

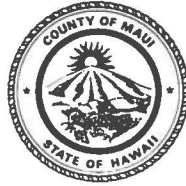
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Highways Division

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

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QUALITY CONTROL**

June 18, 2018

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JUN 08 2018

Mr. Scott Glenn, Director
State of Hawai'i
Department of Health
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawai'i 96813

SUBJECT: Final Environmental Assessment for Proposed Ke'anae Road Safety Improvements; TMK Nos. (2)1-1-002:005, 009, and 010, and (2)1-1-003:041, and 065, and Ke'anae Road Right-of-Way; Ke'anae, Maui, Hawai'i

Dear Mr. Glenn:

With this letter, the County of Maui, Department of Public Works (DPW) hereby transmits the Final Environmental Assessment and Finding of No Significant Impact (FEA-FONSI) for the Proposed Ke'anae Road Safety Improvements affecting portions of TMK Nos. (2)1-1-002:005, 009, and 010, and (2)1-1-003:041 and 065, and the Ke'anae Road Right-of-Way in the Hana District on the Island of Maui for publication in the next available edition of the Office of Environmental Quality Control (OEQC) Environmental Notice.

The DPW has included copies of comments and responses that it received during the 30-day public comment period.

Enclosed are the completed OEQC Publication Form and checklist, one (1) hard copy of the FEA-FONSI, and a CD with three (3) Adobe Acrobat PDF files of the same and an electronic copy of the publication form in MS Word. Simultaneous with this letter, we have submitted the summary of the action in a text file by electronic mail to your office.

18-688

Mr. Scott Glenn, Director

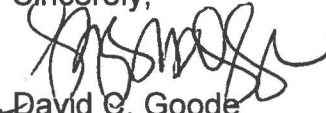
SUBJECT: Final Environmental Assessment for Proposed Ke'anae Road Safety Improvements; TMK Nos. (2)1-1-002:005, 009, and 010, and (2)1-1-003:041, and 065, and Ke'anae Road Right-of-Way; Ke'anae, Maui, Hawai'i

June 18, 2018

Page 2

If there are any questions, please contact Ty Takeno at (808) 270-7745.

Sincerely,



David C. Goode
Director of Public Works

MF/TT(ED18-628)

S:\ENG\PROJECTS\02 CIP\2016\16-21 Keanae Road Safety Improvements\B Correspondence\Letters\180615OEQC\FinalEA.transmittal.doc

Enclosures

xc: Ty Takeno, County of Maui, Department of Public Works (w/out enclosures)
Michael Silva, Fukumoto Engineering (w/out enclosures)
Marisa Fujimoto, Munekiyo Hiraga (w/out enclosures)

18-688

AGENCY PUBLICATION FORM

Project Name:	Ke'anae Road Safety Improvements
Project Short Name:	Ke'anae Road Safety Improvements
HRS §343-5 Trigger(s):	Use of State/County lands and funds and State Land Use Conservation District Land
Island(s):	Maui
Judicial District(s):	Hana
TMK(s):	(2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065, and Ke'anae Road Right-of-Way
Permit(s)/Approval(s):	Special Management Area Use Permit; Shoreline Setback Assessment Approval; Work on County Highway Permit; Grading and Grubbing Permit; and NPDES Permit, Community Noise Permit, and Oversize/Overweight Vehicle Transport Over State Highways Permit, as applicable
Proposing/Determining Agency:	County of Maui Department of Public Works
Contact Name, Email, Telephone, Address	Ty Takeno Ty.Takeno@co.maui.hi.us (808) 270-7745 200 South High Street, 4 th Floor Wailuku, Hawai'i 96793
Accepting Authority:	(for EIS submittals only)
Contact Name, Email, Telephone, Address	
Consultant:	Munekiyo Hiraga
Contact Name, Email, Telephone, Address	Marisa Fujimoto planning@munekiyohiraga.com (808) 244-2015 305 High Street, Suite 104 Wailuku, Hawai'i 96793

Status (select one)☐ DEA-AFNSI**Submittal Requirements**

Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEA, and 4) a searchable PDF of the DEA; a 30-day comment period follows from the date of publication in the Notice.

☒ FEA-FONSI

Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; no comment period follows from publication in the Notice.

☐ FEA-EISPN

Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.

☐ Act 172-12 EISPN
("Direct to EIS")

Submit 1) the proposing agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.

☐ DEIS

Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.

☐ FEIS

Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a searchable PDF of the distribution list; no comment period follows from publication in the Notice.

- ☐ FEIS Acceptance Determination The accepting authority simultaneously transmits to both the OEQC and the proposing agency a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.
- ☐ FEIS Statutory Acceptance Timely statutory acceptance of the FEIS under Section 343-5(c), HRS, is not applicable to agency actions.
- ☐ Supplemental EIS Determination The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is or is not required; no EA is required and no comment period ensues upon publication in the Notice.
- ☐ Withdrawal Identify the specific document(s) to withdraw and explain in the project summary section.
- ☐ Other Contact the OEQC if your action is not one of the above items.

Project Summary

Provide a description of the proposed action and purpose and need in 200 words or less.

The proposed improvements are to manage a rockfall area along a portion of Ke'anae Road near its intersection with Hāna Highway. The proposed improvements begin at the Hāna Highway intersection and continue approximately 1,570 feet down Ke'anae Road into the peninsula. The proposed rock fall mitigation improvements extend along approximately 900 feet of cliff face along Ke'anae Road and includes installation of concrete barriers, netting, and rockfall fence along the pali (rock cliff). The project also includes minor grading, realignment and widening portions of the roadway, repaving of approximately 1,570 feet of roadway, relocation of an existing standpipe, and installation of guardrails.

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Final Environmental Assessment

PROPOSED KE'ANAE ROAD SAFETY IMPROVEMENTS (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road Right-of-Way)

Prepared for:

**County of Maui
Department of Public Works**

June 2018

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by Munekiyo Hiraga



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Planning. Project Management. Sustainable Solutions.

Final Environmental Assessment

PROPOSED KE'ANAE ROAD SAFETY IMPROVEMENTS (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road Right-of-Way)

Prepared for:

**County of Maui
Department of Public Works**

June 2018

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by Munekiyo Hiraga



MUNEKIYO HIRAGA

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- Appendix A.** Preliminary Plans
- Appendix B.** Preliminary Engineering Assessment
- Appendix C.** Biological Resources Survey
- Appendix D.** Archaeological Assessment
- Appendix E.** Cultural Impact Assessment

List of Acronyms

AA	Archaeological Assessment
AFONSI	Anticipated Finding of No Significant Impact
AIS	Archaeological Inventory Survey
ALISH	Agricultural Lands of Importance to the State of Hawai'i
AMP	Archaeological Monitoring Plan
BMPs	Best Management Practices
CIA	Cultural Impact Assessment
DEM	Department of Environmental Management
DOH	Department of Health
DPW	Department of Public Works
DWS	Department of Water Supply
EA	Environmental Assessment
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
HAR	Hawai'i Administrative Rules
HRS	Hawai'i Revised Statutes
IWS	Individual Wastewater System
MIP	Maui Island Plan
NPDES	National Pollutant Discharge Elimination System
OED	Office of Economic Development
RGB	Rural Growth Boundary
rSM	Stony Alluvial Land (Soil Classification)
SHPD	State Historic Preservation Division
SMA	Special Management Area
STB	Small Town Boundary
TMK	Tax Map Key
UGB	Urban Growth Boundary
YMCA	Young Men's Christian Association

Executive Summary

Project Name: Ke'anae Road Safety Improvements

Type of Document: Final Environmental Assessment

Legal Authority: Chapter 343, Hawai'i Revised Statutes

Anticipated Determination: Finding of No Significant Impact (FONSI)

Applicable Environmental Assessment review "Trigger": Use of State and County lands and funds
Use of Conservation District Lands

Location: Maui Island
Hāna
Ke'anae Road
(Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road right-of-way)

Landowners

Tax Map Key No.	Contact Name
(2)1-1-002:005 and 009	Suzanne Case State of Hawai'i, Department of Land and Natural Resources
(2)1-1-002:010	Jade Butay State of Hawai'i, Department of Transportation
(2)1-1-003:041 and 065	William G. Kepler Luellen K. Kepler
Ke'anae Road right-of-way	David Goode County of Maui, Department of Public Works

Approving and Determining Agency: County of Maui, Department of Public Works

Consultant: Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawai'i 96793
Contact: Marisa Fujimoto, Senior Associate
Phone: (808) 244-2015

Project Summary: The proposed improvements are to manage a rockfall area along a portion of Ke'anae Road near its intersection with Hāna Highway. The proposed improvements begin at the Hāna Highway intersection and continue approximately 1,570 feet down Ke'anae Road into the peninsula. The proposed rock fall mitigation improvements extend along approximately 900 feet of cliff face along Ke'anae Road and include installation of concrete barriers, netting, and rockfall fence along the pali (rock cliff). The project also includes minor grading, realignment, and widening portions of the roadway, repaving of approximately 1,570 feet of roadway, relocation of an existing standpipe, and installation of guardrails.

PROJECT OVERVIEW



I. PROJECT OVERVIEW

A. PROJECT LOCATION, EXISTING USE, AND LAND OWNERSHIP

The County of Maui, Department of Public Works (DPW) proposes safety improvements to Keʻanae Road. The proposed project is located in Keʻanae, near the intersection of Hāna Highway and Keʻanae Road, on the east side of the island of Maui. See **Figure 1**. Keʻanae Road is the only road going into Keʻanae. The lands surrounding the project area are used for agricultural, residential, and community or public uses.

The work will impact the Keʻanae Road right-of-way and five (5) adjacent parcels near the Hāna Highway intersection. Hāna Highway is a State highway, and Keʻanae Road is owned and maintained by the County of Maui. TMK Nos. (2)1-1-002:005 (Parcel 5), (2)1-1-002:009 (Parcel 9), and (2)1-1-002:010 (Parcel 10) are owned by the State of Hawaiʻi. TMK Nos. (2)1-1-003:041 (Parcel 41) and (2)1-1-003:065 (Parcel 65) are privately owned. Keʻanae Road encroaches on Parcels 5, 41, and 65. DPW is coordinating with the owners of Parcels 41 and 65 to subdivide and obtain the land occupied by the existing road.

Parcel 9 is partially leased by the State to the Young Men's Christian Association (YMCA) for its Camp Keʻanae. Camp Keʻanae has cabins and cottages, camping areas, and other amenities. Parcel 10 has the State Department of Transportation's Keʻanae Baseyard. Both parcels have rocky hillsides immediately above Keʻanae Road. Parcels 5 and 65 are vacant and heavily vegetated; the majority of Parcel 41 is vacant and heavily vegetated, with a residence on the northern part of the property and some farming on the eastern portion of the property.

Parcel 9 is designated "Agricultural" and "Conservation" by the State Land Use Commission; "Agriculture" and "Interim" by the Hana Community Plan; and "Agricultural" and "Interim" by Maui County Zoning. Parcels 10 and 41 are designated "Agricultural" by the State Land Use Commission; "Agriculture" by the Hana Community Plan; and "Agricultural District" by Maui County Zoning. Parcels 5 and 65 are designated "Agricultural" and "Conservation" by the State Land Use Commission; "Conservation" by the Hana Community Plan; and "Interim" by Maui County Zoning.

B. PROJECT NEED

There is only one (1) road into Keʻanae which serves all of its residents and visitors. Since the east side of Maui receives a substantial amount of rain and there are frequent landslides that limit travel, a part-time Keʻanae resident began advocating for the rockfall mitigation improvements to improve safety of the road. Through his efforts and the support of others from the Keʻanae community, funding was secured from both the State of Hawaiʻi

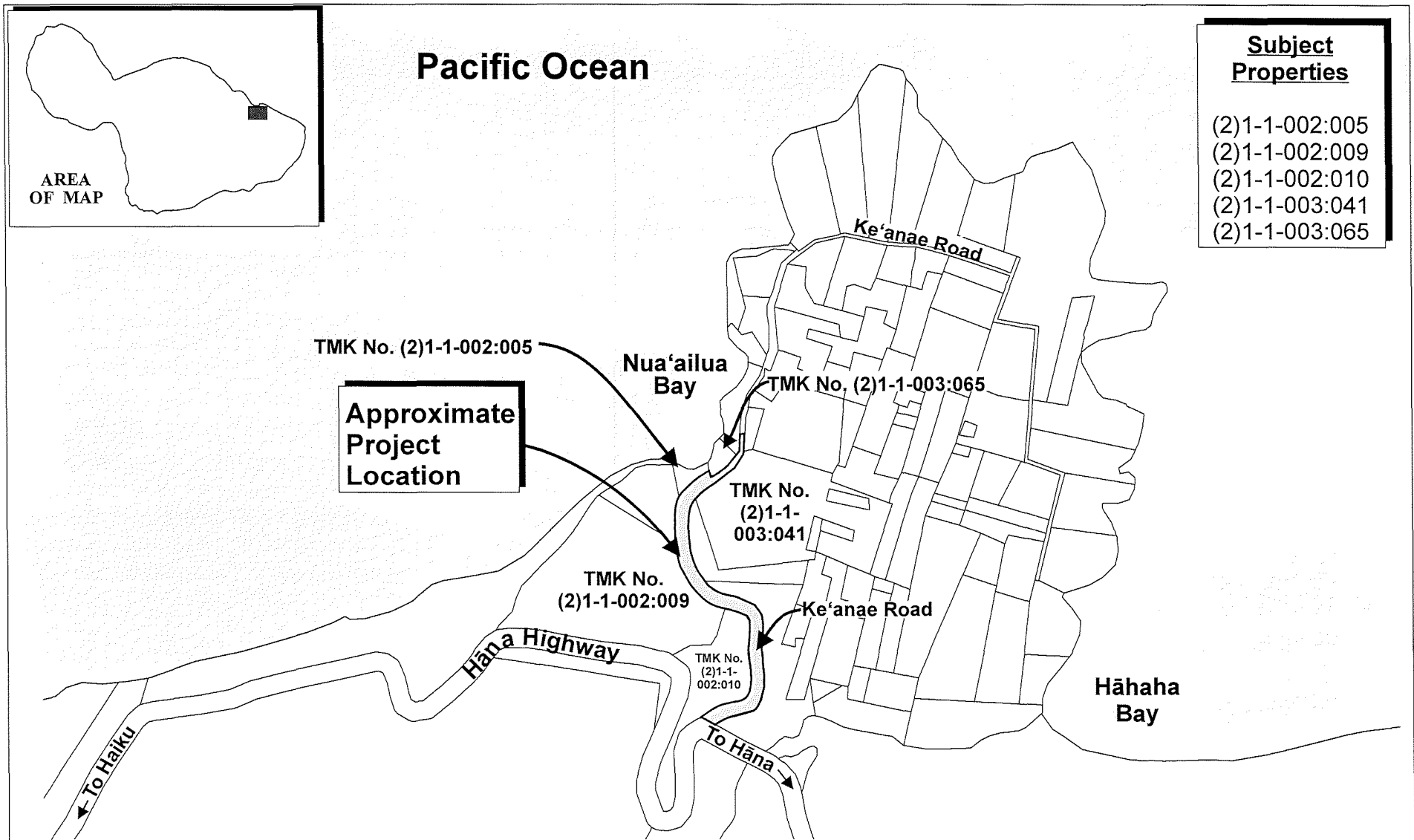


Figure 1

Proposed Ke'anae Road Safety Improvements Location Map

0 150 300 600 Feet



MUNEKIYO HIRAGA

Prepared for: County of Maui, Department of Public Works

and the County of Maui to pay for the design and construction of the road safety improvements, including the rockfall mitigation. As such, DPW is proposing improvements to Ke'anae Road to improve the reliability and safety of vehicular access in and out of the Ke'anae Peninsula.

C. PROPOSED ACTION

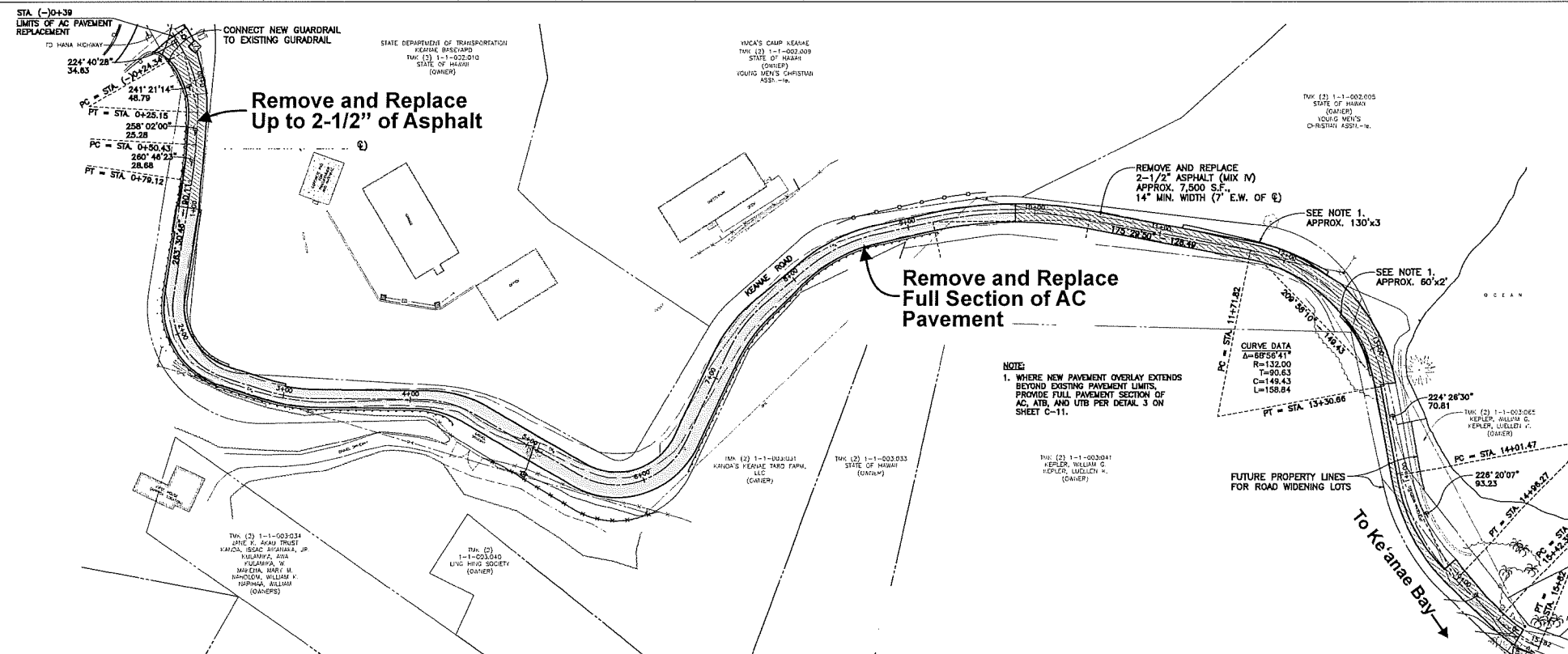
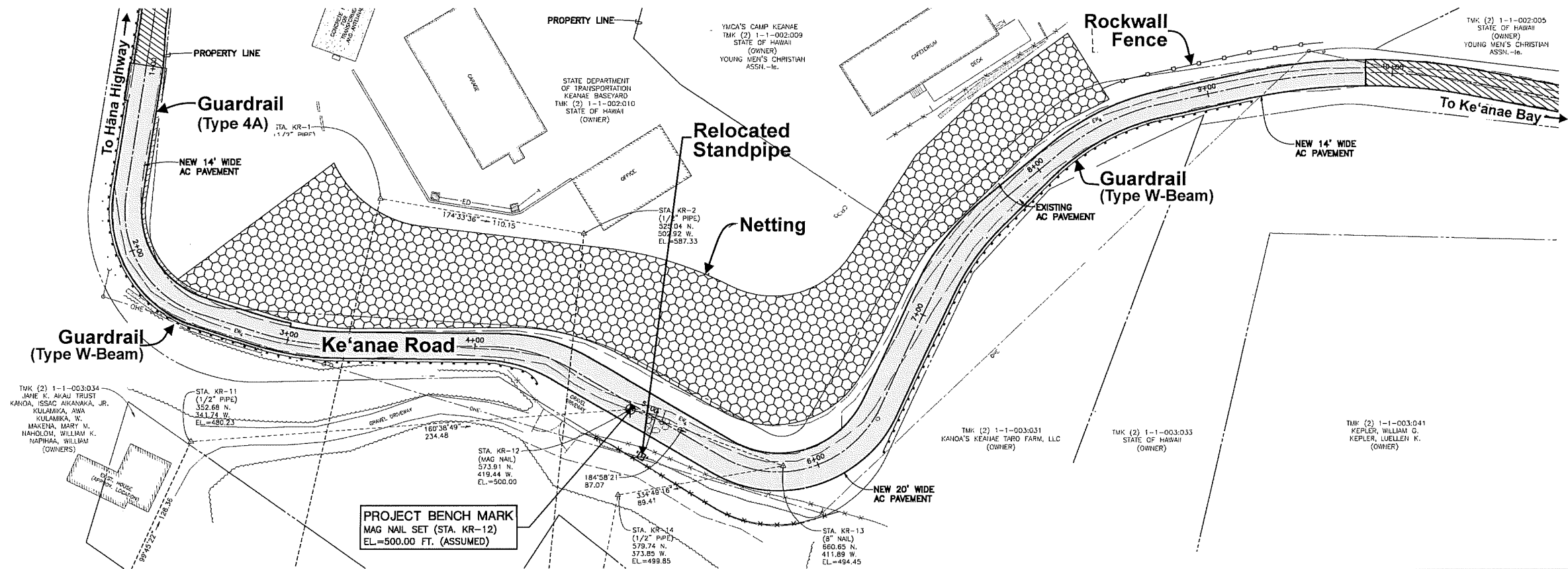
DPW is proposing a road safety improvement project including rockfall mitigation along a portion of Ke'anae Road. The existing road runs along the eastern boundary of Parcels 5, 9, 10, and 65 and west of Parcel 41. Refer to **Figure 1**. The proposed project will affect portions of these parcels, as some grading is necessary around Ke'anae Road.

