MUNEKIYO & HIRAGA, INC.

ATA/Kahakili/Temp Staging Area (EXH C)



Source: Austin, Isutsumi & Associates, Inc.

Exhibit "D"

Proposed Kahekili Highway Repair Project

Photo of Proposed Temporary Construction Laydown Area.

NOT TO SCALE

Prepared for: County of Maui, Department of Public Works



MUNEKIYO & HIRAGA, INC.

ATAKahehiliTempConstructionSaggingArea(EXB D)

DEC 15 2011

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

Office of Conservation and Coastal Lands
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
GUY H. KAULUKUKUI
FIRST DEPUTY
WILLIAM M. TAM
DEPUTY DIRECTOR - WATER
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

REF: OCCL: AJR

COR: MA-12-135

Mark Alexander Roy
Munekiyo & Haraga, Inc.
305 High St., Suite 304
Wailuku, HI 96793

DEC 13 2011

SUBJECT: *Proposed Temporary "lay-down" area for Kahekili Highway Repair Project*
TMK: (2) 3-1-002:016
Kahekili Highway, Kahakuloa, Maui County, Hawaii

Dear Mr. Roy,

The Department of Land and Natural Resources, Office of Conservation and Coastal Lands (OCCL) is in receipt of your letter regarding a proposal to create a 40,000 square foot temporary 'lay-down' area for construction materials being utilized during the Kahekili Highway Repair Project (KHRP). The project site is within the Conservation District General Subzone.

1. The construction of a temporary "lay-down" area for the KHRP is an identified land use in the Conservation District General Subzone pursuant to Hawaii Administrative Rules (HAR) §13-5-22 (P-6) **PUBLIC PURPOSE USES, (D-1) Not for profit land uses undertaken in support of a public service by an agency of the county, state or federal government, or by an independent non-governmental entity;**
2. This action will require the filing of a Conservation District Use Application (CDUA) and all required documents for a **Board Permit**;
3. In conformance with §343, Hawaii Revised Statutes (HRS), as amended, and HAR, §11-200-8 (4) *Minor alterations in the conditions of land, water or vegetation*; this project is exempt from the filing of an Environmental Assessment (EA); and
4. Pursuant to HAR §13-5-40 *Hearings*, a public hearing will not be required.

Should you have any questions, please feel free to contact Alex J. Roy of the Office of Conservation and Coastal Lands at 808-587-0316.

Sincerely,

for Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

CC: County of Maui, Planning Department

ATTACHMENT "B"

LINDA LINGLE
GOVERNOR



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

NOV 18 2010
MICHAEL D. FORMBY
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
JIRO A. SUMADA

IN REPLY REFER TO:

STP 8.0281

November 9, 2010

Mr. Mark Alexander Roy, AICP
Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

Subject: Kahekili Highway Repair Project Between Mile Markers 15 and 16
Early Consultation for Draft Environmental Assessment (DEA)

Thank you for requesting the State Department of Transportation's (DOT) review of the subject project.

DOT understands that the Department of Public Works (DPW) proposes to conduct roadway repairs to a 1,230 lineal feet section of Kahekili Highway that is under the jurisdiction of the County of Maui.

Given the project's location, DOT does not anticipate any significant, adverse impacts to its transportation facilities.

DOT appreciates the opportunity to provide comments. If there are any other questions, please contact Mr. David Shimokawa of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Very truly yours,

Francis Paul Keeno

for MICHAEL D. FORMBY
Interim Director of Transportation



MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

March 21, 2012

Glen Okimoto, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

SUBJECT: Early Consultation Request for Proposed Kahekili Highway Repair Project, TMK (2)3-1-002:016(por.), Kahakuloa, Maui, Hawaii

Dear Mr. Okimoto:

Thank you for your department's letter, dated November 9, 2010, providing early consultation comments on the proposed Kahekili Highway Repair Project. On behalf of the applicant, the County of Maui, Department of Public Works, we acknowledge that, given the location of the project, the Department of Transportation does not anticipate any significant, adverse impacts to its transportation facilities.

We appreciate the input provided by your office and will include a copy of your letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,

Mark Alexander Roy, AICP
Program Manager

MAR:lh

cc: Annette Matsuda, County of Maui, Department of Public Works
Stan Watanabe, Austin Tsutsumi & Associates, Inc.

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LINDA LINGLE
GOVERNOR

MAJOR GENERAL ROBERT G. F. LEE
DIRECTOR OF CIVIL DEFENSE

EDWARD T. TEIXEIRA
VICE DIRECTOR OF CIVIL DEFENSE



NOV 04 2010



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

November 3, 2010


Mr. Mark Alexander Roy, AICP
Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

Thank you for your letter dated October 22, 2010, requesting an early consultation on the proposed Kahekili Highway repair project between mile markers 15 and 16, Kahakuloa, Maui, Hawaii.

This office has nothing to provide for consideration other than the support for needed repairs.

Sincerely,


EDWARD T. TEIXEIRA
Vice Director of Civil Defense

c: Chico Rabara, Department of Public Works, County of Maui
Adrienne Wong, Austin, Tsutsumi & Associates, Inc.



MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

March 21, 2012

Victor Gustafson, Interim Vice Director of Civil Defense
Department of Defense
State of Hawaii
3949 Diamond Head Road
Honolulu, Hawaii 96816-4495

SUBJECT: Early Consultation Request for Proposed Kahekili Highway Repair Project, TMK (2)3-1-002:016(por.), Kahakuloa, Maui, Hawaii

Dear Mr. Gustafson:

Thank you for your department's letter, dated November 3, 2010, providing early consultation input on the proposed Kahekili Highway Repair Project. On behalf of the applicant, the County of Maui, Department of Public Works, we appreciate your comments in support of the repair project.

We will include a copy of your letter in the Draft Environmental Assessment for the project. Should you have any questions require additional information, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,

Mark Alexander Roy, AICP
Program Manager

MAR:Ih

cc: Annette Matsuda, County of Maui, Department of Public Works
Stan Watanabe, Austin Tsutsumi & Associates, Inc.

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OCT 27 2010

LINDA LINGLE
Governor of Hawai'i



KATHERINE PUANA KEALOHA
Director

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

Telephone (808) 586-4185
Facsimile (808) 586-4186
Electronic Mail: oeqc@doh.hawaii.gov

Department of Health
235 South Beretania Street
Leiopapa A Kamehameha, Suite 702
Honolulu, Hawai'i 96813

October 26, 2010

Mark Alexander Roy
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawai'i 96793

**Subject: Early Consultation Request for the Proposed Kahekili Highway Repair Project,
Between Mile Markers 15 and 16, Kahakuloa, Maui, Hawaii**

Dear Mr. Roy:

Thank you for your early consultation letter on October 22, 2010. Your letter identified the trigger(s) of Chapter 343, Hawaii Revised Statutes, and the proposing/determination agency for the required environmental study.

Your letter further states that you will be preparing a draft environmental assessment for the subject action on behalf of your client, Maui County Department of Public Works. Section 11-200-10, Hawaii Administrative Rules, requires that the environmental assessment shall contain, but not be limited to the following information:

- A. Identification of applicant or proposing agency;
- B. Identification of approving agency, if applicable;
- C. Identification of agencies, citizen groups, and individuals consulted in making the assessment;
- D. General description of the action's technical, economic, social, and environmental characteristics;
- E. Summary description of the affected environment, including suitable and adequate regional, location and site maps such as Flood Insurance Rate Maps, Floodway Boundary Maps, or United States Geological Survey topographic maps;
- F. Identification and summary of impacts and alternatives considered;
- G. Proposed mitigation measures;
- H. Agency determination or, for draft environmental assessments only, an anticipated determination;
- I. Findings and reasons supporting the agency determination or anticipated determination;


Mr. Roy
October 26, 2010
Page 2 of 2

- J. Agencies to be consulted in the preparation of the EIS, if an EIS is to be prepared; List of all permits and approvals (State, federal, county) required; and
- K. Written comments and responses to the comments under the early consultation provisions of sections 11-200-9(a)(1), 11-200-9(b)(1), or 11-200-15, and statutorily prescribed public review periods.

Once your environmental study is complete, please coordinate with your client for the review and determination of the proposed action and submittal requirements to the Office of Environmental Quality Control for publication on the Environmental Notice.

Please feel free to call me at (808) 586-4185 if you have further questions.

Sincerely,


Herman Tuiolosega
Planner



MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

March 21, 2012

Gary Gill, Director
Office of Environmental Quality Control
Department of Health
State of Hawaii
235 South Beretania Street
Leiopapa A Kamehameha, Suite 702
Honolulu, Hawaii 96813

SUBJECT: Early Consultation Request for Proposed Kahekili Highway Repair Project, TMK (2)3-1-002:016(por.), Kahakuloa, Maui, Hawaii

Dear Mr. Gill:

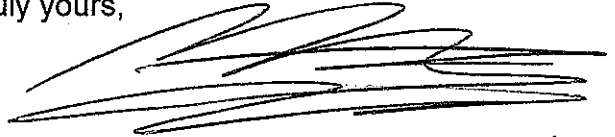
We are in receipt of a letter, dated October 26, 2010, providing early consultation comments from your office on the proposed Kahekili Highway Repair Project. On behalf of the applicant, the County of Maui, Department of Public Works (DPW), we offer the following information in response to the comments noted in your letter:

- The Draft Environmental Assessment (EA) for the proposed project will be prepared in accordance with the provisions of Section 11-200-10, Hawaii Administrative Rules.
- Following completion of the EA, the DPW will coordinate the publication of the document in the Environmental Notice with the Office of Environmental Quality Control.

Gary Gill, Director
March 21, 2012
Page 2

We appreciate the input provided by your office and will include a copy of your letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,



Mark Alexander Roy, AICP
Program Manager

MAR:lh

cc: Annette Matsuda, County of Maui, Department of Public Works
Stan Watanabe, Austin Tsutsumi & Associates, Inc.

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NOV 08 2010

PHONE (808) 594-1888

FAX (808) 594-1865



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

HRD10/5347

November 1, 2010

Mark Alexander Roy
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawai'i 96793

RE: Pre-Environmental Assessment consultation
Kahekili Highway repairs
Kahakuloa, Island of Maui

Aloha e Mark Alexander Roy,

The Office of Hawaiian Affairs (OHA) is in receipt of your October 22, 2010 request for comments ahead of a Draft Environmental Assessment (DEA) for proposed repairs to a section of Kahekili Highway (highway). Your letter details that signs of erosion have been observed within a 12 by 1,230 foot segment of the highway between mile markers 15 and 16. Repairs and stabilization measures are proposed and include: adding an asphalt concrete shoulder and turnouts, construction of retaining walls and installation of guardrails.

The DEA will be the primary support document to facilitate necessary approvals for the use of County of Maui lands and funds and a Conservation District Use Permit. We have no specific comments at this time and look forward to reviewing the DEA. Should you have any questions, please contact Keola Lindsey at 594-0244 or keolal@oha.org.

'O wau iho nō me ka 'oia'i'o,

Clyde W. Nāmu'o
Chief Executive Officer

C: OHA- Maui Community Resources Coordinator

41



DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
HOUSING DIVISION
COUNTY OF MAUI

NOV 12 2010

CHARMAINE TAVARES
Mayor

LORI TSUHAKO
Director

JO-ANN T. RIDAO
Deputy Director

35 LUNALILO STREET, SUITE 102 • WAILUKU, HAWAII 96793 • PHONE (808) 270-7351 • FAX (808) 270-6284

November 8, 2010

Mr. Mark Alexander Roy, AICP
Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

Subject: Early Consultation Request for the Proposed Kahekili Highway Repair Project, Between Mile Markers 15 and 16, Kahakuloa, Maui, Hawaii.

The Department has reviewed the request for Early Consultation for the above subject project. Based on our review, we have determined that the subject project is not subject to Chapter 2.96, Maui County Code. At the present time, the Department has no additional comments to offer.

Please call Mr. Buddy Almeida of our Housing Division at (808) 270-7356 if you have any questions.

Sincerely,

WAYDE T. OSHIRO
Housing Administrator

cc: Director of Housing and Human Concerns



MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

March 21, 2012

Wayde T. Oshiro, Housing Administrator
Department of Housing and Human Concerns
County of Maui
35 Lunalilo Street, Suite 102
Wailuku, Hawaii 96793

SUBJECT: Early Consultation Request for Proposed Kahekili Highway Repair Project, TMK (2)3-1-002:016(por.), Kahakuloa, Maui, Hawaii

Dear Mr. Oshiro:

Thank you for your letter, dated November 8, 2010, providing early consultation comments on the proposed Kahekili Highway Repair Project. On behalf of the applicant, the County of Maui, Department of Public Works, we acknowledge your determination that the proposed project is not subject to Chapter 2.96, Maui County Code.

We appreciate the input provided by your office and will include a copy of your letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please do not hesitate to contact me at 244-2015.

Very truly yours,

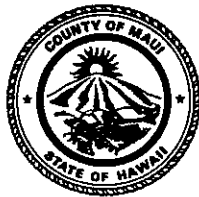
Mark Alexander Roy, AICP
Program Manager

MAR:lh

cc: Annette Matsuda, County of Maui, Department of Public Works
Stan Watanabe, Austin Tsutsumi & Associates, Inc.

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CHARMAINE TAVARES
Mayor



NOV 10 2010
TAMARA HORCAJO
Director

ZACHARY Z. HELM
Deputy Director

(808) 270-7230
FAX (808) 270-7934

DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawaii 96793

November 1, 2010

Mark Alexander Roy, AICP, Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

**SUBJECT: Early Consultation Request for Proposed Kahekili
Highway Repair Project, Between Mile Markers 15 and 16,
Kahakuloa, Maui, Hawaii**

Dear Mr. Roy:

We have reviewed the Kahekili Highway Repair project and have no comments or objections to the proposed project.

Thank you for the opportunity to review and comment on this matter. Please feel free to contact me or Mr. Patrick Matsui, Chief of Parks Planning and Development Division at 270-7387 should you have any other questions.

Sincerely,

A handwritten signature in cursive script, reading "Tamara Horcajo".

TAMARA HORCAJO
Director of Parks & Recreation

c: Patrick Matsui, Chief of Parks Planning and Development

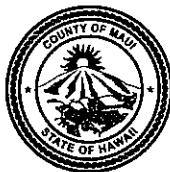
TH:PM:do

NOV 15 2010

CHARMAINE TAVARES
Mayor

KATHLEEN ROSS AOKI
Director

ANN T. CUA
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

November 10, 2010

Mr. Mark Roy, AICP
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

**SUBJECT: EARLY CONSULTATION REQUEST FOR PROPOSED KAHEKILI
HIGHWAY REPAIR, KAHAKULOA, MAUI, HAWAII; (RFC 2010/0164)**

The Department of Planning (Department) is in receipt of the above-referenced request for comments. At this time, the Department has no comment.

Thank you for the opportunity to comment. Should you require further clarification, please contact Staff Planner Paul Fasi at paul.fasi@mauicounty.gov or at (808) 270-7814.

Sincerely,

CLAYTON I. YOSHIDA, AICP
Planning Program Administrator

for KATHLEEN ROSS AOKI
Planning Director

xc: Paul F. Fasi, Staff Planner
Project File
General File

KRA:CIY:PFF:sa

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45



MICHAEL T. MUNEKIYO
OWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

'11 APR 29 P3:53

MARK ALEXANDER ROY

April 29, 2011

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

William Spence, Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawaii 96793

SUBJECT: Proposed Kahekili Highway Repair Project, Between Mile Markers 15 and 16, TMK (2) 3-1-002:016 (por.), Kahakuloa, Maui, Hawaii

Dear Mr. Spence:

The County of Maui, Department of Public Works (DPW) proposes to conduct roadway repairs to a one (1) lane section of Kahekili Highway, approximately 12 feet wide and 1,150 feet in length, located between Mile Markers 15 and 16 in Kahakuloa, Maui, Hawaii. The affected section of roadway is identified by TMK (2) 3-1-002:016 (por.). See **Exhibit "A"** and **Exhibit "B"**.

The proposed repair work consists of recompacting and repaving of eroded asphalt concrete pavement areas, construction of a slope tie-back system along makai areas of the roadway where the pavement is showing visible signs of cracking, new paved turnout areas, and asphalt resurfacing of the entire roadway segment. The slope tie-back system is required to stabilize the road and slope and will aid in the future maintenance of the asphalt concrete pavement. All proposed improvements will be confined within the existing 50-foot highway right-of-way. A copy of the site plan identifying the proposed improvements is attached for your reference as **Exhibit "C"**.

Land underlying the project site is classified as "Conservation" by the State Land Use District, designated "Conservation" by the Wailuku-Kahului Community Plan, and zoned "Interim" by the County of Maui.

The purpose of this letter is to request written confirmation from the Department of Planning that the Kahekili Highway right-of-way in the area of the proposed improvements is located outside of the Special Management Area (SMA). The Zoning and Flood Confirmation, completed by the Department of Planning on December 4, 2009 indicates that the project site is not located within the SMA. See **Exhibit "D"**. Further, email correspondence from Sharon Matsunaga-Berdel of the Department on December 8, 2009

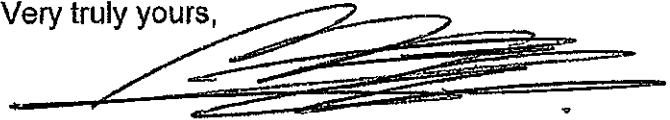
William Spence, Director
April 29, 2011
Page 2

states that the SMA line stops at makai boundary of the Kahekili Highway right-of-way. See **Exhibit "E"**.

Based on the foregoing information, we anticipate that a SMA Use Permit is not required for the proposed project. Your written confirmation, that a SMA Use Permit is not required for the proposed repair work to Kahekili Highway (as reflected in **Exhibit "C"**) is hereby also respectfully requested.

I appreciate your assistance with this request. Please feel free to contact me at 244-2015 should you have any questions or require additional information.

Very truly yours,



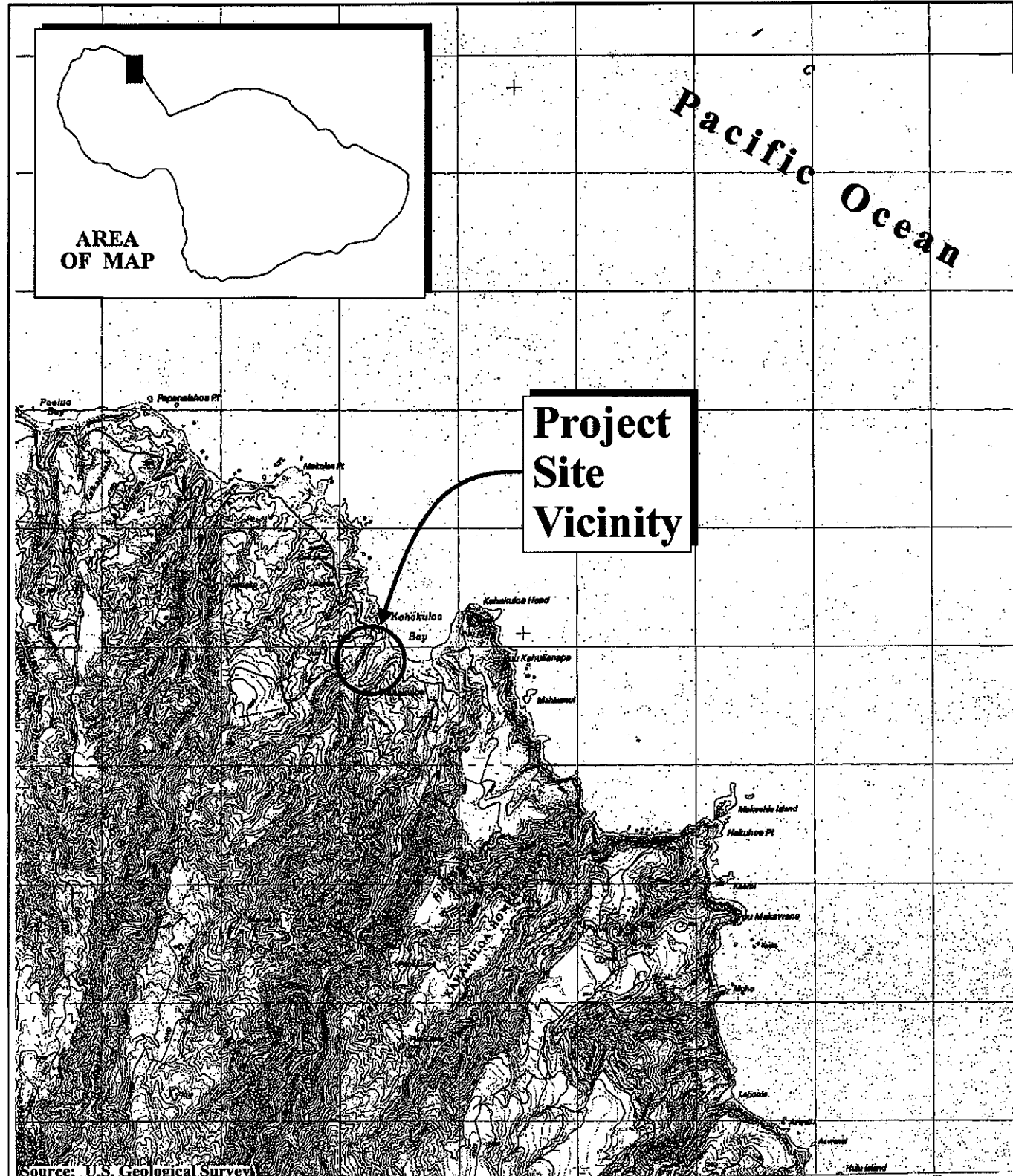
Mark Alexander Roy, AICP
Program Manager

MAR:lh

Enclosures

cc: Wendy Kobashigawa, County of Maui, Dept. of Public Works (w/enclosures)
Stan Watanabe, Austin, Tsutsumi & Associates, Inc. (w/enclosures)

K:\DATA\ATA\Kahekili Hwy\SMASMAUsePermitConfirmationRequest.ltr.fm



Project Site Vicinity

Pacific Ocean

AREA OF MAP

Source: U.S. Geological Survey

Exhibit "A"

Proposed Kahekili Highway

NOT TO SCALE

Repair Project

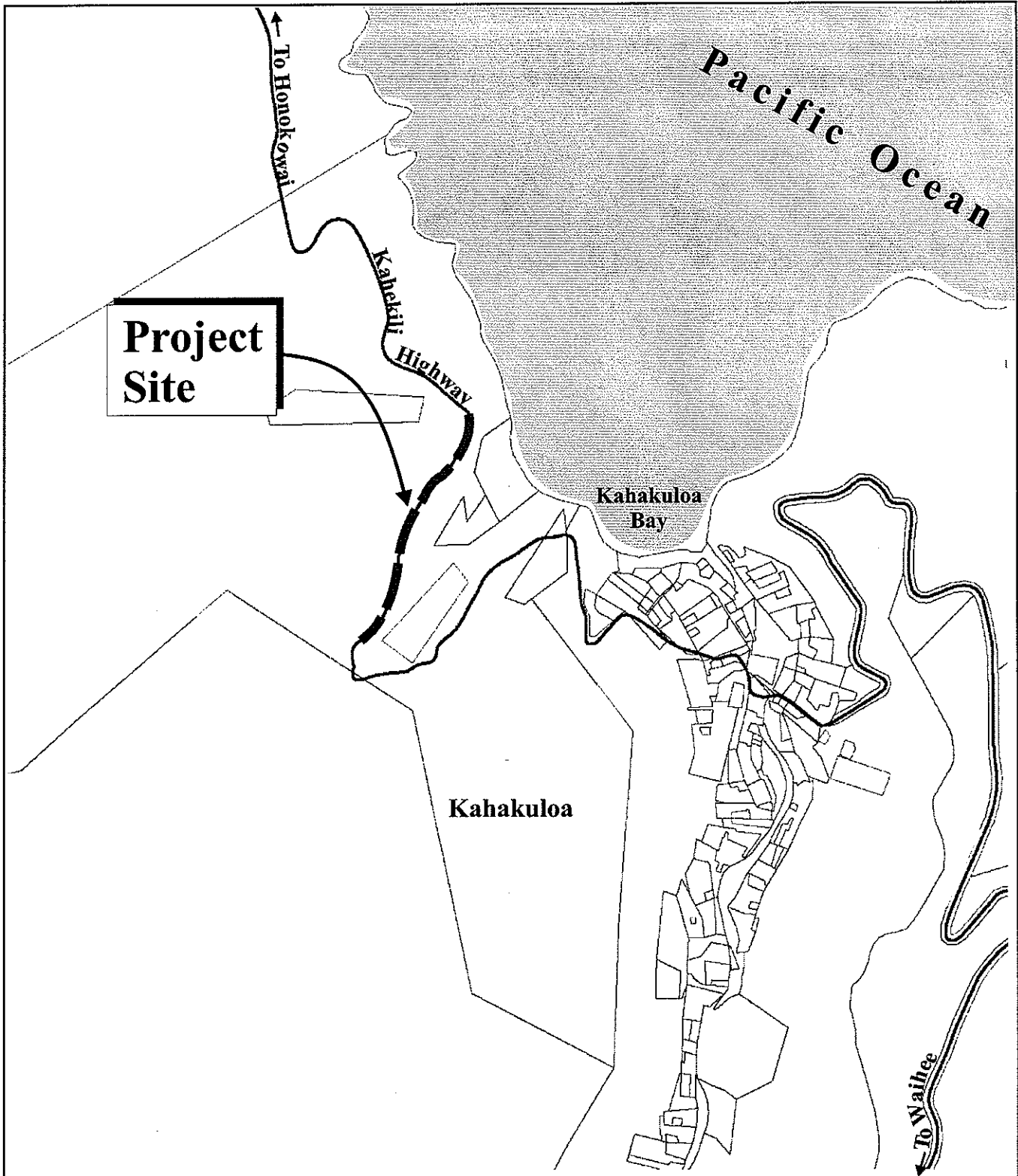
Regional Location Map



Prepared for: County of Maui, Dept. of Public Works



ATA/Kahekili regional



Source: County of Maui, GIS

Exhibit "B"

Proposed Kahekili Highway

NOT TO SCALE

Repair Project
Site Location Map



Prepared for: County of Maui, Dept. of Public Works

MUNEKIYO & HIRAGA, INC.