The section of Ke'anae Road being addressed is currently a two (2) lane road. Access to this part of Ke'anae Road begins immediately off of Hāna Highway. The scope of the improvements include:

- Maintenance to stabilize the side of the cliff facing Ke'anae Road.
- Installation of rock fall protection (includes concrete barrier, netting, and rock fall fence) along the pali (rock cliff) west of Ke'anae Road. Area of improvements is above approximately 900 feet of roadway.
- Improvements in the County right-of-way, including repaving, road realignment, widening, and restriping. Area of improvements is located on approximately 1,570 feet of roadway.
- Installation of metal guardrails along portions of Ke'anae Road.
- Relocation of existing fire protection standpipe east of Ke'anae Road.
- Other related improvements, as needed.

See **Figure 2** and Preliminary Plans in **Appendix "A"**. In total, the project site encompasses an area of approximately 2.3 acres. Approximately 1.6 acres of land will be cleared and grubbed. The grading work involves approximately 110 cubic yards of cut and about 180 cubic yards of fill. See **Appendix "B"**, Preliminary Engineering Assessment.

During certain phases of construction, Ke'anae Road will be temporarily closed for part of the day for safety reasons. Coordination will be undertaken with residents and tour companies to ensure that appropriate notification is provided. Additionally, the contractor will have a protocol in place to ensure emergency vehicle access, when needed.



Source: Fukumoto Engineering, Inc.

Figure 2

Proposed Ke'anae Road Rockfall Safety Improvements Site Plan

NOT TO SCALE



D. PROPOSED COSTS AND IMPLEMENTATION SCHEDULE

The estimated construction cost for the proposed project is approximately \$2.87 million. The anticipated construction timeframe is between six (6) to eleven (11) months. To the extent possible, construction operations that require road closure will be scheduled during the summer months, upon receipt of all necessary permits and approvals. Road closures are proposed for the summer months to allow the construction crew longer daylight hours for the work. This may assist in keeping the overall project schedule to a shorter construction timeframe.

E. REGULATORY CONTEXT

1. Chapter 343, HRS Requirements

The proposed project involves the use of Maui County and State of Hawai'i lands and funds, which are triggers for the preparation of an Environmental Assessment (EA) pursuant to Chapter 343, Hawai'i Revised Statutes (HRS) and its implementing administrative rules found in Hawai'i Administrative Rules (HAR) Title 11, Chapter 200. Additionally, a portion of the improvements will take place on lands designated "Conservation" by the State Land Use Commission which is also a "trigger" for Chapter 343, HRS review. As such, this EA is being prepared to evaluate the project's technical characteristics, environmental impacts and alternatives, as well as advance findings and conclusions relative to the significance of the proposed action. The approving agency of the EA will be DPW.

2. Special Management Area

The project is located within the County of Maui's Special Management Area (SMA), and a SMA Use Permit will be required for the project. As such, an application for a SMA Use Permit will be filed with the County of Maui, Department of Planning for review and action by the Hana Advisory Committee and the Maui Planning Commission.

The EA will serve as the primary supporting technical document for the SMA Use Permit application.

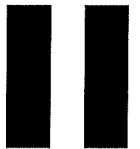
3. Shoreline Setback Assessment

Because Parcels 5 and 65 are shoreline parcels, a Shoreline Setback Assessment application will be prepared for the project and filed with the County of Maui, Department of Planning for review and approval by the Planning Director.

4. Conservation District

It is noted that portions of Parcels 5, 9, and 65 include "Conservation" District designations by the State Land Use Commission. However, given the scope of the improvements, it is anticipated that the project is permitted within the Conservation District. Confirmation of the determination will be sought from the Office of Conservation and Coastal Lands. See Chapter III of this EA document for further discussion.

**DESCRIPTION OF THE
EXISTING ENVIRONMENT,
POTENTIAL IMPACTS, AND
MITIGATION MEASURES**



II. DESCRIPTION OF THE EXISTING ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

A. PHYSICAL ENVIRONMENT

1. Surrounding Land Uses

a. Existing Conditions

The project is located in Ke‘anae, Maui on and adjacent to Ke‘anae Road just off of Hāna Highway between mile markers 16 and 17. The area surrounding the project site is rural and agricultural in nature. Lands mauka of Hāna Highway (to the south) consist of the dense forest of the Ko‘olau Forest Reserve, as well as the Ke‘anae Arboretum. The YMCA’s Camp Ke‘anae on Parcel 9 is located at the top of the pali between Hāna Highway and Ke‘anae Road. The State of Hawai‘i, Department of Transportation’s Ke‘anae Baseyard is located on Parcel 10, west of the project area at the top of the pali. A private residence and farm are located to the east of the project area. To the north is Ke‘anae Peninsula, which is characterized as rural with residences and lo‘i (wetland taro patches).

b. Potential Impacts and Proposed Mitigation Measures

The proposed road safety improvement work on Ke‘anae Road is not anticipated to result in adverse impacts to the surrounding land uses. Rockfall fences and barriers will be utilized to prevent surrounding properties from rocks and other debris during site work. Improvements to the road are expected to benefit Ke‘anae residents and visitors because it is the only vehicle route to the peninsula, and the proposed improvements will make the road safer and more reliable.

2. Climate

a. Existing Conditions

The Ke‘anae area is generally cool throughout the year with temperatures ranging from 70 to 82 degrees Fahrenheit. The annual rainfall averages 205 inches a year (University of Hawai‘i, 2011). Like most of the island, the prevailing winds through the summer are from the northeast and called the “trade winds.” From about October to April the winds and storms often come from the south and are called “kona” weather.

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

Construction of the proposed improvements will not impact local climate conditions.

3. **Topography and Soils**

a. **Existing Conditions**

The project area is characterized by steep cliffs and significant variations in topography. Elevations of the cliff face range from approximately 18 to 140 feet with slope heights ranging from 70 to 110 feet. Roadway elevations range from 7 to 110 feet. The site generally slopes down from south to north with roadway slopes of approximately seven (7) to nine (9) percent. See **Appendix "B"**.

The U.S. Department of Agriculture Natural Resources Conservation Service designates various associations on the island of Maui and classifies the soil in its *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai*. The project site is located within the Hāna-Makaalae-Kailua association. See **Figure 3**. This area contains moderately deep and deep, gently sloping to steep, well-drained soils. The texture ranges from moderately fine to fine subsoils (U.S. Department of Agriculture Natural Resources Conservation Service, 1972).

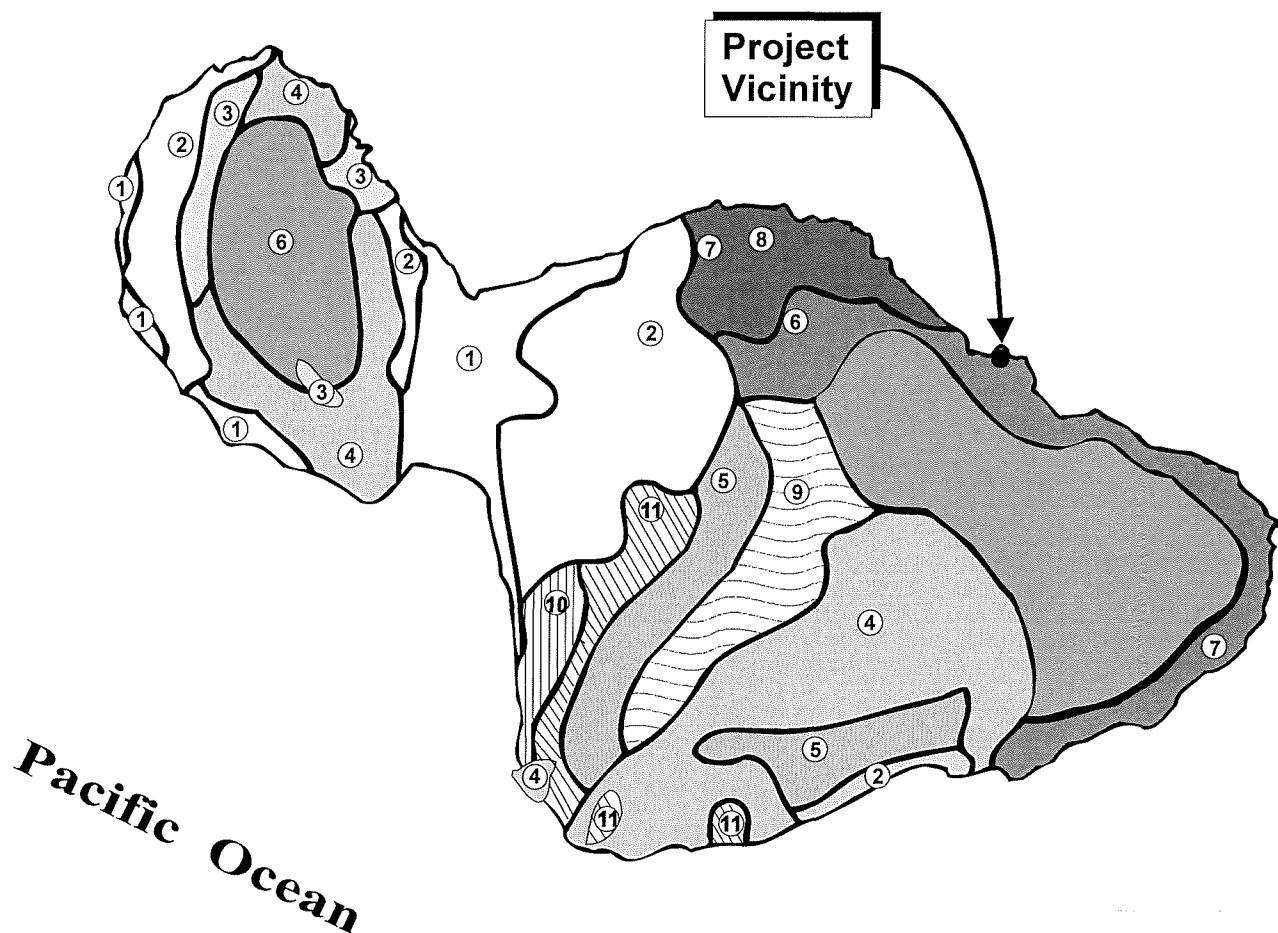
Stony alluvial land (rSM) underlies the project site. See **Figure 4**. It typically consists of stones, boulders, and soil deposited by streams along the bottoms of gulches and on alluvial fans. Elevations range from nearly sea level to 1,000 feet above mean sea level (amsl), and in most places the slope is between 3 to 15 percent. This type of land is suited to pasture and woodland, and it is noted that improvement on this type of land is difficult because of the stones and boulders (U.S. Department of Agriculture Natural Resources Conservation Service, 1972).

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

Significant adverse impacts on topography and soil are not anticipated as a result of the proposed project. The maximum cut and fill are 3.5 feet and 1.7 feet, respectively. Refer to **Appendix "B"**. The project will improve safety in respect to the steep topographic conditions by providing rockfall mitigation to stabilize the cliff face and implementing other rockfall protection.

LEGEND

- | | |
|--|-------------------------------------|
| ① Pulehu-Ewa-Jaucas 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 | |



Source: U.S. Department of Agriculture, Natural Resources Conservation Service, 2006

Figure 3

Proposed Ke'anae Road Safety Improvements Soil Association Map

NOT TO SCALE



Prepared for: County of Maui, Department Public Works

MUNEKIYO HIRAGA

FE\KeanaeRd Rockfall\Applications\Figures\Soil Association

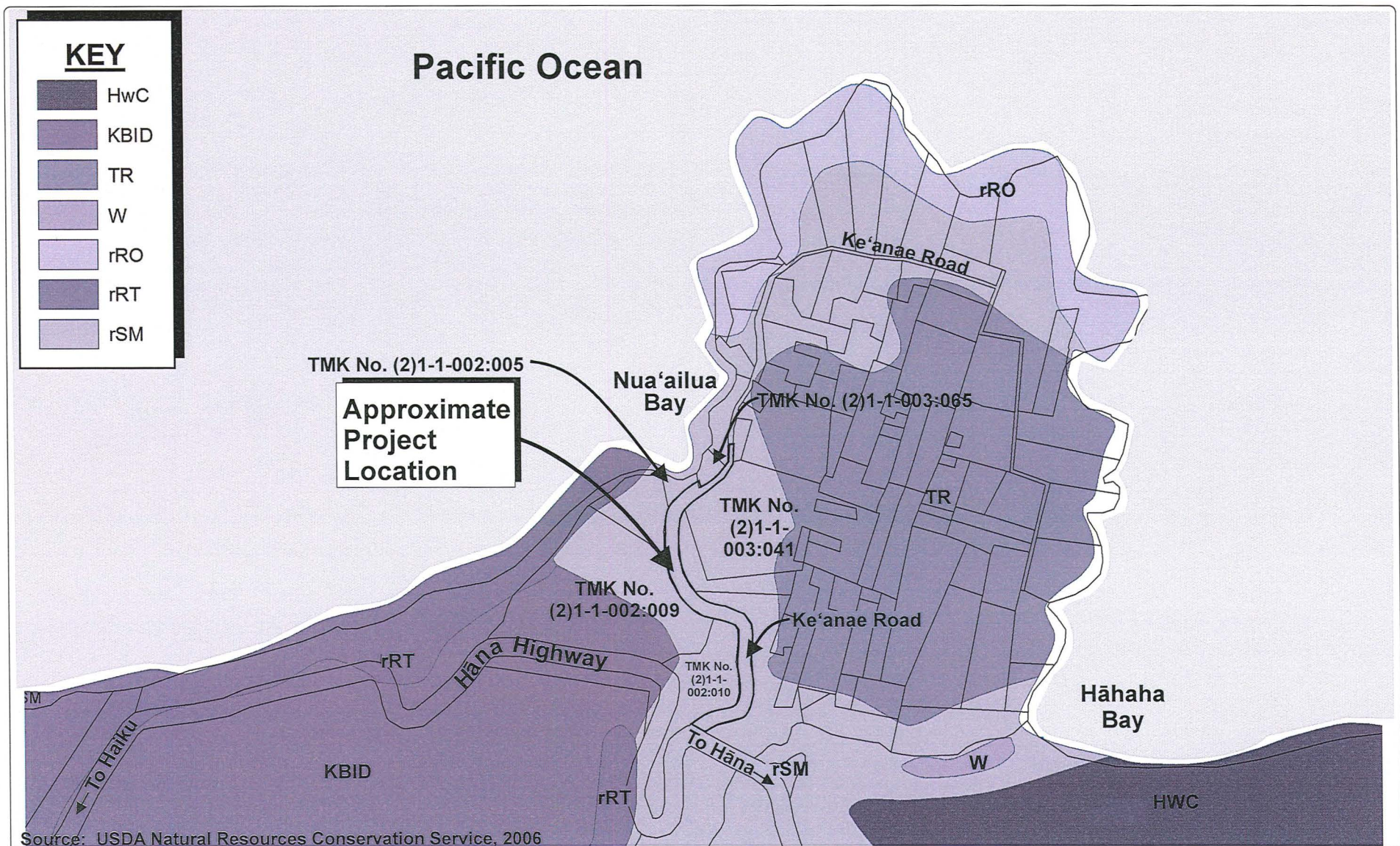


Figure 4

Proposed Ke'anae Road Safety Improvements Soil Classification Map

0 150 300 600 Feet



Chapter 20.08, Soil Erosion and Sedimentation Control, of the Maui County Code and the permit requirements of the State of Hawai'i, Department of Health (DOH) and the National Pollutant Discharge Elimination System (NPDES) will be followed, as applicable.

4. Agricultural Land

a. Existing Conditions

In 1977, the State Department of Agriculture developed a classification system to identify Agricultural Lands of Importance to the State of Hawai'i (ALISH). The classification system is based primarily, though not exclusively, upon the soil characteristics of the lands. The three (3) classes of ALISH lands are "Prime", "Unique", and "Other" agricultural land, with all remaining lands termed "Unclassified." According to the ALISH map, the lands underlying the project site are designated "Unclassified." See **Figure 5**.

The Land Study Bureau's Detailed Land Classification rates the agricultural suitability of soils. A 5-class productivity rating scale is applied using letters A, B, C, D, and E, with "A" representing lands of the highest productivity, or very good, and "E" the lowest, or very poorly suited for agricultural production. The lands underlying the project site have an overall productivity rating of "B", "C", or "E". See **Figure 6**.

There are existing lo'i (wetland taro farms) on the Ke'anae Peninsula.

b. Potential Impacts and Proposed Mitigation Measures

The project site is an existing right-of-way and portions of the adjacent rocky hillside. It does not provide suitable conditions for agriculture. The underlying land is not being used for agriculture or cultivation. Therefore, the proposed project is not anticipated to affect the inventory of lands available for agricultural cultivation, nor is it expected to affect the inventory of land available for diversified agriculture use.

Ke'anae Road provides the only vehicular access to the peninsula and existing lo'i located there. Coordination will be undertaken with local farmers and related businesses to ensure that impacts from construction-related road closures will be minimized. In the long term, the proposed project will improve the safety and reliability of Ke'anae Road, which will benefit farmers and related businesses on the Ke'anae Peninsula.

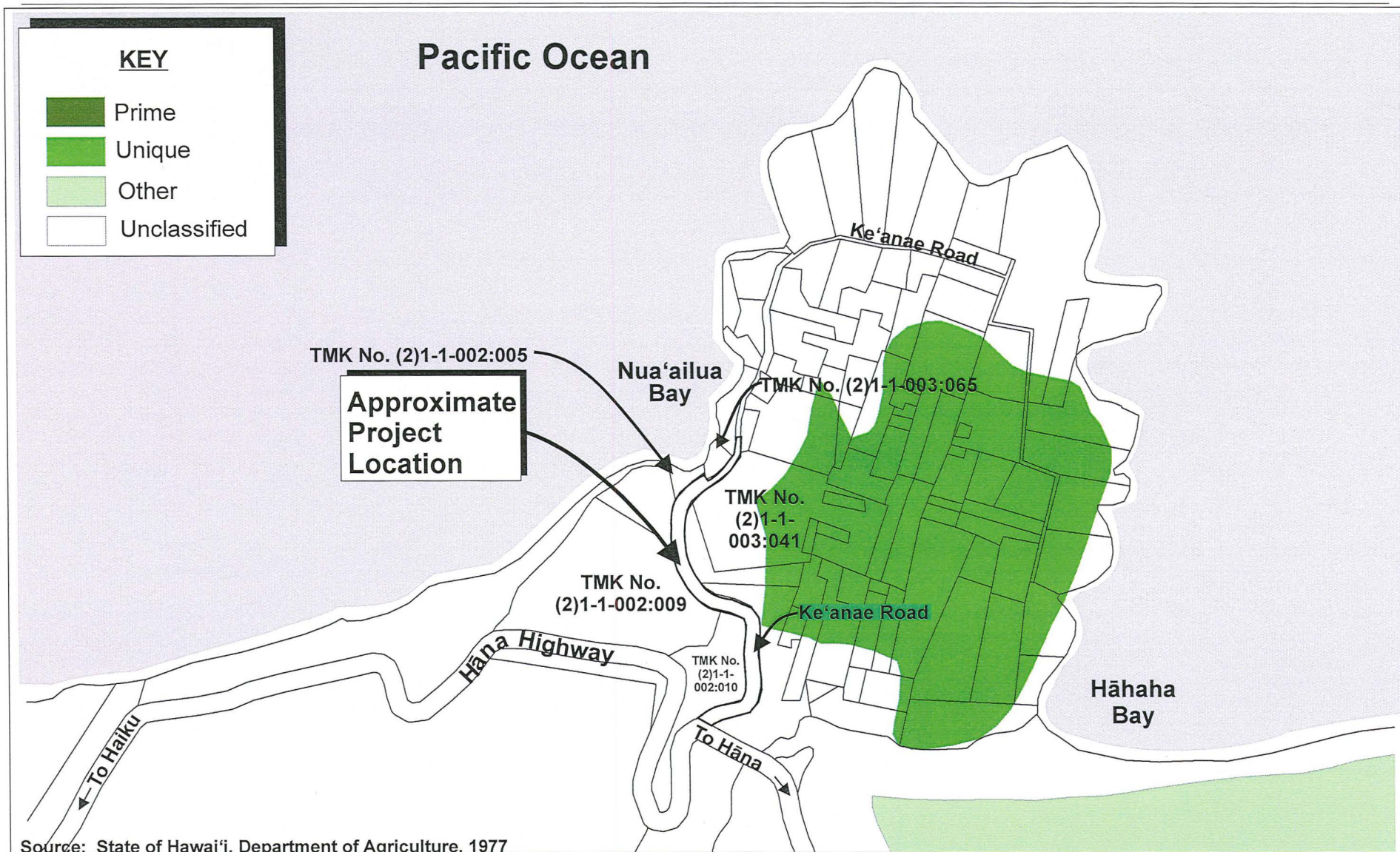


Figure 5



Proposed Ke'anae Road Safety Improvements Agricultural Lands of Importance to the State of Hawai'i



MUNEKIYO HIRAGA

Prepared for: County of Maui, Department of Public Works

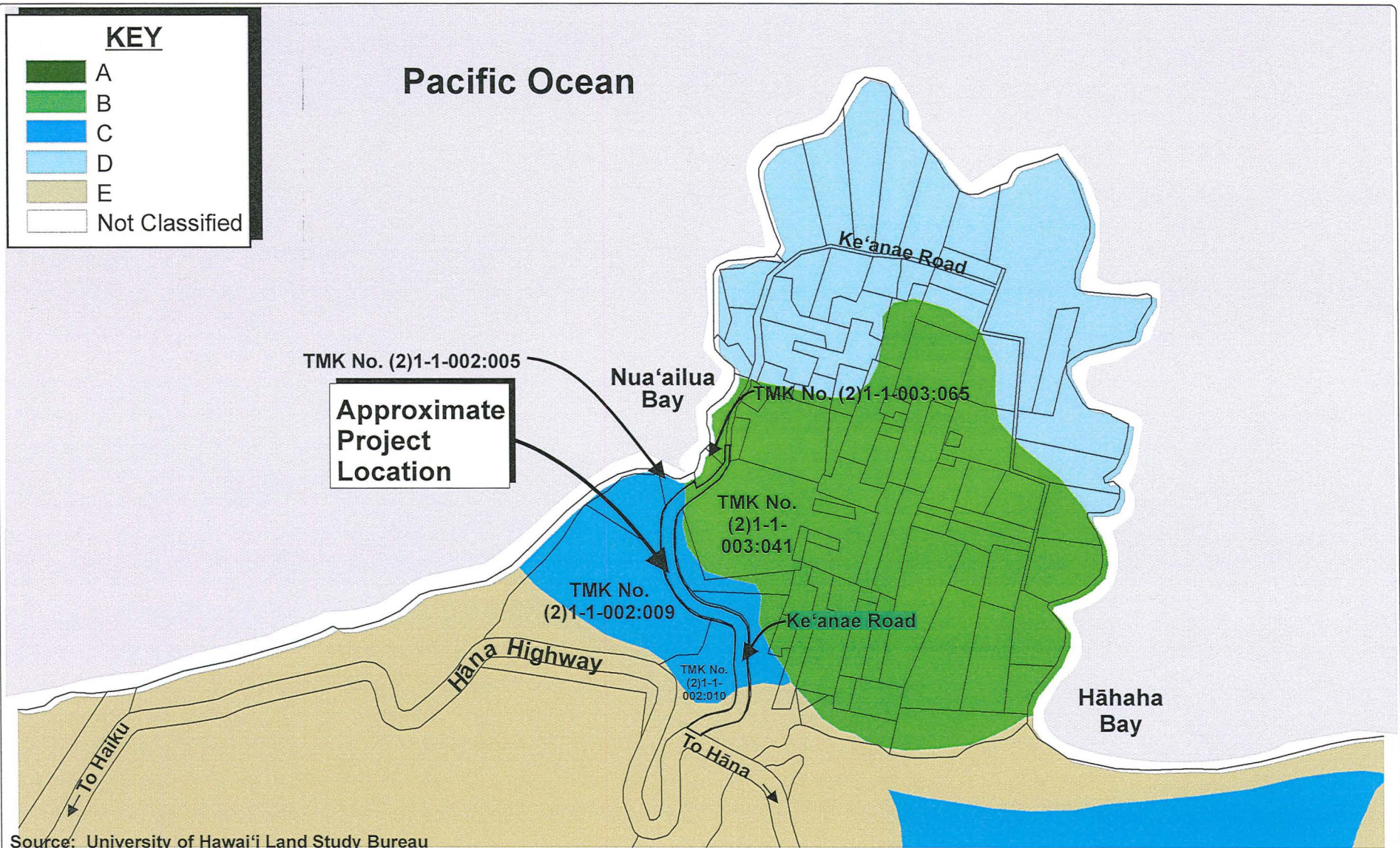


Figure 6

Proposed Ke'anae Road Safety Improvements Land Study Bureau

0 150 300 600 Feet



MUNEKIYO HIRAGA

Prepared for: County of Maui, Department of Public Works

5. Flood and Tsunami Hazards

a. Existing Conditions

The Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) for this region indicates that the majority of the subject area is located in Zone X (unshaded). FEMA's definition of Zone X is an area of minimal flooding located outside the 0.02 percent annual chance floodplain. See **Figure 7**. A portion of Parcel 65 is located in Zone VE, however, no project improvements are proposed in that area of the parcel. The improvements will be limited to the existing Ke'anae Road, which is located in Zone X (unshaded) within Parcel 65. There are no restrictions on development associated with this zone.

According to the Tsunami Evacuation Map published by the County of Maui, most of the project area is within the tsunami evacuation zone. See **Figure 8**. Ke'anae Road is the evacuation route for everyone on the peninsula in the event of a flood or tsunami event.

b. Potential Impacts and Proposed Mitigation Measures

The proposed improvements are within Flood Zone X, an area of minimal flooding without development restrictions. Although the elevations at the project site range from 7 to 140 feet above mean sea level, Ke'anae Road is the evacuation route for everyone on the peninsula in the event of a flood or tsunami event, making reliability and safety of the road critical during a flood or tsunami event. The proposed project would improve the reliability and safety of vehicular access off the peninsula, improving the safety of residents and visitors to the peninsula.

6. Streams and Wetlands

a. Existing Conditions

Since Ke'anae is on the eastern side of Maui it receives a fair amount of rain and there are multiple streams in the area. The closest stream to the project, Pi'ina'au, which runs from the south across Hāna Highway and east toward Hāhaha Bay, is approximately 190 feet away at its closest point. See **Figure 9**. The project area is outside of the wetland taro patch areas on the Ke'anae Peninsula. The biological resources survey completed for the project noted that no wetlands, as defined by the U.S. Army Corps of Engineers, occur on or near the project. See **Appendix "C"**.

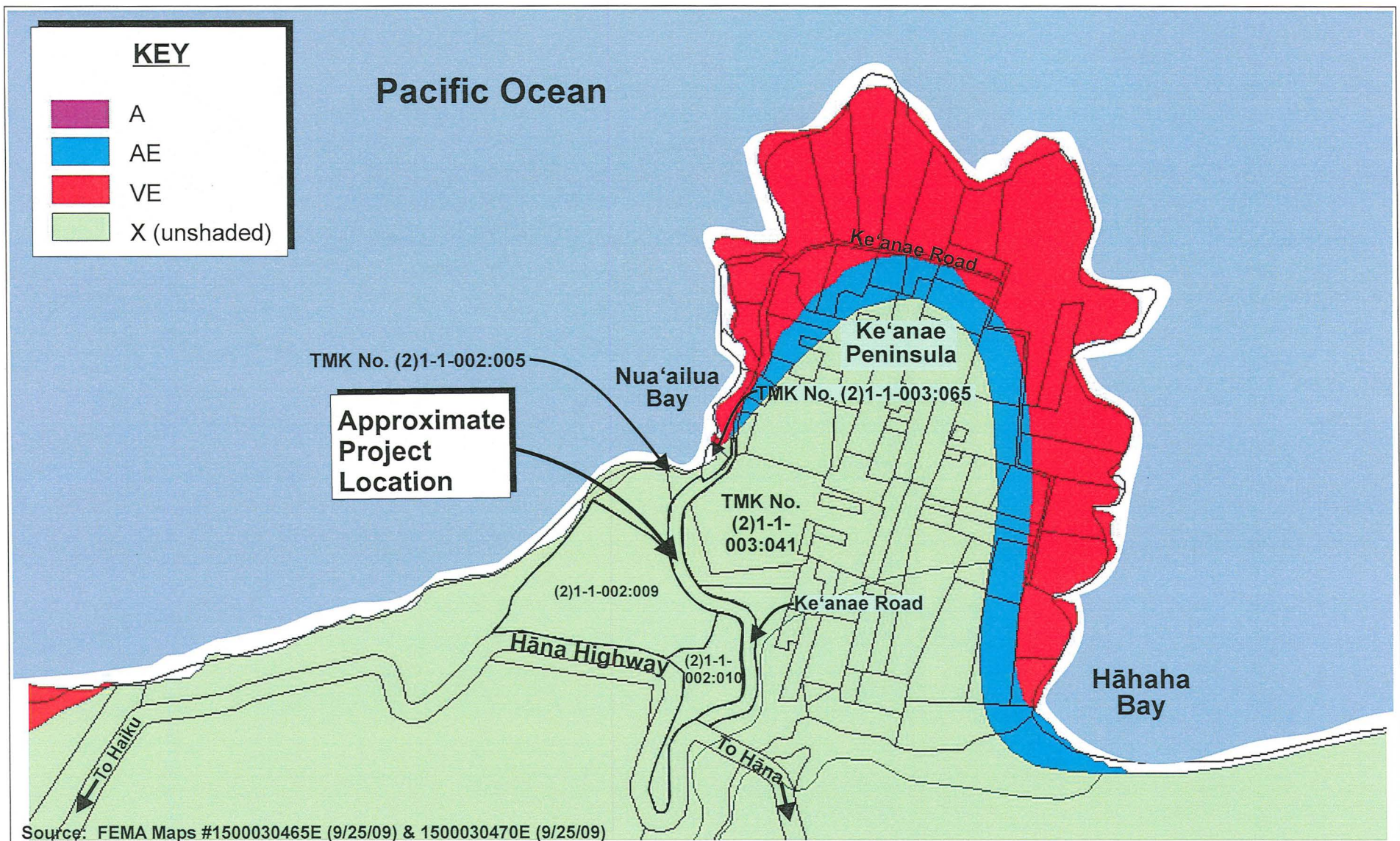
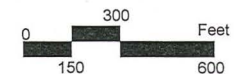


Figure 7



Proposed Ke'anae Road Safety Improvements Flood Insurance Rate Map



 MUNEKIYO HIRAGA

Prepared for: County of Maui, Department of Public Works

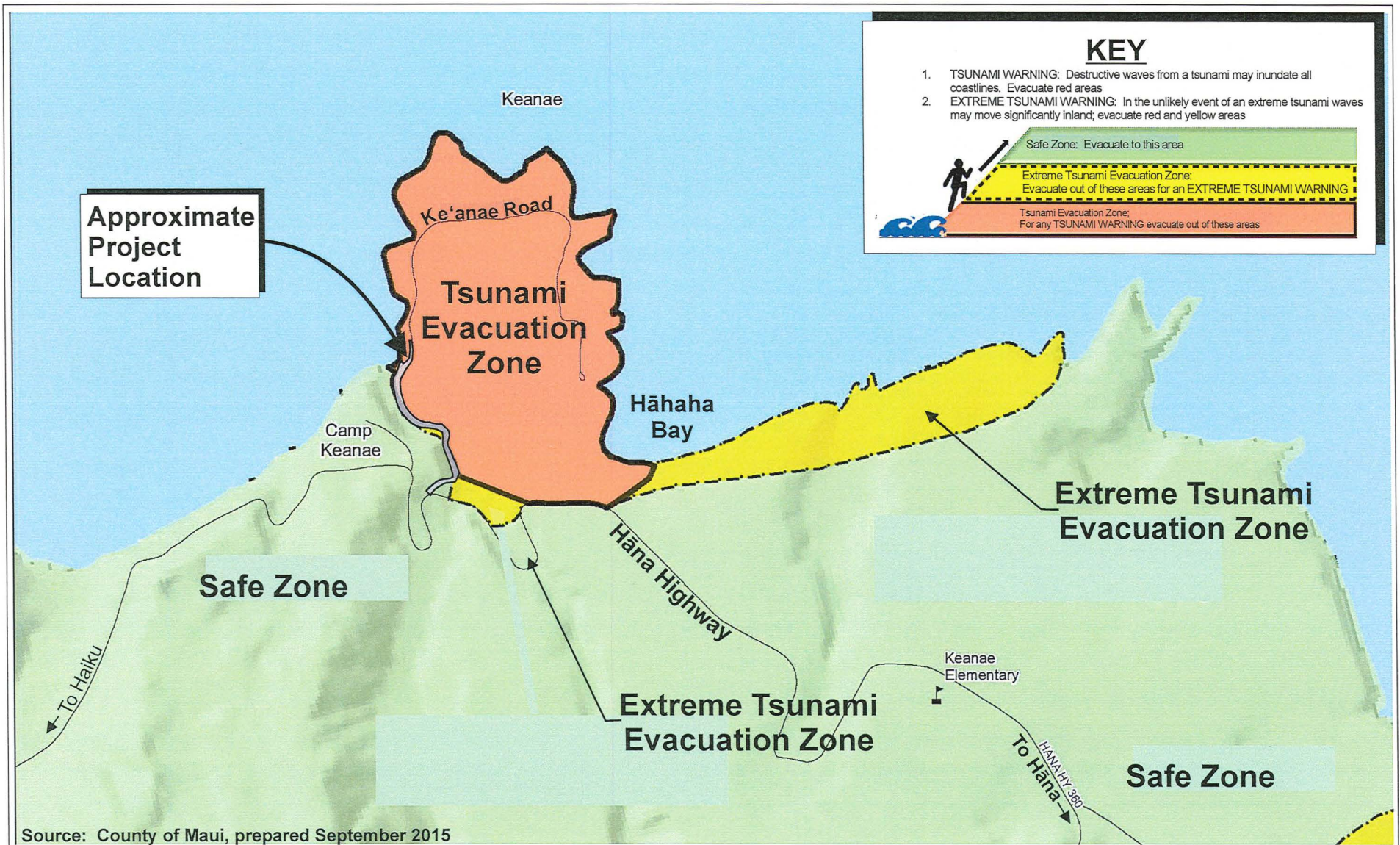


Figure 8

Proposed Ke'anae Road Safety Improvements Tsunami Evacuation Map

NOT TO SCALE



Prepared for: County of Maui, Department of Public Works

 MUNEKIYO HIRAGA

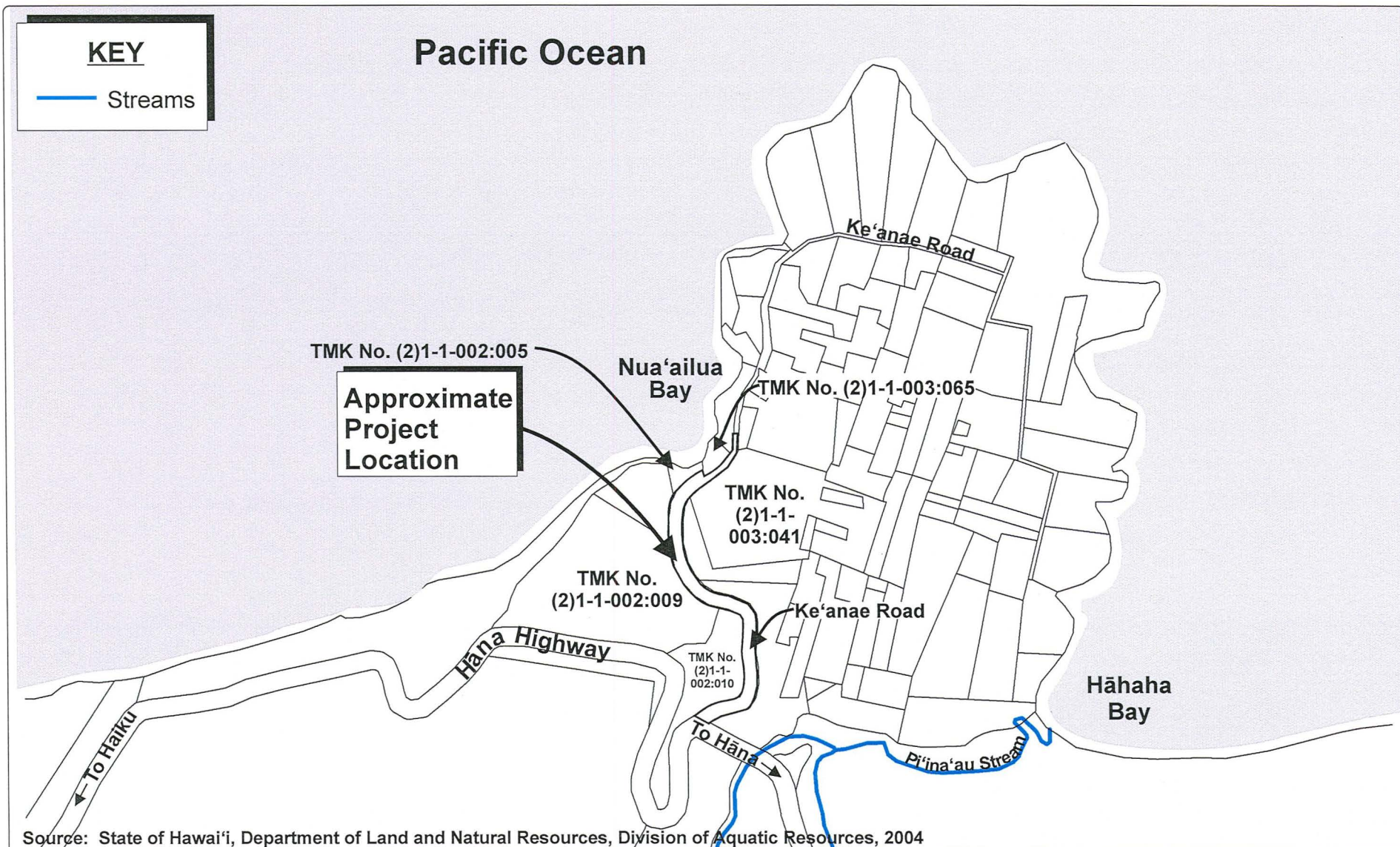
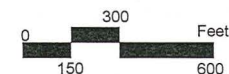


Figure 9

Proposed Ke'anae Road Safety Improvements Streams



 MUNEKIYO HIRAGA

Prepared for: County of Maui, Department of Public Works

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

The proposed project is not expected to create significant adverse impacts on streams or wetlands. As noted previously, BMPs will be utilized during grading activities in order to prevent adverse impacts to downstream properties. Therefore, no adverse impacts to streams or wetlands are anticipated from the proposed action.

7. **Flora, Fauna, and Avifauna**

a. **Existing Conditions**

A Biological Resources Survey was completed by Robert Hobdy for the project in February 2017. Refer to **Appendix "C"**. The current area of the proposed project is described as a *"steep rocky cliff face that ranges in height between 70 and 110 feet. It lies directly above a 900 foot section of the road. It is densely vegetated with tropical trees, shrubs, vines, grasses and ferns. Rainfall averages 150 inches per year. The project area is situated at elevations between 20 feet and 150 feet above sea level"*.

The report describes the cliff face as being covered by a dense growth of vegetation with 104 plant species. Non-native species of common occurrence were the African tulip tree (*spathodea campanulata*), avocado (*Persea Americana*), maunaloa vine (*Canavalia carhartica*), and honohono (*Commelina diffusa*).

Seven (7) native plant species were recorded which included the endemic pohole fern (*Diplazium sandwichianum*), *Cyperus polystachyos*, hala (*Pandanus tectorius*), koali awahia (*Ipomoea indica*), ka'e'e (*Mucuna gigantean*), popolo (*Solanum americanum*), and pala'a (*Sphernomeris chinensis*). Six (6) Polynesian-introduced plant species were found, including kalo (*Colocasia esculenta*), niu (*Cocos nucifera*), hoi (*Dioscorea bulbifera*), 'ohi'aiai (*Syzigium malaccanese*), 'ihi'ai (*Oxalis corniculata*), and ki (*Cordyline fruticosa*). The remaining 87 species were all non-native that were uncommon or rare in occurrence within the project site.