ATA/Kahakili/SiteMap

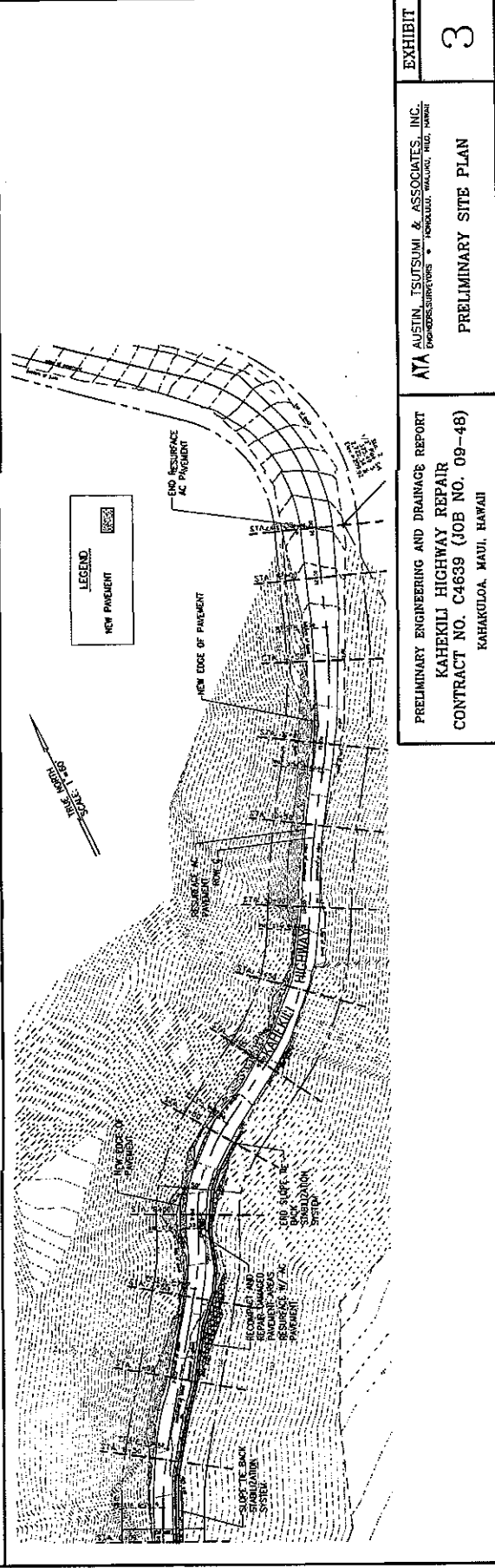
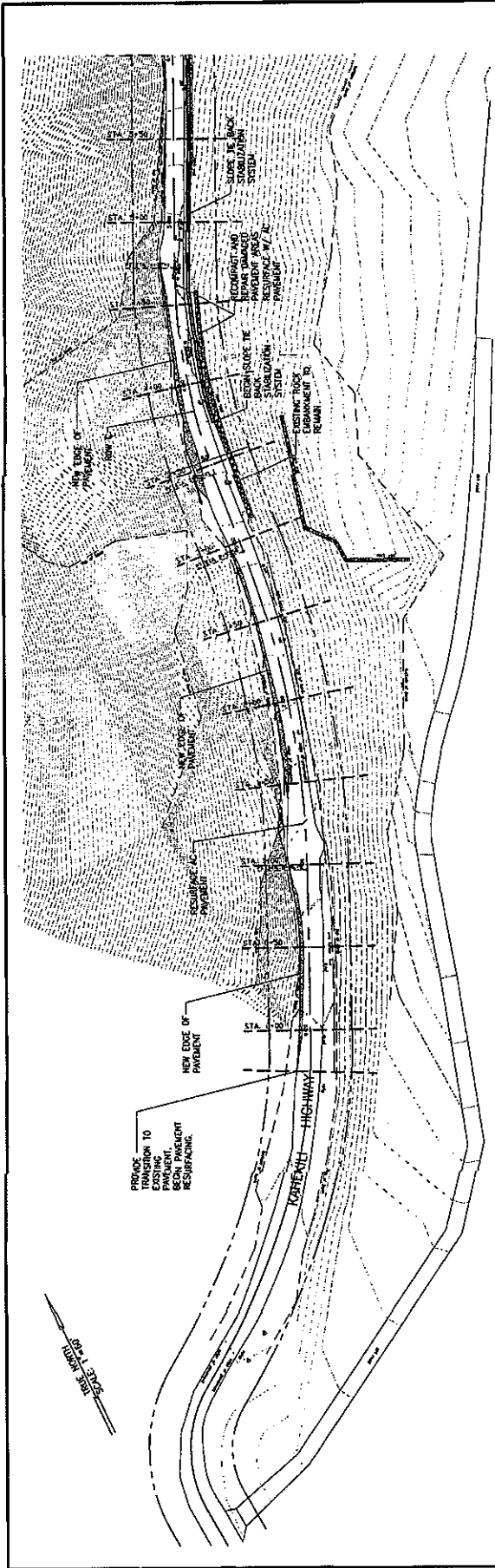


EXHIBIT
 3
 PRELIMINARY ENGINEERING AND DRAINAGE REPORT
 KAHEKILU HIGHWAY REPAIR
 CONTRACT NO. C4639 (JOB NO. 09-48)
 KAHAKULOA, MAUI, HAWAII
 AT&T
 AUSTIN, ISHITSUMI & ASSOCIATES, INC.
 ENGINEERS/ARCHITECTS • HONOLULU, HAWAII, MAUI, HAWAII

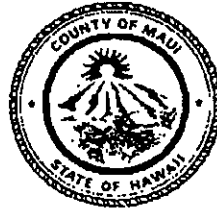
FEBRUARY 2011

EXHIBIT "C"

JOB NO. H-10-501
 1/2010, 10-501 PER EWS-PRELIMINARY SITE PLAN.dwg


DEC 04 2009

COUNTY OF MAUI
DEPARTMENT OF PLANNING
Kalana Paku'i Building
250 South High Street
Wailuku, Hawaii 96793



Zoning Administration
and Enforcement Division
Telephone: (808) 270-7253
Facsimile: (808) 270-7634
E-mail: planning@maulicounty.gov

ZONING AND FLOOD CONFIRMATION FORM

| | | | |
|---|---|---|---------------------|
| APPLICANT INFORMATION (To be completed by Applicant) | | | |
| APPLICANT | MUNEKIYO & HIRAGA, INC. (CONTACT: MARK ROY) | | |
| TELEPHONE | 244-2015 | E-MAIL | MARK@MHPLANNING.COM |
| PROJECT NAME | KAHEKILI HIGHWAY IMPROVEMENTS | | |
| ADDRESS/LOCATION | KAHEKILI HIGHWAY BETWEEN MILE MARKER 15 AND 16 | | |
| TAX MAP KEY NO(S) | SEE HIGHLIGHTED SECTION OF ROADWAY ON ATTACHED GIS MAP | | |
| ZONING INFORMATION (To be completed EXHIBIT "D") | | | |
| COMMUNITY PLAN DESIGNATION(S) | Conservation | | |
| COUNTY ZONING(S) | Interim | | |
| STATE LAND USE DISTRICT(S) | Conservation | | |
| SPECIAL DISTRICT(S) | N/A | | |
| FLOOD INFORMATION (To be completed by ZAED) | | | |
| FLOOD HAZARD AREA ZONE(S) | X | | |
| BASE FLOOD ELEVATION(S) | N/A | mean sea level, 1929 National Geodetic Vertical Datum; or | |
| For Flood Zone AO, FLOOD DEPTH | N/A | | |
| FLOODWAY | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| FLOOD DEVELOPMENT PERMIT REQUIRED | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| *For flood hazard area zones B or C; a flood development permit would be required if any work is done in any drainage facility or stream area that would reduce the capacity of the drainage facility, river, or stream, or adversely affect downstream property. | | | |
| FOR COUNTY USE ONLY | | | |
| REMARKS/COMMENTS: | | | |
| <input type="checkbox"/> Additional information required | | <input type="checkbox"/> Information submitted is correct | |
| <input type="checkbox"/> Required for Agricultural Subdivisions Agricultural Assessment RFS No: | | <input type="checkbox"/> Correction has been made and initialed | |
| Reviewed and Confirmed by: | | | |
|  Sharon Matsunaga-Berdel (Signature) | | 12/4/09 (Date) | |
| For: AARON SHINMOTO, Planning Program Administrator Zoning Administration and Enforcement Division | | | |

Sharon Matsunaga-Berdel (Signature)

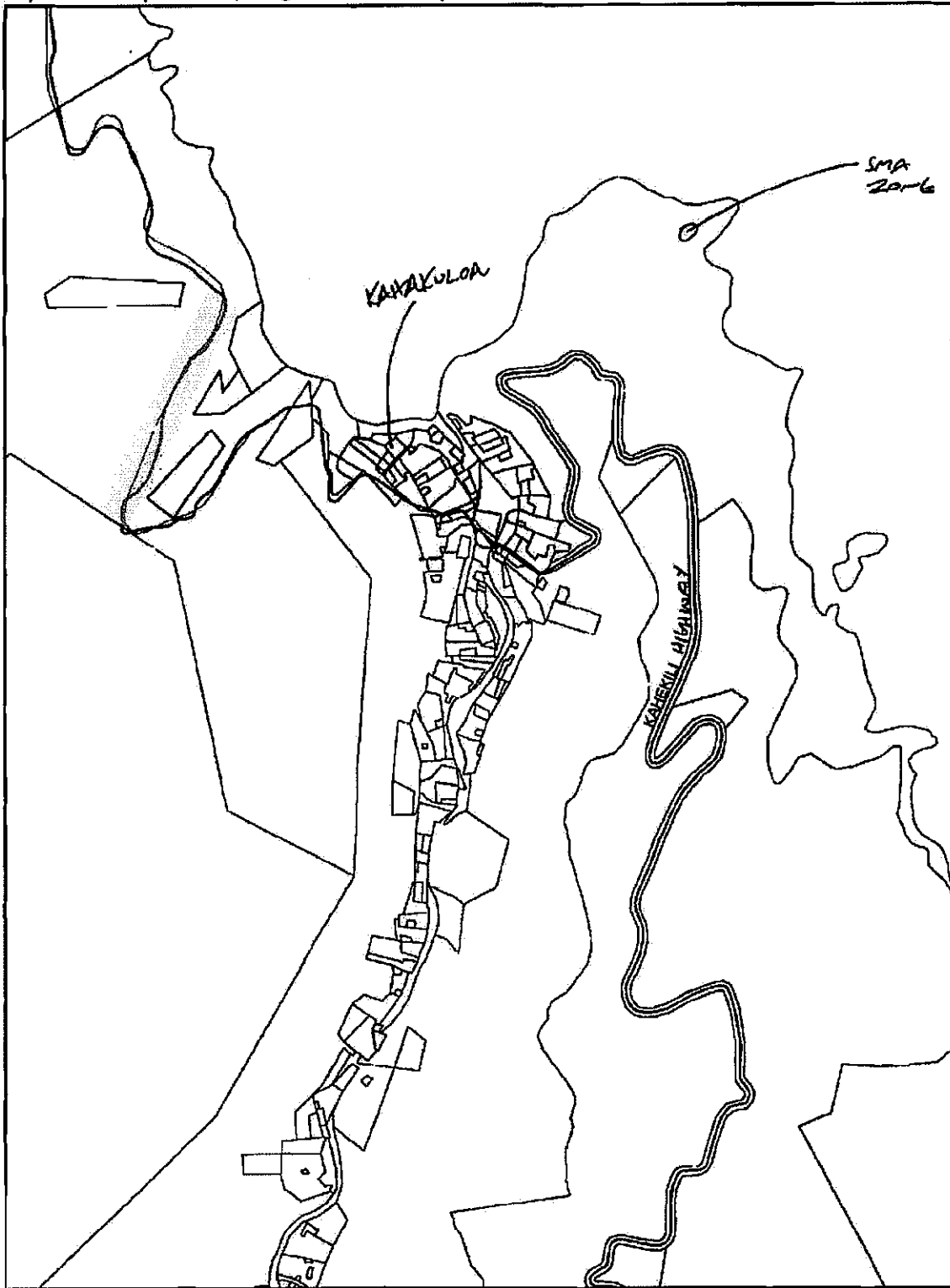
12/4/09 (Date)

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(Rev. 02.09)

EXHIBIT "D"

PRELIMINARY GIS MAP.



Tessa Munekiyo

From: Sharon Matsunaga-Berdel [Sharon.Matsunaga-Berdel@co.mauhi.us]
Sent: Tuesday, December 08, 2009 3:40 PM
To: Mark Roy
Cc: Francis Cerizo
Subject: Re: Kahekili Highway Improvements

The SMA line stops at the right-of-way boundary makai side of the highway/road; any land acquisition (beyond the right-of-way) on the makai side of the road is in the SMA...hope this helps - please let us know if you need more clarification. Have a good day!

>>> "Mark Roy" <mark@mhplanning.com> 12/8/2009 10:28 AM >>>
Hi Sharon,

Attached is the Zoning and Flood Confirmation Form (including attached GIS map) for the section of Kahekili Highway that we were discussing this morning.

The County GIS data (as reflected on the attached map) suggests that portions of this section of roadway fall within the County's Special Management Area (SMA). Would you mind verifying this when you next meet with Francis? The Department of Public Works is in the process of ascertaining whether a SMA Use Permit will be necessary for some widening (including slope reinforcement) improvements that are proposed for this section of the roadway. Thanks again for your help.

Sincerely,

Mark Alexander Roy, AICP, LEED AP

Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793
Tel: (808) 244-2015
Fax: (808) 244-8729
Email: mark@mhplanning.com <mailto:mark@mhplanning.com>

Web: www.mhplanning.com <http://www.mhplanning.com/>

CONFIDENTIAL COMMUNICATION: This message is intended for the use of the designated recipient(s) named above. If you have received this message in error, kindly notify us immediately by email or telephone. Thank you.

P Please consider the environment before printing this email.

County of Maui.

IT Security measures will reject attachments

larger than 12 MB, and will block or quarantine
high-risk file types in attachments.

ALAN M. ARAKAWA
Mayor

WILLIAM R. SPENCE
Director

MICHELE CHOUTEAU McLEAN
Deputy Director



JUL 28 2011

COUNTY OF MAUI
DEPARTMENT OF PLANNING

July 28, 2011

Mr. Mark Alexander Roy
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

**SUBJECT: SPECIAL MANAGEMENT AREA VERIFICATION FOR
PROPOSED KAHEKILI HIGHWAY REPAIR PROJECT,
BETWEEN MILE MARKERS 15 AND 16; TMK: (2) 3-1-002:016**

We apologize for the delayed response, and any inconvenience this may have caused.

According to our records, the Special Management Area (SMA) boundary limit is located northeast (makai) of Kahekili Highway. Therefore, the proposed project occurring on Kahekili Highway is not located within the SMA, and is not subject to Coastal Zone Management laws.

Should you have any questions or concerns, you may contact Trisha Kapua'ala, Staff Planner, at Trisha.Kapuaala@mauicounty.gov or 270-8008.

Sincerely,

A handwritten signature in black ink, appearing to read "Aaron Shinmoto".

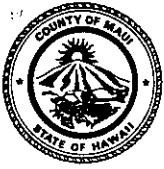
AARON SHINMOTO
Planning Program Administrator

For: WILLIAM SPENCE
Planning Director

xc: Clayton Yoshida, AICP, Planning Program Administrator (via e-mail)
ZAED Staff Planners (via e-mail)
TMK (2) 3-1-002:016 (KIVA Related Documents)
11/General File

WRS:AHS:TMLK:ckk

K:\WP_DOCS\PLANNING\LTR\2011\2285_ProposedKahekiliHwyRepairResponse.doc



POLICE DEPARTMENT
COUNTY OF MAUI



CHARMAINE TAVARES
MAYOR

OUR REFERENCE
YOUR REFERENCE

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

GARY A. YABUTA
CHIEF OF POLICE

CLAYTON N.Y.W. TOM
DEPUTY CHIEF OF POLICE

November 5, 2010

Mr. Mark Alexander Roy, AICP
Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Dear Mr. Roy:

SUBJECT: Early Consultation Request for the Proposed Kahekili Highway Repair Project, Between Mile Markers 15 and 16, Kahakuloa, Maui

This is in response to the request for comments on the above subject.

We have reviewed the information submitted for this project and have enclosed a copy of our comments. Thank you for giving us the opportunity to comment on this project.

Very truly yours,


Assistant Chief Danny Matsuura
for: Gary A. Yabuta
Chief of Police

Enclosure

c: Kathleen Ross Aoki, Planning Department

COPY

TO : GARY YABUTA, CHIEF OF POLICE, COUNTY OF MAUI
VIA : CHANNELS *ACD. Matsun*
FROM : DARRELL RAMOS, ADMIN. SERGEANT, WAILUKU PATROL *11/5/10*
SUBJECT : RESPONSE TO AN EARLY CONSULTATION REQUEST FOR THE PROPOSED KAHEKILI HIGHWAY REPAIR PROJECT

This communication is submitted as a response to a request for pre-consultation comments by Munekiyo and Hiraga, Inc., Project Manager Mark Alexander ROY, regarding:

SUBJECT : EARLY CONSULTATION REQUEST FOR THE PROPOSED KAHEKILI HIGHWAY REPAIR PROJECT LOCATED BETWEEN MP 15-16, KAHEKILI HIGHWAY, KAHAKULOA, MAUI, HI

RESPONSE:

In review of the submitted documents, concerns from the police perspective are upon the safety of pedestrian and vehicular movement.

This project will address the roadway deficiencies upon both the mauka and makai sides of the roadways, that of which has shown cracks along the roadway due to erosion.

It is incumbent upon the project manager to examine the impact of vehicular movement within the area while work is conducted on this project. The roadway itself isn't wide enough to accommodate both paving vehicles as well as normal vehicular traffic; therefore, addressing this concern is of the utmost importance.

The roadway project will need to meet the minimal standards set forth by county codes and state laws. There are no objections to the progression of the project at this time.

Respectfully submitted,

[Signature]
Sgt Darrell RAMOS E-1123
Patrol Division - Wailuku District
11/04/10 1110 hrs.

CONCERN - traffic control plan will need to be included in the final plan. Recommend approval at this time
Capt. J. Singpaal 5167
11/04/10 1215 hrs.



MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

March 21, 2012

Gary A. Yabuta, Chief
Maui Police Department
County of Maui
55 Mahalani Street
Wailuku, Hawaii 96793

SUBJECT: Early Consultation Request for Proposed Kahekili Highway Repair Project, TMK (2)3-1-002:016(por.), Kahakuloa, Maui, Hawaii

Dear Mr. Yabuta:

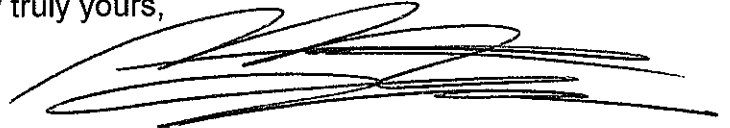
Thank you for your letter, dated November 5, 2010, providing early consultation comments on the proposed Kahekili Highway Repair Project. On behalf of the applicant, the County of Maui, Department of Public Works, we offer the following information in response to the comments noted in your letter:

- We acknowledge that Kahekili Highway in the vicinity of the proposed improvements is not wide enough to accommodate both paving vehicles and normal vehicular traffic.
- The Draft Environmental Assessment (EA) will evaluate traffic impacts associated with the proposed project and will discuss the method and length of anticipated road closures for the project. The goal will be to implement a road closure plan that lessens the impact of the project on local traffic circulation in the Kahakuloa area.

Gary A. Yabuta, Chief
March 21, 2012
Page 2

We appreciate the input provided by the Maui Police Department and will include a copy of your letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please do not hesitate to contact me at 244-2015.

Very truly yours,



Mark Alexander Roy, AICP
Program Manager

MAR:lh

cc: Annette Matsuda, County of Maui, Department of Public Works
Stan Watanabe, Austin Tsutsumi & Associates, Inc.

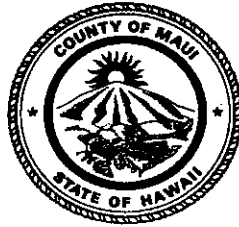
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SA

CHARMAINE TAVARES
Mayor

CHERYL K. OKUMA, Esq.
Director

GREGG KRESGE
Deputy Director



TRACY TAKAMINE, P.E.
Solid Waste Division

DAVID TAYLOR, P.E.
Wastewater Reclamation
Division

**COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT**
2200 MAIN STREET, SUITE 100
WAILUKU, MAUI, HAWAII 96793

November 10, 2010

Mr. Mark Alexander Roy
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

**SUBJECT: KAHEKILI HIGHWAY REPAIR
BETWEEN MILE MARKERS 15 AND 16
KAHAKULOA, MAUI, HAWAII**

We reviewed the subject application and have the following comments:

1. Solid Waste Division comments:
 - a. None.
2. Wastewater Reclamation Division (WWRD) comments:
 - a. None.

If you have any questions regarding this memorandum, please contact Gregg Kresge at 270-8230.

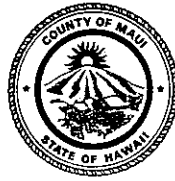
Sincerely,

A handwritten signature in black ink that reads "Cheryl K. Okuma".

CHERYL K. OKUMA
Director of Environmental Management

NOV 02 2010

CHARMAINE TAVARES
MAYOR



DON A. MEDEIROS
Director
WAYNE A. BOTEILHO
Deputy Director
Telephone (808) 270-7511
Facsimile (808) 270-7505

DEPARTMENT OF TRANSPORTATION

COUNTY OF MAUI
200 South High Street
Wailuku, Hawaii, USA 96793-2155

October 25, 2010

Mr. Mark Alexander Roy
Munekiyo & Hiraga Inc.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Subject: Proposed Kahekili Highway Repair Project

Dear Mr. Roy,

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

Please feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Don Medeiros", is written over a faint, illegible stamp.

Don Medeiros
Director

OCT 28 2010



October 26, 2010

Mr. Mark Alexander Roy, AICP
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Subject: Early Consultation Request for Proposed Kahekili Highway Repair Project,
Between Mile Markers 15 and 16
Kahekili Highway
Kahakuloa, Maui Hawaii

Dear Mr. Roy,

Thank you for allowing us to comment on the Early Consultation Request for the subject project.

In reviewing our records and information received, Maui Electric Company has no objections to the proposed project at this time.

Should you have any questions or concerns, please call me at 871-2341.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kyle Tamori', followed by a long horizontal line extending to the right.

Kyle Tamori
Staff Engineer



MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

March 21, 2012

Kyle Tamori, Staff Engineer
Maui Electric Company, Ltd.
201 West Kamehameha Avenue
Kahului, Hawaii 96732

SUBJECT: Early Consultation Request for Proposed Kahekili Highway Repair Project, TMK (2)3-1-002:016(por.), Kahakuloa, Maui, Hawaii

Dear Mr. Tamori:

Thank you for your letter, dated October 26, 2010, providing early consultation comments on the proposed Kahekili Highway Repair Project. On behalf of the applicant, the County of Maui, Department of Public Works, we acknowledge that Maui Electric Company, LLC has no objections to the proposed project.

We appreciate the input provided by your office and will include a copy of your letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please do not hesitate to contact me at 244-2015.

Very truly yours,

Mark Alexander Roy, AICP
Program Manager

MAR:lh

cc: Annette Matsuda, County of Maui, Department of Public Works
Stan Watanabe, Austin Tsutsumi & Associates, Inc.

K:\DATA\ATA\KahakiliHwy\ECL Response Letters\MECOecl.resp.doc

X. REFERENCES

X. REFERENCES

Austin, Tsutsumi & Associates, Inc., Preliminary Engineering and Drainage Report for Kahekili Highway Repair, April 2011.

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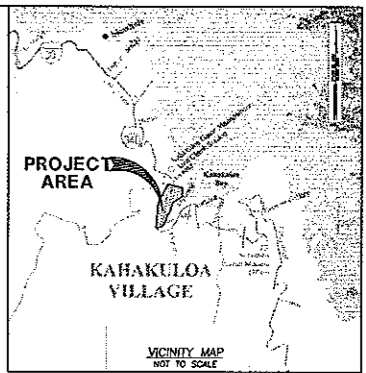
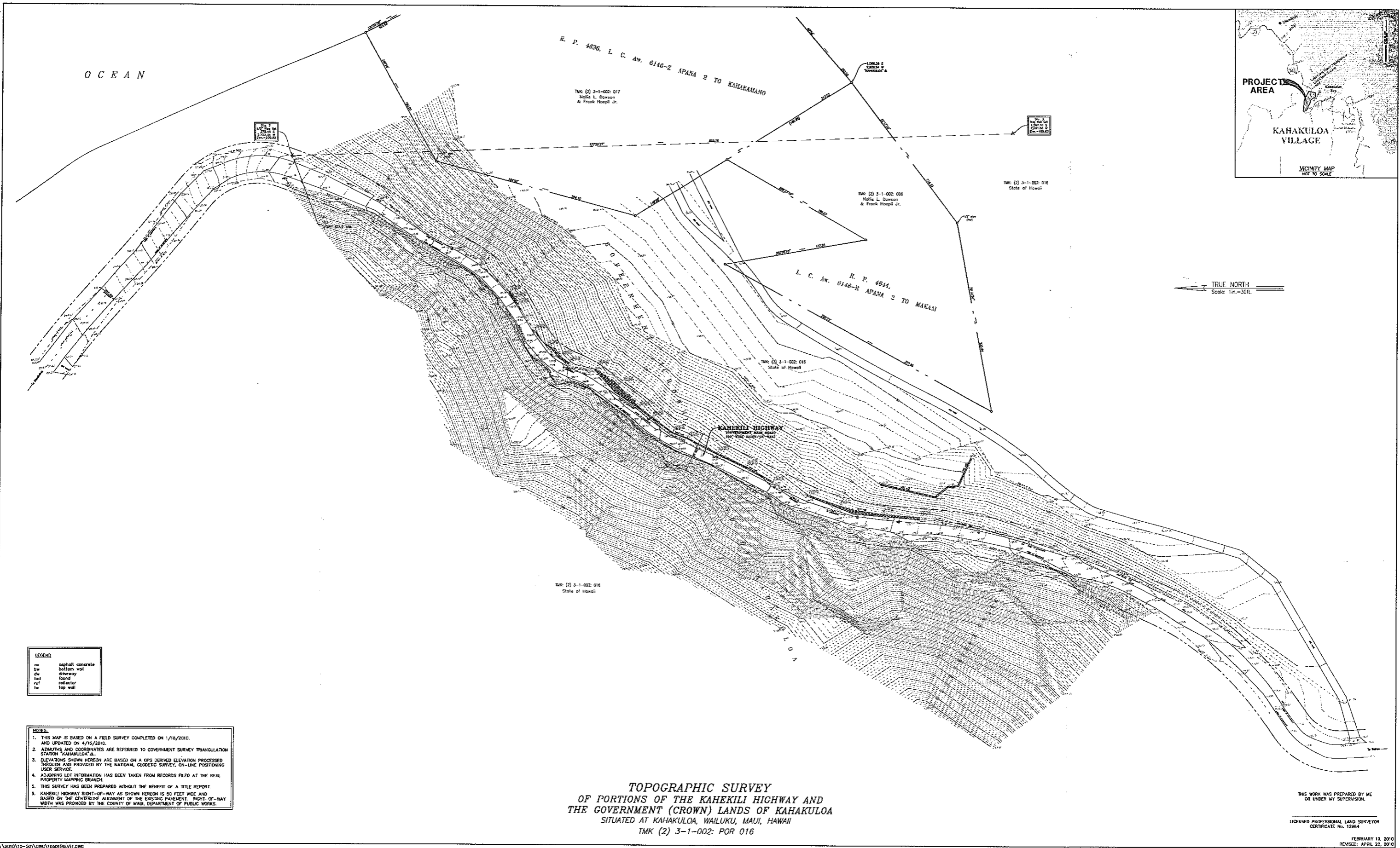
U.S. Census Bureau, Census 2010 Demographic Profile Summary File, Detailed Tables, Table DP-1, Maui County and Maui County Block Groups, Retrieved from: <http://factfinder2.census.gov/main.html>.