Mammal species observed in the project area included the mongoose (*Herpestes auropunctatus*) and a roof rat (*Rattus rattus*). Other mammals that would be expected to occur in the habitat include mice (*Mus domesticus*), dogs (*Canis familiaris*), and cats (*Felis catus*). Birdlife was rather sparse and insect life was modest. Birds were mostly non-native. One (1) species was common in occurrence, the mynah (*Acridotheres tristis*), while three (3) others were uncommon including the zebra dove (*Geopelia striata*), the spotted dove (*Streptopelia chinensis*), and the kolea

or Pacific golden- plover (*Pluvialis fulva*). The habitat is unsuitable for Hawai'i's native forest birds which are presently restricted to middle and upper elevation native forests beyond the elevational range of mosquitos and the diseases they transmit. One insect species was common, the Asian spiny-backed spider (*Gasteracantha mammosa*) and two (2) native dragonflies were recorded, the indigenous globe skimmer and the indigenous green darner (*Anax junius*). Both native insects are widespread and common. While the ope'ape'a or Hawaiian hoary bat (*Lasiurus cinereus semotus*) was not recorded at the site, it may occur in or around the project area from time to time and its Endangered status requires attention and consideration. The U.S. Fish and Wildlife Service should be consulted for guidance, especially if tree removal is anticipated. These bats raise their newborn pups in large trees during their breeding season which occurs between April and mid-September each year.

There are two (2) species of protected seabirds, the Endangered 'ua'u or Hawaiian petrel (*Pterodroma sandwichensis*) and the Threatened 'a'o or Newell's shearwater (*Puffinus newelli*), that nest in burrows high in the mountains. The report noted that these bird species would not physically land in the project area, but do fly over the coastal lowlands to and from their burrows at dusk and at dawn, respectively.

b. Potential Impacts and Proposed Mitigation Measures

The plant species in the project area are made up primarily of non-native plant species. The seven (7) native plants that are in the area are all of common occurrence on multiple islands and are of no special conservation concern. Likewise, the six (6) Polynesian-introduced species are common throughout Hawai'i. No endangered or threatened plant species were found in the area, therefore, no significant impacts are anticipated to plant species in the area.

Significant negative impact on native fauna species are not anticipated as a result of the proposed project. However, it was noted that seabirds may fly over the project area at dawn and dusk, and could be disoriented by significant outdoor lighting. As recommended, any significant outdoor lighting that may be associated with this project will be hooded to direct the light downward to mitigate the threat. Furthermore, as recommended in the Biological Resources Survey report, the U.S. Fish and Wildlife Service will be consulted on tree removal to minimize potential impacts to the endangered Hawaiian Hoary bat. Tree removal will be avoided during the breeding season, as practicable.

8. **Archeological Resources**

a. **Existing Conditions**

Previous archaeological studies conducted in the Keʻanae region identified historic sites in the area consisting of heiau, loʻi (taro field systems), one (1) site that includes an overhang, determined to be a pre-contact temporary habitation feature, and a trail, identified as a historic-era transportation feature. See **Appendix “D”**. Other historic sites include Keʻanae Landing, Keʻanae Quarry, Keʻanae School, and Lanakila Church. According to the Archaeological Assessment report prepared for the project, Hāna Highway (or Belt Road), was constructed between 1905 and 1928. Keʻanae Road, which comprises the majority of the project area, was excavated from the hillside in the 1920s.

Archaeological inventory survey-level fieldwork was conducted for the project in April 2017. The survey consisted of a 100 percent pedestrian survey at five (5) meter transects paralleling the roadway. The cliff faces were not surveyed, due to steepness and extensive vegetation. Due to the lack of accessible space along the roadway and the prevalence of rocky, stony soil, no stratigraphic trenches were excavated.

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

No historic properties were identified during the archaeological survey work. According to the Archaeological Assessment report, the expectation of finding historic properties within the project site is very low, as the exposed cliff faces adjacent to the roadway are assumed to be a result of the original road construction. However, the possibility of encountering previously disturbed traditional-era sites is acknowledged, as a few residents have noted that caves with traditional-era burials may exist on the cliff faces. Therefore, archaeological monitoring will be undertaken during ground-altering work. An Archaeological Monitoring Plan (AMP) will be prepared and submitted to the State Historic Preservation Division (SHPD) for review and acceptance. In accordance with Section 6E-43.6, Hawaiʻi Revised Statutes (HRS) and Chapter 13-300, Hawaiʻi Administrative Rules (HAR), if any significant cultural deposits or human skeletal remains are encountered, work will stop in the immediate vicinity and SHPD will be contacted to establish the appropriate protocols and level of mitigation. As such, no significant adverse impacts on archaeological resources are anticipated as a result of the proposed project.

9. **Cultural Resources**

a. **Existing Conditions**

Both the Archaeological Assessment and the Cultural Impact Assessment (CIA) prepared for the project notes that the god, Kāne, is said to have brought the waters that feed Ke'anae, and Kanaloa's staff was thrust into solid rock to bring the waters forth. Refer to **Appendix "D"** and see **Appendix "E"**. Early inhabitants lived in lower Ke'anae Valley in the marshlands and farmed dry-land taro within the valley and wet-land taro lo'i on the eastern side of the lower valley. They primarily went to the peninsula for fishing. Ke'anae became known for farming wet-land taro after a chief ordered people to bring soil from the valley down to the peninsula to create the flat wetlands.

According to the CIA, the water surrounding Ke'anae was associated with legends related to mullets and sharks. Waialohe Pond to the east of the Ke'anae Peninsula was historically associated with mullet. It was also noted that there is a cave beneath Waialohe Pond that is associated with sharks. Refer to **Appendix "E"**.

During the mid-1800s, the shift to a market-based economy caused a migration from rural communities to the towns and ports of the island, resulting in an increased population in Ke'anae. Twenty (20) of the 21 Royal Patent Grants issued in the approximately 769 acres comprising Ke'anae went to Hawaiians. In the late 1800s, much of the wetland areas that were used for taro cultivation were leased to Chinese for rice cultivation, which experienced a decline in the early 1900s due to cheaper and higher quality rice becoming available from California.

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

The CIA was prepared in accordance with the Office of Environmental Quality Control's Guidelines for Assessing Cultural Impacts to identify the possibility of ongoing cultural activities and resources within a project area and assessing the potential for impacts on those resources. The CIA report includes information from archival and documentary research, as well as consultation and interviews with individuals who are knowledgeable of the project site and potential cultural activities and/or resources nearby.

Interviews were conducted with Dr. Scott Fisher, Associate Director of Conservation, Hawaiian Islands Land Trust; Mrs. Sandra Hueu, Ke'anae business owner and taro farmer; Mrs. Kiele Frame, retired Ke'anae farmer; and longtime Ke'anae residents and taro farmers, Sommer Kehau Kimokeo

and Gladys Kanoa. Additionally, Chris (Ikaika) Nakahashi, Cultural Historian for the State Historic Preservation Division; Ed Wendt, President of Na Moku Aupuni O Koolalu; Lucienne de Naie, President of Maui Tomorrow Foundation; Penny Levin, Taro Task Force and Cultural Practitioner; Dr. William Kepler, property owner; and Dan Clark, part time Ke'anae resident provided email responses to the request for information about the area. Concerns were expressed regarding potential impacts from the roadwork on access to existing taro farms, businesses, and landmarks, as well as potential environmental impacts to ecological, physical, and historic resources.

The CIA recommends that mitigation be provided for potential impacts to taro cultivation, the gathering of marine resources, including access to/from the peninsula, and any archaeological sites in close proximity to the project area. With the exception of the potential impact to any archaeological sites, the potential impacts noted in the CIA are related to access. Although daily temporary road closures are required during project construction, DPW, during a public meeting on July 27, 2017 in the Ke'anae Church Hall, identified construction hours that would minimize impacts to local farmers and businesses from restricted access due to construction. They also agreed that the community would be notified in advance of the road closure schedule so they can plan their trips to and from the peninsula accordingly. Furthermore, the Office of Economic Development will inform the Maui Hotel Association and Maui Visitor's Bureau of the road closures and will issue a press release through the Mayor's Office promoting when the road is open so that visitors who intend to visit the peninsula can plan accordingly. As previously noted, no historic sites were identified during the archaeological survey, and the expectation of finding historic properties is very low. Nevertheless, archaeological monitoring will be undertaken during ground-altering work to ensure that appropriate mitigation measures are implemented in the event that any archaeological sites are encountered. As such, significant short-term impacts to cultural resources are not anticipated as a result of the proposed project.

In the long term, the project will improve the safety and reliability of Ke'anae Road, which is the only access to and from the peninsula. This will allow the continued use of the Ke'anae Peninsula for taro cultivation and gathering and collecting of marine resources. No significant negative impacts are anticipated as a result of the proposed project.

10. **Air and Noise Quality**

a. **Existing Conditions**

The project is located in a rural area without large developments and intensive air source contaminants. This eastern side of Maui has consistent trade winds which contribute to excellent air quality. Noise in the area is largely due to traffic on Hāna Highway.

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

Short-term impacts associated with the possible grading and construction will include dust and other air pollutant emissions. Appropriate BMPs will be utilized during grading activities to mitigate the potential for adverse impacts to air quality and ambient noise levels. There is some noise expected during construction, which will abate once the project is completed. A Community Noise Permit will be obtained, as applicable. No long-term impacts to air quality or noise levels are expected as a result of this project.

11. **Scenic and Open Space Resources**

a. **Existing Conditions**

The project area is characterized by the Ke'anae Road right-of-way and adjacent rocky slopes covered by dense vegetation. The land east of Ke'anae Road varies from gently sloping grass to steep vegetated areas. In one (1) area there is an existing low concrete barrier which marks a steep drop off from the road. Views are generally limited because of the cliffs and heavy vegetation along the side of the road. The area to the west above Ke'anae Road is a heavily vegetated hillside. There are no views in the direction of the hillside.

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

In the long term, the proposed road safety improvements are not expected to significantly impact scenic and open space resources. Trees and other vegetation on the hillside will be cut back to allow installation of the rockfall netting, however, this vegetation will grow back over time.

12. Beach and Mountain Access

a. Existing Conditions

Ke'anae Road is the access from Hāna Highway and the mauka areas to the Ke'anae Peninsula and ocean. No other roads in the vicinity provide beach or mountain access to the peninsula.

b. Potential Impacts and Proposed Mitigation Measures

During certain phases of construction, Ke'anae Road will be temporarily closed for part of the day for safety reasons. Coordination will be undertaken with residents and tour companies to ensure that appropriate notification is provided.

The proposed project is expected to improve the safety and reliability of Ke'anae Road, which serves as the only access to and from the Ke'anae Peninsula. As such, it is expected to positively impact the access route between the mountain and ocean.

13. Use of Chemicals and Fertilizers

a. Existing Conditions

The project site has not been used as agricultural land and is not expected to have any of the chemical fertilizers, pesticides, or herbicides associated with agricultural use. However, there may have been some use of chemical pesticides or herbicides to control plant growth along the road.

b. Potential Impacts and Proposed Mitigation Measures

The application of herbicides is a standard practice to prepare roadways for pavement and will occur during construction. However, the application of pesticides and chemical fertilizers is not anticipated for the proposed improvements. No adverse effects to surface water, underground water, or marine resources due to chemicals or fertilizers are anticipated as a result of the proposed project.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Population and Economy

a. Existing Conditions

The Ke‘anae Peninsula is part of the larger Hāna community and region. While Hāna town is the main population center, the smaller communities of Ke‘anae, Kīpahulu, Kaupō, and Kahikinui are also included. The Hāna region covers the eastern side of Maui, beginning at Makaiwa Bay and going clockwise around the eastern edge until Kahikinui and Auwahi south of Kīhei and Makena. The upland border is the edge of Haleakala National Park.

The region’s population has grown from 969 people in 1970, 1,423 in 1980, 1,985 in 1990, and most recently, 2,291 in 2010. Despite a decrease of children and young adults, Hāna is expected to experience slow growth to about 2,600 by the year 2030 (County of Maui, Department of Planning, 2014).

The region’s economy is mostly based on diversified agriculture and tourism. The Hāna Highway is a well-known and heavily used road by tourists who are visiting Hāna. Government services and subsistence activities are other sources of economic value. Diversified agriculture includes ranching, tropical fruit and flower, and taro cultivation. While the entire region offers scenic attractions, such as ‘Ohe‘o Gulch in Haleakala National Park, the visitor accommodations are centered in Hāna Town.

b. Potential Impacts and Mitigation Measures

The proposed project is not expected to be a population generator. It is, therefore, not expected to have an adverse impact on the Hāna region’s population.

Construction will have a short-term impact on the local economy as expenditures for construction and related support services will be necessary. During certain phases of construction, Ke‘anae Road will be temporarily closed for part of the day for safety reasons. Coordination will be undertaken with residents and tour companies to ensure that appropriate notification for temporary road closures is provided. No short- or long-term adverse impacts are anticipated as a result of the proposed project.

C. PUBLIC SERVICES

1. Police and Fire Protection

a. Existing Conditions

The Maui Police Department, which is headquartered in Wailuku, provides services to Maui County through its six (6) patrol districts. The Hāna patrol district is based out of the Hāna substation, located near the intersection of Hāna Highway and Uakea Road near Hāna town.

Fire prevention, suppression, and protection services are provided by the County of Maui's, Department of Fire and Public Safety. The Hāna Fire Station is located next to the Police substation in Hāna town.

b. Potential Impacts and Mitigation Measures

The proposed project is not expected to extend the service area or adversely impact the existing level of police and fire protection services in the Hāna area. As mentioned previously, during certain phases of construction, Ke'anae Road will be temporarily closed for part of the day for safety reasons. Additionally, the contractor will have a protocol in place to ensure emergency vehicle access when needed.

2. Medical Facilities

a. Existing Conditions

Maui Memorial Medical Center, located in Wailuku, is the only major medical facility on the island. Acute, general, and emergency care services are provided by the approximately 214-bed facility. In Hāna, the Hana Health Clinic is located near Hāna town. It provides general health care, dental services, and 24-hour acute care services, and it is also a contract care provider for Kaiser Permanente.

b. Potential Impacts and Mitigation Measures

The proposed project is not anticipated to adversely impact the existing level of medical services currently provided by Maui Memorial Medical Center and the Hana Health Clinic.

3. Schools

a. Existing Conditions

The State of Hawai'i, Department of Education operates the one (1) public school in the Hāna region. Hana High and Elementary School has an enrollment of about 359 students for the 2017-2018 academic year (State of Hawai'i, Department of Education, 2017).

b. Potential Impacts and Mitigation Measures

The proposed project is not expected to adversely impact the educational facilities in the Hāna region. Coordination will be undertaken with residents, the Hawai'i Department of Education, and the Hāna school to inform them of the temporary road closure schedule to assist them with student transportation to and from school. Work is also proposed to be undertaken during the summer months, to the extent possible.

4. Solid Waste

a. Existing Conditions

The County of Maui, Department of Environmental Management (DEM) operates the Hāna landfill for disposal for residential and commercial customers.

b. Potential Impacts and Mitigation Measures

There are no anticipated adverse impacts to the County's solid waste disposal capacity as a result of project implementation. In a letter dated August 15, 2017, DEM noted that Hāna Landfill cannot accept waste from this project. Therefore, the contractor will apply to the Central Maui Landfill for the disposal of construction waste for this project.

5. Recreational Resources

a. Existing Conditions

Major recreational resources in the Hāna region include nine (9) County parks: Hāna Bay Beach Park in Hāna town, Ke'anae Park, Koki Beach Park near Hamoa, Hāna Ball Park, Honomanu Park (Milepost 14), Helene Hall, Hāna Community Center, Pa'ani Mai Park, and Kipahulu Point Light Station Park. The State of Hawai'i also maintains the Wai'anapanapa State Park between Ke'anae and Hāna. And the National Park Service maintains the 'Ohe'o Gulch Recreational area as part of the Haleakala National Park.

b. Potential Impacts and Mitigation Measures

The proposed project is not expected to adversely impact the recreational resources in the Hāna region. The mitigation project may make access to Ke'anae Park more reliable by reducing the impact of rockslides. During certain phases of construction, Ke'anae Road will be temporarily closed for part of the day for safety reasons. Coordination will be undertaken with residents and tour companies to ensure that appropriate notification is provided.

D. INFRASTRUCTURE

1. Roadways

a. Existing Conditions

The Hāna Highway, a two-way, two-lane State Highway, serves as the only road to and from Hāna. It is noted for its scenic beauty and historic structures, which includes 59 bridges and 15 culverts, all of which are over 50 years old.

Access to the Ke'anae Peninsula is currently provided only off of Hāna Highway by Ke'anae Road.

b. Potential Impacts and Mitigation Measures

As noted above, during certain phases of construction, Ke'anae Road will be temporarily closed for part of the day for safety reasons. Coordination will be undertaken with residents and tour companies to ensure that appropriate notification is provided. Additionally, the contractor will, at a minimum, advertise road closure days and times in the Maui News, and the Office of Economic Development will issue a press release through the Mayor's Office promoting the times that the road will be open to ensure that potential impacts related to access are limited. The contractor will have a protocol in place to ensure emergency vehicle access when needed. Flagmen will be used to direct traffic during lane closures and signs will be posted to inform drivers of the road work. The contractor will coordinate with the State of Hawai'i, Department of Transportation Highways Division on whether an Oversize/Overweight Vehicle Transport Over State Highways Permit is required. Although there will be some short-term disruption to traffic on Ke'anae Road, no long-term adverse impacts to existing roadways and residences around the proposed project site are anticipated. Road widening is proposed to widen existing lanes. No additional lanes are proposed as part of the project. In the long term, the

proposed project is anticipated to improve access to and from the Ke‘anae Peninsula via Ke‘anae Road.

2. **Water**

a. **Existing Conditions**

The Ke‘anae area is served by the County of Maui, Department of Water Supply (DWS). There is a 4-inch waterline along Ke‘anae Road, as well as two (2) standpipes and several valves.

b. **Potential Impacts and Mitigation Measures**

The proposed project does not generate any water demand, and there are no water system improvements proposed as part of the project. Coordination will be undertaken with the DWS Engineering Division to ensure that DWS infrastructure is not negatively impacted by the project. As such, the proposed project is not anticipated to adversely impact the County of Maui’s water service capacity in the vicinity of the project site.

3. **Wastewater**

a. **Existing Conditions**

There are no County wastewater collection or treatment facilities currently servicing Ke‘anae. Individual properties are generally serviced by individual wastewater systems (IWS), including septic tanks, cesspools, and packaged treatment plants. No wastewater facilities exist at the project site.

b. **Potential Impacts and Mitigation Measures**

No wastewater improvements are planned as part of the proposed project. No adverse impacts to public and private wastewater facilities are expected.

4. **Drainage System**

a. **Existing Conditions**

Existing berms and swales contain runoff within the roadway and eventually sheet-flow down the cliff. According to the Preliminary Engineering Assessment, there are no existing drainage improvements within the project site. Refer to **Appendix “B”**.

b. Potential Impacts and Mitigation Measures

The proposed project involves implementation of a rockfall mitigation and road safety measures. According to the Preliminary Engineering Assessment prepared for the project, existing drainage patterns will be maintained and no adverse effects on adjacent or downstream properties are anticipated as a result of the project.

5. Electric, Telephone, and Cable Television Systems

a. Existing Conditions

Electrical, telephone and cable television services for the Hāna region of Maui are provided by Maui Electric Company, Ltd., Hawaiian Telcom, and Oceanic Time Warner Cable, respectively. There are existing overhead lines which run along Ke'anae Road and are adjacent to the site.

b. Potential Impacts and Mitigation Measures

The proposed project is limited to road safety improvements and is not anticipated to adversely impact the existing level of electrical, telephone, or cable television services in the East Maui region. No impacts are anticipated to the overhead lines running along Ke'anae Road.

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. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

"Secondary impact" or "secondary effect" or "indirect impact" or "indirect effect" means effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

"Significant effect" or "significant impact" means the sum of effects on the quality of the environment, including actions that irrevocably commit, a natural resource, curtail the range of beneficial uses of the environment, are contrary to the state's environmental policies or long-term environmental goals and guidelines as established by law, or

adversely affect the economic or social welfare, or are otherwise set forth in section 11-200-12, Hawai'i Administrative Rules.

The proposed construction of the road safety improvement measures, discussed herein, facilitates the present and future access to Ke'anae. Increasing reliability of access to the Ke'anae Peninsula is needed by its residents. This proposed project is not considered a generator of significant secondary impacts. The project will not increase the capacity of Ke'anae Road, which will remain a two-lane road.

Aside from the direct development impacts discussed in the previous sections of this chapter, cumulative and secondary impacts are not anticipated as the proposed project is limited in scope, providing more reliable access for Ke'anae residents and visitors.

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



III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

A. STATE LAND USE DISTRICT

All lands in the State are placed into the four (4) major land use districts by Chapter 205, HRS, relating to the Land Use Commission. These districts are designated “Urban”, “Rural”, “Agricultural” and “Conservation”. The proposed Ke‘anae Road Safety Improvements are located within the “Agricultural” and “Conservation” Districts. Portions of Parcel 5, Parcel 9, and Parcel 65 are located in the “Conservation District”. See **Figure 10**. Infrastructural systems, including roadways and supporting structures, are permitted in each of the State Land Use Districts.