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APPENDIX A.

Topographic Survey of Existing Corridor



TRUE NORTH
Scale: 1 in. = 30 ft.

LEGEND

| | |
|-----|------------------|
| cc | asphalt concrete |
| bw | bottom wall |
| dw | ditchway |
| fd | found |
| ref | reflector |
| tw | top wall |

- NOTES:**
1. THIS MAP IS BASED ON A FIELD SURVEY COMPLETED ON 1/18/2010, AND UPDATED ON 4/15/2010.
 2. ELEVATIONS AND COORDINATES ARE REFERRED TO GOVERNMENT SURVEY TRIANGULATION STATION "KAHAKULO'A".
 3. ELEVATIONS SHOWN HEREON ARE BASED ON A GPS DERIVED ELEVATION PROCESSED THROUGH AND PROVIDED BY THE NATIONAL GEODETIC SURVEY, ON-LINE POSITIONING USER SERVICE.
 4. ADJOINING LOT INFORMATION HAS BEEN TAKEN FROM RECORDS FILED AT THE REAL PROPERTY MAPPING DIVISION.
 5. THIS SURVEY HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT.
 6. KAHEKILI HIGHWAY RIGHT-OF-WAY AS SHOWN HEREON IS 50 FEET WIDE AND BASED ON THE CENTERLINE ALIGNMENT OF THE EXISTING PAVEMENT. RIGHT-OF-WAY WIDTH WAS PROVIDED BY THE COUNTY OF MAUI, DEPARTMENT OF PUBLIC WORKS.

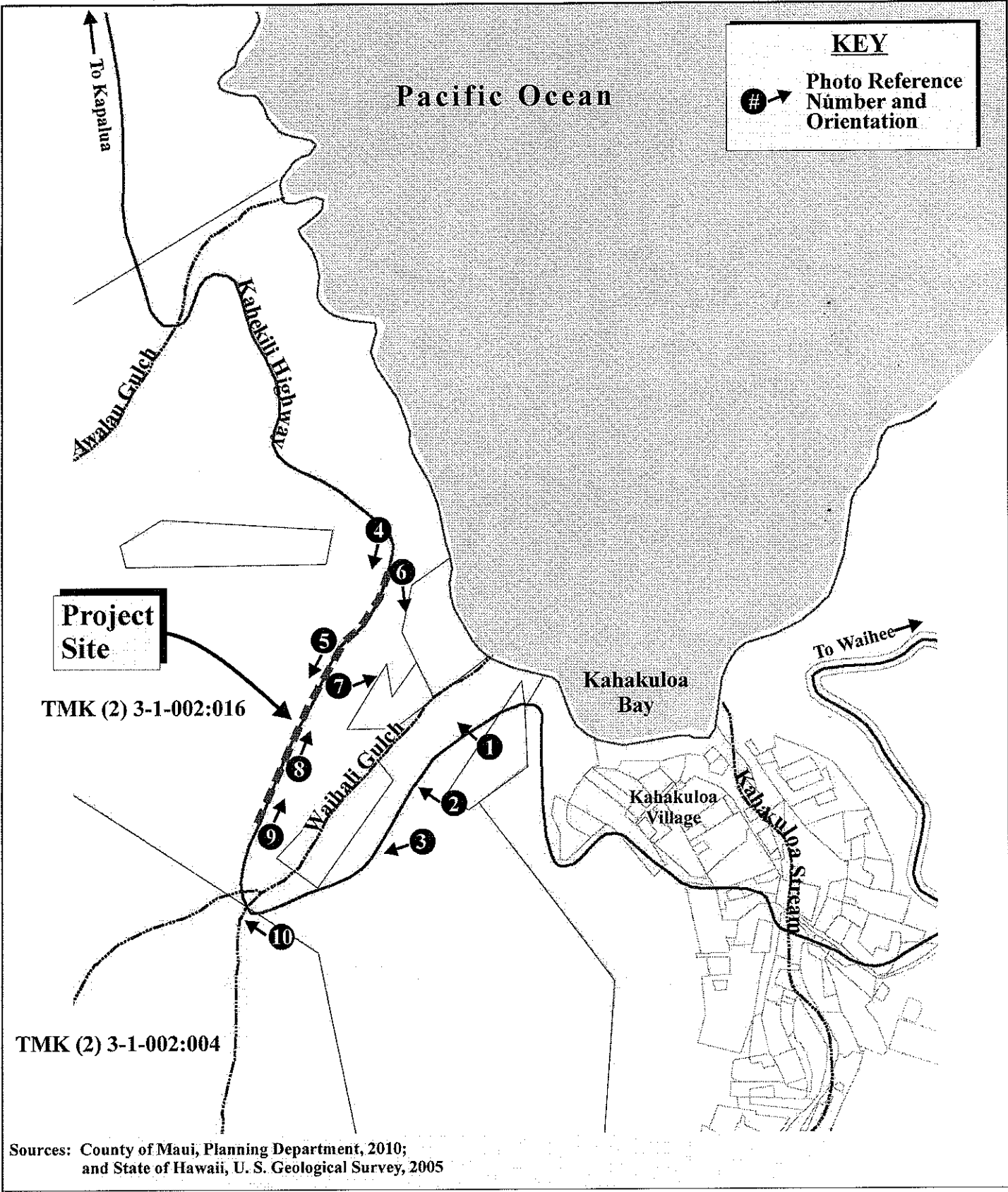
TOPOGRAPHIC SURVEY
OF PORTIONS OF THE KAHEKILI HIGHWAY AND
THE GOVERNMENT (CROWN) LANDS OF KAHAKULO'A
 SITUATED AT KAHAKULO'A, WAILUKU, MAUI, HAWAII
 TMK (2) 3-1-002: POR 016

THIS WORK WAS PREPARED BY ME
 OR UNDER MY SUPERVISION.
 LICENSED PROFESSIONAL LAND SURVEYOR
 CERTIFICATE No. 12264

FEBRUARY 10, 2010
 REVISED: APRIL 20, 2010
 JOB NO.: 10-501

APPENDIX A-1.

Site Photos



KEY

→ Photo Reference Number and Orientation

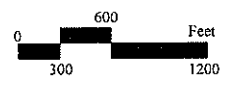
Project Site

TMK (2) 3-1-002:016

TMK (2) 3-1-002:004

Sources: County of Maui, Planning Department, 2010;
and State of Hawaii, U.S. Geological Survey, 2005

Proposed Kahekili Highway Repair Project Photographic Reference Map



Prepared for: County of Maui, Department of Public Works

MUNEKIYO & HIRAGA, INC.

ATA\Kahekili\PhotographicReferenceMap

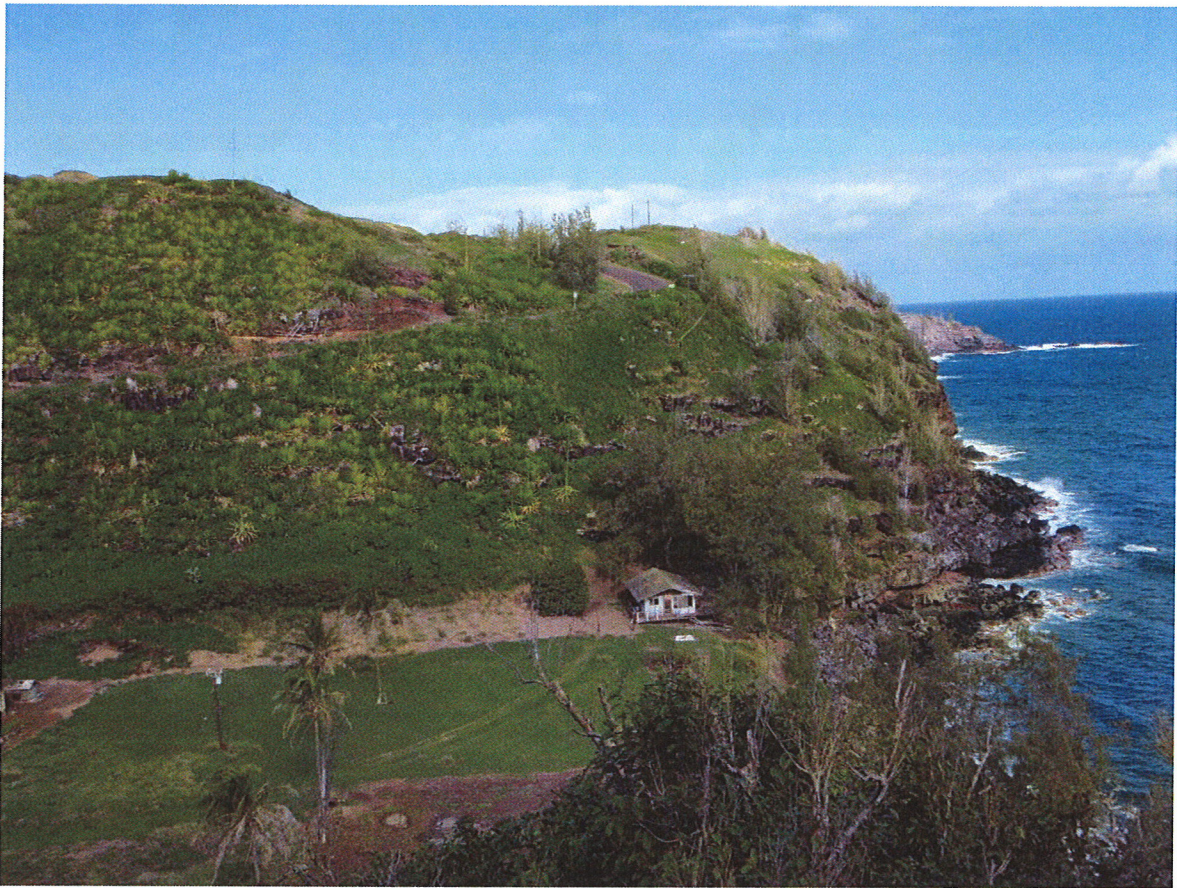


PHOTO NO. 1



PHOTO NO. 2



PHOTO NO. 3



PHOTO NO. 4



PHOTO NO. 5



PHOTO NO. 6



PHOTO NO. 7



PHOTO NO. 8



PHOTO NO. 9



PHOTO NO. 10

APPENDIX B.

Preliminary Site Plan

APPENDIX C.

Preliminary Engineering and Drainage Report

**PRELIMINARY ENGINEERING AND
DRAINAGE REPORT FOR
KAHEKILI HIGHWAY REPAIR**

CONTRACT NO. C4639 (JOB NO. 09-48)

KAHAKULOA, MAUI, HAWAII

April 2011

Prepared for:
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

Prepared by:



Austin Tsutsumi & Associates, Inc.

Civil Engineers • Surveyors

1871 Wili Pa Loop, Suite A

Wailuku, Maui, Hawaii 96793

Telephone: (808) 244-8044

Fax: (808) 242-9163

Honolulu • Wailuku • Hilo, Hawaii

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**PRELIMINARY ENGINEERING AND DRAINAGE REPORT
FOR
KAHEKILI HIGHWAY REPAIR
CONTRACT NO. C4639 (JOB NO. 09-48)**

I. INTRODUCTION

The purpose of this report is to provide an overview of the preliminary engineering design improvements of the Kahekili Highway Repair project. This report evaluates the existing site conditions and presents proposed roadway improvements, including road and slope stabilization and site grading and drainage improvements for the project.

II. PROPOSED PROJECT

A. LOCATION

The Kahekili Highway Repair project is located in Kahakuloa, Maui, Hawaii and consists of roadway improvements for approximately 1,150 feet of the existing one (1) lane, approximately 10- to 12-foot wide roadway between mile markers 15 and 16. The project site is approximately 1.4 acres with approximately 0.4 acres of asphalt concrete paved roadway and has a Tax Map Key (2) 3-1-002: Por. 016. Kahekili Highway (County route 340) runs along Maui's northwest coast and provides access from the Wailuku-Waihee area to the western side of Maui, eventually connecting up to Honoapiilani Highway (Honolua-Kapalua area). Refer to Exhibit 1 for Location and Vicinity Map.

B. PROJECT DESCRIPTION

The Kahekili Highway Repair project involves roadway and slope stabilization improvements for the existing segment of roadway between mile markers 15 and 16. Kahekili Highway within the project area is an existing one-lane road approximately 10- to 12-feet wide. The proposed roadway stabilization includes construction of a slope tie-back system to stabilize the existing roadway and slope in critical areas, recompacting and repair of eroded asphalt concrete pavement areas, asphalt resurfacing of the entire roadway segment, and paving of turnout areas. The roadway segment is owned and maintained by the County of Maui. Refer to Exhibits 2 to 4 for Typical Road Section and site plans.

III. EXISTING CONDITIONS

A. TOPOGRAPHY AND SOIL CONDITIONS

The ground surface of the site consists of an existing asphalt concrete paved roadway bounded by steep rock formations on both sides and overgrown brush. The project site generally slopes in the southeastern direction toward an existing valley and gully with an average slope of approximately 0 to 2 percent for the roadway cross slope and 70 percent on the existing embankments. The longitudinal slope of the existing roadway is approximately 8 percent and slopes in a southwesterly direction. Onsite elevations range from 116 to 214 feet mean sea level (MSL). There are archaeological sites located on the mauka rock cuts near the project site. Thus, cutting further into the existing rock cuts would need to be kept to a minimum and shall not affect the archaeological sites.

The soil classification found on the project site is predominately classified as Rock Land (rRK) and Stony Alluvial Land (rSM). Rock land (rRK) is made up of areas where exposed rock covers 25 to 90 percent of the surface. The rock outcrops and very shallow soils are the main characteristics and are mainly basalt and andesite. This land type is nearly level to very steep. Elevations range from nearly sea level to more than 6,000 feet. This soil has high shrink-swell potential, making foundations and retaining walls susceptible to cracking. The Stony Alluvial Land (rSM) consists mainly of stones, boulders, and soil deposits from streams along the bottoms of gulches and on alluvial fans. In most

places the slope varies from 3 to 15 percent. Elevations range from nearly sea level to 1,000 feet. Soils classifications and descriptions area taken from the United States Department of Agriculture Soil Conservation Services publication entitled, Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, dated 1972.

B. CLIMATE AND RAINFALL

The area of Kahakuloa is generally warm and sunny throughout the year, with temperatures varying from 60 to 80 degrees Fahrenheit. Kahakuloa is exposed to prevailing tradewinds with most of it coming from the northeasterly direction. These tradewinds occur mainly through the dry seasonal months of May through September. Rainy seasonal months of October through April produce strong wind conditions varying from trades from the northeast to southerly winds known as "Kona storms". Average annual rainfall for Kahakuloa is approximately 25 inches around the coastal area. The 50-year, 1-hour rainfall is 3.0 inches.

C. ROADWAY

The existing roadway within the project site is an approximately 10- to 12-foot wide, one-lane asphalt concrete paved roadway with steep rock cuts and embankments abutting the roadway. A 2" to 3" asphalt curb is located along the edges of the road at various locations. Several areas of the asphalt show visible cracks in the pavement that appears to be from soil loss due to the steep rock slopes on the makai side of the road. These areas will need to be repaired and stabilized. The existing right-of-way within the project site is 50-foot wide.

D. DRAINAGE

There is no existing drainage system for this segment of road. Runoff from the mountain appears to collect behind the existing curbing on the mauka side of the road and eventually discharges across the roadway and down the steep embankment. Drainage runoff generally flows in a southeasterly direction through the project site. Onsite existing runoff is estimated to be approximately 3.20 cubic feet per second (cfs), based on a 10 year – 1 hour storm recurrence interval and 3.79 cfs based on a 50 year – 1 hour storm recurrence interval. The existing offsite runoff is estimated to be 8.47 cfs, based on a 10 year – 1 hour

storm recurrence interval and 10.28 cfs based on a 50 year – 1 hour storm. Refer to Appendix A and Exhibit 5 for preliminary hydrology calculations for existing conditions.

E. FLOOD ZONE

The proposed project site has a flood zone classification of Zone X. Zone X is characterized as an area of minimal flooding according to the Flood Insurance Rate Map (FIRM) number 150003 0286E, effective September 25, 2009, as prepared by the Federal Emergency Management Agency. Refer to Exhibit 7 for Flood Zone Map.

IV. PROPOSED IMPROVEMENT

A. ROADWAY IMPROVEMENTS

The proposed road improvements consist of recompacting and repaving of eroded asphalt concrete pavement areas, construction of a slope tie-back system in areas where the pavement shows visible signs of cracking, new paved turnout areas, and asphalt resurfacing of the entire roadway segment. The pavement width will vary but shall not be less than 10-feet wide minimum. The road cross slope shall be 0.5% minimum/ 5% maximum and shall slope in the makai direction to allow mauka runoff to sheet flow across. The slope tie-back system will be required in order to stabilize the road and slope and will aid in maintaining the asphalt concrete pavement. The total disturbed area for the proposed improvements (excluding road resurfacing) is estimated to be approximately 0.3 acres.

B. GRADING PLAN

Minimal excavation and embankment for the repair of the roadway segment is anticipated. Most of the excavation will be for the removal and recompaction of the eroded pavement areas and structural excavation for the slope tie-back system. The longitudinal grade of the existing road will be maintained. The slope tie-back system, ranging from an exposed face of 2-feet to approximately 8-feet, will be required in order to stabilize the roadway along the steep embankment. A natural colored gunite finish will be applied over the tie-

back system to obscure the appearance of the wall. Refer to Exhibits 2 to 4 for Typical Road Section and site plans.

C. DRAINAGE PLAN

No drainage improvements are proposed for this repair project and the existing drainage patterns will be maintained.

The Rational Method is used to determine stormwater runoff quantities for drainage areas less than 100 acres. Hydrology calculations are based on a 10 year – 1 hour storm recurrence interval for continuous grade areas and 50 year – 1 hour storm for sump areas in accordance with the “Rules for the Design of Storm Drainage Facilities in the County of Maui” by the Department of Public Works and Waste Management. Since the roadway segment is on a continuous grade for the entire stretch, the proposed drainage calculations shall be based on the 10-year - 1 hour storm. Refer to Appendix A and Exhibit 6 for preliminary hydrology calculations for post-improvement onsite and offsite runoff. Post-improvement onsite runoff for a 10 Yr-1Hr storm is calculated at 3.31 cfs, which is an increase of 0.11 cfs over existing conditions. The increase in runoff generated from the proposed roadway improvements is deemed negligible and will be allowed to pass through the project site via existing drainage patterns.

D. EROSION CONTROL PLAN

Temporary erosion control measures will be incorporated during the construction to minimize soil loss and erosion hazards. Best Management Practices will include temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, slope protection, stabilized construction entrances and truck wash-down areas. Periodic water spraying of loose soils will be implemented to minimize air-borne dirt particles from reaching adjacent properties.

V. CONCLUSION

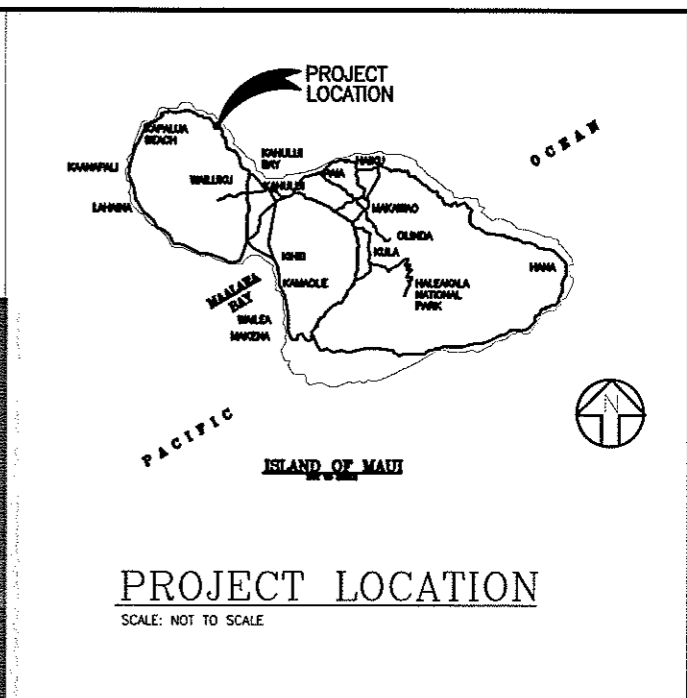
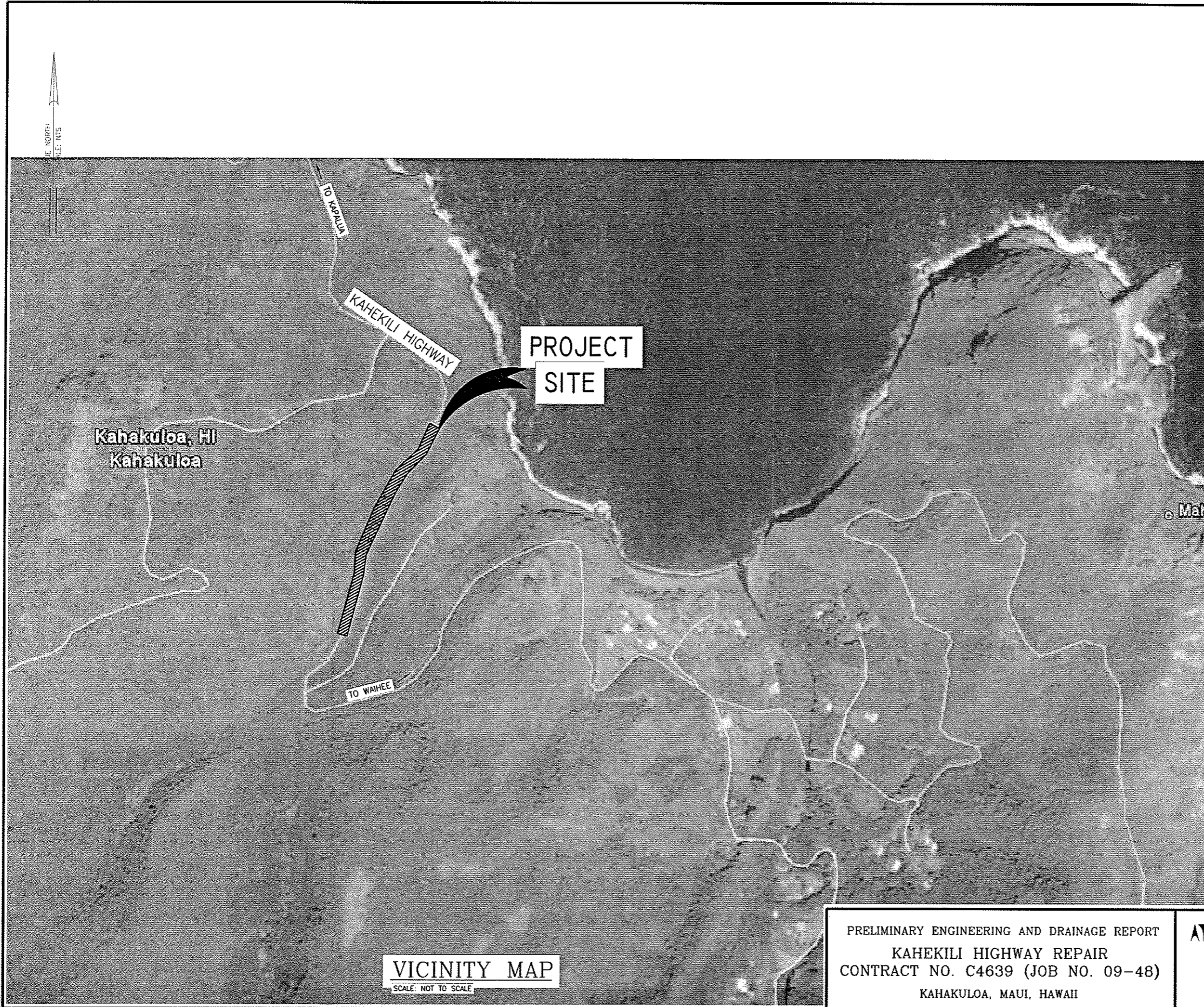
The proposed improvements for this project will be designed in accordance with the applicable rules and regulations of the State of Hawaii and County of Maui as applicable. Grading and drainage improvements will impose no adverse effects from

storm runoff to properties adjacent and downstream of the project site. Soil loss will be minimized during the construction period by implementation of appropriate erosion control measures. Also, since the estimated disturbed area is less than 1 acre, an NPDES permit is not expected to be required for this project. Based on the foregoing information, the project is expected to have no adverse effects on existing facilities or the surrounding environment.

REFERENCES:

1. Department of Public Works & Waste Management, County of Maui, Chap.4, "Rules for the Design of Storm Drainage Facilities in the County of Maui".
2. United States Department of Agriculture Soil Conservation Services, Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, 1972.
3. United States Department of Agriculture Soil Conservation Services, Erosion and Sediment Control Guide for Hawaii, 1981.

EXHIBITS



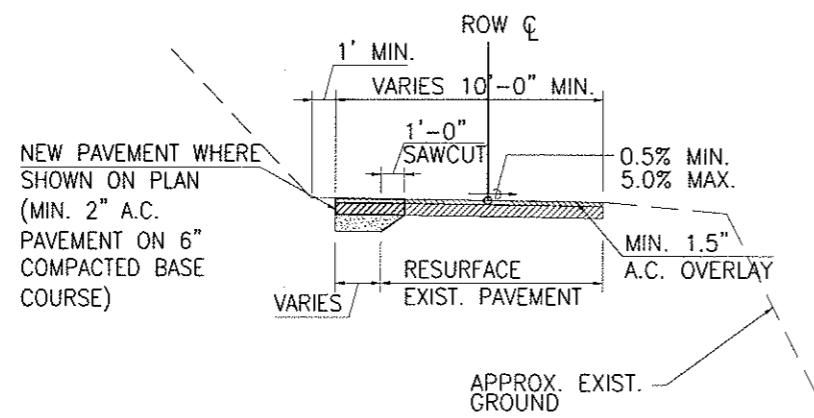
VICINITY MAP

SCALE: NOT TO SCALE

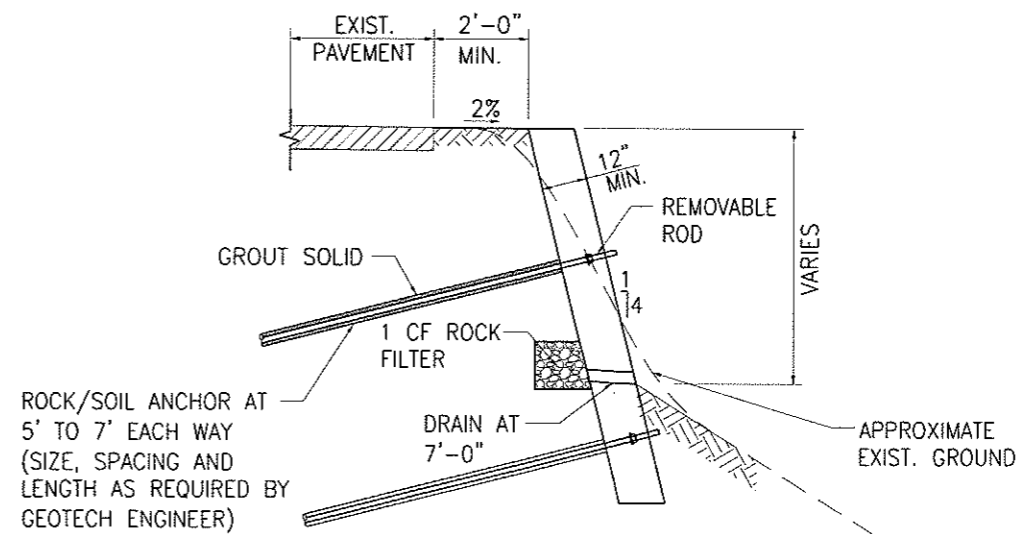
PRELIMINARY ENGINEERING AND DRAINAGE REPORT
KAHEKILI HIGHWAY REPAIR
 CONTRACT NO. C4639 (JOB NO. 09-48)
 KAHAKULOA, MAUI, HAWAII

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
 ENGINEERS, SURVEYORS • HONOLULU, WAILUKU, HILO, HAWAII
PROJECT LOCATION AND VICINITY MAP

EXHIBIT
1



TYPICAL SECTION
NOT TO SCALE



TYPICAL SLOPE TIE-BACK STABILIZATION SECTION
(STA. 3+75 TO 8+50)
NOT TO SCALE

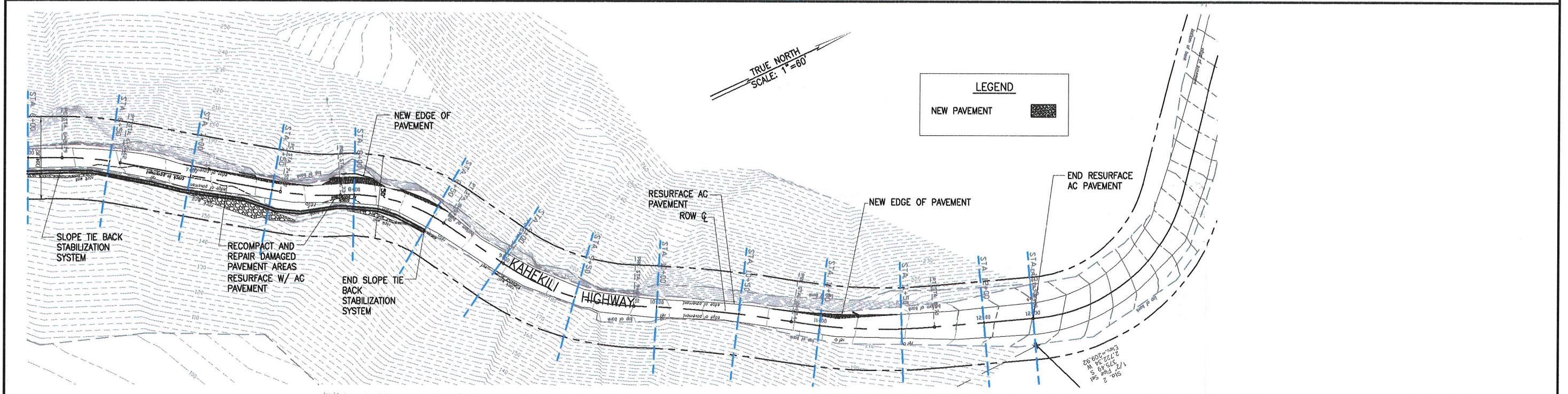
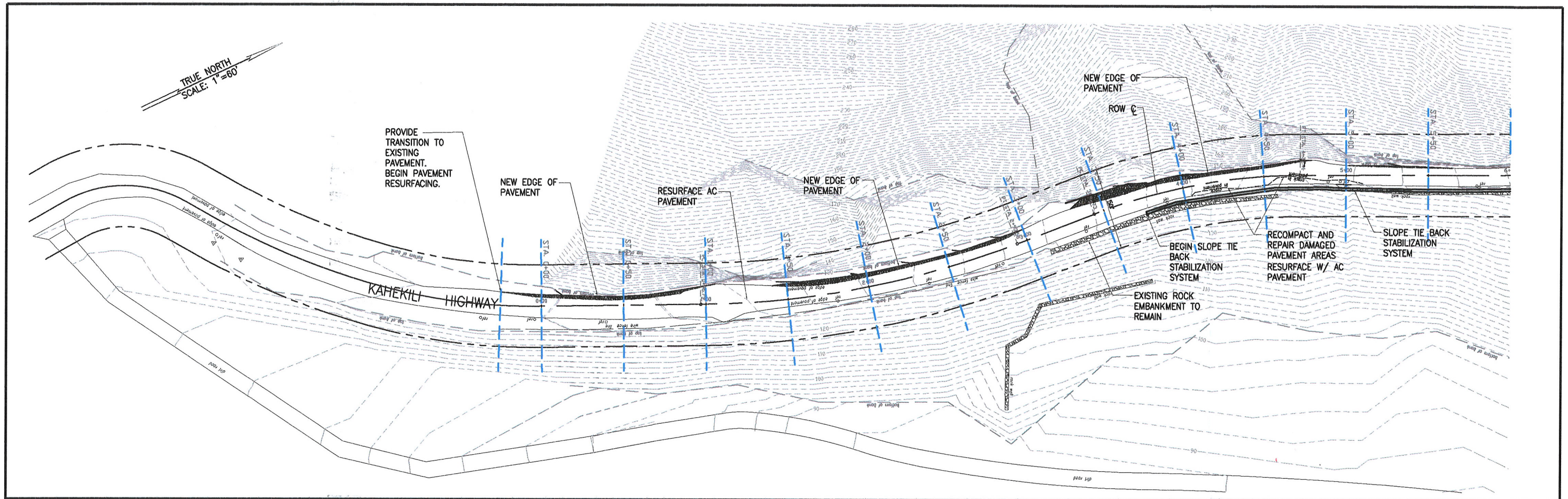
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TYPICAL ROAD SECTION

EXHIBIT

2



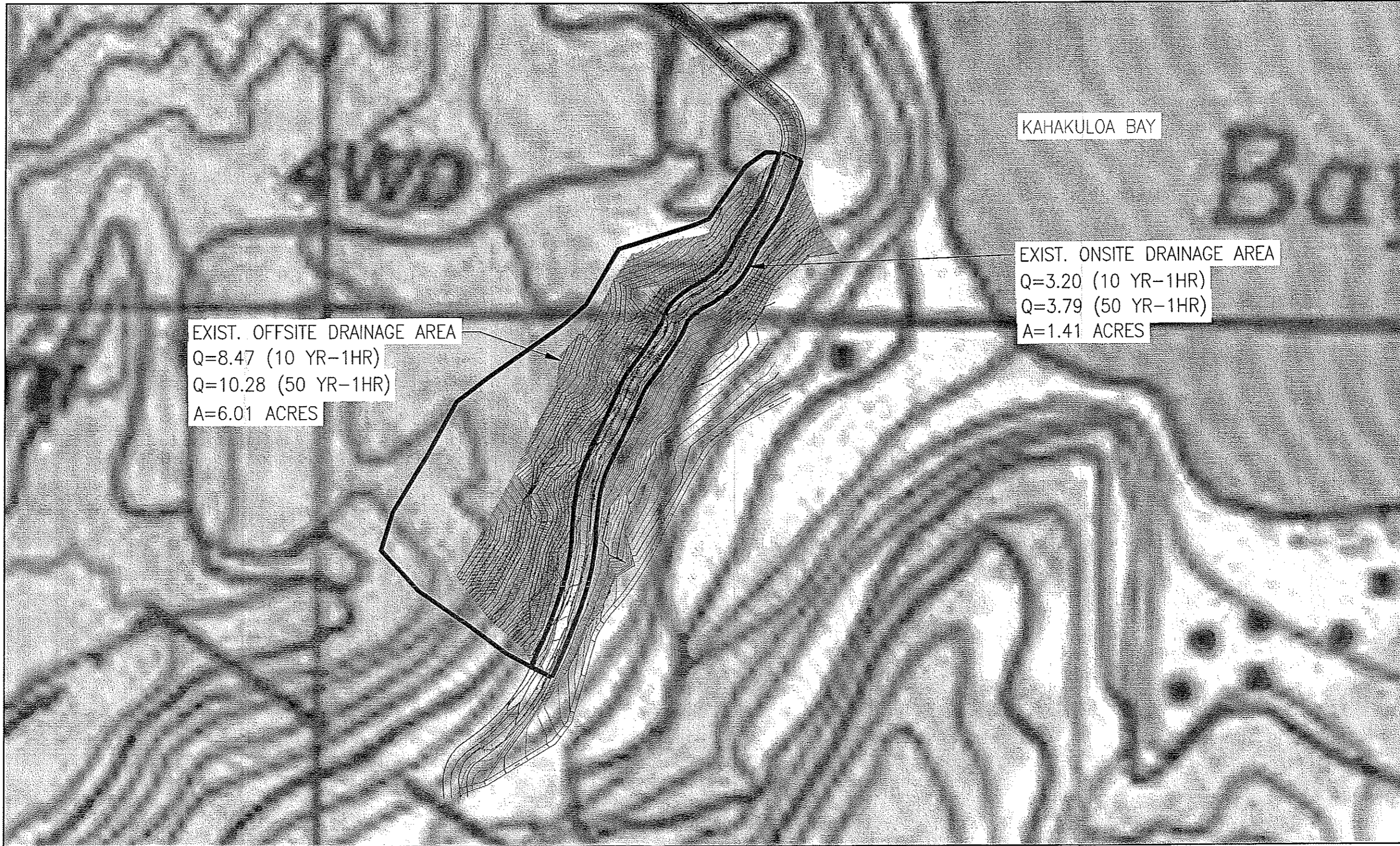
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PRELIMINARY SITE PLAN

EXHIBIT
 3

TRUE NORTH
SCALE: 1" = 200'



EXIST. OFFSITE DRAINAGE AREA
Q=8.47 (10 YR-1HR)
Q=10.28 (50 YR-1HR)
A=6.01 ACRES

KAHAKULOLO BAY

EXIST. ONSITE DRAINAGE AREA
Q=3.20 (10 YR-1HR)
Q=3.79 (50 YR-1HR)
A=1.41 ACRES

PRELIMINARY ENGINEERING AND DRAINAGE REPORT
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CONTRACT NO. C4639 (JOB NO. 09-48)
KAHAKULOLO, MAUI, HAWAII

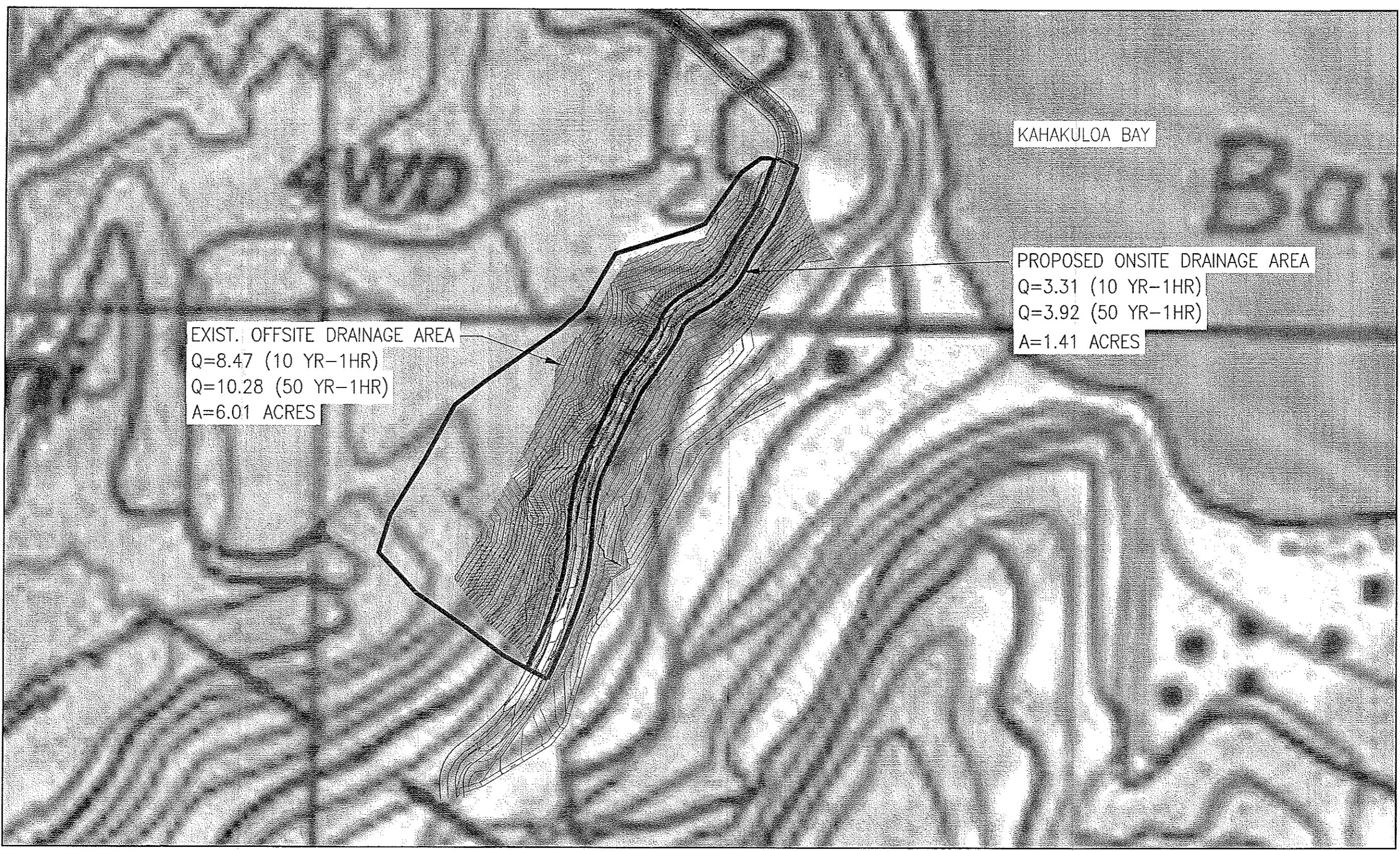
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EXISTING DRAINAGE AREA MAP

EXHIBIT

4

TRUE NORTH
SCALE: 1" = 200'



EXIST. OFFSITE DRAINAGE AREA
Q=8.47 (10 YR-1HR)
Q=10.28 (50 YR-1HR)
A=6.01 ACRES

KAHAKULOA BAY

PROPOSED ONSITE DRAINAGE AREA
Q=3.31 (10 YR-1HR)
Q=3.92 (50 YR-1HR)
A=1.41 ACRES

PRELIMINARY ENGINEERING AND DRAINAGE REPORT
KAHEKILI HIGHWAY REPAIR
CONTRACT NO. C4639 (JOB NO. 09-48)
KAHAKULOA, MAUI, HAWAII

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, WAILUKU, HILO, HAWAII

POST-IMPROVEMENT
DRAINAGE AREA MAP

EXHIBIT

5

TRUE NORTH
SCALE: NTS



Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000 FEET

PROJECT SITE

PANEL 0286E

FIRM
FLOOD INSURANCE RATE MAP
MAUI COUNTY,
HAWAII

PANEL 286 OF 625
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | DATE |
|-------------|--------|-------|------|
| MAUI COUNTY | 15003 | 0286 | E |

Notes to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
1500030286E

MAP REVISED
SEPTEMBER 25, 2009
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

FLOOD ZONE MAP

SCALE: NOT TO SCALE

PRELIMINARY ENGINEERING AND DRAINAGE REPORT
KAHEKILI HIGHWAY REPAIR
CONTRACT NO. C4639 (JOB NO. 09-48)
KAHAKULOA, MAUI, HAWAII

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, WAILUKU, HILO, HAWAII

FLOOD ZONE MAP

EXHIBIT

6

APPENDICIES

APPENDIX A

DRAINAGE STUDY PROJECT: KAHEKILI HIGHWAY REPAIR PRELIMINARY HYDROLOGY CALCULATIONS

DRAINAGE STUDY

Project: KAHEKILI HIGHWAY REPAIR

Hydrology Calculations

Summary of Procedures

References:

1. "Rules for the Design of Storm Drainage Facilities in the County of Maui", County of Maui, Department of Public Works and Waste Management.

Pre-development and Post-development Runoff:

Definitions:

1. Drainage Area, A:
Areas delineated by relatively identical drainage patterns based on topographic information and a common point or system.
2. Recurrence Interval, T_m:
The frequency of the occurrence of a particular design-storm. For example, a 100-year frequency storm has a 1% chance of occurring in any given year.
The following criteria will be used in the analysis of the drainage systems:
 - a. Onsite storm runoff: 10 year – 1 hour storm interval
3. Intensity of 1-hour Rainfall value, I:
The Rainfall Value is assumed constant over the watershed and uniformly distributed. The 10 year – 1 hour rainfall value is 2.5 inches. The 50 year – 1 hour rainfall value is 3.0 inches. (See Reference 1, Plates 4 & 7).

Methodology:

Rational Method

- A. Runoff Quantity, Q:

See Hydrology Calculations.

The equation for the Rational Method is:

$$Q = c i A \quad \text{where: } Q = \text{peak flow rate (cfs)}$$

c = runoff coefficient

i = intensity of a 1-hour rainfall

A = drainage area (acres)

B. Runoff Coefficient, C :

The percentage of rain that appears as direct runoff.

1. Unimproved and/or landscaped areas: Runoff coefficient 0.30
2. For roadways, sidewalks, future buildings: Runoff coefficient 0.95.
3. A weighted average among runoff coefficients will be used for drainage areas containing a combination of streets, sidewalks, future dwellings and landscaping.

C. Time of Concentration, T_c (min.):

Time required for water to flow from the most remote point of a drainage area to the outlet point.

1. The Time of Concentration is determined from the nomograph (See Ref. 1, Plate 1). Data for the longest length of reach, ground character and ground slope are required to use this chart appropriately.

EXISTING OFF-SITE HYDROLOGY CALCULATIONS

(50 Year - 1 Hour Storm)

Project: Kahekili Highway Repair 10-501

Project Site Descriptions:

Area (a)

| | |
|----------------------------|------------|
| Total Project Site: | 6.01 acres |
| Area Breakdown | |
| Unimproved areas: | 6.01 acres |
| Streets (Asphalt Roadway): | 0.00 acres |

Runoff Coefficient (c)

| | |
|--------------------------------------|----------|
| Unimproved areas: | c = 0.30 |
| Streets (Asphalt Roadway): | c = 0.95 |
| c = (6.01(0.30)+0(0.95))/6.01 = 0.30 | |

Rainfall Intensity (i)

| | |
|------------------------|-------------------------|
| Recurrence Interval: | 50 Yr - 1 Hr = 3 inches |
| Average site slope: | 70% |
| Longest reach length: | approximately 460 feet |
| Time of concentration: | 13 minutes |
| i = | 5.7 in/hr |

Runoff (Q)

$$Q = c \times i \times a$$

Q = discharge, in cubic feet per second (cfs)

c = runoff coefficient

i = rainfall intensity, inches per hour

a = watershed area, in acres

$$Q_{50} = (0.30)(5.7 \text{ inches / hour})(6.01 \text{ acres})$$

$$= 10.28 \text{ cfs}$$

EXISTING ON-SITE HYDROLOGY CALCULATIONS

(10 Year - 1 Hour Storm)

Project: Kahekili Highway Repair 10-501

Project Site Descriptions:

Area (a)

| | |
|----------------------------|------------|
| Total Project Site: | 1.41 acres |
| Area Breakdown | |
| Unimproved areas: | 1.06 acres |
| Streets (Asphalt Roadway): | 0.35 acres |

Runoff Coefficient (c)

| | |
|--|----------|
| Unimproved areas: | c = 0.30 |
| Streets (Asphalt Roadway): | c = 0.95 |
| $c = (1.06(0.30) + 0.35(0.95)) / 1.41 =$ | |
| | 0.46 |

Rainfall Intensity (i)

| | |
|------------------------|---------------------------|
| Recurrence Interval: | 10 Yr - 1 Hr = 2.5 inches |
| Average site slope: | 52% |
| Longest reach length: | approximately 400 feet |
| Time of concentration: | 11.5 minutes |
| i = | 4.9 in/hr |

Runoff (Q)

$$Q = c \times i \times a$$

Q = discharge, in cubic feet per second (cfs)

c = runoff coefficient

i = rainfall intensity, inches per hour

a = watershed area, in acres

$$Q_{50} = (0.46)(4.9 \text{ inches / hour})(1.41 \text{ acres})$$

$$= 3.20 \text{ cfs}$$

POST-IMPROVEMENT ON-SITE HYDROLOGY CALCULATIONS

(10 Year - 1 Hour Storm)

Project: Kahekili Highway Repair 10-501

Project Site Descriptions:

Area (a)

| | |
|----------------------------|------------|
| Total Project Site: | 1.41 acres |
| Area Breakdown | |
| Unimproved areas: | 1.02 acres |
| Streets (Asphalt Roadway): | 0.39 acres |

Runoff Coefficient (c)

| | |
|--|----------|
| Unimproved areas: | c = 0.30 |
| Streets (Asphalt Roadway): | c = 0.95 |
| $c = (1.02(0.30) + 0.39(0.95)) / 1.41 =$ | |
| | 0.48 |

Rainfall Intensity (i)

| | |
|------------------------|---------------------------|
| Recurrence Interval: | 10 Yr - 1 Hr = 2.5 inches |
| Average site slope: | 52% |
| Longest reach length: | approximately 400 feet |
| Time of concentration: | 11.5 minutes |
| i = | 4.9 in/hr |

Runoff (Q)

$$Q = c \times i \times a$$

Q = discharge, in cubic feet per second (cfs)

c = runoff coefficient

i = rainfall intensity, inches per hour

a = watershed area, in acres

$$Q_{50} = (0.48)(4.9 \text{ inches / hour})(1.41 \text{ acres})$$

$$= \quad \mathbf{3.31 \text{ cfs}}$$

APPENDIX D.

Flora and Fauna Study

**KAHEKILI HIGHWAY WIDENING PROJECT
FLORA AND FAUNA STUDY
WAIHALI GULCH, KAHAKULOA, WEST MAUI**

by:

**Robert Hobby
Environmental Consultant
Kokomo, Maui
April 2010**

Prepared for: Munekiyo & Hiraga, Inc.

**KAHEKILI HIGHWAY WIDENING PROJECT
FLORA AND FAUNA STUDY
WAIHALI GULCH, KAHAKULOA, WEST MAUI**

INTRODUCTION

The Kahekili Highway Widening Project is located along the north side of Waihali Gulch, just north of Kahakuloa Village in northeastern West Maui. The highway corridor is about 0.3 miles in length and runs along a steep slope from the ridge top to the bottom of the gulch. This study was initiated by the County of Maui to fulfill environmental requirements of the planning process.

SITE DESCRIPTION

The road corridor begins at an elevation of 150 feet on the ridge top and descends along the slope to the gulch bottom at 70 feet elevation. The upper slope is Rock Land (rRK) with rock outcrops and thin soils, while the lower slope is Stony Alluvial Land (rSM) with many boulders, rocks and soils deposited by streams (Foote et al, 1972). Vegetation is dominated by non-native grasses and shrubs. Annual rainfall averages 40 inches with most of it falling during winter storms (Armstrong, 1983).

BIOLOGICAL HISTORY

During the pre-contact period this area was thinly populated by Hawaiians. Villages were located in larger valleys with perennial streams like Kahakuloa, but people were scattered along the coast in smaller family groups. Vegetation consisted of low, windswept shrubs such as u'ulei (*Osteomeles anthyllidifolia*), naupaka kahakai (*Scaevola taccada*), alaha'e (*Psychdrax odorata*) and a variety of coastal plants that extend a little ways inland.

During the past century much of this area was used for cattle grazing. This had the effect of eliminating many of the native plant species and their gradual replacement with hardy grasses and shrubs that can thrive under the pressures of grazing. Many of the native seabirds that once nested along the coast have also been displaced by introduced predators such as cats, mongoose, rats and dogs. Little remains of these lowland and coastal ecosystems today.

SURVEY OBJECTIVES

This report summarizes the findings of a flora and fauna study of the proposed Kahekili Highway Widening Project corridor that was conducted in April, 2010. The objectives of the survey were to:

1. Document what plant, bird and mammal species occur on the property or may likely occur in the existing habitat.
2. Document the status and abundance of each species.
3. Determine the presence or likely occurrence of any native flora and fauna, particularly any that are Federally listed as Threatened or Endangered. If such occur, identify what features of the habitat may be essential for these species.
4. Determine if the project area contains any special habitats which if lost or altered might result in a significant negative impact on the native flora and fauna in this part of the island.
5. Note which aspects of the proposed development pose significant concerns for plants or for wildlife and recommend measures that would mitigate or avoid these problems.

BOTANICAL SURVEY REPORT

SURVEY METHODS

A walk-through botanical survey was used to cover this 0.3 mile long by 50 foot wide corridor which included the existing 10 to 12 foot wide roadway. All representative habitats were examined including grasslands, brushlands and rocky outcrops. Close attention was given to ascertaining whether any native Hawaiian plants or Endangered species were present.