The northern portion of Ke‘anae Road is located within the Conservation District Resource Subzone. See **Figure 11**. According to §13-5-13, HAR, Resource (R) subzone, “*The objective of this subzone is to ensure, with proper management, the sustainable use of the natural resources of those areas.*” This area is likely identified as a natural resource because of the nearby lo‘i, or taro farms.

The proposed action within the Resource Subzone is limited to repair and maintenance of an existing roadway, and, therefore, is an identified land use which requires no permit from the Department of Land and Natural Resources or Board of Land and Natural Resources in accordance with HAR §13-5-22(b)1. Based on the proposed scope of work, it is anticipated that the Ke‘anae Road Safety Improvements project will qualify under the following Resource Subzone permitted use:

P-8 STRUCTURES AND LAND USES, EXISTING

(A-1) Minor repair, maintenance, and operation to an existing structure, facility, use, land, and equipment, whether it is nonconforming or permitted, that involves mostly cosmetic work or like-to-like replacement of component parts, and that results in negligible change to or impact to land, or a natural and cultural resource...

Confirmation of this determination will be sought from the State Office of Conservation and Coastal Lands.

B. HAWAI'I STATE PLAN

The Hawai‘i State Plan, found in Chapter 226, HRS, is a long-range comprehensive plan which serves as a guide for future long-term development of the State by identifying goals, objectives, policies, and priorities, as well as implementation mechanisms. The Plan

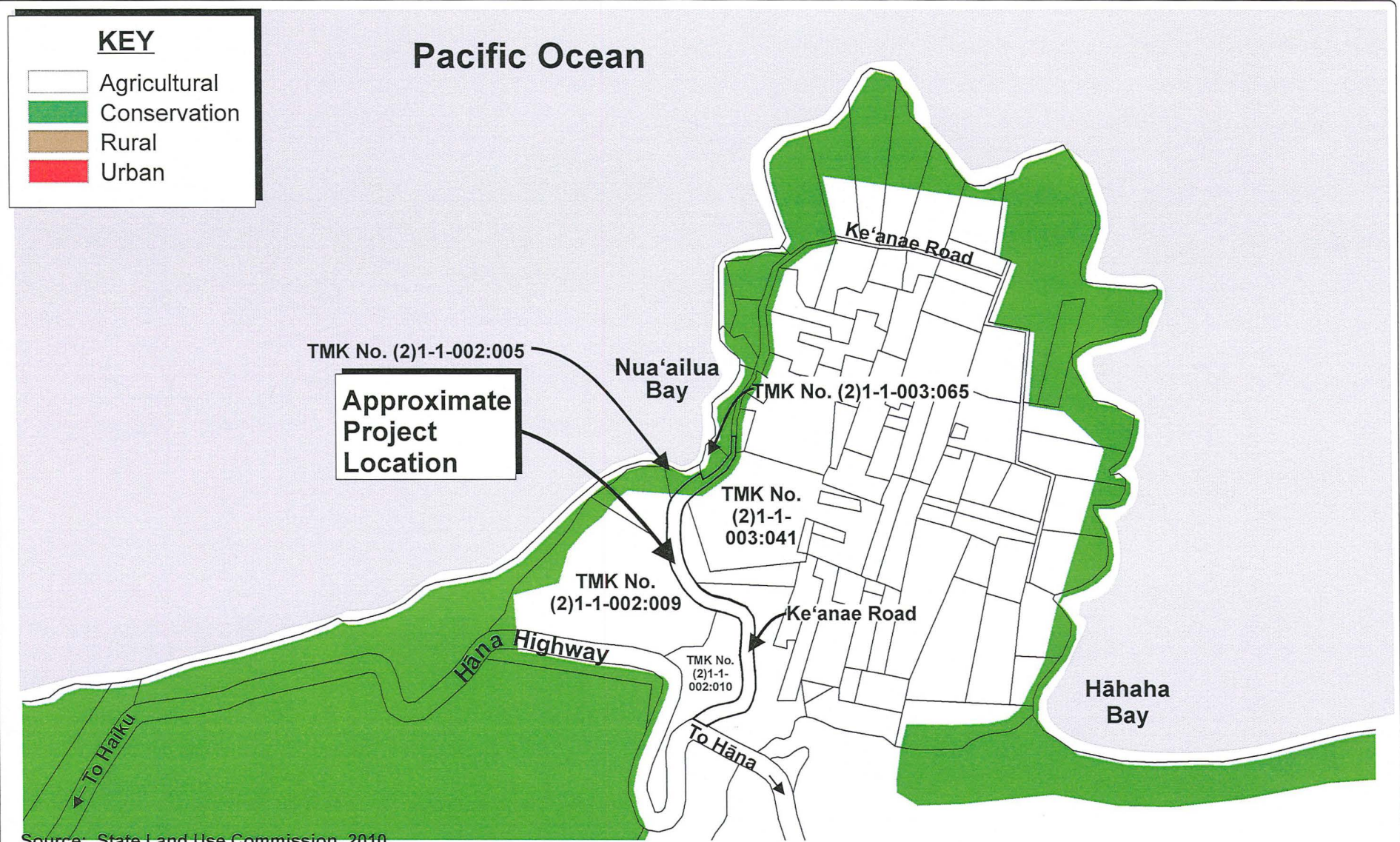
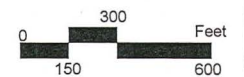


Figure 10 Proposed Ke'anae Road Safety Improvements
State Land Use Districts

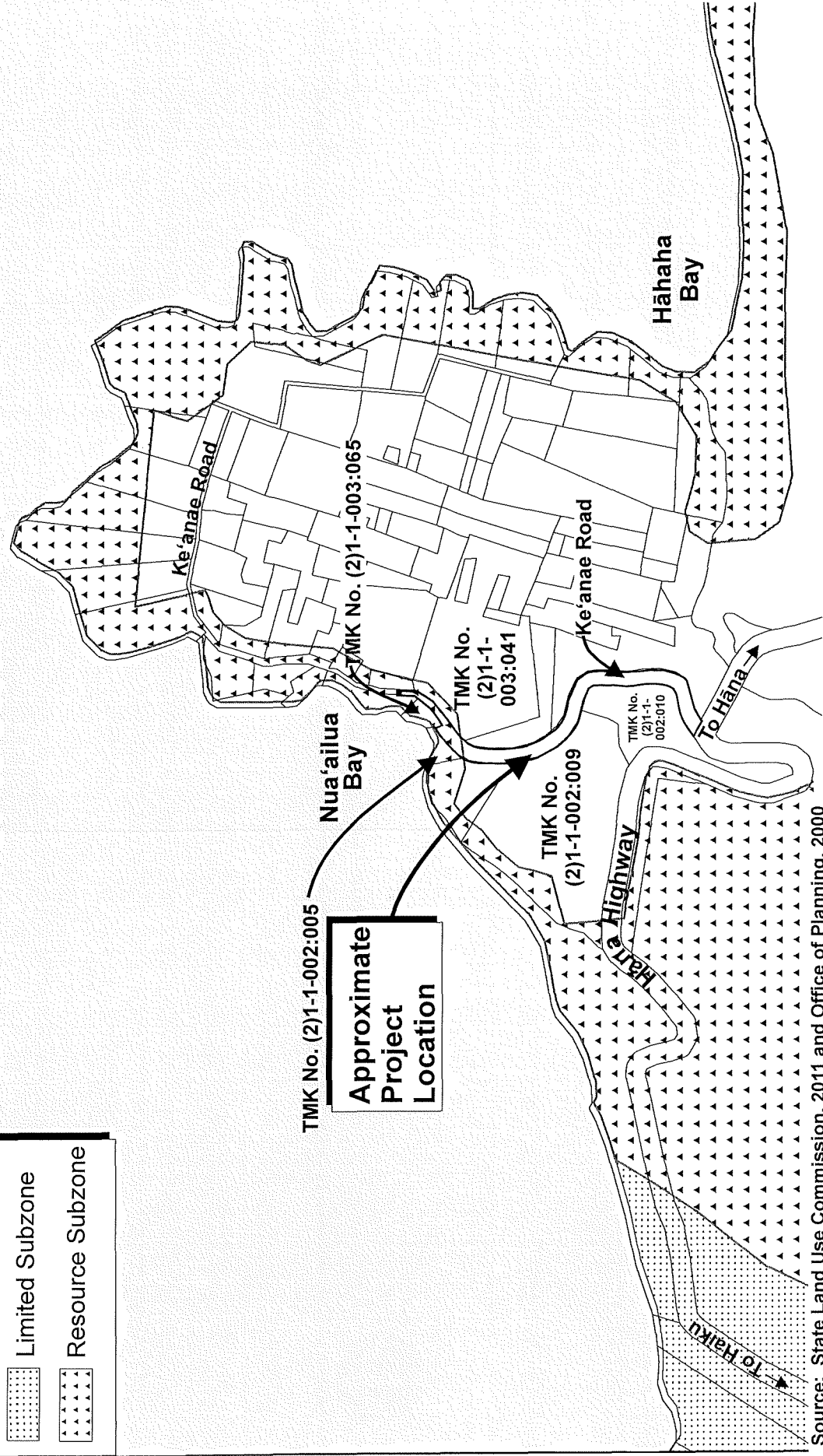


Prepared for: County of Maui, Department of Public Works

KEY

-  Limited Subzone
-  Resource Subzone

Pacific Ocean



Source: State Land Use Commission, 2011 and Office of Planning, 2000

Figure 11 Proposed Ke'anae Road Safety Improvements
Conservation District Subzones



MUNEKIYO HIRAGA

Prepared for: County of Maui, Department of Public Works

consists of three (3) parts. Part I includes the Overall Theme, Goals, Objectives, and Policies; Part II includes Planning, Coordination, and Implementation; and Part III establishes Priority Guidelines. Inasmuch as Part II of the State Plan covers its administrative structure and implementation process, discussion of the proposed project's applicability to Part II is not appropriate. Below is an analysis of the project's applicability to Part I and Part III of the Hawai'i State Plan.

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies			
Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
S	N/S	N/A	
HRS 226-1: Findings and Purpose			
HRS 226-2: Definitions			
HRS 226-3: Overall Theme			
<p>HRS 226-4: State Goals. In order to guarantee, for the present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self determination, it shall be the goal of the State to achieve:</p> <ol style="list-style-type: none"> (1) A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations. (2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people. (3) Physical, social, and economic well-being, for individuals and families in Hawaii, that nourishes a sense of community responsibility, of caring, and of participation in community life. 			
<p>Analysis: The proposed project will improve existing infrastructure to ensure the safety of the users of Ke'anae Road. It supports the State's goal of maintaining a desired physical environment that enhances the mental and physical well-being of the community.</p>			
Chapter 226-5 Objective and Policies for Population			
Objective: It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic and social objectives contained in this chapter.			✓
Policies:			
(1) Manage population growth statewide in a manner that provides increased opportunities for Hawaii's people to pursue their physical, social, and economic aspirations while recognizing the unique needs of each county.			✓
(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.			✓
(3) Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable				S	N/S	N/A
(4) Encourage research activities and public awareness programs to foster an understanding of Hawaii's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawaii's population.						✓
(5) Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among the states, provided that such actions do not prevent the reunion of immediate family members.						✓
(6) Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population.						✓
(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.						✓
Analysis: The above listed objective and policies for population are not applicable to the proposed project.						
Chapter 226-6 Objectives and policies for the economy – in general						
Objectives: Planning for the State's economy in general shall be directed toward achievement of the following objectives:						
(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.						✓
(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.						✓
Policies:						
(1) Promote and encourage entrepreneurship within Hawaii by residents and nonresidents of the State.						✓
(2) Expand Hawaii's national and international marketing, communication, and organizational ties, to increase the State's capacity to adjust to and capitalize upon economic changes and opportunities occurring outside the State.						✓
(3) Promote Hawaii as an attractive market for environmentally and socially sound investment activities that benefit Hawaii's people.						✓
(4) Transform and maintain Hawaii as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities.						✓
(5) Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawaii.						✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
(6) Seek broader outlets for new or expanded Hawaii business investments.			✓
(7) Expand existing markets and penetrate new markets for Hawaii's products and services.			✓
(8) Assure that the basic economic needs of Hawaii's people are maintained in the event of disruptions in overseas transportation.			✓
(9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.			✓
(10) Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawaii's small scale producers, manufacturers, and distributors.			✓
(11) Encourage labor-intensive activities that are economically satisfying and which offer opportunities for upward mobility.			✓
(12) Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawaii.			✓
(13) Foster greater cooperation and coordination between the government and private sectors in developing Hawaii's employment and economic growth opportunities.			✓
(14) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.			✓
(15) Maintain acceptable working conditions and standards for Hawaii's workers.			✓
(16) Provide equal employment opportunities for all segments of Hawaii's population through affirmative action and nondiscrimination measures.			✓
(17) Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			✓
(18) Encourage businesses that have favorable financial multiplier effects within Hawaii's economy, particularly with respect to emerging industries in science and technology.			✓
(19) Promote and protect intangible resources in Hawaii, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.			✓
(20) Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new or innovative potential growth industries in particular.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
(21) Foster a business climate in Hawaii--including attitudes, tax and regulatory policies, and financial and technical assistance programs--that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.			✓
Analysis: The above listed objectives and policies for the economy in general are not applicable to the project.			
Chapter 226-7 Objectives and policies for the economy -- agriculture.			
Objectives: Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:			
(1) Viability of Hawaii's sugar and pineapple industries.			✓
(2) Growth and development of diversified agriculture throughout the State.			✓
(3) An agriculture industry that continues to constitute a dynamic and essential component of Hawaii's strategic, economic, and social well-being.			✓
Policies:			
(1) Establish a clear direction for Hawaii's agriculture through stakeholder commitment and advocacy.			✓
(2) Encourage agriculture by making the best use of natural resources.			✓
(3) Provide the governor and the legislature with information and options needed for prudent decision-making for the development of agriculture.			✓
(4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.			✓
(5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawaii's economy.			✓
(6) Seek the enactment and retention of federal and state legislation that benefits Hawaii's agricultural industries.			✓
(7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawaii's food producers and consumers in the State, nation, and world.			✓
(8) Support research and development activities that strengthen economic productivity in agriculture, stimulate greater efficiency, and enhance the development of new products and agricultural by-products.			✓
(9) Enhance agricultural growth by providing public incentives and encouraging private initiatives.			✓
(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
(11) Increase the attractiveness and opportunities for an agricultural education and livelihood.			✓
(12) In addition to the State's priority on food, expand Hawaii's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.			✓
(13) Promote economically competitive activities that increase Hawaii's agricultural self-sufficiency, including the increased purchase and use of Hawaii-grown food and food products by residents, businesses, and governmental bodies as defined under section 103D-104.			✓
(14) Promote and assist in the establishment of sound financial programs for diversified agriculture.			✓
(15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.			✓
(16) Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses.			✓
(17) Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i'a, māla, and irrigated lo'i, and growth of traditional Hawaiian crops, such as kalo, 'uala, and 'ulu.			✓
(18) Increase and develop small-scale farms.			✓
Analysis: The objective and policies listed above for the economy related to agriculture are not applicable to the proposed project.			
Chapter 226-8 Objective and policies for the economy – – visitor industry.			
Objectives: Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawaii's economy.			✓
Policies:			
(1) Support and assist in the promotion of Hawaii's visitor attractions and facilities.			✓
(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people.			✓
(3) Improve the quality of existing visitor destination areas by utilizing Hawaii's strengths in science and technology.			✓
(4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.			✓
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawaii's people.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable				S	N/S	N/A
(6) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the visitor industry.						✓
(7) Foster a recognition of the contribution of the visitor industry to Hawaii's economy and the need to perpetuate the aloha spirit.						✓
(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawaii's cultures and values.						✓
Analysis: The objective and policies listed above for the economy related to the visitor industry are not applicable to the proposed project.						
Chapter 226-9 Objective and policies for the economy – – federal expenditures.						
Objective: Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawaii's economy.						✓
Policies:						
(1) Encourage the sustained flow of federal expenditures in Hawaii that generates long-term government civilian employment;						✓
(2) Promote Hawaii's supportive role in national defense, in a manner consistent with Hawaii's social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawaii's economy;						✓
(3) Promote the development of federally supported activities in Hawaii that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawaii's environment;						✓
(4) Increase opportunities for entry and advancement of Hawaii's people into federal government service;						✓
(5) Promote federal use of local commodities, services, and facilities available in Hawaii;						✓
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawaii; and						✓
(7) Pursue the return of federally controlled lands in Hawaii that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.						✓
Analysis: The objective and policies listed above for the economy related to federal expenditures are not applicable to the proposed project.						
Chapter 226-10 Objective and policies for the economy – – potential growth and innovative activities.						
Objective: Planning for the State's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversify Hawaii's economic base.						✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies			
Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
S N/S N/A			
Policies:			
(1) Facilitate investment and employment growth in economic activities that have the potential to expand and diversify Hawaii's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors;			✓
(2) Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawaii through the export of services or products or substitution of imported services or products;			✓
(3) Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements;			✓
(4) Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity;			✓
(5) Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus;			✓
(6) Expand Hawaii's capacity to attract and service international programs and activities that generate employment for Hawaii's people;			✓
(7) Enhance and promote Hawaii's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts;			✓
(8) Accelerate research and development of new energy-related industries based on wind, solar, ocean, underground resources, and solid waste;			✓
(9) Promote Hawaii's geographic, environmental, social, and technological advantages to attract new or innovative economic activities into the State;			✓
(10) Provide public incentives and encourage private initiative to attract new or innovative industries that best support Hawaii's social, economic, physical, and environmental objectives;			✓
(11) Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research;			✓
(12) Develop, promote, and support research and educational and training programs that will enhance Hawaii's ability to attract and develop economic activities of benefit to Hawaii;			✓
(13) Foster a broader public recognition and understanding of the potential benefits of new or innovative growth-oriented industry in Hawaii;			✓
(14) Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawaii's social, economic, physical, and environmental objectives;			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable				S	N/S	N/A
(15) Increase research and development of businesses and services in the telecommunications and information industries;						✓
(16) Foster the research and development of nonfossil fuel and energy efficient modes of transportation; and						✓
(17) Recognize and promote health care and health care information technology as growth industries.						✓
Analysis: The objective and policies listed above for the economy related to potential growth activities are not applicable to the proposed project.						
Chapter 226-10.5 Objectives and policies for the economy – information industry.						
Objective: Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawaii as a leader in broadband and wireless communications and applications in the Pacific Region.						✓
Policies:						
(1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawaii and between Hawaii and the world, and make high speed communication available to all residents and businesses in Hawaii;						✓
(2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawaii to accommodate future growth and innovation in Hawaii's economy;						✓
(3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawaii;						✓
(4) Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawaii, using technology to communicate with their headquarters, offices, or customers located out-of-state;						✓
(5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well-designed information industry;						✓
(6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people;						✓
(7) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the information industry;						✓
(8) Foster a recognition of the contribution of the information industry to Hawaii's economy; and						✓
(9) Assist in the promotion of Hawaii as a broker, creator, and processor of information in the Pacific.						✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies			
Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
Analysis: The objective and policies listed above for the economy related to the information industry are not applicable to the proposed project.			
Chapter 226-11 Objectives and policies for the physical environment – – land based, shoreline, and marine resources.			
Objectives: Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:			
(1) Prudent use of Hawaii's land-based, shoreline, and marine resources.			✓
(2) Effective protection of Hawaii's unique and fragile environmental resources.			✓
Policies:			
(1) Exercise an overall conservation ethic in the use of Hawaii's natural resources.			✓
(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.			✓
(3) Take into account the physical attributes of areas when planning and designing activities and facilities.	✓		
(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.			✓
(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.			✓
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.			✓
(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.			✓
(8) Pursue compatible relationships among activities, facilities, and natural resources.			✓
(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.			✓
Analysis: The proposed project will take into account the physical attributes of the surrounding area during planning and design.			
Chapter 226-12 Objective and policies for the physical environment – – scenic, natural beauty, and historic resources.			
Objective: Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's scenic assets, natural beauty, and multi-cultural/historical resources.	✓		
Policies:			
(1) Promote the preservation and restoration of significant natural and historic resources.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable				S	N/S	N/A
(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.						✓
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.				✓		
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.						✓
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.						✓
Analysis: The design for the proposed project will strive to preserve and/or enhance visual and aesthetic enjoyment of scenic landscapes and natural features and complement the natural beauty of the surrounding area.						
Chapter 226-13 Objectives and policies for the physical environment – – land, air, and water quality.						
Objectives: Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives.						
(1) Maintenance and pursuit of improved quality in Hawaii's land, air, and water resources.						✓
(2) Greater public awareness and appreciation of Hawaii's environmental resources.						✓
Policies:						
(1) Foster educational activities that promote a better understanding of Hawaii's limited environmental resources.						✓
(2) Promote the proper management of Hawaii's land and water resources.						✓
(3) Promote effective measures to achieve desired quality in Hawaii's surface, ground, and coastal waters.						✓
(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawaii's people.						✓
(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.				✓		
(6) Encourage design and construction practices that enhance the physical qualities of Hawaii's communities.						✓
(7) Encourage urban developments in close proximity to existing services and facilities.						✓
(8) Foster recognition of the importance and value of the land, air, and water resources to Hawaii's people, their cultures and visitors.						✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies			
Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
S	N/S	N/A	
Analysis: The proposed project will reduce threat to life and property by mitigating rockfall hazards along Ke'ānae Road.			
Chapter 226-14 Objective and policies for facility systems – – in general.			
Objective: 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.	✓		
Policies:			
(1) Accommodate the needs of Hawaii's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.	✓		
(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.			✓
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.			✓
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.			✓
Analysis: The proposed project will improve the safety and reliability of the roadway/transportation system providing access to and from Ke'ānae.			
Chapter 226-15 Objectives and policies for facility systems – – solid and liquid waste.			
Objectives: Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:			
(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.			✓
(2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.			✓
Policies:			
(1) Encourage the adequate development of sewerage facilities that complement planned growth.			✓
(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.			✓
(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.			✓
Analysis: The objective and policies listed above for facility systems related to solid and liquid waste are not applicable to the proposed project.			
Chapter 226-16 Objective and policies for facility systems – – water.			
Objective: Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial,			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable				S	N/S	N/A
recreational, and other needs within resource capacities.						
Policies:						
(1) Coordinate development of land use activities with existing and potential water supply.						✓
(2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.						✓
(3) Reclaim and encourage the productive use of runoff water and wastewater discharges.						✓
(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.						✓
(5) Support water supply services to areas experiencing critical water problems.						✓
(6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.						✓
Analysis: The objective and policies listed above for facility systems related to water are not applicable to the proposed project.						
Chapter 226-17 Objectives and policies for facility systems – – transportation.						
Objectives: Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives:						
(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.						✓
(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.						✓
Policies:						
(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter;						✓
(2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives;						✓
(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties;						✓
(4) Provide for improved accessibility to shipping, docking, and storage facilities;						✓
(5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs;						✓
(6) Encourage transportation systems that serve to accommodate present and future development needs of communities;				✓		
(7) Encourage a variety of carriers to offer increased opportunities and advantages to interisland movement of people and goods;						✓