DESCRIPTION OF THE VEGETATION

The vegetation within this roadside corridor consists mainly of non-native grasses and shrubs. Most abundant were Guinea grass (*Panicum maximum*) and koa haole (*Leucaena leucocephala*) which grow in all parts of the area. Also common was Mauritius hemp (*Furcraea foetida*), a large sisal-like plant. These three non-native species make up about 95% of the total vegetative biomass.

Five native plant species were found including the endemic pā'ū o Hi'iaka (*Jacquemontia ovalifolia* var. *sandwicensis*) and four indigenous species, 'uhaloa (*Waltheria indica*), 'ala'ala wai nui (*Peperomia blanda* var. *floribunda*), u'ulei (*Osteomeles anthyllidifolia*) and alahe'e (*Psydrax odorata*). Two that were Polynesian introductions, kukui (*Aleurites moluccana*) and 'ihi'ai (*Oxalis corniculata*) were also found.

A total of 58 plant species were recorded during the survey. Of these 51 were common non-native species that are pasture plants or roadside weeds.

DISCUSSION AND RECOMMENDATIONS

The vegetation in this project area is dominated by non-native species. Just five species were native to Hawaii, pā'ū o Hi'iaka, 'uhaloa, 'ala'alawainui, u'u'lei, and alahe'e. Pa'u o Hi'iaka which is a variety restricted to Hawaii is a fairly common coastal plant found on all of our islands. The other four are even more common in both Hawaii as well as other Pacific islands. No Endangered or Threatened plant species were found during the survey, nor were any seen that are candidates for such status. No special native plant habitats were found here either.

There are some Endangered plant species known to occur in the coastal zone in this part of West Maui such as 'ōhai (*Sesbania tomentosa*) and 'āwiwi (*Centaurium sebaeoides*). None of these have known populations closer than a mile from this project area and none of these would be affected by the implementation of this project. Likewise there are a few Endangered plant species that have known populations high in the wet forests of West Maui 2 to 5 miles inland of this project area. These too would not be affected by this road widening project.

Because the vegetation in this corridor is dominated by common non-native plants, and because there are no rare or protected native species in or near this area, there is little of botanical concern with regard to this project. The proposed project is not expected to have a significant negative impact on the botanical resources in this part of West Maui.

No special recommendations with reference to plants are deemed appropriate or necessary.

PLANT SPECIES LIST

Following is a checklist of all those vascular plant species inventoried during the field studies. Plant families are arranged alphabetically within each of two groups: Monocots and Dicots. Taxonomy and nomenclature of the flowering plants (Monocots and Dicots) are in accordance with Wagner et al. (1999).

For each species, the following information is provided:

1. Scientific name with author citation.
2. Common English or Hawaiian name.
3. Bio-geographical status. The following symbols are used:

endemic = native only to the Hawaiian Islands; not naturally occurring anywhere else in the world.

indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).

non-native = all those plants brought to the islands intentionally or accidentally after western contact.

polynesian = brought by the Hawaiians during Polynesian migrations.

4. Abundance of each species within the project area:

abundant = forming a major part of the vegetation within the project area.

common = widely scattered throughout the area or locally abundant within a portion of it.

uncommon = scattered sparsely throughout the area or occurring in a few small patches.

rare = only a few isolated individuals within the project area.

| SCIENTIFIC NAME | COMMON NAME | STATUS | ABUNDANCE |
|---|-----------------------|------------|-----------|
| MONOCOTS | | | |
| ASPARAGACEAE (Asparagus Family) | | | |
| <i>Furcraea foetida</i> (L.) Haw. | Mauritius hemp | non-native | common |
| POACEAE (Grass Family) | | | |
| <i>Brachiaria subquadrifida</i> (Trin.) Hitchc. | ----- | non-native | rare |
| <i>Chloris barbata</i> (L.) Sw. | swollen fingergrass | non-native | uncommon |
| <i>Digitaria insularis</i> (L.) Mez ex Ekman | sourgrass | non-native | uncommon |
| <i>Eleusine indica</i> (L.) Gaertn. | wiregrass | non-native | rare |
| <i>Eragrostis pectinacea</i> (Michx) Nees | Carolina lovegrass | non-native | rare |
| <i>Melinis repens</i> (Willd.) Zizka | Natal reedtop | non-native | uncommon |
| <i>Panicum maximum</i> Jacq. | Guinea grass | non-native | abundant |
| DICOTS | | | |
| ACANTHACEAE (Acanthus Family) | | | |
| <i>Thunbergia fragrans</i> Roxb. | sweet clockvine | non-native | rare |
| AMARANTHACEAE (Amaranth Family) | | | |
| <i>Amaranthus spinosus</i> L. | spiny amaranth | non-native | rare |
| ANACARDIACEAE (Mango Family) | | | |
| <i>Schinus terebinthifolius</i> Raddi | Christmas berry | non-native | uncommon |
| ARALIACEAE (Ginseng Family) | | | |
| <i>Schefflera actinophylla</i> (Endl.) Harms | octopus tree | non-native | rare |
| ASTERACEAE (Sunflower Family) | | | |
| <i>Ageratum conyzoides</i> L. | <i>maile hohono</i> | non-native | rare |
| <i>Bidens pilosa</i> L. | Spanish needle | non-native | rare |
| <i>Calyptocarpus vialis</i> Less. | ----- | non-native | rare |
| <i>Eclipta prostrata</i> (L.) L. | false daisy | non-native | rare |
| <i>Elephantopus mollis</i> Kunth | elephantopus | non-native | rare |
| <i>Emilia fosbergii</i> Nicolson | red pualele | non-native | uncommon |
| <i>Sonchus oleraceus</i> L. | pualele | non-native | uncommon |
| <i>Synedrella nodiflora</i> (L.) Gaertn. | nodeweed | non-native | rare |
| <i>Tridax procumbens</i> L. | coat buttons | non-native | uncommon |
| <i>Xanthium strumarium</i> L. | <i>kikania</i> | non-native | rare |
| CASUARINACEAE (She-oak Family) | | | |
| <i>Casuarina equisetifolia</i> L. | common ironwood | non-native | uncommon |
| CONVOLVULACEAE (Morning Glory Family) | | | |
| <i>Ipomoea triloba</i> L. | little bell | non-native | rare |
| <i>Jacquemontia ovalifolia</i> (Choisy) Hallier subsp. <i>sandwicensis</i> (A.Gray) K. Robertson | <i>pä'ü o Hi'iaka</i> | endemic | rare |
| EUPHORBIACEAE (Spurge Family) | | | |
| <i>Aleurites moluccana</i> (L.) Willd. | <i>kukui</i> | polynesian | rare |
| <i>Chamaesyce hirta</i> (L.) Millsp. | hairy spurge | non-native | uncommon |
| <i>Phyllanthus debilis</i> Klein ex Willd. | niruri | non-native | uncommon |
| FABACEAE (Pea Family) | | | |
| <i>Chamaecrista nictitans</i> (L.) Moench. | partridge pea | non-native | uncommon |
| <i>Crotalaria incana</i> L. | fuzzy rattlepod | non-native | rare |

| SCIENTIFIC NAME | COMMON NAME | STATUS | ABUNDANCE |
|--|---------------------------|------------|-----------|
| <i>Crotalaria pallida</i> Aiton | slender mimosa | non-native | rare |
| <i>Desmanthus pernambucanus</i> (L.) Thellung | Smooth rattlepod | non-native | rare |
| <i>Desmodium tortuosum</i> (Sw.) DC. | Florida beggarweed | non-native | rare |
| <i>Desmodium triflorum</i> (L.) DC. | three-flowered beggarweed | non-native | rare |
| <i>Indigofera hendecaphylla</i> Jacq. | creeping indigo | non-native | rare |
| <i>Leucaena leucocephala</i> (Lam.) de Wit | koa haole | non-native | abundant |
| <i>Macroptilium lathyroides</i> (L.) Urb. | wild bean | non-native | rare |
| <i>Mimosa pudica</i> L. | sensitive plant | non-native | rare |
| <i>Samanea saman</i> (Jacq.) Merr. | monkeypod | non-native | rare |
| <i>Senna surattensis</i> (N.L. Burm) H. Irwin & Barneby | <i>kolomona</i> | non-native | rare |
| MALVACEAE (Mallow Family) | | | |
| <i>Abutilon grandifolium</i> (Willd.) Sweet | hairy abutilon | non-native | rare |
| <i>Malvastrum coromandelianum</i> (L.) Garcke | false mallow | non-native | rare |
| <i>Waltheria indica</i> L. | ' <i>uhaloa</i> | indigenous | uncommon |
| MYRTACEAE (Myrtle Family) | | | |
| <i>Psidium guajava</i> L. | common guava | non-native | rare |
| <i>Syzygium cumini</i> (L.) Skeels | Java plum | non-native | rare |
| NYCTAGINACEAE (Four-o'clock Family) | | | |
| <i>Boerhavia coccinea</i> Mill. | scarlet spiderling | non-native | rare |
| OXALIDACEAE (Wood Sorrel Family) | | | |
| <i>Oxalis corniculata</i> L. | ' <i>ihi'ai</i> | polynesian | rare |
| PAPAVERACEAE (Poppy Family) | | | |
| <i>Argemone mexicana</i> L. | Mexican poppy | non-native | rare |
| PIPERACEAE (Pepper Family) | | | |
| <i>Peperomia blanda</i> (Jacq.) Kunth var. <i>floribunda</i> (Miq.) H. Huber | ' <i>ala'alawainui</i> | indigenous | rare |
| PLANTAGINACEAE (Plantain Family) | | | |
| <i>Plantago lanceolata</i> L. | narrow-leaved plantain | non-native | rare |
| POLYGALACEAE (Milkwort Family) | | | |
| <i>Polygala paniculata</i> L. | polygala | non-native | rare |
| PORTULACACEAE (Purslane Family) | | | |
| <i>Portulaca oleracea</i> L. | pigweed | non-native | uncommon |
| PRIMULACEAE (Primrose Family) | | | |
| <i>Anagallis arvensis</i> L. | scarlet pimpernel | non-native | rare |
| ROSACEAE (Rose Family) | | | |
| <i>Osteomeles anthyllidifolia</i> (sm.) Lindl. | ' <i>u'ulei</i> | indigenous | rare |
| RUBIACEAE (Coffee Family) | | | |
| <i>Psydrax odorata</i> (G. Forst.) A.C. Smith & S.P. Darwin | ' <i>alaha'e</i> | indigenous | rare |
| VERBENACEAE (Verbena Family) | | | |
| <i>Lantana camara</i> L. | lantana | non-native | uncommon |
| <i>Stachytarpheta cayennensis</i> (Rich.) Vahl | nettle-leaved vervain | non-native | rare |
| <i>Stachytarpheta jamaicensis</i> (L.) Vahl | Jamaica vervain | non-native | uncommon |

FAUNA SURVEY REPORT

SURVEY METHOD

MAMMALS

Two species of mammals were detected in the project area during two site visits. Taxonomy and nomenclature follow Tomich (1986).

Roof rat (*Rattus rattus*) – One roof rat was seen scampering across the road. These rats are widespread in this type of habitat.

Mongoose (*Herpestes auro punctatus*) – One mongoose was seen in the grassy margins of the roadway. Mongoose frequent roads where they are attracted to the presence of road-kill.

Other mammals one might expect to see here include mice (*Mus domesticus*) and feral cats (*Felis catus*). Like the rats mice would feed on seeds, fruits and herbaceous vegetation. The cats like the mongoose would be predators of rodents and birds.

A special effort was made to look for the native Hawaiian hoary bat which is a federally listed Endangered species. An evening survey was conducted using both visual and electronic techniques. When present in an area these bats are clearly visible in glow of twilight as they forage for insects that become active during evening hours. In addition a bat detecting device (Batbox IIID) was used, set to the frequencies of 27,000 to 28,000 hertz at which these bats are known to function. No evidence of presence of Hawaiian hoary bat was detected.

BIRDS

Birdlife was moderate both in number of species present and in the numbers of individuals seen. Eight species were observed including seven common non-native species and one migratory species. Identifications were made visually and with the aid of binoculars, and by listening to their vocalizations. Taxonomy and nomenclature follow the American Ornithologists' Union (2005).

House finch (*Carpodacus mexicanus*) – These finches were common within the project area especially around ironwood trees.

Northern cardinal (*Cardinalis cardinalis*) – These cardinals were heard calling from dense underbrush within the corridor.

Japanese bush-warbler (*Cettia diphone*) – These secretive birds were heard making their distinctive calls in dense underbrush during both the daytime and the evening.

Japanese white-eye (*Zosterops japonicus*) – A few of these small green birds were seen and heard making their high-pitched calls.

Common myna (*Acridotheres tristis*) – Two pairs of mynas were seen flying between trees within the corridor.

Northern mockingbird (*Geopelia striata*) – One of these small doves was seen in flight during the evening survey.

Pacific golden-plover (*Pluvialis fulva*) – One of these migratory plovers was seen on the roadway during the evening survey.

While not seen, this habitat might be periodically utilized by the pueo or Hawaiian owl (*Asio flammeus sandwichensis*) which is still fairly common on West Maui. These native owls usually prefer open habitats a little more distant from human habitations. A few other non-native birds may also occasionally use the property. The habitat, however, is not suitable for West Maui's native forest birds which are presently restricted to good quality native forests at higher elevations. The habitat is also not suitable for native seabirds such as the Endangered ua'u (*Pterodroma sandwichensis*) and the Threatened a'o (*Puffinus newelli*) which are known to nest in dense, wet, fern shrubland near the summit of the mountain. The Endangered nene or Hawaiian goose is not presently known from this part of West Maui.

INSECTS

Insects were observed and their status considered but they were not listed unless they were rare or had some form of Endangered or Threatened status requiring special consideration and action. No native insects were seen and no host plants of any Endangered insects were seen. All species seen were common non-native species that are of no particular environmental concern. No special fauna habitats were identified within or near this corridor. The road widening project is in a fairly remote area that will not involve the installation of any street lights or traffic signals. It is determined that the proposed project will not have significant negative impact on the fauna resources in this part of West Maui.

It is, however, recommended that Best Management Practices with regard to the road widening engineering and construction work be implemented so that soil erosion is minimized in order to protect the slopes below the road and the coast line in Waihali Gulch.

ANIMAL SPECIES LIST

Following is a checklist of the animal species inventoried during the field work. Animal species are arranged in descending abundance within two groups: Mammals and Birds. For each species the following information is provided:

1. Common name
2. Scientific name
3. Bio-geographical status. The following symbols are used:

endemic = native only to Hawaii; not naturally occurring anywhere else in the world.

indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).

migratory = bird species that spend the fall and winter months in Hawaii and the spring and summer months breeding in the arctic.

non-native = all those animals brought to Hawaii intentionally or accidentally after western contact.

4. Abundance of each species within the project area:

abundant = many flocks or individuals seen throughout the area at all times of day.

common = a few flocks or well scattered individuals throughout the area.

uncommon = only one flock or several individuals seen within the project area.

rare = only one or two seen within the project area.

| COMMON NAME | SCIENTIFIC NAME | STATUS | ABUNDANCE |
|-----------------------|--------------------------------|------------|-----------|
| MAMMALS | | | |
| Rat | <i>Rattus rattus</i> | non-native | rare |
| Mongoose | <i>Herpestes auropunctatus</i> | non-native | rare |
| BIRDS | | | |
| House finch | <i>Carpodacus mexicanus</i> | non-native | common |
| Northern cardinal | <i>Cardinalis cardinalis</i> | non-native | uncommon |
| Japanese bush warbler | <i>Cettia diphone</i> | non-native | uncommon |
| Japanese white-eye | <i>Zosterops japonicus</i> | non-native | uncommon |
| Common myna | <i>Acridotheres tristis</i> | non-native | rare |
| Northern mockingbird | <i>Mimus polyglottos</i> | non-native | rare |
| Zebra dove | <i>Geopelia striata</i> | non-native | rare |
| Pacific golden-plover | <i>Pluvialis fulva</i> | migratory | rare |

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APPENDIX E.

Archaeological Inventory Survey

**AN ARCHAEOLOGICAL INVENTORY SURVEY
FOR KAHEKILI HIGHWAY REPAIR PROJECT
KAHAKULOA *AHUPUA`A*,
WAILUKU DISTRICT, MAUI ISLAND
(COUNTY JOB NO: 09-48)
(TMK: (2) 3-1-002: Portion of 016)**

Prepared on behalf of:

**County of Maui
Department of Public Works
Wailuku, Maui**

Prepared by:

**Xamanek Researches, LLC
Pukalani, Maui**

**Erik M. Fredericksen
Jennifer J. Frey**

8 March 2012

ABSTRACT

Xamanek Researches, LLC carried out an archaeological inventory survey of a c. 1.4 acre portion of land in Kahakuloa *Ahupua`a*, Wailuku District, Maui, during the summer of 2011 (TMK: 3-1-002: Portion of 016). A portion of the project area is located within about 100 m of the coastline. Much of this steeply sloping area was unused at the time of our survey. The project area consists of a c. 1.4-acre portion of the Kahekili Highway road right-of-way. It is estimated that c. 0.4 acre of the asphalt concreted paved roadway will be resurfaced. Portions of the project area have been previously impacted by road construction activities. This inventory survey was conducted at the direction of the County of Maui, Department of Public Works, Wailuku, Maui.

This archaeological study utilized a 100% pedestrian surface survey with c. 5 m spacing between transects. There was no formal subsurface testing carried out because of safety considerations and the lack of soil deposits in testable areas. Excavated soil from the surface of a rock shelter was screened with 1/8th inch wire mesh. However, the rock floor of this overhang was essentially exposed, and soil deposit was less than 5 cm in depth. Two surface sites were located during the walkover of the project area. Site 50-50-02-7168 is interpreted as a post-contact burial cave (based upon the presence of wood, which appears to be redwood, visible in the partially walled off cave). Site 7169 consists of a possible shelter overhang. Given the general level of previous disturbance, no further archaeological work is recommended for much of this c. 1.4-acre portion of land in Kahakuloa, Maui. However, precautionary monitoring is recommended for excavation that occurs within the project. A preservation plan for Site 7168 will be forthcoming.

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Figure 1: Topographic map with general location of the project area, Kahakuloa, Maui.

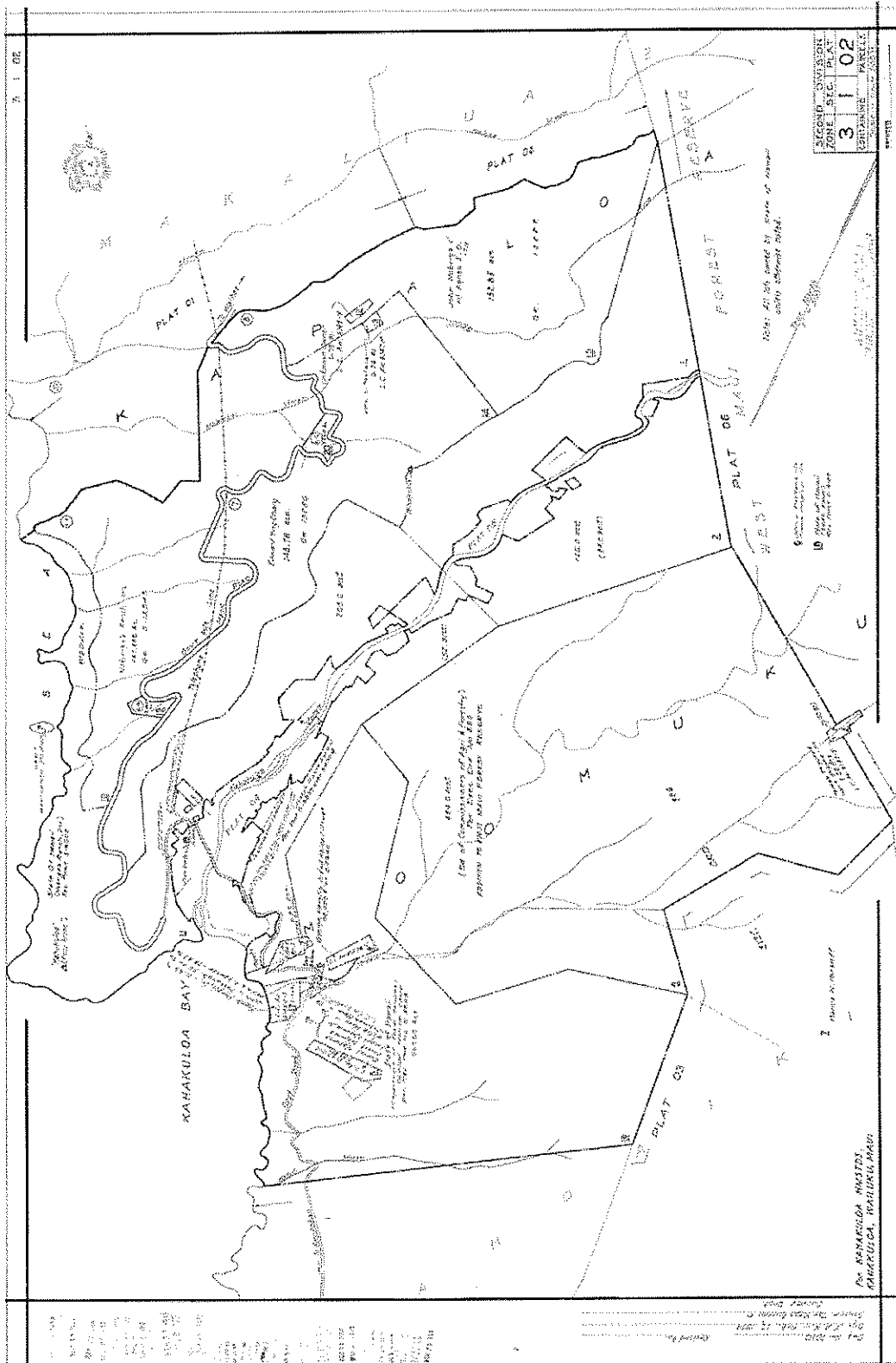
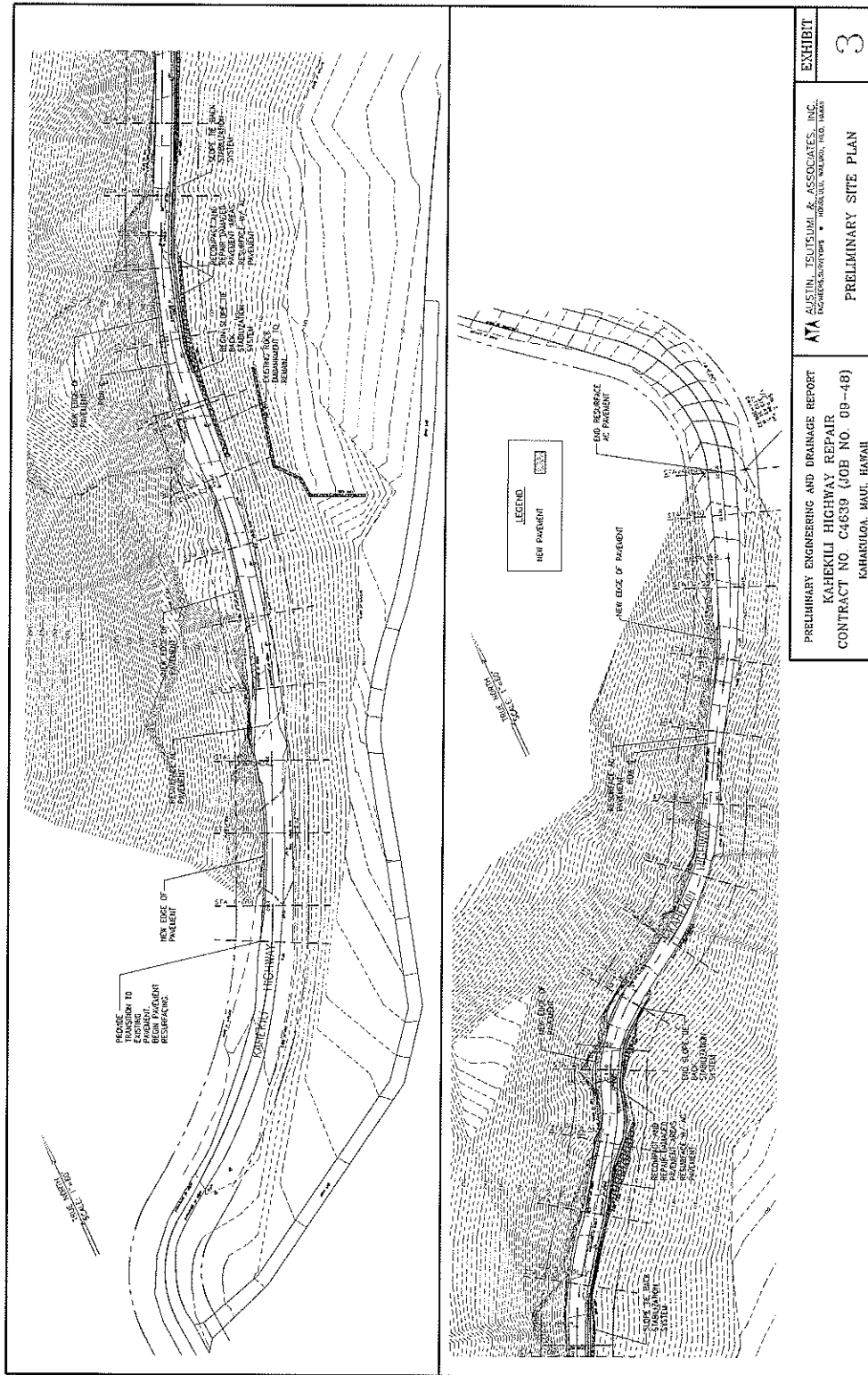


Figure 2: TMK map with location of the project area (in green).



PRELIMINARY ENGINEERING AND DRAINAGE REPORT
 KAPEKILI HIGHWAY REPAIR
 CONTRACT NO C4639 (JOB NO. 09-48)
 KAHAKULOA, HAWAII

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
 ENGINEERS-ARCHITECTS-PLANNERS
 1000 ALI'OLE, MALDEN, MA 02148

EXHIBIT
 3
 FEBRUARY 2011

ECR NO. 44-10-501
 1/10/10 10:40 AM PER CDRU-PRELIMINARY SITE PLAN.dwg

Figure 3: Project topographic map, Kahakuloa Highway improvements.

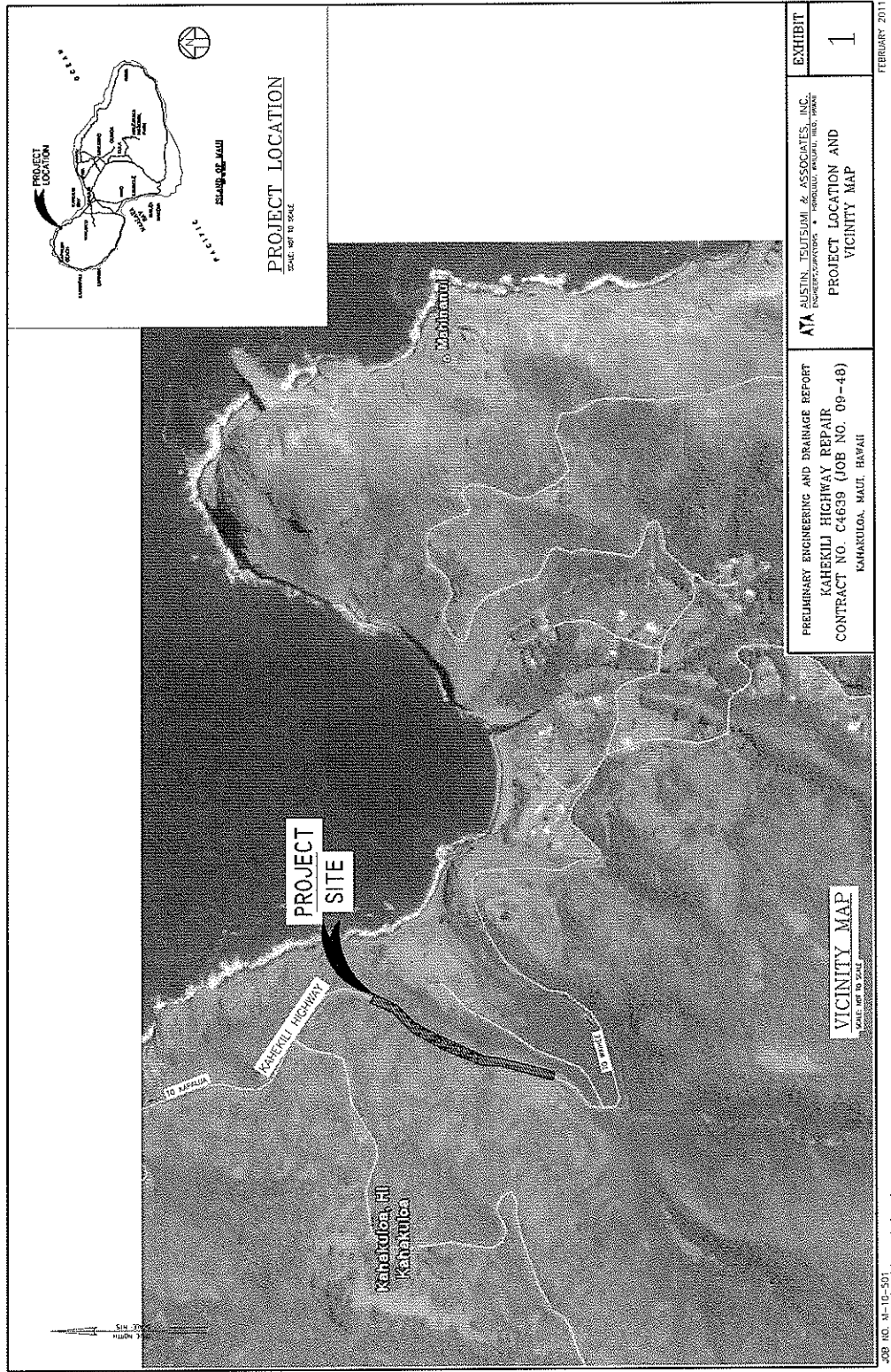


Figure 4: Aerial photograph of the project area (black cross hatching), Kahakuloa, Maui.

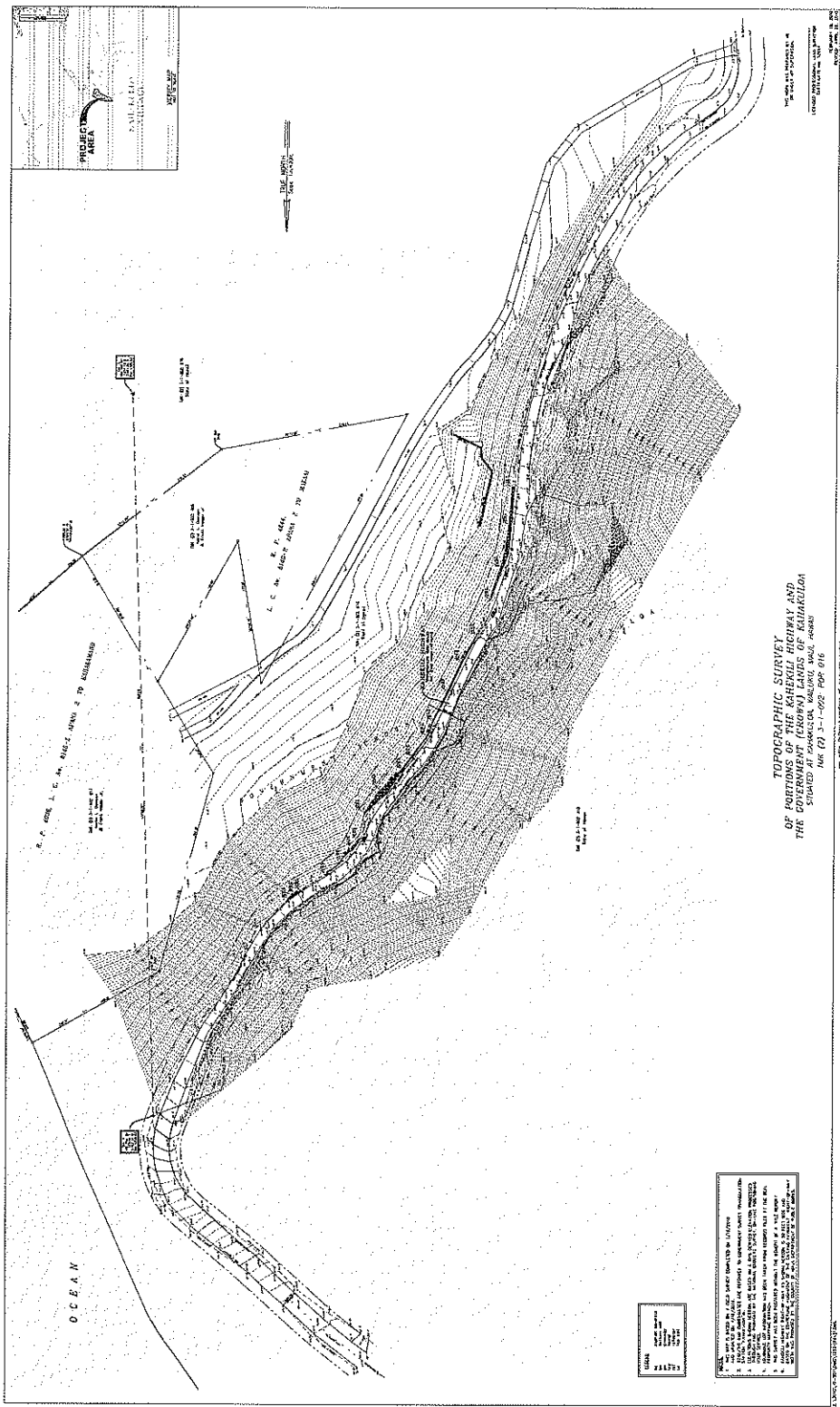


Figure 5: Project map showing the locations of the LCAs, east of project area.

INTRODUCTION

Mr. Mark Roy, Munekiyo & Hiraga, Inc., originally contacted Xamanek Researches, LLC in the winter of 2010 about some archaeological work that was needed for a portion of Kahekili Highway in Kahakuloa *ahupua`a*, Wailuku District, Maui (Figures 1-4). Erik Fredericksen first accompanied Mr. Justin Tanaka of Munekiyo & Hiraga, Inc. to a meeting and interview with Mr. Richard Hoopii on 21 April 2010. The purpose of this interview was to collect information for a Cultural Impact Assessment for the proposed road improvement project. It was at this meeting that the presence of a previously undocumented burial cave, now designated SIHP No: 50-50-02-7168, was disclosed. Mr. Hoopii was very informative and transported Justin Tanaka and the co-author to the location of the site on the same day.

At the time of this meeting, Mr. Hoopii believed that there are several post-contact burials contained within this cave (Appendix B). Some are thought to be Native Hawaiian individuals, possibly associated with the plantation era. An inspection revealed a mostly sealed cave entrance (dry laid rock wall). Some weathered, milled wood - thought to be redwood - was partly visible through a small gap in the rock wall. At this juncture, the site was interpreted as a probable post-contact burial site.

Mr. Hinano Rodrigues of the State Historic Preservation Division (SHPD) was next contacted about this probable burial site. Given the location of this site on the *mauka* (western) side of the road-right-of-way, Mr. Rodrigues concurred that road construction activities should take place only on the road itself and on the downslope or *makai* (eastern) portion of the right-of-way. The project planning team was informed about this development. A project hiatus next occurred, while the County project engineer revised the scope of work for this road improvement project.

Xamanek Researches, LLC subsequently conducted an archaeological inventory survey of the proposed road repair project area during late April of 2011, with follow-up field checks over the summer of 2011, and a field inspection on 16 September 2011 with Mr. Scott Fisher, Maui/Lana'i Islands Burial Council Vice Chairman. In addition, a presentation was made to the Maui/Lana'i Islands Burial Council in July 2011. At this meeting, the Burial Council also concurred that all construction related activities should only occur on the road, and within the downslope or *makai* (eastern) portion of the road right-of-way.

The following report presents the results of our archaeological inventory survey, which was conducted in 2011. This report has been prepared per the direction of Munekiyo & Hiraga, Inc. on behalf of the County of Maui, Department of Public Works.

STUDY AREA

As noted previously, the project area is composed of c. 1.4 acres of County road right-of-way, which is contained within a larger State parcel. The study area is bordered by steeply sloping land. The study area is bordered by privately held land on its southeastern side. There were no native plant species noted in the project area during our fieldwork. Observed vegetation included *koa haole* (*Leucaena leucocephala*) trees, a species of naturalized landscaping tree (a legume), invasive grass species, lantana (*Lantana camara*) and annual succulent weeds.

The study area contains an actively used portion of Kahekili Highway, which is a one-lane road in this locale. One moderate-sized, seasonal gully is located to the southeast of the road.

Natural History

Soils, which are typical in the vicinity of the study area, include Honolua (HwD) and Halawa (HID) series soils on the ridge tops and rough broken land (rBR) in the gulch areas (Foote et al., 1972). Both soils are listed as good for cultivating pineapple and for pasturage (Ibid.). Sand dune formations present to the southeast of the current project area near Waihe'e Stream are classified as Pu'uone (PZUE) sands (Ibid.).

The study area ranges from a high of c. 220 ft AMSL on the *mauka* (western) side of Kahekili Highway to a low of perhaps 85 ft AMSL along the *makai* (eastern) lowest portion of the adjacent gully. Annual rainfall on this windward portion of Maui averages about 40-60 inches, with most precipitation generally occurring during the winter months. The average temperature ranges from the mid-seventies to the mid-eighties, and is relatively constant throughout much of the year.

BACKGROUND INFORMATION

The study area lies within Kahakuloa *ahupua`a*, which shares a border with Waihe`e *ahupua`a* to the south. The project area lies an estimated 2 km north of Kahakuloa Valley, and c. 10 km north of Waihe`e Valley. Both of these valleys are known for their wetland agricultural importance in traditional times. For the purposes of this report, background information is provided for both areas.

To the south of the project area, Waihe`e and Wai`ehu *ahupua`a* share not only a border, but history and land use as well. This land use transcended the traditional boundaries. A comprehensive discussion of oral histories and legends of the general area is presented in Appendix A of the inventory survey report for the Waihe`e Golf Club (Donham, 1989). The reader is referred to this material for further information.

Waihe`e Stream is the northernmost of the *na wai`eha*, or “the four waters”, the four major rivers that drain eastward from the West Maui mountains. The others—moving southwards—are Wai`ehu, Wailuku (Iao) and Waikapu. The term Waihe`e is given several origins and meanings, from the name of an ancient *lo`i* and taro patch near the sea, to the translation of “slipping water,” or “Valley of Racing Waters” (Wong, p. A-1, in Donham, 1989). Legend says that the Waihe`e River, located c. 3 km to the south of the project area, originates from a deep, dark spring—Eleile Spring, in which there lives a *mo`o* (giant lizard or dragon). There is a special wind of Waihe`e, which is called the *Kili`o`opu*, meaning “faint odors of the `o`opu”. The `o`opu was a special fish that could be eaten only by the chief when they were in season. Commoners were not allowed to catch or cook them. If people in the uplands cooked this fish, it is said that the odor would escape and waft down on the wind to the chief’s house, indicating to him that the *kapu* on these forbidden fish was being broken. The perpetrators would then be sternly dealt with (Wong, p. A-1, in Donham, 1989). The *Kili`o`opu* wind is the precursor of the *`Aha`aha* wind. This is described as follows:

“The `Aha`aha breeze begins as the Kili`o`opu in Waihe`e, Maui, before reaching Niua Point in Wai`ehu. It is a gentle breeze and the sea is calm when it blows. Fishermen launch their canoes and go forth to fish, for that is the time when the `aha`aha fish arrive in schools”¹ (Ibid.).

Handy (1940, p. 107), states that “the area from Waihe`e to Wailuku Valley was the largest continuous area of wet taro cultivation in the islands. ...in the early days the

¹ According to Pukui and Elbert, these are young needlefish of the Belonidae family (1986, p. 5).

terraces were nearly contiguous in a belt between the sand dunes and the present irrigation ditch.”²

According to Handy (1940, p. 106), the name Kahakuloa refers to a small and famous *lo`i* c. 800 m inland in the bottom of Kahakuloa Valley. This irrigated *kalo* patch belonged to the *haku* or lord of the land. Because of the isolation of the area, the *haku* became known as the “far away master” – *ka haku loa* (Ibid.). Handy states that Kahakuloa was “one of the most genuinely native communities still extant in the islands...” (Ibid.). The entire Kahakuloa Valley complex, which includes wet and dryland agricultural terracing, has been designated an historical district – Site 50-50-02-1502.

A battle, known as the Kalae`ili`ili Battle (c. 1765), was a local uprising, fought because the rich agricultural resources of the Waihe`e River Valley and the offshore marine resources were being unevenly distributed by the chief Keeaumoku, and other Moloka`i chiefs. It was felt that the abundance would have allowed all to be well fed, and that the Maui people were being treated unfairly. The Moloka`i chiefs were driven out of Waihe`e. Kahekili was said to have been involved in this battle on the side of the Maui forces (Donham, 1989, p. 11). No doubt those living in neighboring Kahakuloa and Wai`ehu *ahupua`a* were effected by this battle and the conditions leading up to it.

The importance of the Wai`ehu/Waihe`e/Kahakuloa area is reflected by the number of *heiau* that were reportedly present in precontact times. Walker (1931) located and plotted 5 *heiau* in Wai`ehu, 8 in Waihe`e, and 7 in Kahakuloa. Queen Ka`ahumanu is also reported by Kamakau (1992, p. 19) to have had control over a *pu`uhonua* in Wai`ehu/Waihe`e, which was designated during the reign of Kamehameha I.

Post-contact period

The Mahele land records indicate that much of the land in the vicinity of the project area consisted of Crown lands. The Mahele land records also show that the bulk of the coastal Waihe`e lands to the south of the project area were given to Victoria Kamamalu—LCA 7713, *Apana* 24. She was acting as *kuhina-nui*, a position she inherited from Ka`ahumanu (Donham, 1989, p. 12)³. Numbers of awards were granted in the Kahakuloa Village area to the southeast of the project area. Many of these awards were granted for *lo`i*.

Land Commission Awards near Kahekili Highway project area

There are two awards located in the nearby gully to the east of the road improvement project area. These awards are R. P. 4644 LCA 4146-R *Apana* 2 to Makaai, and R. P. 4636 LCA 4146-Z *Apana* 2 to Kahakamano (refer to Appendix A).

² This is the Spreckels Ditch, which runs from Waihe`e Stream to the Waiale Reservoirs south of Wailuku Town. The ditch is situated on the western side of Kahekili Highway, *mauka* and southwest of the project area.

³ Victoria Kamamalu was the daughter of Kinau, the wife of Kamehameha II. She was only 10 years old when the lands were transferred to her (Mrantz, 1982, p. 22; in Donham, 1989, p. 12)

LCA 4146-R was awarded as 4 Apana - 2 *lo`i* and 2 *kula* land according to the Waihona `Aina database. According to the database, LCA 4636-Z was awarded as 4 Apana - 7 *lo`i* and 1 house lot. All above plots were granted in Kahakuloa.

The population of Waihe`e in 1832 as recorded by the missionaries was 827, or about 20% of the people within the traditional No Wai Eha District. During this time, there were many *kuleana* lands that were under taro or *kalo* cultivation. This traditional form of agriculture extended into the 20th century along the northern and southern slopes and the mouth of Waihe`e Valley (Ibid., p. 13). Some taro production continues to this day in portions of Waihe`e Valley - where the water flows. A similar pattern also occurs in the nearby Kahakuloa Valley, where many *lo`i* are currently in use today.

Other land use in post-contact times in much of Waihe`e centered on commercial sugarcane cultivation. In 1862, T.H. Hobron obtained land for sugarcane production, and Captain J. Hobron of Makawao purchased land for the Waihe`e Mill. By 1865, Waihe`e Sugar Company was producing over 750 tons of sugar, 45,000 gallons of molasses, and continued operations for another 29 years (Ibid.). Wailuku Sugar Company purchased Waihe`e Sugar Company and Waikapu Sugar Company in 1894.

Waihe`e Dairy and Farm was established in 1919, and was connected with Wailuku Sugar Company, with the express purpose of providing milk and meat for the sugar plantation employees (Ibid., p. 15). Waihe`e Dairy continued operations until it was shut down in 1967. The project area lies in rugged terrain that was likely utilized for pasturage by the Waihe`e Dairy. We noted a few old fence posts (redwood) that are situated along the edge of the substantial bluffs that are located *makai* of the study area.

Sugarcane production continued in the general Waihe`e/Wai`ehu area until the 1980s, when Wailuku Sugar Company became Wailuku Agribusiness, Inc. in order to reflect the diversification of the agricultural products that were being produced. Much of the Wai`ehu and Waihe`e lands were shifted over to commercial Macadamia nut production. In January of 2002, C. Brewer & Company, of which Wailuku Agriculture, Inc. is a subsidiary, announced that it was placing much of the land for sale, thus ending the 137-year presence of commercial agriculture in this part of Maui (The Maui News, January 18, 2002).

The pineapple industry began on Maui in the early 1890s in Ha`iku, when D.D. Baldwin began making experimental plantings (Engledow, 2001). Commercial production began around 1900, when the first fresh fruit was shipped to San Francisco. The Ha`iku Fruit & Packing Company was subsequently built in about 1904. It was the largest pineapple processing plant on Maui by the 1920s. The Ha`iku Fruit & Packing Company, and Baldwin Packers (later known as Maui Land and Pineapple Company, Inc.) cultivated pineapple on some Kahakuloa lands, as well as on more rugged (and marginal) land sections in Waihe`e.

According to an informant for the Cultural Impact Assessment for the Kahekili Highway Improvement Project, Baldwin Packers cultivated pineapple on land near the current project area (see Appendix B of this report).

In addition to pineapple cultivation, ranching activities were carried out on marginal lands in Waihe'e and Kahakuloa. At present, the Mendes Ranch operates in portions of Kahakuloa.

PREVIOUS ARCHAEOLOGICAL STUDIES

The following section contains general information on archaeological studies that have been carried out in the vicinity of the current project area and to the southeast in Waihe'e *ahupua`a*.

As in other areas of Maui, one of the earliest archaeological inventories of sites conducted in the Wai`ehu/Waihe`e/Kahakuloa region was carried out by Winslow M. Walker, during the period between October 1928 and August 1929. He located and plotted 5 *heiau* in Wai`ehu, 8 in Waihe`e, and 7 in Kahakuloa, following information provided by local informants, and early 20th century writings by Thrum and Stokes.

The noted Wai`ehu *heiau* included Halelau (Site 37); Kamakoa (Site 38); Malumaluakua (Site 39); Kukuikomo (Site 40); and Puukoa (Site 41) [Walker, 1931, pp. 131-144]. Halelau *heiau* is described as being "*mauka* to Wai`ehu Camp in cane fields. Obliterated by modern cemetery" (Ibid., p.140). Kamakoa *heiau* was located in a grove of eucalyptus trees at c. 600 feet elevation at the head of Wai`ehu Road. It is described as a "group of curiously eroded stones which may have had sacred significance, but no trace of walls is to be seen. Said to be place of King Kamakokole where drums were heard on night of Kane." (Ibid., p. 141).

Malumaluakua *heiau* was located at the head of South Wai`ehu Gulch. It is described as being in a grove of *kukui* trees, surrounding a level spot without evidences of walls or platforms. A large rock in the center may have served for sacrificial purposes. According to Walker: "The native informant, Kawailana, was an old man 88 years of age and blind. But he said the *heiau* near Wai`ehu were all built by Kahekili to Kane, and men and pigs were laid on the *lele*. In this region a *heiau* seems to mean merely a sacred spot not marked necessarily by either walls or platforms of stone" (Walker, 1931, p. 142). Kukuikomo *heiau* was located on a ridge between North and South Wai`ehu Gulches. It is another *heiau* without walls or platforms (Ibid., p.143). Puukoa *heiau* was located near a pond on a ridge south of Wai`ehu Camp, and had been completely destroyed (Ibid., p. 144).

The Waihe`e *heiau* bore the following names and site numbers: Ulukua (Sites 28 and 29), Koihale (Site 30), Kalaekahoomano (Site 31), Kapokea or Kealakaihonua (Site 32), Kapoho (Site 33), Kakaolika (Site 34), Pu`ukuma (Site 35), and Paulani (Site 36). Two other ones were mentioned by Stokes (Kamahoe and Kalanihale) but not located by Walker (1931). Only one, Kapokea *heiau* (Site 50-50-04-32), located on the beach near the old Waihe`e Dairy, remained relatively intact at the time of his survey.

There were a total of seven *heiau* that Walker recorded during his survey in the Kahakuloa area. These *heiau* included Hononana (Site 21), Kaneaola (Site 22), Kuewa (Site 23), Keahialoa(?) (Site 24), Pakai (Site 25), Waipiliamoo (Site 26), and Kukuipuka (Site 27). Walker (1931) reported general information about these structures. Hononana was a large pentagonal, walled *heiau* located in a gulch near the coast. It was used as a cattle pen at the time of Walker's survey. Kaneaola was a moderately sized *heiau* with a right-angle outline. Kuewa *Heiau* was located *mauka* of Kahakuloa Village. An informant indicated that stone piles visible were burials. The *heiau* had been altered at the time of Walker's survey. Keahialoa(?) was located on the eastern side of Kahakuloa Stream near a trail. This *heiau* formed the foundation of a house at the time of Walker's survey. Pakai *Heiau* was located on the eastern side of Kahakuloa at the edge of a pineapple field. It had been destroyed by earthmoving activities associated with pineapple cultivation.⁴ Waipiliamoo *heiau* was located near the mouth of Makamaka`ole Gulch c. 50 yd from the shore. This site was reported to have been largely destroyed. Kukuipuka *heiau* was reported to have been a place of refuge for West Maui. This *heiau* was located on a hill overlooking the old road. The structure was reported to have been largely destroyed by pineapple field operations.

Walker notes that most of the *heiau* in the region, except those found near the shore, had by the time of his survey (c. 1928) been destroyed to make way for sugarcane fields. In some cases "the rock has been heaped in a great pile, in others all traces are gone" (Walker 1928:26).

Yent (1982) and Estioko-Griffin (1988) carried out brief reconnaissance surveys of lower Kahakuloa Valley. Yent focused on a portion of the *lo`i* (taro pondfields) complex, which is now identified as the Kahakuloa site district (State Site 50-50-02-1502). The stone-walled features formed a series of terraced *lo`i* running parallel to the stream, tapping its water at the uphill side and returning the remainder at the bottom of the complex (Yent 1982). While these features have been modified in post-contact times, it is likely that they represent continued agricultural use that stretches back several hundreds of years. Estioko-Griffin assessed a short pipeline easement, and the only nearby historical site in the area was the Kahakuloa Congregational Church.

In 1983 Yent and Ota conducted work in portions of the Kahakuloa forest reserve, surveying areas from 400 to 2,000 ft in elevation (Yent and Ota 1983:1). While no sites were located during this earlier work, heavy vegetation was present and likely impacted visibility of the ground surface. The authors also noted that the ridge tops were disturbed, and that the area appeared to have been vegetated with *`ohi`a* forest before cattle grazing began in the 1950's.⁵

⁴ Haiku Fruit and Packing Co. utilized some lands in Kahakuloa to grow pineapple. Pineapple production in this part of Maui went into decline after the Great Depression in the 1930s. Pineapple production in this part of Maui appears to have ceased by the 1960s.

⁵ These ridge top areas were often cabled and/or chained with tractors and/or mule teams to expand pasture areas during the ranching era.

The only other archaeological work reported in the region prior to work carried out by the Bishop Museum (see discussion below), was a brief write up regarding a human cranium found by boy scouts *makai* of Camp Maluhia at Site 50-50-02-1466, northwest of the Mendes parcel. This cranium was collected from a cave, and appeared to have been from a 50 to 55 year old Polynesian male (Douglas 1991).

Bishop Museum AIS

The B. P. Bishop Museum carried out an inventory survey of a 245-acre parcel in 1996, to the southwest of the current project area (Major and Klieger, 1996). A total of 8 previously unrecorded historic properties were documented during the survey. In addition, two previously identified sites were reevaluated. Site 27, originally interpreted as a *heiau* by Walker, was reinterpreted as a c. 19th century habitation. The study also attempted to locate a section of the old government road, Site 50-50-02-2929, which was potentially located on the project area. Other sites included a ranch era partial enclosure (4110), one traditional agricultural terrace (Site 4111), clearing mounds (Site 4112), a traditional agricultural complex (Site 4113), a late 19th century/early 20th century water ditch (Site 4114), traditional water control and slope retention terracing (Site 4115), traditional agricultural terracing (Site 4116), and a stone wall from the late 19th / early 20th century. In place preservation was recommended for Sites 4113, 4115, and 4116. In addition, Site 29 was recommended for preservation status, if possible. Sites 4110, 4111, and 4114 were recommended for data recovery work if development plans were to impact them. No further work was recommended for Sites 4112, 4117 and 2929. The latter site was not located on the project area during the inventory survey. Archaeological monitoring was recommended for the overall project.