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	S	N/S	N/A
(8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs;			✓
(9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification;			✓
(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawaii's natural environment;	✓		
(11) Encourage safe and convenient use of low-cost, energy-efficient, non-polluting means of transportation;			✓
(12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; and	✓		
(13) Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.			✓
Analysis: The proposed action will improve the safety and reliability of Ke'anae Road, which serves as the primary road in the Ke'anae area.			
Chapter 226-18 Objectives and policies for facility systems – – energy.			
Objectives: Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:			
(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;			✓
(2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii's dependence on imported fuels for electrical generation and ground transportation.			✓
(3) Greater diversification of energy generation in the face of threats to Hawaii's energy supplies and systems;			✓
(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and			✓
(5) Utility models that make the social and financial interests of Hawaii's utility customers a priority.			✓
(b) To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably prices, and dependable energy services to accommodate demand.			✓
Policies:			
(1) Support research and development as well as promote the use of renewable energy sources;			✓
(2) Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth;			✓
(3) Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and			✓

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qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits;						
(4) Promote all cost-effective conservation of power and fuel supplies through measures, including:						✓
(A) Development of cost-effective demand-side management programs;						✓
(B) Education;						✓
(C) Adoption of energy-efficient practices and technologies; and						✓
(D) Increasing energy efficiency and decreasing energy use in public infrastructure						✓
(5) Ensure, to the extent that new supply-side resources are needed, that the development or expansion of energy systems uses the least-cost energy supply option and maximizes efficient technologies; and						✓
(6) Support research, development, demonstration, and use of energy efficiency, load management, and other demand-side management programs, practices, and technologies;						✓
(7) Promote alternate fuels and transportation energy efficiency;						✓
(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications;						✓
(9) Support actions that reduce, avoid, or sequester Hawaii's greenhouse gas emissions through agriculture and forestry initiatives;						✓
(10) Provide priority handling and processing for all state and county permits required for renewable energy projects;						✓
(11) Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation and does not impede the development and use of other cost-effective renewable energy sources; and						✓
(12) Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawaii.						✓
Analysis: The objective and policies listed above for facility systems related to energy are not applicable to the proposed project.						

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S	N/S	N/A	
Chapter 226-18.5 Objectives and policies for facility systems – – telecommunications.			
Objectives:			
(a) Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people.			✓
(b) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand.			✓
Policies:			
(1) Facilitate research and development of telecommunications systems and resources;			✓
(2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning;			✓
(3) Promote efficient management and use of existing telecommunications systems and services; and			✓
(4) Facilitate the development of education and training of telecommunications personnel.			✓
Analysis: The objective and policies listed above for facility systems related to telecommunications are not applicable to the proposed project.			
Chapter 226-19 Objectives and policies for socio-cultural advancement – – housing.			
Objectives: Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:			
(1) Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawaii's population.			✓
(2) The orderly development of residential areas sensitive to community needs and other land uses.			✓
(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawaii's people.			✓
Policies:			
(1) Effectively accommodate the housing needs of Hawaii's people.			✓
(2) Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.			✓
(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.			✓

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	S	N/S	N/A
(4) Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas.			✓
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.			✓
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.			✓
(7) Foster a variety of lifestyles traditional to Hawaii through the design and maintenance of neighborhoods that reflect the culture and values of the community.			✓
(8) Promote research and development of methods to reduce the cost of housing construction in Hawaii.			✓
Analysis: The objective and policies listed above for socio-cultural advancement related to housing are not applicable to the proposed project.			
Chapter 226-20 Objectives and policies for socio-cultural advancement – – health.			
Objectives: Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:			
(1) Fulfillment of basic individual health needs of the general public.			✓
(2) Maintenance of sanitary and environmentally healthful conditions in Hawaii's communities.			✓
(3) Elimination of health disparities by identifying and addressing social determinants of health.			✓
Policies:			
(1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.			✓
(2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.			✓
(3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.			✓
(4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.			✓
(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.			✓
(6) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement.			✓
(7) Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health			✓

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S	N/S	N/A	
			and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data.
Analysis: The objective and policies listed above for socio-cultural advancement related to health are not applicable to the proposed project.			
Chapter 226-21 Objectives and policies for Socio-cultural advancement – education.			
			Objective: Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.
			Policies:
			(1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.
			(2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.
			(3) Provide appropriate educational opportunities for groups with special needs.
			(4) Promote educational programs which enhance understanding of Hawaii's cultural heritage.
			(5) Provide higher educational opportunities that enable Hawaii's people to adapt to changing employment demands.
			(6) Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities.
			(7) Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.
			(8) Emphasize quality educational programs in Hawaii's institutions to promote academic excellence.
			(9) Support research programs and activities that enhance the education programs of the State.
Analysis: The objective and policies listed above for socio-cultural advancement related to education are not applicable to the proposed project.			
Chapter 226-22 Objective and policies for socio-cultural advancement – social services.			
			Objective: Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being.

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S	N/S	N/A	
Policies:			
(1) Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities.			✓
(2) Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and to enhance their participation in society.			✓
(3) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawaii's communities.			✓
(4) Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations.			✓
(5) Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect.			✓
(6) Promote programs which assist people in need of family planning services to enable them to meet their needs.			✓
Analysis: The objective and policies listed above for socio-cultural advancement related to social services are not applicable to the proposed project.			
Chapter 226-23 Objective and policies for socio-cultural advancement -- leisure.			
Objective: Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.			✓
Policies:			
(1) Foster and preserve Hawaii's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.			✓
(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.			✓
(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.			✓
(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.			✓
(5) Ensure opportunities for everyone to use and enjoy Hawaii's recreational resources.			✓
(6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.			✓
(7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawaii's people.			✓

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	S	N/S	N/A
(8) Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.			✓
(9) Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawaii's population to participate in the creative arts.			✓
(10) Assure adequate access to significant natural and cultural resources in public ownership.			✓
Analysis: The objective and policies listed above for socio-cultural advancement related to leisure are not applicable to the proposed project.			
Chapter 226-24 Objective and policies for socio-cultural advancement – individual rights and personal well-being.			
Objective: Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations.			✓
Policies:			
(1) Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment.			✓
(2) Uphold and protect the national and state constitutional rights of every individual.			✓
(3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice.			✓
(4) Ensure equal opportunities for individual participation in society.			✓
Analysis: The objective and policies listed above for socio-cultural advancement related to individual rights and personal well-being are not applicable to the proposed project.			
Chapter 226-25 Objective and policies for socio-cultural advancement – culture.			
Objective: Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawaii's people.			✓
Policies:			
(1) Foster increased knowledge and understanding of Hawaii's ethnic and cultural heritages and the history of Hawaii.			✓
(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawaii's people and which are sensitive and responsive to family and community needs.			✓

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	S	N/S	N/A
(3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawaii.			✓
(4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawaii's people and visitors.			✓
Analysis: The objective and policies listed above for socio-cultural advancement related to culture are not applicable to the proposed project.			
Chapter 226-26 Objectives and policies for socio-cultural advancement – – public safety.			
Objective: Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:			
(1) Assurance of public safety and adequate protection of life and property for all people.	✓		
(2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.			✓
(3) Promotion of a sense of community responsibility for the welfare and safety of Hawaii's people.	✓		
<u>Policies (Public Safety):</u>			
(1) Ensure that public safety programs are effective and responsive to community needs.			✓
(2) Encourage increased community awareness and participation in public safety programs.			✓
<u>Policies (Public Safety – Criminal Justice):</u>			
(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.			✓
(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.			✓
(3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.			✓
<u>Policies (Public Safety – Emergency Management):</u>			
(1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times.			✓
(2) Enhance the coordination between emergency management programs throughout the State.			✓

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Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
Analysis: The proposed project will improve the safety and reliability of the roadway/transportation system providing access to and from Ke'anae, which is critical for the public safety as it relates to the Ke'anae community.			
Chapter 226-27 Objectives and policies for socio-cultural advancement – – government.			
Objectives: Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:			
(1) Efficient, effective, and responsive government services at all levels in the State.			✓
(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.			✓
Policies:			
(1) Provide for necessary public goods and services not assumed by the private sector.			✓
(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.			✓
(3) Minimize the size of government to that necessary to be effective.			✓
(4) Stimulate the responsibility in citizens to productively participate in government for a better Hawaii.			✓
(5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.			✓
(6) Provide for a balanced fiscal budget.			✓
(7) Improve the fiscal budgeting and management system of the State.			✓
(8) Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible.			✓
Analysis: The objective and policies listed above for socio-cultural advancement related to government are not applicable to the proposed project.			

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES			S	N/S	N/A
Chapter 226-101: Purpose. The purpose of this part is to establish overall priority guidelines to address areas of statewide concern.					
Chapter 226-102: Overall direction. The State shall strive to improve the quality of life for Hawaii's present and future population through the pursuit of desirable courses of action in seven major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, quality education, principles of sustainability, and climate change adaptation.					
Chapter 226-103: Economic priority guidelines.					
(a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawaii's people and achieve a stable and diversified economy:					
(1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.					✓
(A) Encourage investments which:					✓
(i) Reflect long term commitments to the State;					✓
(ii) Rely on economic linkages within the local economy;					✓
(iii) Diversify the economy;					✓
(iv) Reinvest in the local economy;					✓
(v) Are sensitive to community needs and priorities; and					✓
(vi) Demonstrate a commitment to provide management opportunities to Hawaii residents; and					✓
(B) Encourage investments in innovative activities that have a nexus to the State, such as:					✓
(i) Present or former residents acting as entrepreneurs or principals;					✓
(ii) Academic support from an institution of higher education in Hawaii;					✓
(iii) Investment interest from Hawaii residents;					✓
(iv) Resources unique to Hawaii that are required for innovative activity; and					✓
(v) Complementary or supportive industries or government programs or projects.					✓
(2) Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements.					✓
(3) Improve the quality, accessibility, and range of services provided by government to business, including data and reference services and assistance in complying with governmental regulations.					✓
(4) Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable.					✓
(5) Streamline the processes for building and development permit and review, and telecommunication infrastructure installation approval and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where scientific evidence indicates that public health, safety and welfare would not be adversely affected.					✓
(6) Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawaii's small-scale producers, manufacturers, and distributors.					✓

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(7) Continue to seek legislation to protect Hawaii from transportation interruptions between Hawaii and the continental United States.			✓
(8) Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics:			✓
(A) An industry that can take advantage of Hawaii's unique location and available physical and human resources.			✓
(B) A clean industry that would have minimal adverse effects on Hawaii's environment.			✓
(C) An industry that is willing to hire and train Hawaii's people to meet the industry's labor needs at all levels of employment.			✓
(D) An industry that would provide reasonable income and steady employment.			✓
(9) Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawaii business.			✓
(10) Enhance the quality of Hawaii's labor force and develop and maintain career opportunities for Hawaii's people through the following actions:			✓
(A) Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible.			✓
(B) Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities.			✓
(C) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired.			✓
(D) Promote career opportunities in all industries for Hawaii's people by encouraging firms doing business in the State to hire residents.			✓
(E) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on-the-job training opportunities.			✓
(F) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.			✓
(b) Priority guidelines to promote the economic health and quality of the visitor industry:			
(1) Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawaii's residents and visitors.			✓
(2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.			✓
(3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.			✓
(4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawaii's significant natural, scenic, historic, and cultural resources.			✓
(5) Develop and maintain career opportunities in the visitor industry for Hawaii's people, with emphasis on managerial positions.			✓

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(6) Support and coordinate tourism promotion abroad to enhance Hawaii's share of existing and potential visitor markets.			✓
(7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.			✓
(8) Support law enforcement activities that provide a safer environment for both visitors and residents alike.			✓
(9) Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques.			✓
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:			
(1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.			✓
(2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawaii.			✓
(3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.			✓
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:			
(1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.			✓
(2) Assist in providing adequate, reasonably priced water for agricultural activities.			✓
(3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.			✓
(4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.			✓
(5) Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawaii's agricultural community.			✓
(6) Seek favorable freight rates for Hawaii's agricultural products from interisland and overseas transportation operators.			✓
(7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.			✓
(8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.			✓
(9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.			✓
(10) Support the continuation of land currently in use for diversified agriculture.			✓
(11) Encourage residents and visitors to support Hawaii's farmers by purchasing locally grown food and food products.			✓
(e) Priority guidelines for water use and development:			
(1) Maintain and improve water conservation programs to reduce the overall water consumption rate.			✓
(2) Encourage the improvement of irrigation technology and promote the use of nonpotable water for agricultural and landscaping purposes.			✓
(3) Increase the support for research and development of economically feasible alternative water sources.			✓

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES		S	N/S	N/A
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.				✓
(f) Priority guidelines for energy use and development:				
(1) Encourage the development, demonstration, and commercialization of renewable energy sources.				✓
(2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.				✓
(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.				✓
(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.				✓
(g) Priority guidelines to promote the development of the information industry:				
(1) Establish an information network, with an emphasis on broadband and wireless infrastructure and capability, that will serve as the foundation of and catalyst for overall economic growth and diversification in Hawaii.				✓
(2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center.				✓
(3) Encourage the development of small businesses in the information field such as software development; the development of new information systems, peripherals, and applications; data conversion and data entry services; and home or cottage services such as computer programming, secretarial, and accounting services.				✓
(4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.				✓
(5) Encourage research activities, including legal research in the information and telecommunications fields.				✓
(6) Support promotional activities to market Hawaii's information industry services.				✓
(7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where scientific evidence indicates that the public health, safety, and welfare would not be adversely affected.				✓
Analysis: The economic priority guidelines listed above are not applicable to the proposed project.				
Chapter 226-104: Population growth and land resources priority guidelines.				
(a) Priority guidelines to effect desired statewide growth and distribution:				
(1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawaii's people.				✓
(2) Manage a growth rate for Hawaii's economy that will parallel future employment needs for Hawaii's people.				✓

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.			✓
(4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.			✓
(5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands.			✓
(6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands.			✓
(7) Support the development of high technology parks on the neighbor islands.			✓
(b) Priority guidelines for regional growth distribution and land resource utilization:			
(1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.			✓
(2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.			✓
(3) Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area.			✓
(4) Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use.			✓
(5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core.			✓
(6) Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces.			✓
(7) Pursue rehabilitation of appropriate urban areas.			✓
(8) Support the redevelopment of Kakaako into a viable residential, industrial, and commercial community.			✓
(9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.			✓
(10) Identify critical environmental areas in Hawaii to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.			✓
(11) Identify all areas where priority should be given to preserving rural character and lifestyle.			✓

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES		S	N/S	N/A
(12) Utilize Hawaii's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.				✓
(13) Protect and enhance Hawaii's shoreline, open spaces, and scenic resources.				✓
Analysis: The population growth and land resources priority guidelines listed above are not applicable to the proposed project.				
Chapter 226-105: Crime and criminal justice.				
Priority guidelines in the area of crime and criminal justice:				
(1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment.				✓
(2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders.				✓
(3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities.				✓
(4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community.				✓
(5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions.				✓
(6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.				✓
Analysis: The crime and criminal justice priority guidelines listed above are not applicable to the proposed project.				
Chapter 226-106: Affordable housing.				
Priority guidelines for the provision of affordable housing:				
(1) Seek to use marginal or nonessential agricultural land and public land to meet housing needs of low- and moderate-income and gap-group households.				✓
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.				✓
(3) Improve information and analysis relative to land availability and suitability for housing.				✓
(4) Create incentives for development which would increase home ownership and rental opportunities for Hawaii's low- and moderate-income households, gap-group households, and residents with special needs.				✓
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawaii's people for the purchase of initial owner-occupied housing.				✓
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.				✓
(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.				✓

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES			S	N/S	N/A
(8) Give higher priority to the provision of quality housing that is affordable for Hawaii's residents and less priority to development of housing intended primarily for individuals outside of Hawaii.					✓
Analysis: The affordable housing priority guidelines listed above are not applicable to the proposed project.					
Chapter 226-107: Quality education.					
Priority guidelines to promote quality education:					
(1) Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement;					✓
(2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs;					✓
(3) Initiate efforts to improve the quality of education by improving the capabilities of the education work force;					✓
(4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision making responsibilities;					✓
(5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for:					✓
(A) The electronic exchange of information;					✓
(B) Statewide electronic mail; and					✓
(C) Access to the Internet.					✓
(6) Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives;					✓
(7) Pursue the establishment of Hawaii's public and private universities and colleges as research and training centers of the Pacific;					✓
(8) Develop resources and programs for early childhood education;					✓
(9) Explore alternatives for funding and delivery of educational services to improve the overall quality of education; and					✓
(10) Strengthen and expand educational programs and services for students with special needs.					✓
Analysis: The quality education priority guidelines listed above are not applicable to the proposed project.					
CHAPTER 226-108: Sustainability					
Priority guidelines and principles to promote sustainability shall include:					
(1) Encouraging balanced economic, social, community, and environmental priorities;					✓
(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State;					✓
(3) Promoting a diversified and dynamic economy;					✓
(4) Encouraging respect for the host culture;					✓
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations;					✓
(6) Considering the principles of the ahupuaa system; and					✓
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawaii.					✓
Analysis: The sustainability priority guidelines listed above are not applicable to the proposed project.					

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES			S	N/S	N/A
CHAPTER 226-109: Climate change adaptation					
Priority guidelines and principles to promote climate change adaptation shall include:					
(1) Ensure that Hawaii's people are educated, informed, and aware of the impacts climate change may have on their communities;					✓
(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;					✓
(3) Invest in continued monitoring and research of Hawaii's climate and the impacts of climate change on the State;					✓
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;					✓
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change;					✓
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;					✓
(7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;					✓
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities;					✓
(9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and					✓
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.					✓
Analysis: The climate change adaptation priority guidelines listed above are not applicable to the proposed project.					

C. STATE FUNCTIONAL PLAN

A key element of the Statewide Planning System is the Functional Plans which set forth the policies, statewide guidelines, and priorities within a specific field of activity. There are 13 Functional Plans which have been developed by the State agency primarily responsible for a given functional area. Together with the County General Plans, the State Functional Plans establish more specific strategies for implementation. In particular, State Functional Plans provide for the following:

- Identify major Statewide priority concerns
- Define current strategies for each functional area
- Identify major relationships among functional areas

- Provide direction and strategies for departmental policies, programs, and priorities
- Provide a guide for the allocation of resources
- Coordinate State and County roles and responsibilities in the implementation of the Hawaii State Plan

Of the 13 Functional Plans prepared by State agencies, the only one relevant to the project is the Transportation State Functional Plan, which was developed by the Department of Transportation. The purpose of the Transportation State Functional Plan is to encourage development of a safer, more efficient transportation system that also is consistent with planned physical and economic growth of the state; construction of facility and infrastructure improvements; development of a transportation system balanced with new alternatives and to pursue land use initiatives which help reduce travel demand. The proposed project supports this plan, as it improves the safety and reliability of Ke‘ānae Road, which is the only access to and from Ke‘ānae Peninsula.