Waihe'e Farms

Xamanek Researches, LLC carried out an archaeological inventory survey of a c. 30-acre portion of a larger parcel in late 2005 and early 2006 (Fredericksen, 2006). This property is located c. 10 km south of the study area, in the northernmost section of Waihe'e *ahupua'a*. One previously unrecorded cultural resource, Site 50-50-04-5823, was located during the inventory level testing of the proposed construction impact zone on the parcel.⁶ This site consists of a subsurface cultural layer that ranges from 10-30 cm in thickness. Recovered material culture remains included one coral and four lithic artifacts, several pieces of volcanic glass, c. 275 g of marine-based food midden remains, and several pieces of coral. In addition, four subsurface features, consisting of three pits and a posthole were located during testing. Given the location of the site area, which overlooks the nearby coastal bluff, along with the presence of indigenous food remains, this site was interpreted as a near coastal temporary habitation area. Precautionary monitoring, with additional recordation was recommended during construction activities.

⁶ Much of the parcel is very steep and was not tested.

STUDY AREA

Settlement Patterns

The project area is located on land that lies *mauka* of substantial coastal bluffs that overlook the ocean. In precontact times this area would have afforded marine resources—possibly including sea birds—to those willing to scale the more manageable cliff sections.⁷ The study area is located c. 2 km to the north of Kahakuloa Stream and Kahakuloa Valley, where permanent habitation and wet land agriculture occurred. This rugged portion of Kahakuloa likely contained less potable water, and may have been utilized on a more temporary basis in precontact times.

Expected Findings

Commercial pineapple and sugarcane cultivation began in the mid- to late 1800s, and the subsequent importation of foreign labor for the plantation system changed the character of this part of Maui. The plantations acquired large amounts of land, which displaced many native Hawaiians. The acquisition of stream water for pineapple and sugarcane cultivation essentially dried up many of the remaining *kalo* fields by the end of the 19th century. Subsequently, a pattern of dispersed villages and camps for plantation workers emerged. *Kuleana* land grants often changed ownership, as plantation workers became affluent enough to purchase land from Hawaiians who were willing to sell. Commercial development thus became a driving force that would continue and intensify through the 20th century.

Based on our background research and the presence of two Land Commission Awards near the project area, the expected findings could include possible precontact temporary habitation and/or dry land agricultural site remnants, possibly containing associated human burials. In addition, given that this area has been utilized for pasturage for numbers of years, ranch-era features could also be present. Finally, given the past presence of commercial pineapple production in the general area, plantation era site remnants could possibly be present.

⁷ According to Mr. Mendes, a property owner near the boundary of Kahakuloa and Waihe'e *ahupua`a* to the south of the current project, ladder and rope systems allow a few fishermen who are brave enough to access the rough shoreline at the base of a c. 70 ft high bluff on state land near his parcel (personal communication, 2007).

FIELD METHODS

Erik Fredericksen first accompanied Mr. Justin Tanaka of Munekiyo & Hiraga, Inc. to a meeting and interview with Mr. Richard Hoopii on 21 April 2010. The purpose of this interview was to collect information for a Cultural Impact Assessment for the proposed road improvement project. It was at this meeting that Mr. Hoopii, a long time Kahakuloa resident, disclosed the presence of a previously undocumented burial cave (now designated SIHP No: 50-50-02-7168). Mr. Hoopii was very informative and transported Justin Tanaka and the co-author to the location of the site on the same day.

At the time of the meeting, Mr. Hoopii believed that there are several post-contact burials contained within this cave, as well as in the nearby gulch to the east of the project area (see Appendix B). Some are thought to be Native Hawaiian individuals, possibly associated with the plantation era. An inspection revealed a mostly sealed cave entrance (dry laid rock wall). Some weathered, milled wood - thought to be redwood - was partly visible through a small gap in the rock wall. At this juncture, the site was interpreted as a probable post-contact burial site.

Mr. Hinano Rodrigues of the State Historic Preservation Division (SHPD) was next contacted about this probable burial site. Given the location of this site on the *mauka* (western) side of the road-right-of-way, Mr. Rodrigues concurred that road construction activities should take place only on the road itself and on the downslope or *makai* (eastern) portion of the right-of-way. The project planning team was informed about this development. A project hiatus next occurred, while the County project engineer revised the scope of work for this road improvement project.

Xamanek Researches, LLC subsequently conducted an archaeological inventory survey of the proposed road repair project area during late April of 2011, with follow-up field checks over the summer of 2011, and a field inspection on 16 September 2011 with Mr. Scott Fisher, Maui/Lana'i Islands Burial Council Vice Chairman. In addition, a presentation was made to the Maui/Lana'i Islands Burial Council in July 2011. At this meeting, the Burial Council also concurred that all construction related activities should only occur on the road, and within the downslope or *makai* (eastern) portion of the road right-of-way.

The archaeological inventory investigation consisted of a 100% of pedestrian survey and very limited subsurface testing. The pedestrian inspection of the project area was carried out with systematic sweeps oriented in a roughly north/south direction using c. 5 m intervals between sweeps. Our field team consisted of Marco Molina, B.A., and Erik Fredericksen (SHPD Permit #11-07; #12-06). Jennifer Frey, B.A., carried out lab work for the project.

Subsurface investigation was attempted at Site 7169 (XR 2), an overhang shelter, but there was a lack of soil on top of the natural rock cave floor surface. The soil deposit, where present, was found to be less than 5 cm. in depth. Soil was screened through 18th inch hardware cloth, and no cultural materials were recovered other than small amounts of scattered charcoal. Given that road improvements will not impact this site, no further subsurface investigation was attempted. Instead, a profile and plan view of the overhang was mapped to scale and digitally photographed. There were no significant cultural materials encountered at this site. Refer to Appendix C for general project area photographs. Project field notes and digital photographs are kept on file at the Xamanek Researches LLC facility in Pukalani, Maui.

ARCHAEOLOGICAL RESULTS

Two previously undocumented surface sites were located during the course of our inventory level investigation. These sites consist of a burial cave (Site 7168) and an overhang rock shelter (Site 7169). As noted above, there was insufficient soil deposit to place a test unit in Site 7169, an overhang shelter. Site 7169, interpreted as a burial cave, was not entered nor recorded with photographs. The entrance was largely sealed with a dry laid rock wall and no further work was carried out on this site.



Photo 1: Site 7169 (XR-2), rock shelter overhang, just off the edge of the highway.

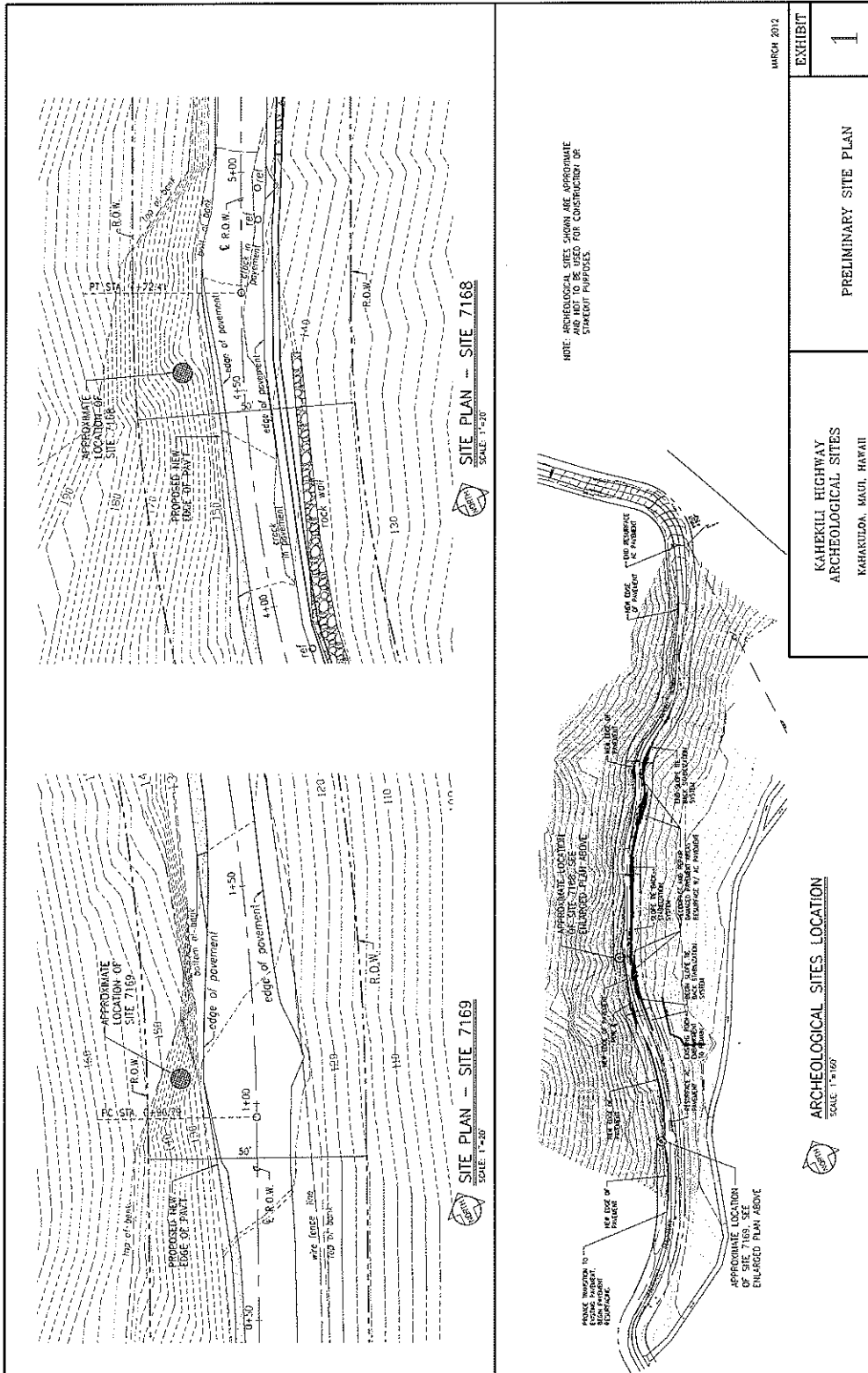


Figure 7: Location of Site 7168 (Cultural Site), and Site 7169 (Shelter Cave).

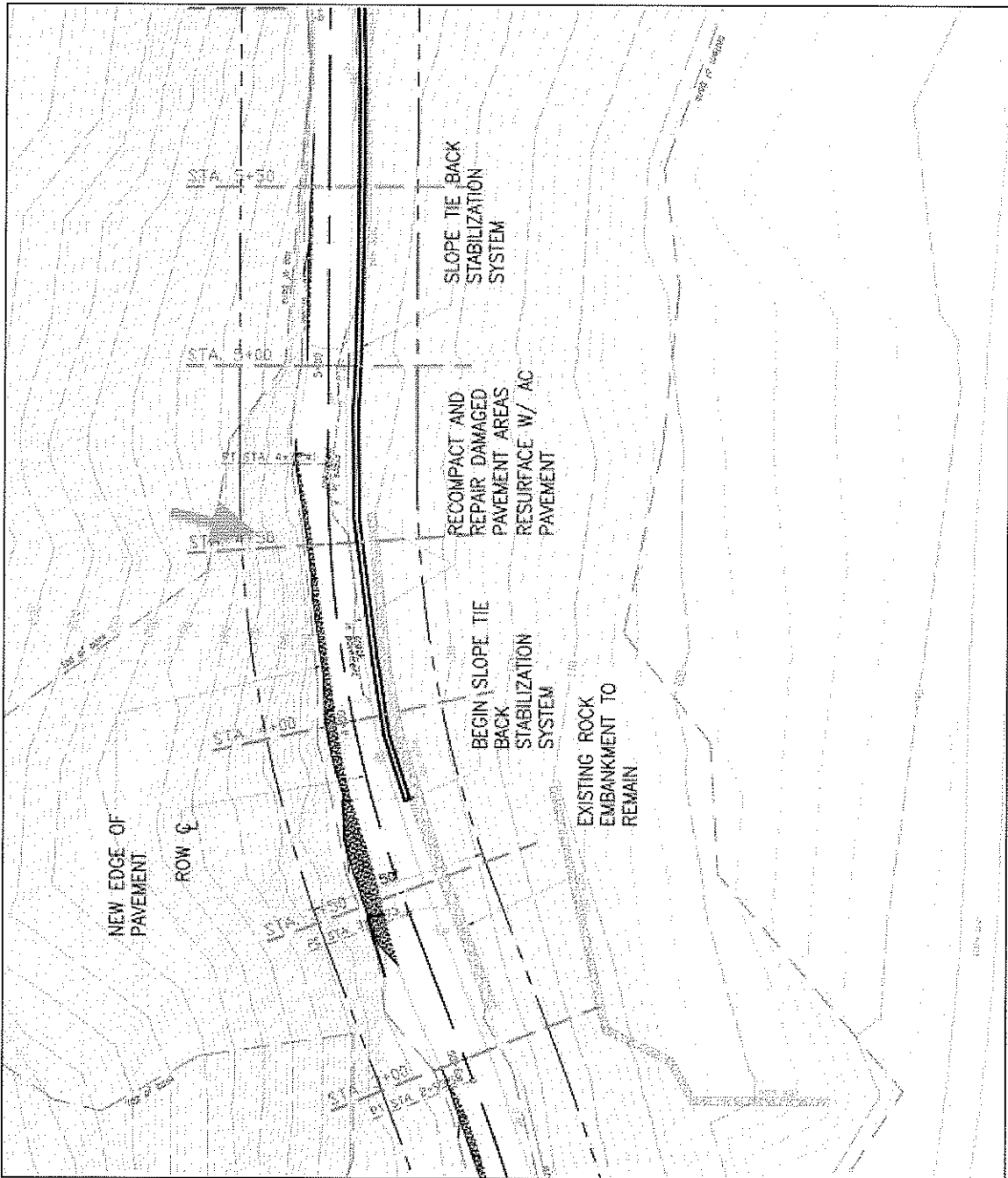


Figure 8: Section of project topographic map with the approximate location of Site 7168 (XR-1 cave).

Sites 50-50-02-7168 and -7169

As noted above, two previously undocumented surface sites were located during our inventory survey. These sites are caves that are located within the road right-of-way. Both sites are situated in the face of the natural rock above the roadway and are relatively undisturbed from recent activity. Each site is discussed below.

Site 7168 (Figures 7 and 8)

This first site is located within the road right-of-way in the natural rock outcrop wall, above the paved road. A local informant and resident of Kahakuloa first noted the presence of this site in April 2010. The entrance to this site is mostly sealed with a dry laid rock wall. A small portion of this wall has fallen and there is limited visibility of the interior of the cave. Remnants of a probable wooden coffin were visible and no further work was carried out. No photographs were taken and no profile was recorded. Mr. Scott Fisher, Vice Chair, Maui/Lanai Islands Burial Council, visited the project area on 16 September 2011 with Erik Fredericksen. Mr. Fisher was able to view Site 7168 at the time, and concurred that limited information about this site should be included in the AIS report. This site is significant for its information content under Criterion "d". In addition, it qualifies for its cultural significance under Criterion "e".

Site 7169 (Figures 7, 9 and 10)

This second site is also situated on the natural rock face above the roadside. This overhang measures c. 2.4 meters wide by c. 80 cm deep. There is very little soil deposit on portions of the surface of the natural rock floor. Efforts to excavate a test unit inside this rock shelter indicated that there is less than 5 cm of soil deposit in the cave. No surface cultural materials were found, and no cultural materials were present in the minimal amounts of soil that could be scraped off of the floor of the cave. Site 7169 is significant for its information content under Criterion "d".

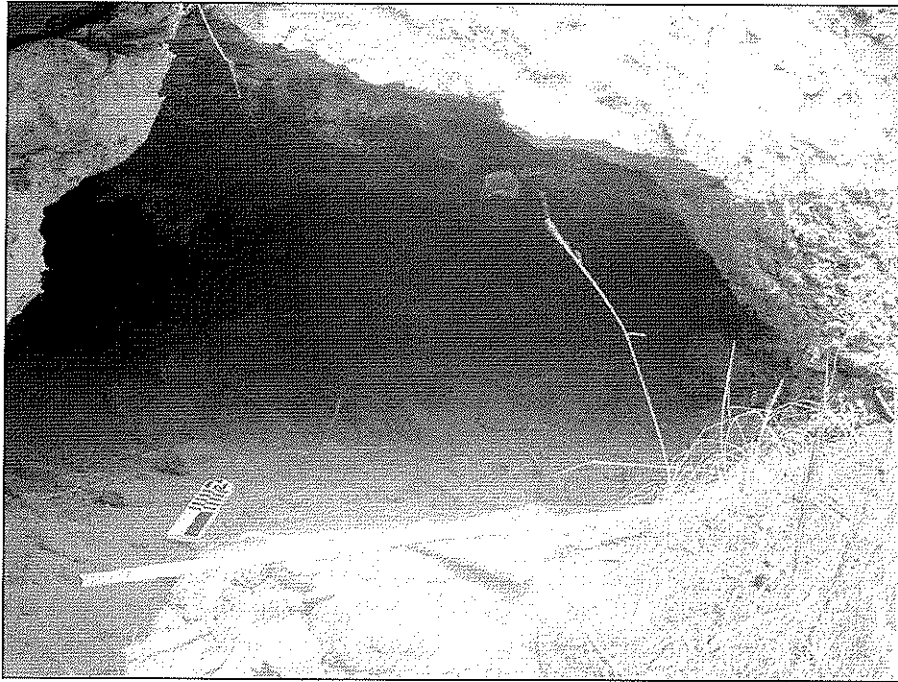
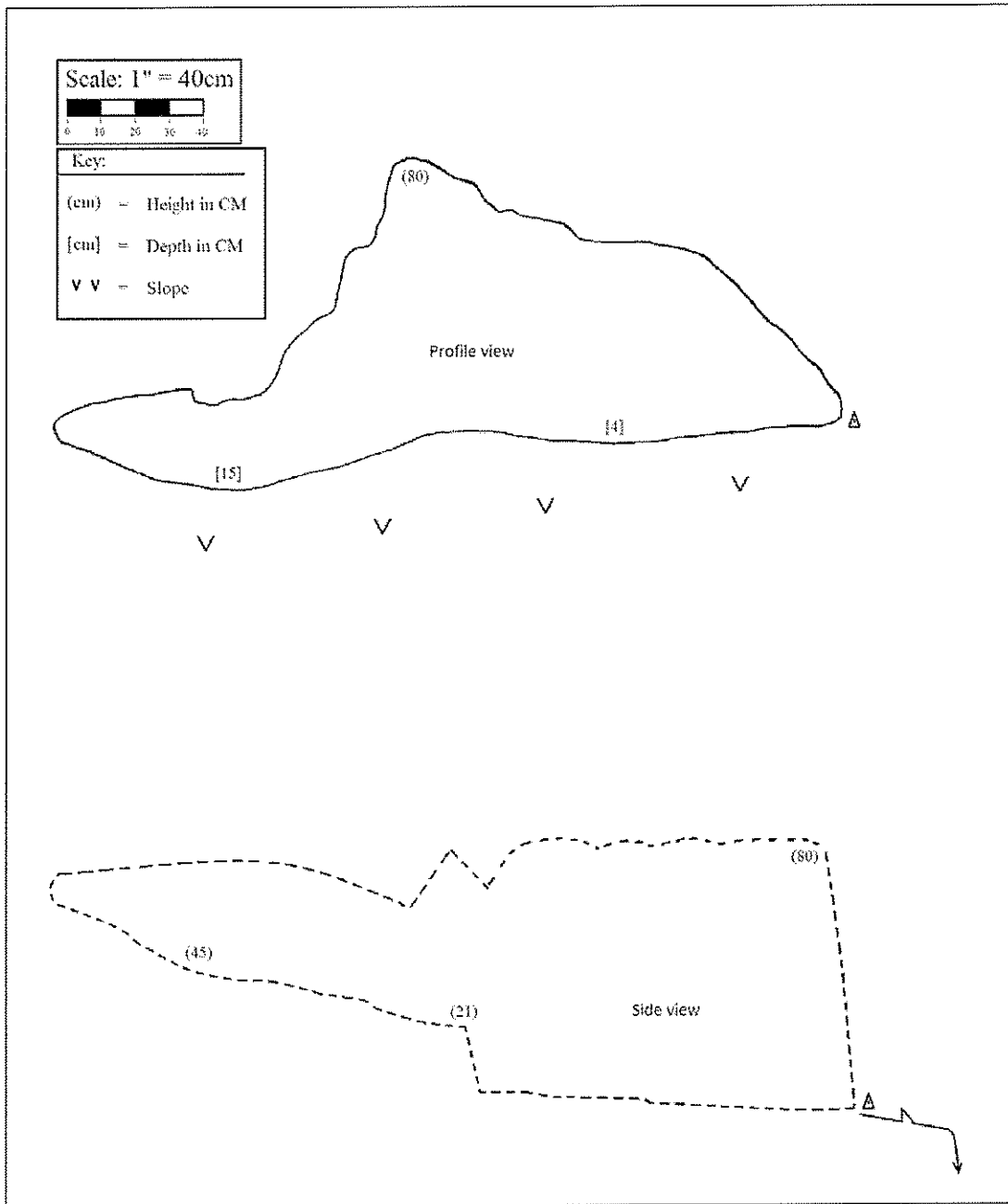


Photo 2: Entrance to Site 7169 (XR-2), rock shelter overhang.

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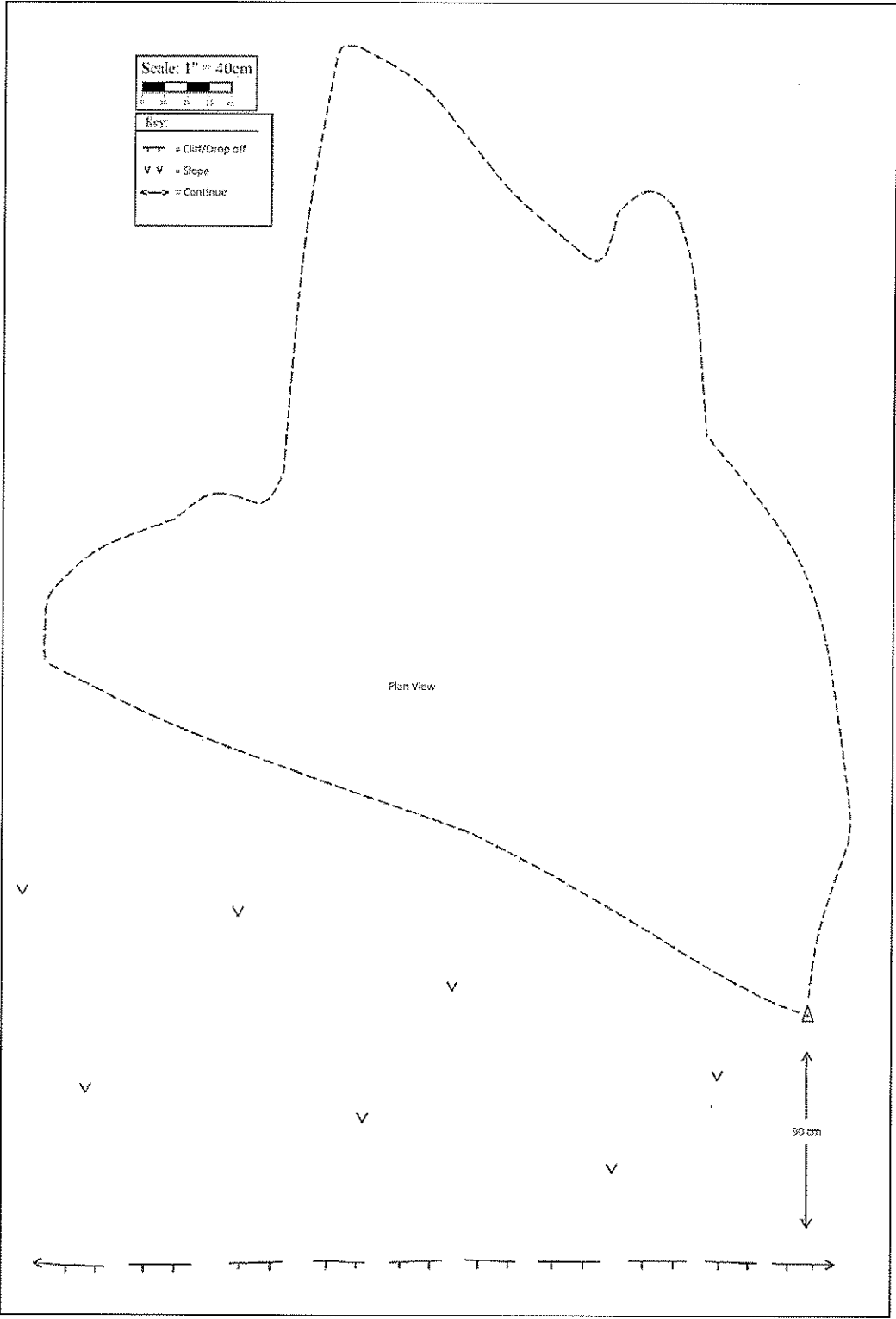


Figure 10: Plan view of Site 7169 (XR-2), rock shelter overhang.

SUMMARY AND CONCLUSIONS

As noted above, two previously unrecorded cultural resources - Site 7168 (XR-1) and Site 7169 (XR-2) - were located during inventory level survey of the Kahekili Highway. Site 7168 is interpreted as a post-contact burial cave and no further work was carried out on this feature. Site 7169 is interpreted as a rock overhang shelter that may have been used for temporary habitation. This second site was recorded and photographed. There were no material culture remains located during our inventory survey of the subject parcel. Two Land Commission Awards are located to the southeast of the project area in a nearby gulch. Mahele documents indicate that these LCAs were awarded for taro plots. Two modern day structures are located on the *makai* LCA in the gulch (Photo 6, Appendix C). In addition, an informant believes that burials are contained within this gulch.

SITE SIGNIFICANCE ASSESSMENT

The two archaeological sites assessed during our inventory survey are subject to the broad criteria established for the State and National Register of Historic Places classified below:

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

Site 50-50-02-7168 (XR-1) and Site -7169 (XR-2) are deemed significant under Criterion “d” for their potential to yield information important about the history of

Hawaii. In addition, Site 7168 also qualifies for significance under Criterion "e" because of its cultural significance.

SITE MITIGATION AND RECOMMENDATIONS

Given the presence of Sites 7168 and 7169, and previous discussions with the Maui SHPD office, precautionary monitoring is recommended during construction activities in generally the steeply sloping project area. An Archaeological Monitoring Plan will need to be prepared for SHPD review and comment. In addition, a Burial Treatment Plan and a Preservation Plan will need to be prepared for Site 7168. These Plans will be reviewed by the SHPD in consultation with the Maui/Lana'i Islands Burial Council.