D. 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.

The Maui County Code, in Chapter 2.80B 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, which delineates areas for future urban and rural growth as part of a Directed Growth Strategy, was adopted as Ordinance No. 4004 on December 28, 2012.

The following sections identify pertinent objectives, policies, implementing actions and related provisions set forth in the Countywide Policy Plan and the Maui Island Plan. It is recognized that both documents are comprehensive in nature and address a number of

functional planning areas which apply to all programs, plans, and projects. However, for purposes of addressing General Plan compliance requirements, policy considerations which are deemed most relevant in terms of compatibility and consistency are addressed in this report section:

1. Countywide Policy Plan

The Countywide Policy Plan was adopted in March 2010 and is a comprehensive policy document for the islands of Maui County to the year 2030. The plan replaces the *General Plan of the County of Maui 1990 Update* and provides the policy framework for the development of the forthcoming Maui Island Plan as well as for updating the nine (9) detailed Community Plans.

The Countywide Policy Plan provides broad goals, objectives, policies and implementing actions that portray the desired direction of the County's future. Goals are intended to describe a desirable condition of the County by the year 2030 and are intentionally general. Objectives tend to be more specific and may be regarded as milestones to achieve the larger goals. Policies are not intended as regulations, but instead provide a general guideline for County decision makers, departments, and collaborating organizations toward the attainment of goals and objectives. Implementing actions are specific tasks, procedures, programs, or techniques that carry out policy.

Discussion of how this project conforms to the relevant goals, objectives, policies, and implementing actions of the Countywide Policy Plan is provided below.

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
A. PROTECT THE NATURAL ENVIRONMENT			
Goal: Maui County's natural environment and distinctive open spaces will be preserved, managed, and cared for in perpetuity.	✓		
Objective:			
(1) Improve the opportunity to experience the natural beauty and native biodiversity of the islands for present and future generations.			✓
Policies:			
(a) Perpetuate native Hawaiian biodiversity by preventing the introduction of invasive species, containing or eliminating existing noxious pests, and protecting critical habitat areas.			✓
(b) Preserve and reestablish indigenous and endemic species' habitats and their connectivity.			✓
(c) Restore and protect forests, wetlands, watersheds, and stream flows, and guard against wildfires, flooding, and erosion.			✓
(d) Protect baseline stream flows for perennial streams, and support policies that ensure adequate stream flow to support Native Hawaiian aquatic species, traditional kalo cultivation, and self-sustaining ahupua'a.			✓
(e) Protect undeveloped beaches, dunes, and coastal ecosystems, and restore natural shoreline processes.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(f) Protect the natural state and integrity of unique terrain, valued natural environments, and geological features.			✓
(g) Preserve and provide ongoing care for important scenic vistas, view planes, landscapes, and open-space resources.			✓
(h) Expand coordination with the State and nonprofit agencies and their volunteers to reduce invasive species, replant indigenous species, and identify critical habitat.			✓
Implementing Actions:			
(a) Develop island-wide networks of greenways, watercourses, and habitat corridors.			✓
Analysis: Not Applicable.			
Objective:			
(2) Improve the quality of environmentally sensitive, locally valued natural resources and native ecology of each island.			✓
Policies:			
(a) Protect and restore nearshore reef environments and water quality.			✓
(b) Protect marine resources and valued wildlife.			✓
(c) Improve the connection between urban environments and the natural landscape, and incorporate natural features of the land into urban design.			✓
(d) Utilize land-conservation tools to ensure the permanence of valued open spaces.			✓
(e) Mitigate the negative effects of upland uses on coastal wetlands, marine life, and coral reefs.			✓
(f) Strengthen coastal-zone management, re-naturalization of shorelines, where possible, and filtration or treatment of urban and agricultural runoff.			✓
(g) Regulate the use and maintenance of stormwater-treatment systems that incorporate the use of native vegetation and mimic natural systems.			✓
(h) Advocate for stronger regulation of fishing, boating, cruise ship, and ecotourism activities.			✓
(i) Restore watersheds and aquifer-recharge areas to healthy and productive status, and increase public knowledge about the importance of watershed stewardship, water conservation, and groundwater protection.			✓
Implementing Actions:			
(a) Develop regulations to minimize runoff of pollutants into nearshore waters and reduce nonpoint and point source pollution.			✓
Analysis: Not Applicable.			
Objective:			
(3) Improve the stewardship of the natural environment.			✓
Policies:			
(a) Preserve and protect natural resources with significant scenic, economic, cultural, environmental, or recreational value.			✓
(b) Improve communication, coordination, and collaboration among government agencies, nonprofit organizations, communities, individuals, and land owners that work for the protection of the natural environment.	✓		
(c) Evaluate development to assess potential short-term and long-term impacts on land, air, aquatic, and marine environments.			✓
(d) Improve efforts to mitigate and plan for the impact of natural disasters, human influenced emergencies, and global warming.	✓		
(e) Regulate access to sensitive ecological sites and landscapes.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(f) Reduce air, noise, light, land, and water pollution, and reduce Maui County's contribution to global climate change.			✓
(g) Plan and prepare for and educate visitors and residents about the possible effects of global warming.			✓
(h) Provide public access to beaches and shorelines for recreational and cultural purposes where appropriate.	✓		
(i) Educate the construction and landscape industries and property owners about the use of best management practices to prevent erosion and nonpoint source pollution.			✓
(j) Support the acquisition of resources with scenic, environmental, and recreational value, and encumber their use.			✓
(k) Improve enforcement activities relating to the natural environment.			✓
(l) For each shoreline community, identify and prioritize beach-conservation objectives, and develop action plans for their implementation.			✓
Implementing Actions:			✓
(a) Document, record, and monitor existing conditions, populations, and locations of flora and fauna communities.			✓
(b) Implement Federal and State policies that require a reduction of greenhouse-gas emissions.			✓
(c) Establish a baseline inventory of available natural resources and their respective carrying capacities.			✓
Analysis: A community meeting was conducted on July 27, 2017 to provide information about the project and request feedback from the Ke'ānae community. Ke'ānae Road is the evacuation route for everyone on the peninsula in the event of a flood or tsunami event, making reliability and safety of the road critical during a flood or tsunami event. The proposed project would improve the reliability and safety of vehicular access off the peninsula, improving the safety of residents and visitors to the peninsula. Since Ke'ānae Road is the only access to the shoreline on the peninsula, the proposed project would also improve the safety and reliability of public access to the shoreline in this area.			
Objective:			
(4) Educate residents and visitors about responsible stewardship practices and the interconnectedness of the natural environment and people.			✓
Policies:			
(a) Expand education about native flora, fauna, and ecosystems.			✓
(b) Align priorities to recognize that the health of the natural environment and the health of people are inextricably linked.			✓
(c) Promote programs and incentives that decrease greenhouse-gas emissions and improve environmental stewardship.			✓
Analysis: Not Applicable.			
B. PRESERVE LOCAL CULTURES AND TRADITIONS			
Goal: Maui County will foster a spirit of pono and protect, perpetuate, and reinvigorate its residents' multi-cultural values and traditions to ensure that current and future generations will enjoy the benefits of their rich island heritage.			✓
Objective:			
(1) Perpetuate the Hawaiian culture as a vital force in the lives of residents.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)				S	N/S	N/A
<u>Policies:</u>						
(a) Protect and preserve access to mountain, ocean, and island resources for traditional Hawaiian cultural practices.						✓
(b) Prohibit inappropriate development of cultural lands and sites that are important for traditional Hawaiian cultural practices, and establish mandates for the special protection of these lands in perpetuity.						✓
(c) Promote the use of ahupua'a and moku management practices.						✓
(d) Encourage the use of traditional Hawaiian architecture and craftsmanship.						✓
(e) Promote the use of the Hawaiian language.						✓
(f) Recognize and preserve the unique natural and cultural characteristics of each ahupua'a or district.						✓
(g) Encourage schools to promote broader incorporation of Hawaiian and other local cultures' history and values lessons into curriculum.						✓
(h) Ensure the protection of Native Hawaiian rights.						✓
(i) Promote, encourage, and require the correct use of traditional place names, particularly in government documents, signage, and the tourism industry.						✓
<u>Implementing Actions:</u>						
(a) Establish alternative land use and overlay zoning designations that recognize and preserve the unique natural and cultural characteristics of each ahupua'a or district.						✓
(b) Develop requirements for all County applicants to perpetuate and use proper traditional place names in all applications submitted.						✓
<u>Analysis:</u> Not Applicable.						
<u>Objective:</u>						
(2) Emphasize respect for our island lifestyle and our unique local cultures, family, and natural environment.						✓
<u>Policies:</u>						
(a) Acknowledge the Hawaiian culture as the host culture, and foster respect and humility among residents and visitors toward the Hawaiian people and their practices.						✓
(b) Perpetuate a respect for diversity, and recognize the historic blending of cultures and ethnicities.						✓
(c) Encourage the perpetuation of each culture's unique cuisine, attire, dance, music, and folklore, and other unique island traditions and recreational activities.						✓
(d) Recognize the interconnectedness between the natural environment and the cultural heritage of the islands.						✓
(e) Protect and prioritize funding for recreational activities that support local cultural practices, such as surfing, fishing, and outrigger-canoe paddling.						✓
<u>Analysis:</u> Not Applicable.						
<u>Objective:</u>						
(3) Preserve for present and future generations the opportunity to know and experience the arts, culture, and history of Maui County.						✓
<u>Policies:</u>						
(a) Foster teaching opportunities for cultural practitioners to share their knowledge and skills.						✓
(b) Support the development of cultural centers.						✓
(c) Broaden opportunities for public art and the display of local artwork.						✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(d) Foster the Aloha Spirit by celebrating the Hawaiian host culture and other Maui County cultures through support of cultural-education programs, festivals, celebrations, and ceremonies.			✓
(e) Support the perpetuation of Hawaiian arts and culture.			✓
(f) Support programs and activities that record the oral and pictorial history of residents.			✓
(g) Support the development of repositories for culture, history, genealogy, oral history, film, and interactive learning.			✓
Implementing Actions:			
(a) Establish incentives for the display of public art.			✓
(b) Establish centers and programs of excellence for the perpetuation of Hawaiian arts and culture.			✓
Analysis: Not Applicable.			
Objective:			
(4) Preserve and restore significant historic architecture, structures, cultural sites, cultural districts, and cultural landscapes.			✓
Policies:			
(a) Support the development of island-wide historic, archaeological, and cultural resources inventories.			✓
(b) Promote the rehabilitation and adaptive reuse of historic sites, buildings, and structures to perpetuate a traditional sense of place.			✓
(c) Identify a sustainable rate of use and set forth specific policies to protect cultural resources.			✓
(d) Protect and preserve lands that are culturally or historically significant.			✓
(e) Support programs that protect, record, restore, maintain, provide education about, and interpret cultural districts, landscapes, sites, and artifacts in both natural and museum settings.			✓
(f) Perpetuate the authentic character and historic integrity of rural communities and small towns.			✓
(g) Seek solutions that honor the traditions and practices of the host culture while recognizing the needs of the community.			✓
(h) Support the development of an Archaeological District Ordinance.			✓
(i) Protect summits, slopes, and ridgelines from inappropriate development.			✓
(j) Support the registering of important historic sites on the State and Federal historic registers.			✓
(k) Provide opportunities for public involvement with restoration and enhancement of all types of cultural resources.			✓
(l) Foster partnerships to identify and preserve or revitalize historic and cultural sites.			✓
Implementing Actions:			
(a) Identify, develop, map, and maintain an inventory of locally significant natural, cultural, and historical resources for protection.			✓
(b) Prepare, continually update, and implement a cultural-management plan for cultural sites, districts, and landscapes, where appropriate.			✓
(c) Enact an Archaeological District Ordinance.			✓
(d) Nominate important historic sites to the State and Federal historic registers.			✓
Analysis: Not Applicable.			

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)				S	N/S	N/A
C. IMPROVE EDUCATION						
Goal: Residents will have access to lifelong formal and informal educational options enabling them to realize their ambitions.						✓
Objective:						
(1) Encourage the State to attract and retain school administrators and educators of the highest quality.						✓
Policies:						
(a) Encourage the State to provide teachers with nationally competitive pay and benefit packages.						✓
(b) Encourage the State to ensure teachers will have the teaching tools and support staff needed to provide students with an excellent education.						✓
(c) Explore Maui County district- and school-based decision making in public education.						✓
Analysis: Not Applicable.						
Objective:						
(2) Provide nurturing learning environments that build skills for the 21st century.						✓
Policies:						
(a) Expand professional-development opportunities in disciplines that support the economic-development goals of Maui County.						✓
(b) Plan for demographic, social, and technological changes in a timely manner.						✓
(c) Encourage collaborative partnerships to improve conditions of learning environments.						✓
(d) Promote development of neighborhood schools and educational centers.						✓
(e) Integrate schools, community parks, and playgrounds, and expand each community's use of these facilities.						✓
(f) Support coordination between land use and school-facility planning agencies.						✓
(g) Encourage the upgrade and ongoing maintenance of public-school facilities.						✓
(h) Encourage the State Department of Education to seek reliable, innovative, and alternative methods to support a level of per-pupil funding that places Hawai'i among the top tier of states nationally for its financial support of public schools.						✓
(i) Encourage the State to promote healthier, more productive learning environments, including by providing healthy meals, more physical activity, natural lighting, and passive cooling.						✓
(j) Encourage the State to support the development of benchmarks to measure the success of Hawai'i's public-education system and clarify lines of accountability.						✓
(k) Design school and park facilities in proximity to residential areas.						✓
(l) Support technology- and natural-environment-based learning.						✓
(m) Encourage the State to support lower student-teacher ratios in public schools.						✓
(n) Encourage alternative learning and educational opportunities.						✓
Implementing Actions:						
(a) Develop safe walking and bicycling programs for school children.						✓
Analysis: Not Applicable.						
Objective:						
(3) Provide all residents with educational opportunities that can help them better understand themselves and their surroundings and allow them to realize their ambitions.						✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)		S	N/S	N/A
<u>Policies:</u>				
(a) Encourage the State to improve Maui Community College as a comprehensive community college that will serve each community.				✓
(b) Broaden the use of technology and telecommunications to improve educational opportunities throughout the County.				✓
(c) Attract graduate-level research programs and institutions.				✓
(d) Promote the teaching of traditional practices, including aquaculture; subsistence agriculture; Pacific Island, Asian, and other forms of alternative health practices; and indigenous Hawaiian architecture.				✓
(e) Integrate cultural and environmental values in education, including self-sufficiency and sustainability.				✓
(f) Foster a partnership and ongoing dialogue between business organizations, formal educational institutions, and vocational training centers to tailor learning and mentoring programs to County needs.				✓
(g) Ensure teaching of the arts to all ages.				✓
(h) Expand and develop vocational learning opportunities by establishing trade schools.				✓
(i) Encourage the State to integrate financial and economic literacy in elementary, secondary, and higher-education levels.				✓
<u>Implementing Actions:</u>				
(a) Encourage the State to establish a four-year university, and support the development of other higher-education institutions to enable residents to obtain bachelor degrees and postgraduate degrees in Maui County.				✓
<u>Analysis:</u> Not Applicable.				
<u>Objective:</u>				
(4) Maximize community-based educational opportunities.				✓
<u>Policies:</u>				
(a) Encourage the State and others to expand pre-school, after-school, and homebased (parent-child) learning.				✓
(b) Support public-private partnerships to develop youth-internship, -apprenticeship, and -mentoring programs.				✓
(c) Support the development of a wide range of informal educational and cultural programs for all residents.				✓
(d) Improve partnerships that utilize the skills and talents at Hawai'i's colleges and universities to benefit the County.				✓
(e) Support career-development and job-recruitment programs and centers.				✓
(f) Attract learning institutions and specialty schools to diversify and enhance educational opportunities.				✓
(g) Expand education of important life skills for the general public.				✓
(h) Support community facilities such as museums, libraries, nature centers, and open spaces that provide interactive-learning opportunities for all ages.				✓
<u>Analysis:</u> Not Applicable.				
D. STRENGTHEN SOCIAL AND HEALTHCARE SERVICES				
<u>Goal:</u> Health and social services in Maui County will fully and comprehensively serve all segments of the population.				✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)				S	N/S	N/A
Objective:						
(1) In cooperation with the Federal and State governments and nonprofit agencies, broaden access to social and healthcare services and expand options to improve the overall wellness of the people of Maui County.						✓
Policies:						
(a) Work with other levels of government and the nonprofit sector to expand services to address hunger, homelessness, and poverty.						✓
(b) Support the improvement of opportunities for disadvantaged youth, encourage the tradition of hanai relatives, and support expanded opportunities for foster care.						✓
(c) Support expanded long-term-care options, both in institutions and at home, for patients requiring ongoing assistance and medical attention.						✓
(d) Encourage the expansion and improvement of local hospitals, facilitate the establishment of new healthcare facilities, and facilitate prompt and high-quality emergency- and urgent-care services for all.						✓
(e) Support broadened access to affordable health insurance and health care, and recognize the unique economic challenges posed to families when healthcare services are provided off-island.						✓
(f) Encourage equal access to social and healthcare services through both technological and traditional means.						✓
Analysis: Not Applicable.						
Objective:						
(2) Encourage the Federal and State governments and the private sector to improve the quality and delivery of social and healthcare services.						✓
Policies:						
(a) Strengthen partnerships with government, nonprofit, and private organizations to provide funding and to improve counseling and other assistance to address substance abuse, domestic violence, and other pressing social challenges.						✓
(b) Encourage the State to improve the quality of medical personnel, facilities, services, and equipment.						✓
(c) Encourage investment to improve the recruitment of medical professionals and the quality of medical facilities and equipment throughout Maui County.						✓
(d) Promote the development of continuum-of-care facilities that provide assisted living, hospice, home-care, and skilled-nursing options allowing the individual to be cared for in a manner congruent with his or her needs and desires.						✓
(e) Support improved social, healthcare, and governmental services for special needs populations.						✓
(f) Plan for the needs of an aging population and the resulting impacts on social services, housing, and healthcare delivery.						✓
(g) Improve coordination among the police, the courts, and the public in the administration of social and healthcare services.						✓
(h) Support programs that address needs of veterans.						✓
(i) Support programs that address the needs of immigrants.						✓
Implementing Actions:						
(a) Invest in programs designed to improve the general welfare and quality of life of Native Hawaiians.						✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(b) Assist and facilitate the State Department of Public Safety and others in efforts to strengthen programs and facilities that will improve the mental and social health of incarcerated people and assist in prison inmates' successful transition back into Maui County communities.			✓
(c) Develop and maintain a comprehensive index that will measure the health and wellness needs of families.			✓
(d) Provide heliports countywide for emergency health and safety purposes.			✓
Analysis: Not Applicable.			
Objective:			
(3) Strengthen public-awareness programs related to healthy lifestyles and social and medical services.			✓
Policies:			
(a) Expand public awareness about personal safety and crime prevention.			✓
(b) Encourage residents to pursue education and training for careers in the healthcare, social services, and community-development fields.			✓
(c) Expand public awareness and promote programs to achieve healthy eating habits and drug-free lifestyles.			✓
Analysis: Not Applicable.			
E. EXPAND HOUSING OPPORTUNITIES FOR RESIDENTS			
Goal: Quality, island-appropriate housing will be available to all residents.			✓
Objective:			
(1) Reduce the affordable housing deficit for residents.			✓
Policies:			
(a) Ensure that an adequate and permanent supply of affordable housing, both new and existing units, is made available for purchase or rental to our resident and/or workforce population, with special emphasis on providing housing for low- to moderate-income families, and ensure that all affordable housing remains affordable in perpetuity.			✓
(b) Seek innovative ways to lower housing costs without compromising the quality of our island lifestyle.			✓
(c) Seek innovative methods to secure land for the development of low- and moderate- income housing.			✓
(d) Provide the homeless population with emergency and transitional shelter and other supportive programs.			✓
(e) Provide for a range of senior-citizen and special needs housing choices on each island that affordably facilitates a continuum of care and services.			✓
(f) Support the Department of Hawaiian Home Lands' development of homestead lands.			✓
(g) Manage property-tax burdens to protect affordable resident homeownership.			✓
(h) Explore taxation mechanisms to increase and maintain access to affordable housing.			✓
(i) Improve awareness regarding available affordable homeowner's insurance.			✓
(j) Redevelop commercial areas with a mixture of affordable residential and business uses, where appropriate.			✓
(k) Ensure residents are given priority to obtain affordable housing units developed in their communities, consistent with all applicable regulations.			✓