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**APPENDIX A: LAND COMMISSION AWARDS NEAR
PROJECT AREA**

Island: Maui
Claimant: Makaai
Ahupuaa: Kahakuloa

Claim Number: 06146R
District: Kaanapali
Ili: Hainau, Kawaihae 3,

**Cl. 6146R, Makaai
F.T. 342v7**

M. Kenui, sworn, I sent in this claim January 28, 1848. I know the lands of Makaai. They are 4 pieces in Kahakuloa.

- No. 1 is a kalo land in Kawaihae 3.
- No. 2 is one loi in Hainau.
- No. 3 is a kula in Panoa.
- No. 4 is a kula in Kawaihae 3.

The claimant received these lands from his wife and she had them in the days of Liholiho. His title is not disputed. There is one poalima loi and one Mahele loi in No. 1.

No. 1 is bounded:
Mauka by Napunua's land & the poalima
Lahaina by Haikena's land
Makai by the paahao lois and Kahiawalu's land
Waihee by Mahoe's & Lima's land.

No. 2 is bounded: On all sides by Kauluhua's land.

No. 3 is bounded:
Mauka by Kahana's land
Lahaina by the pali
On other two sides by the creek.

No. 4 is bounded:
Mauka by the ili of Punalau
Lahaina by my land
Makai by Kahakamana's lot
Waihee by the pali.

**N.T. 197-198v5
No. 6146R, Makaai, June 27, 1&49**

M. Kenui wrote and sent this claim to Oahu on January 28, 1848.
M. Kenui, sworn, He has seen 4 sections in Kahakuloa ilis as listed here.

- Section 1 - 1 Taro land at Kawaihae 3.
- Section 2 - 1 Taro patch at Kainau.
- Section 3 - Pasture at Panoa.
- Section 4 - Pasture at Kawaihae.

Land from Makaai's wife at the time of Liholiho 1 Patch division, 1 poalima in the first section, no objection.

Section 1
 Mauka by Napuunoa's land, Poalima
 Lahaina by Kaikena
 Makai by Prison patch, Kahiwahu
 Waihee by Mahoe's land.

Section 2 - All boundaries are for Kauluhua.

Section 3
 Mauka by Kuheana
 Lahaina by Pali
 Makai and Waihee by Stream.

Section 4
 Mauka by Punalau ili
 Lahaina by M. Kenui's land
 Makai by Kahakaumano's land
 Waihee Kahakuloa by pali.

[Award 6146R; R.P. 4644; Hainau Kahakuloa Kaanapali; 1 ap.; .06 Ac.; Kawaihae Kahakuloa Kaanapali; 2 ap.; 2.05 Acs]

| | | | |
|--------------------|---|-----------------------|-------------------------------------|
| Apana | 4 | Other Trees | |
| Secondary Claimant | | Other Plants | |
| Alternative Names | | Koele/Poalima | <input checked="" type="checkbox"/> |
| Loi/Moo | 2 | Loko | <input type="checkbox"/> |
| Plus | + | Lokoia | <input type="checkbox"/> |
| Mala Taro | | Fishing Rights | <input type="checkbox"/> |
| Kula | 2 | Seashore/Dunes | <input type="checkbox"/> |
| House Lot | | Auwai/Ditch | <input type="checkbox"/> |
| Kihapai/Pakanu | | Other Edifice | <input type="checkbox"/> |
| Salt Lands | | Spring/Well | <input type="checkbox"/> |
| Wauke | | Pig Pen | <input type="checkbox"/> |
| Oiona | | Other Mammal | <input type="checkbox"/> |
| Noni | | Road/Path | <input type="checkbox"/> |
| Hala | | Burial/Graveyard | <input type="checkbox"/> |
| Sweet Potatoes | | Wall/Fence | <input type="checkbox"/> |
| Irish Potatoes | | Stream/Muliwali/River | <input checked="" type="checkbox"/> |
| Bananas | | Pali | <input checked="" type="checkbox"/> |
| BreadFruit | | Disease | <input type="checkbox"/> |
| Coconut | | Claimant Died | <input type="checkbox"/> |

| | | | |
|---------------------|--|-------------------------|-------|
| Coffee | | Awarded | 1 |
| Oranges | | Foreign Register | |
| Bitter Mellon/Gourd | | Native Register | |
| Sugar Cane | | Foreign Testimony | 342v7 |
| Tobacco | | Native Testimony | 197v5 |
| Koa/Kou Trees | | Royal Patents | 4644 |
| | | Number of Royal Patents | 1 |

| | | | |
|-----------|----------------------|---------------|-----------|
| Island: | Maui | Claim Number: | 06146Z |
| Claimant: | Kahakaumano/Kahakama | District: | Kaanapali |
| Ahupuaa: | Kahakuloa | Ili: | Paulai |

**Cl. 6146Z, Kahakama
F.T. 345v7**

M. Kenui, sworn, I sent in this claim in Jaunary 1848. The claimant's land consists of 4 pieces in Kahakuloa.

- No. 1 is a house lot in Kawaihae 3.
- No. 2 is a kalo land in Ohia.
- No. 3 is 5 lois in Palae.
- No. 4 is 1 loi in Piiloi.

The claimant received these lands from his parents and his parents had them from the days of that Great Chief Kamehameha I. His title has never been disputed.

No. 1 is bounded:
Mauka by Makaai's lot
Lahaina by the Government road
Makai by Kumauna's lot
Waihee by the pali.

No. 2 is bounded:
Mauka by the poalima lois & Hookanu's land
Lahaina by the creek
Makai by Paahao & Kaholo's land
Waihee by the pali.

No. 3 is bounded:
Mauka by Kaopunaanaa
Lahaina by the paahao lois
Makai by Palaukai's land
Waihee by the creek.

No. 4 is bounded:
Mauka by Kaikena's and
Lahaina by Hale's land
Makai by Hale & the konohiki's land
Waihee by Kaikena's land.

N.T 201v5

No. 6146Z, Kahakaumano, June 28, 1849

M. Kenui, sworn, He wrote and filed this claim in the same way he had done with the other claims. He has seen 4 section in the ilis of Kahakuloa ahupuaa as listed below.

Section 1 - House lot at Kawaihae.
Section 2 - Taro land at Ohia.
Section 3 - 5 deep patches at Paulae.
Section 4 - 1 Taro patch at Piiloi.

Kahakaumano had lived under his parents until he received the land at the time of Kamehameha I, no objection. No Poalima, no divisions.

Section 1:
Mauka by Makaai
Lahaina by Government road
Makai by Kumauna
Waihee by Waihee pali.

Section 2:
Mauka by Hookano
Lahaina by Poalima/stream
Makai by Paahao's land/Kaholo's land
Waihee by Pali.

Section 3:
Mauka by Kaopunaanaa/prison patch
Makai by Palaukai
Waihee by Stream

Section 4:
Mauka by Kaikena
Lahaina by Hale's land
Makai by Hale and Konohiki land
Waihee by Kaikena's land.

[Award 6146Z; R.P. 4636; Paulai Kahakuloa Kaanapali; 3 ap.; 3.165 Acs]

| | | | |
|---------------------|---|-------------------------|-------------------------------------|
| Apana | 4 | Other Trees | 0 |
| Secondary Claimant | | Other Plants | 0 |
| Alternative Names | | Koele/Poalima | <input checked="" type="checkbox"/> |
| Loi/Moo | 7 | Loko | <input type="checkbox"/> |
| Plus | + | Lokoia | <input type="checkbox"/> |
| Mala Taro | 0 | Fishing Rights | <input type="checkbox"/> |
| Kula | 0 | Seashore/Dunes | <input type="checkbox"/> |
| House Lot | 1 | Auwai/Ditch | <input type="checkbox"/> |
| Kihapai/Pakanu | 0 | Other Edifice | <input type="checkbox"/> |
| Salt Lands | 0 | Spring/Well | <input type="checkbox"/> |
| Wauke | 0 | Pig Pen | <input type="checkbox"/> |
| Olona | 0 | Other Mammal | <input type="checkbox"/> |
| Noni | 0 | Road/Path | <input checked="" type="checkbox"/> |
| Hala | 0 | Burial/Graveyard | <input type="checkbox"/> |
| Sweet Potatoes | 0 | Wall/Fence | <input type="checkbox"/> |
| Irish Potatoes | 0 | Stream/Muliwali/River | <input type="checkbox"/> |
| Bananas | 0 | Pali | <input checked="" type="checkbox"/> |
| BreadFruit | 0 | Disease | <input type="checkbox"/> |
| Coconut | 0 | Claimant Died | <input type="checkbox"/> |
| Coffee | 0 | Awarded | 1 |
| Oranges | 0 | Foreign Register | |
| Bitter Mellon/Gourd | 0 | Native Register | |
| Sugar Cane | 0 | Foreign Testimony | 345v7 |
| Tobacco | 0 | Native Testimony | 201v5 |
| Koa/Kou Trees | 0 | Royal Patents | 4636 |
| | | Number of Royal Patents | 1 |

**APPENDIX B: INTERVIEW FROM CULTURAL
IMPACT ASSESSMENT**

PROPOSED KAHEKILI HIGHWAY REPAIR PROJECT CULTURAL IMPACT ASSESSMENT

Interview with: Richard Ho`opi`i
Interviewed by: Justin Tanaka, Planner
Munekiyo & Hiraga, Inc.

Richard Kealoha Ho`opi`i Sr. was born on March 15, 1941 in Kahakuloa Village, a place that was home to his family for five generations. It was here in Kahakuloa Village that Mr. Ho`opi`i was educated about his Kanaka Maoli (Native Hawaiian) heritage. From a young age, he was told many stories by his kupuna, helped his family tend to their lo`i (taro patch), and played many traditional Hawaiian games with other kids in the village. These early experiences helped to ingrain within Mr. Ho`opi`i a sense of respect for his culture and for the cultures of others. Now that he is a Kupuna himself, Mr. Ho`opi`i looks forward to sharing his wisdom and knowledge with others, especially the youth of Hawaii, as it is the only way to preserve the cultural knowledge that was passed to him, by his kupuna before him.

Mr. Ho`opi`i has lived in Kahakuloa for most of his life. As a youth, he attended Kahakuloa School from 1st grade to 8th grade and also frequently attended Kahakuloa church. Within these nurturing environments, Mr. Ho`opi`i's unique gift for singing was allowed to flourish. Becoming adept at both Hawaiian slack key guitar and le`o ki`eki`e (falsetto singing) from a young age, Mr. Ho`opi`i would go on to achieve fame and recognition on an international stage, traveling the world to perform his music and winning two Grammy Awards in the process. No matter where he found himself in his travels however, Mr. Ho`opi`i always knew that there was only once place on this earth that he could call home. "I was born here, and I will die here", he declared proudly. No matter where he went, he always returned back to Kahakuloa.

There was only one instance when Mr. Ho`opi`i moved out of the village. After attending Lahainaluna high school in 1956, Mr. Ho`opi`i began raising a family of his own. In order to support them and provide them with access to more opportunities, he decided to move to Wailuku sometime during the 1970's. During this time Mr. Ho`opi`i worked for the County Department of Parks and Recreation, first as a groundskeeper at the Waiehu Golf Course and later as a cultural specialist. His time with the County lasted for about 25

years. After he retired, he kept busy by staying involved within the community. He managed a little league baseball team, became a kupuna of music, and continued to perform his music for others. Mr. Ho`opi`i moved back to Kahakuloa sometime in the 1980's.

Because he has lived there his whole life, Mr. Ho`opi`i is very knowledgeable about the Kahakuloa area. Historically, Mr. Ho`opi`i explained that the present-day Kahekili Highway that runs through Kahakuloa follows an old pathway that was once used by King Kahekili and his court, known as the King Kahekili Trail. Later, this pathway was used by the military during World War II, to transport tanks and other military vehicles. The military enacted road improvements and stabilizations of their own during this time to accommodate an increased level of vehicular movement. At this time, the transport pathway existed as a simple dirt road that would often get flooded and slippery with the onset of rains in the area. After the war ended, the County added their own improvements and built the paved road that is currently in use today.

Besides the transport of military vehicles, the road also served the needs of plantation workers and other residents who lived in the area. Land directly beyond the project site, to the north, was used for pineapple cultivation and owned by Baldwin Packers, now known as Maui Land and Pineapple Company, Inc. (ML&P). Along with the vast fields of pineapple, many of the plantation workers who worked in the fields also lived in the area. Mr. Ho`opi`i remembers several shacks and huts belonging to workers of Chinese and Japanese descent being located north of the project site.

Regarding the physical environment, Mr. Ho`opi`i described the Kahakuloa area as having a larger abundance of shrubs, ti leaf plants, trees (such as plum, guava, and banana), and lo`i along the roads. A lot of the trees and shrubs in the area were cut down as the Kahekili Highway was built. Furthermore, as families moved away from Kahakuloa to seek opportunities elsewhere, many of the lo`i disappeared.

Mr. Ho`opi`i explained that the gulch in which the project site is located is known as Waihale Gulch. He confirmed that there are several iwi kupuna, or ancient Hawaiian burial sites, located within the gulch. At the project site itself, Mr. Ho`opi`i stated that his Kupuna had told him about three burial sites which were located in caves above the road. One of the sites Mr. Ho`opi`i had personally entered to help restore. He explained that this iwi kupuna site contains numerous graves and that the deceased could have been of Hawaiian, Japanese, or Chinese descent. Most likely they were the remains of the

pineapple plantation workers who had lived in the area.

Mr. Ho`opi`i is concerned about the preservation of the iwi kupuna sites located above the project site. He wants to ensure that the iwi kupuna sites will remain undisturbed throughout the course of the proposed project's construction. If possible, he recommends that road repairs be concentrated on the makai side of the highway, as there are no burial sites there. He also voiced his concerns about the trees which line the roadway on either side. Destroying the trees could potentially cause a landslide or alteration of the cliff face, as the tree roots serve as structural foundations which hold up the dirt and rocks of the mountain side.

If the iwi kupuna sites are protected from disturbance and the mountain side is not adversely affected, Mr. Ho`opi`i believes this project will be beneficial to all users of the road.

F:\DATA\ATA\KahekillHwy\Hoopii.interview.wpd



**APPENDIX C: GENERAL PROJECT AREA
PHOTOGRAPHS 3-6**



Photo 3: Overall view of beginning of the project area, view to the northeast.

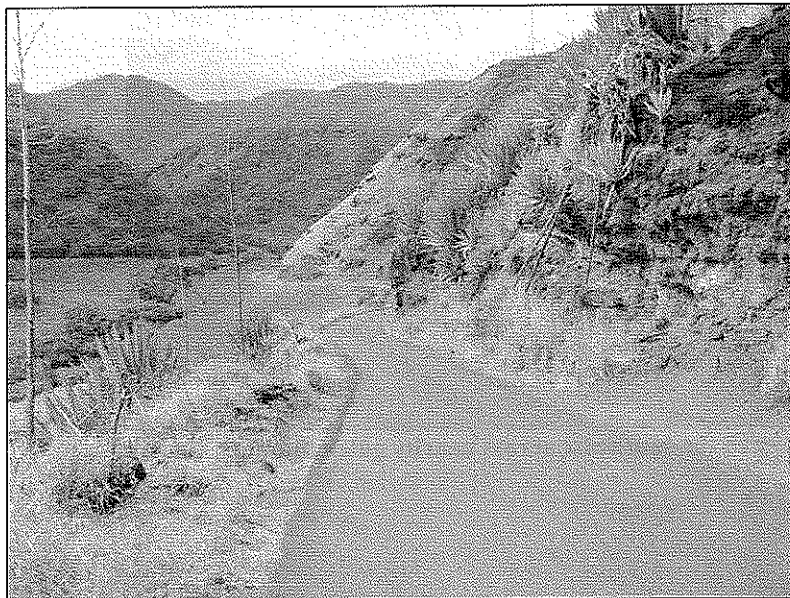


Photo 4: Overall view of the terminus of project area, view to the southwest.



Photo 5: General view of section of damaged roadway, view to southwest.

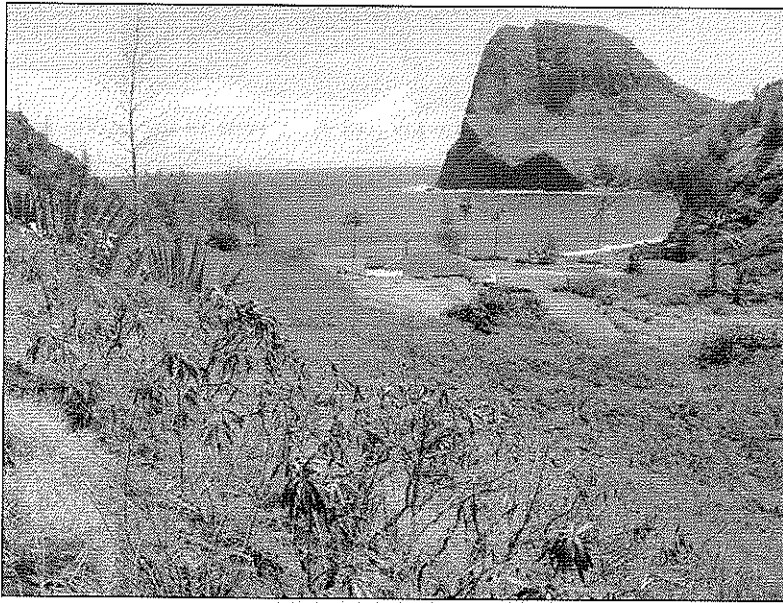


Photo 6: View to the southeast across nearby gulch, modern structures.

APPENDIX F.

Traffic Assessment Letter Report



KENNETH K. KUROKAWA, P.E.
TERRANCE S. ARASHIRO, P.E.
DONOHUE M. FUJII, P.E.
STANLEY T. WATANABE
IVAN K. NAKATSUKA, P.E.
ADRIENNE W. L. H. WONG, P.E., LEED AP

July 06, 2011

County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

To Whom It May Concern:

**Subject: Traffic Assessment for the
Kahekili Highway Repair
Tax Map Key: (2) 3-1-002 Por. 016
Kahakuloa, Maui, Hawaii**

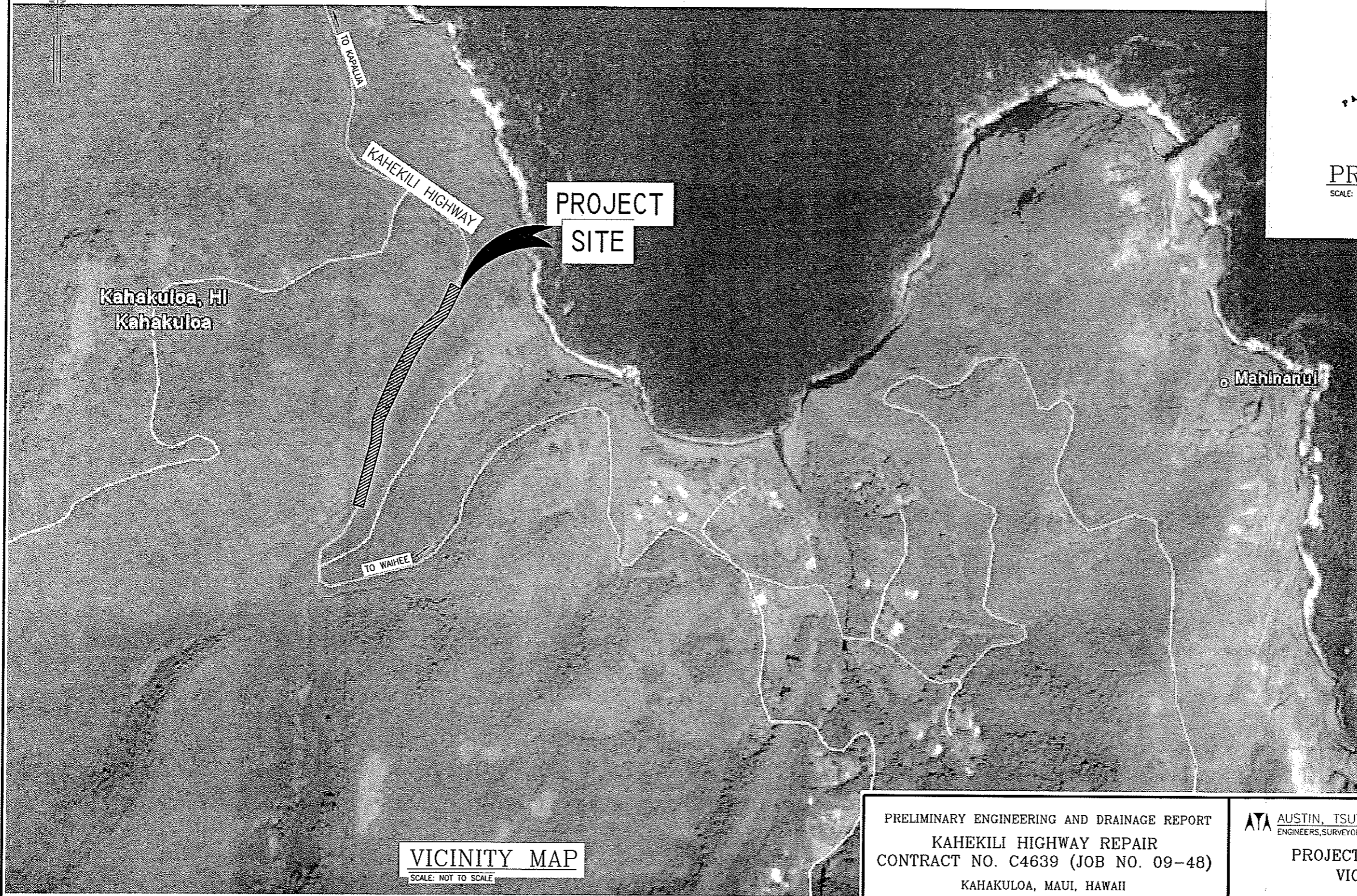
Austin, Tsutsumi & Associates, Inc. (ATA) has conducted a traffic assessment for the existing roadway segment along Kahekili Highway located in Kahakuloa, Maui, Hawaii.

Project Description

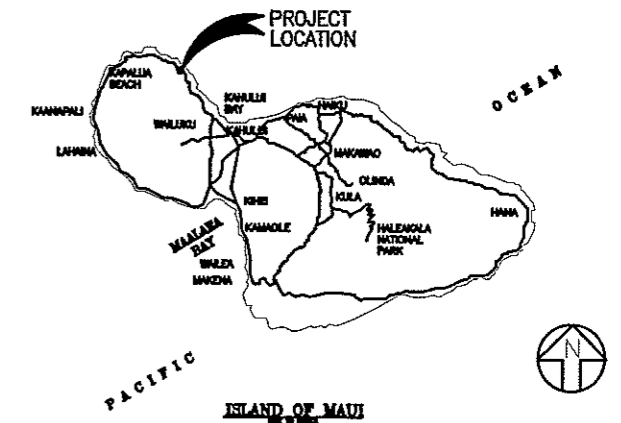
The Kahekili Highway Repair project involves roadway and slope stabilization repairs for the existing segment of roadway between mile markers 15 and 16. Kahekili Highway within the project area is an existing one-lane road approximately 10- to 12-feet wide. The proposed roadway stabilization includes construction of a slope tie-back system to stabilize the existing roadway and slope in critical areas, recompacting and repair of eroded asphalt concrete pavement areas, asphalt resurfacing of the entire roadway segment, and paving of turnout areas. The roadway segment is owned and maintained by the County of Maui. Due to the one-lane road segment, Kahekili Highway will be closed in the vicinity of the project area during construction. As a result, vehicles along Kahekili Highway that travel through the project area will be rerouted south along Honoapiilani Highway for travel between the Honolua-Kapalua area (West Maui) and the Wailuku-Waihee area (Central Maui).

Existing Roadways

The Kahekili Highway Repair project is located in Kahakuloa, Maui, Hawaii and consists of roadway repairs for approximately 1,150 feet of the existing one (1) lane, approximately 10- to 12-feet wide roadway between mile markers 15 and 16. The project site is approximately 1.4 acres with approximately 0.4 acres of asphalt concrete paved roadway and has a Tax Map Key (2) 3-1-002: Por. 016. Kahekili Highway (County route 340) runs along Maui's northwest coast and provides access from the Wailuku-Waihee area to the western side of Maui, eventually connecting up to Honoapiilani Highway (Honolua-Kapalua area). The speed limit is generally 15 miles per hour (mph). Refer to Exhibit 1 for Location and Vicinity Map.



VICINITY MAP
SCALE: NOT TO SCALE



PROJECT LOCATION
SCALE: NOT TO SCALE

PRELIMINARY ENGINEERING AND DRAINAGE REPORT
KAHEKILI HIGHWAY REPAIR
CONTRACT NO. C4639 (JOB NO. 09-48)
KAHAKULOA, MAUI, HAWAII

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, WAILUKU, HILO, HAWAII
PROJECT LOCATION AND
VICINITY MAP

EXHIBIT
1



Study Scope

This traffic assessment will focus on the feasibility of a road closure along Kahekili Highway in the vicinity of the project area for vehicles travelling between the Honolua-Kapalua area (West Maui) and the Wailuku-Waihee area (Central Maui) during construction of the Kahekili Highway Repair project.

Traffic Count Analysis

24-hour machine counts were collected at both ends of the project area along Kahekili Highway. Based on the 24-hour counts, the weekday average daily traffic (ADT) travelling through the project area in the northbound (Kapalua-bound) and southbound (Wailuku-bound) direction was approximately 205 and 130 vehicles, respectively. Hourly traffic was generally lower during the AM and PM peak periods of traffic and higher during the midday (MD) peak periods of traffic, specifically between the hours of 10:00 AM-3:30 PM. During the MD peak periods of traffic, volumes were still low but consistent at around 25 vehicles per hour (vph) in the northbound direction and 15 vph in the southbound direction. The peak hour occurred between 1:15 PM-2:15 PM, with approximately 32 vph in the northbound direction and 26 vph in the southbound direction.

Conclusions

- Since Kahekili Highway is generally a narrow and winding one-lane roadway, total weekday ADT through the project area was generally low with approximately 335 vehicles (205 northbound vehicles and 130 southbound vehicles) traveling through the project area. Between the hours of 10:00 AM-3:30 PM, traffic is generally consistent at around 40 vph (25 northbound vph and 15 southbound vph). Due to lower AM and PM peak periods of traffic, the majority of traffic is assumed to be non-work related traffic. Based on these findings, a road closure along Kahekili Highway in the vicinity of the project area may be implemented.
- On-site construction manager will need to coordinate with emergency dispatcher to provide a line of communication that will allow clearance of the construction work zone for safe passage of emergency medical vehicles.

We appreciate the opportunity to prepare this traffic assessment for the Kahekili Highway Repair project. Should you require clarification, please call me.

Sincerely,

AUSTIN, TSUTSUMI & ASSOCIATES, INC.

By

KEITH K. NIIYA, P.E.

Chief Transportation/Traffic Engineer