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	S	N/S	N/A
(l) Establish pricing for affordable housing that is more reflective of Maui County's workforce than the United States Housing and Urban Development's median-income estimates for Maui County.			✓
(m) Develop neighborhoods with a mixture of accessible and integrated community facilities and services.			✓
(n) Provide alternative regulatory frameworks to facilitate the use of Kuleana lands by the descendants of Native Hawaiians who received those lands pursuant to the Kuleana Act of 1850.			✓
(o) Work with lending institutions to expand housing options and safeguard the financial security of homeowners.			✓
(p) Promote the use of the community land trust model and other land-lease and land- financing options.			✓
(q) Support the opportunity to age in place by providing accessible and appropriately designed residential units.			✓
Analysis: Not Applicable.			
Objective:			
(2) Increase the mix of housing types in towns and neighborhoods to promote sustainable land use planning, expand consumer choice, and protect the County's rural and small town character.			✓
Policies:			
(a) Seek innovative ways to develop 'ohana cottages and accessory-dwelling units as affordable housing.			✓
(b) Design neighborhoods to foster interaction among neighbors.			✓
(c) Encourage a mix of social, economic, and age groups within neighborhoods.			✓
(d) Promote infill housing in urban areas at scales that capitalize on existing infrastructure, lower development costs, and are consistent with existing or desired patterns of development.			✓
(e) Encourage the building industry to use environmentally sustainable materials, technologies, and site planning.			✓
(f) Develop workforce housing in proximity to job centers and transit facilities.			✓
(g) Provide incentives to developers and owners who incorporate green building practices and energy-efficient technologies into their housing developments.			✓
Implementing Actions:			
(a) Revise laws to support neighborhood designs that incorporate a mix of housing types that are appropriate for island living.			✓
Analysis: Not Applicable.			
Objective:			
(3) Increase and maintain the affordable housing inventory.			✓
Policies:			
(a) Recognize housing as a basic human need, and work to fulfill that need.			✓
(b) Prioritize available infrastructure capacity for affordable housing.			✓
(c) Improve communication, collaboration, and coordination among housing providers and social-service organizations.			✓
(d) Study future projected housing needs, monitor economic cycles, and prepare for future conditions on each island.			✓
(e) Develop public-private and nonprofit partnerships that facilitate the construction of quality affordable housing.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(f) Streamline the review process for high-quality, affordable housing developments that implement the goals, objectives, and policies of the General Plan.			✓
(g) Minimize the intrusion of housing on prime, productive, and potentially productive agricultural lands and regionally valuable agricultural lands.			✓
(h) Encourage long-term residential use of existing and future housing to meet residential needs.			✓
Implementing Actions:			
(a) Develop policies to even out the peaks and valleys in Maui County's construction-demand cycles.			✓
Analysis: Not Applicable.			
Objective:			
(4) Expand access to education related to housing options, homeownership, financing, and residential construction.			✓
Policies:			
(a) Broaden access to information about County, State, and Federal programs that provide financial assistance to renters and home buyers.			✓
(b) Expand access to information about opportunities for homeownership and self-help housing.			✓
(c) Educate residents about making housing choices that support their individual needs, the needs of their communities, and the health of the islands' natural systems.			✓
(d) Improve home buyers' education on all aspects of homeownership.			✓
Analysis: Not Applicable.			
F. STRENGTHEN THE LOCAL ECONOMY			
Goal: Maui County's economy will be diverse, sustainable, and supportive of community values.			✓
Objective:			
(1) Promote an economic climate that will encourage diversification of the County's economic base and a sustainable rate of economic growth.			✓
Policies:			
(a) Support economic decisions that create long-term benefits.			✓
(b) Promote lifelong education, career development, and technical training for existing and emerging industries.			✓
(c) Invest in infrastructure, facilities, and programs that foster economic diversification.			✓
(d) Support and promote locally produced products and locally owned operations and businesses that benefit local communities and meet local demand.			✓
(e) Support programs that assist industries to retain and attract more local labor and facilitate the creation of jobs that offer a living wage.			✓
(f) Encourage work environments that are safe, rewarding, and fulfilling to employees.			✓
(g) Support home-based businesses that are appropriate for and in character with the community.			✓
(h) Encourage businesses that promote the health and well-being of the residents, produce value-added products, and support community values.			✓
(i) Foster an understanding of the role of all industries in our economy.			✓
(j) Support efforts to improve conditions that foster economic vitality in our historic small towns.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(k) Support and encourage traditional host-culture businesses and indigenous agricultural practices.			✓
(l) Support public and private entities that assist entrepreneurs in establishing locally operated businesses.			✓
Implementing Actions:			
(a) Develop regulations and programs that support opportunities for local merchants, farmers, and small businesses to sell their goods and services directly to the public.			✓
(b) Monitor the carrying capacity of the islands' social, ecological, and infrastructure systems with respect to the economy.			✓
Analysis: Not Applicable.			
Objective:			
(2) Diversify and expand sustainable forms of agriculture and aquaculture.			✓
Policies:			
(a) Support programs that position Maui County's agricultural products as premium export products.			✓
(b) Prioritize the use of agricultural land to feed the local population, and promote the use of agricultural lands for sustainable and diversified agricultural activities.			✓
(c) Capitalize on Hawai'i's economic opportunities in the ecologically sensitive aquaculture industries.			✓
(d) Assist farmers to help make Maui County more self-sufficient in food production.			✓
(e) Support ordinances, programs, and policies that keep agricultural land and water available and affordable to farmers.			✓
(f) Support a tax structure that is conducive to the growth of the agricultural economy.			✓
(g) Enhance County efforts to monitor and regulate important agricultural issues.			✓
(h) Support education, research, and facilities that strengthen the agricultural industry.			✓
(i) Maintain the genetic integrity of existing food crops.			✓
(j) Encourage healthy and organic farm practices that contribute to land health and regeneration.			✓
(k) Support cooperatives and other types of nontraditional communal farming and efforts.			✓
(l) Encourage methods of monitoring and controlling genetically modified crops to prevent adverse effects.			✓
(m) Work with the State to ease the permitting process for the revitalization of traditional fish ponds.			✓
Implementing Actions:			
(a) Redirect efforts in the Office of Economic Development to further facilitate the development of the agricultural section and to monitor agricultural legislation and issues.			✓
(b) Publicly identify, with signage and other means, the field locations of all genetically modified crops.			✓
(c) Create agricultural parks in areas distant from genetically modified crops.			✓
Analysis: Not Applicable.			

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)		S	N/S	N/A
<u>Objective:</u>				
(3) Support a visitor industry that respects the resident culture and the environment.				✓
<u>Policies:</u>				
(a) Promote traditional Hawaiian practices in visitor-related facilities and activities.				✓
(b) Encourage and educate the visitor industry to be sensitive to island lifestyles and cultural values.				✓
(c) Encourage a spirit of welcome for residents at visitor facilities, such as by offering kama'aina incentives and discount programs.				✓
(d) Support the renovation and enhancement of existing visitor facilities.				✓
(e) Support policies, programs, and a tax structure that redirect the benefits of the visitor industry back into the local community.				✓
(f) Encourage resident ownership of visitor-related businesses and facilities.				✓
(g) Develop partnerships to provide educational and training facilities to residents employed in the visitor industry.				✓
(h) Foster an understanding of local cultures, customs, and etiquette, and emphasize the importance of the Aloha Spirit as a common good for all.				✓
(i) Support the diversification, development, evolution, and integration of the visitor industry in a way that is compatible with the traditional, social, economic, spiritual, and environmental values of island residents.				✓
(j) Improve collaboration between the visitor industry and the other sectors of Maui County's economy.				✓
(k) Perpetuate an authentic image of the Hawaiian culture and history and an appropriate recognition of the host culture.				✓
(l) Support the programs and initiatives outlined in the Maui County Tourism Strategic Plan 2006-2015.				✓
(m) Promote water conservation, beach conservation, and open-space conservation in areas providing services for visitors.				✓
(n) Recognize the important contributions that the visitor industry makes to the County's economy, and support a healthy and vibrant visitor industry.				✓
<u>Analysis:</u> Not Applicable.				
<u>Objective:</u>				
(4) Expand economic sectors that increase living-wage job choices and are compatible with community values.				✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)		S	N/S	N/A
Policies:				
(a) Support emerging industries, including the following: • Health and wellness industry; • Sports and recreation industry; • Film and entertainment industry; • Arts and culture industry; • Renewable-energy industry;	• Research and development industry; • High-technology and knowledge-based industries; • Education and training industry; • Ecotourism industry; and • Agritourism industry.			✓
Analysis: Not Applicable.				
G. IMPROVE PARKS AND PUBLIC FACILITIES				
Goal: A full range of island-appropriate public facilities and recreational opportunities will be provided to improve the quality of life for residents and visitors.				✓
Objective:				
(1) Expand access to recreational opportunities and community facilities to meet the present and future needs of residents of all ages and physical abilities.				✓
Policies:				
(a) Protect, enhance, and expand access to public shoreline and mountain resources.				✓
(b) Expand and enhance the network of parks, multi-use paths, and bikeways.				✓
(c) Assist communities in developing recreational facilities that promote physical fitness.				✓
(d) Expand venue options for recreation and performances that enrich the lifestyles of Maui County's people.				✓
(e) Expand affordable recreational and after-school programs for youth.				✓
(f) Encourage and invest in recreational, social, and leisure activities that bring people together and build community pride.				✓
(g) Promote the development and enhancement of community centers, civic spaces, and gathering places throughout our communities.				✓
(h) Expand affordable access to recreational opportunities that support the local lifestyle.				✓
Implementing Actions:				
(a) Identify and reserve lands for cemeteries, and preserve existing cemeteries on all islands, appropriately accommodating varying cultural and faith-based traditions.				✓
Analysis: Not Applicable.				
Objective:				
(2) Improve the quality and adequacy of community facilities.				✓
Policies:				
(a) Provide an adequate supply of dedicated shelters and facilities for disaster relief.				✓
(b) Provide and maintain community facilities that are appropriately designed to reflect the traditions and customs of local cultures.				✓
(c) Ensure that parks and public facilities are safe and adequately equipped for the needs of all ages and physical abilities to the extent reasonable.				✓
(d) Maintain, enhance, expand, and provide new active and passive recreational facilities in ways that preserve the natural beauty of their locations.				✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
S	N/S	N/A	
		✓	(e) Redesign or retrofit public facilities to adapt to major shifts in environmental or urban conditions to the extent reasonable.
Analysis: Not Applicable.			
Objective:			
		✓	(3) Enhance the funding, management, and planning of public facilities and park lands.
Policies:			
		✓	(a) Identify and encourage the establishment of regulated and environmentally sound campgrounds.
		✓	(b) Manage park use and control access to natural resources in order to rest sensitive places and utilize the resources in a sustainable manner.
		✓	(c) Provide public-recreational facilities that are clean and well-maintained.
		✓	(d) Develop partnerships to ensure proper stewardship of the islands' trails, public lands, and access systems.
		✓	(e) Ensure that there is an adequate supply of public restrooms in convenient locations.
Implementing Actions:			
		✓	(a) Encourage the State to allow for overnight fishing along the shoreline in accordance with management plans and regulations.
		✓	(b) Develop and regularly update functional plans, including those relating to public facilities, parks, and campgrounds.
		✓	(c) Develop and adopt local level-of-service standards for public facilities and parks.
		✓	(d) Identify, acquire, and develop lands for parks, civic spaces, and public uses.
Analysis: Not Applicable.			
H. DIVERSIFY TRANSPORTATION OPTIONS			
✓			Goal: Maui County will have an efficient, economical, and environmentally sensitive means of moving people and goods.
Objective:			
		✓	(1) Provide an effective, affordable, and convenient ground-transportation system that is environmentally sustainable.
Policies:			
		✓	(a) Execute planning strategies to reduce traffic congestion.
		✓	(b) Plan for the efficient relocation of roadways for the public benefit.
		✓	(c) Support the use of alternative roadway designs, such as traffic-calming techniques and modern roundabouts.
		✓	(d) Increase route and mode options in the ground-transportation network.
✓			(e) Ensure that roadway systems are safe, efficient, and maintained in good condition.
		✓	(f) Preserve roadway corridors that have historic, scenic, or unique physical attributes that enhance the character and scenic resources of communities.
		✓	(g) Design new roads and roadway improvements to retain and enhance the existing character and scenic resources of the communities through which they pass.
		✓	(h) Promote a variety of affordable and convenient transportation services that meet countywide and community needs and expand ridership of transit systems.
		✓	(i) Collaborate with transit agencies, government agencies, employers, and operators to provide planning strategies that reduce peak-hour traffic.
		✓	(j) Develop and expand an attractive, island-appropriate, and efficient public transportation system.

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(k) Provide and encourage the development of specialized transportation options for the young, the elderly, and persons with disabilities.			✓
(l) Evaluate all alternatives to preserve quality of life before widening roads.			✓
(m) Encourage businesses in the promotion of alternative transportation options for resident and visitor use.			✓
(n) Support the development of carbon-emission standards and an incentive program aimed at achieving County carbon-emission goals.			✓
Implementing Actions:			
(a) Create incentives and implement strategies to reduce visitor dependence on rental cars.			✓
(b) Establish efficient public-transit routes between employment centers and primary workforce residential areas.			✓
(c) Create attractive, island-appropriate, conveniently located park-and-ride and ride- share facilities.			✓
Analysis: The proposed project would improve the safety and reliability of Ke‘anae Road, which is the only vehicular access to and from Ke‘anae Peninsula.			
Objective:			
(2) Reduce the reliance on the automobile and fossil fuels by encouraging walking, bicycling, and other energy-efficient and safe alternative modes of transportation.			✓
Policies:			
(a) Make walking and bicycling transportation safe and easy between and within communities.			✓
(b) Require development to be designed with the pedestrian in mind.			✓
(c) Design new and retrofit existing rights-of-way with adequate sidewalks, bicycle lanes, or separated multi-use transit corridors.			✓
(d) Support the development of a countywide network of bikeways, equestrian trails, and pedestrian paths.			✓
(e) Support the reestablishment of traditional trails between communities, to the ocean, and through the mountains for public use.			✓
(f) Encourage educational programs to increase safety for pedestrians and bicyclists.			✓
Implementing Actions:			
(a) Design, build, and modify existing bikeways to improve safety and separation from automobiles.			✓
(b) Increase enforcement to reduce abuse of bicycle and pedestrian lanes by motorized vehicles.			✓
(c) Identify non-motorized transportation options as a priority for new sources of funding.			✓
Analysis: Not Applicable.			
Objective:			
(3) Improve opportunities for affordable, efficient, safe, and reliable air transportation.			✓
Policies:			
(a) Discourage private helicopter and fixed-wing landing sites to mitigate environmental and social impacts.			✓

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	S	N/S	N/A
(b) Encourage the use of quieter aircraft and noise-abatement procedures for arrivals and departures.			✓
(c) Encourage the modernization and maintenance of air-transportation facilities for general-aviation activities.			✓
(d) Encourage a viable and competitive atmosphere for air carriers to expand service and ensure sufficient intra-County flights and affordable fares for consumers.			✓
(e) Continue to support secondary airports, and encourage the State to provide them with adequate funding.			✓
(f) During Community Plan updates, explore the use of the smaller airports.			✓
(g) Encourage the State to provide efficient, adequate, and affordable parking and transit connections within and around airports.			✓
Analysis: Not Applicable.			
Objective:			
(4) Improve opportunities for affordable, efficient, safe, and reliable ocean transportation.			✓
Policies:			
(a) Support programs and regulations that reduce the disposal of maritime waste and prevent spills into the ocean.			✓
(b) Encourage the upgrading of harbors to resist damage from natural hazards and disasters.			✓
(c) Encourage the State to study the use of existing harbors and set priorities for future use.			✓
(d) Explore all options to protect the traditional recreational uses of harbors, and mitigate harbor-upgrade impacts to recreational uses where feasible.			✓
(e) Encourage the upgrading of harbors and the separation of cargo and bulk materials from passenger and recreational uses.			✓
(f) Encourage the State to provide for improved capacity at shipping, docking, and storage facilities.			✓
(g) Encourage the State to provide adequate parking facilities and transit connections within and around harbor areas.			✓
(h) Encourage the redevelopment and revitalization of harbors while preserving historic and cultural assets in harbor districts.			✓
(i) Encourage the State to provide adequate facilities for small-boat operations, including small-boat launch ramps, according to community needs.			✓
(j) Support the maintenance and cleanliness of harbor facilities.			✓
(k) Support the redevelopment of harbors as pedestrian-oriented gathering places.			✓
Analysis: Not Applicable.			
Objective:			
(5) Improve and expand the planning and management of transportation systems.			✓
Policies:			
(a) Encourage progressive community design and development that will reduce transportation trips.			✓
(b) Require new developments to contribute their pro rata share of local and regional infrastructure costs.			✓
(c) Establish appropriate user fees for private enterprises that utilize public transportation facilities for recreational purposes.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(d) Support the revision of roadway-design criteria and standards so that roads are compatible with surrounding neighborhoods and the character of rural areas.			✓
(e) Plan for multi-modal transportation and utility corridors on each island.			✓
(f) Support designing all transportation facilities, including airport, harbor, and mass- transit stations, to reflect Hawaiian architecture.			✓
(g) Utilize transportation-demand management as an integral part of transportation planning.			✓
(h) Accommodate the planting of street trees and other appropriate landscaping in all public rights-of-way.			✓
Analysis: Not Applicable.			
I. IMPROVE PHYSICAL INFRASTRUCTURE			
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:			
(1) Improve water systems to assure access to sustainable, clean, reliable, and affordable sources of water.			✓
Policies:			
(a) Ensure that adequate supplies of water are available prior to approval of subdivision or construction documents.			✓
(b) Develop and fund improved water-delivery systems.			✓
(c) Ensure a reliable and affordable supply of water for productive agricultural uses.			✓
(d) Promote the reclamation of gray water, and enable the use of reclaimed, gray, and brackish water for activities that do not require potable water.			✓
(e) Retain and expand public control and ownership of water resources and delivery systems.			✓
(f) Improve the management of water systems so that surface-water and groundwater resources are not degraded by overuse or pollution.			✓
(g) Explore and promote alternative water-source-development methods.			✓
(h) Seek reliable long-term sources of water to serve developments that achieve consistency with the appropriate Community Plans.			✓
Implementing Actions:			
(a) Develop a process to review all applications for desalination.			✓
Analysis: Not Applicable.			
Objective:			
(2) Improve waste-disposal practices and systems to be efficient, safe, and as environmentally sound as possible.			✓
Policies:			
(a) Provide sustainable waste-disposal systems and comprehensive, convenient recycling programs to reduce the flow of waste into landfills.			✓
(b) Support innovative and alternative practices in recycling solid waste and wastewater and disposing of hazardous waste.			✓
(c) Encourage vendors and owners of automobile, appliance, and white goods to participate in the safe disposal and recycling of such goods, and ensure greater accountability for large waste producers.			✓
(d) Develop strategies to promote public awareness to reduce pollution and litter, and encourage residents to reduce, reuse, recycle, and compost waste materials.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(e) Pursue improvements and upgrades to existing wastewater and solid-waste systems consistent with current and future plans and the County's Capital Improvement Program.			✓
Implementing Actions:			
(a) Establish recycling, trash-separation, and materials recovery programs and facilities to reduce the flow of waste into landfills.			✓
(b) Study the feasibility of developing environmentally safe waste-to-energy facilities.			✓
(c) Utilize taxes and fees as means to encourage conservation and recycling.			✓
(d) Implement and regularly update the Integrated Solid Waste Management Plan.			✓
(e) Phase out the use of injection wells.			✓
Analysis: Not Applicable.			
Objective:			
(3) Significantly increase the use of renewable and green technologies to promote energy efficiency and energy self-sufficiency.			✓
Policies:			
(a) Promote the use of locally renewable energy sources, and reward energy efficiency.			✓
(b) Consider tax incentives and credits for the development of sustainable- and renewable-energy sources.			✓
(c) Expand education about energy conservation and self-sufficiency.			✓
(d) Encourage small-scale energy generation that utilizes wind, sun, water, biowaste, and other renewable sources of energy.			✓
(e) Expand renewable-energy production.			✓
(f) Develop public-private partnerships to ensure the use of renewable energy and increase energy efficiency.			✓
(g) Require the incorporation of locally appropriate energy-saving and green building design concepts in all new developments by providing energy efficient urban design guidelines and amendments to the Building Code.			✓
(h) Encourage the use of sustainable energy to power vehicles.			✓
(i) Promote the retrofitting of existing buildings and new development to incorporate energy-saving design concepts and devices.			✓
(j) Encourage green footprint practices.			✓
(k) Reduce Maui County's dependence on fossil fuels and energy imports.			✓
(l) Support green building practices such as the construction of buildings that aim to minimize carbon dioxide production, produce renewable energy, and recycle water.			✓
(m) Promote and support environmentally friendly practices in all energy sectors.			✓
Implementing Actions:			
(a) Adopt an energy-efficiency policy for Maui County government as a model for other jurisdictions.			✓
(b) Adopt a Green Building Code, and support green building practices.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)		S	N/S	N/A
Analysis: Not Applicable.				
Objective:				
(4) Direct growth in a way that makes efficient use of existing infrastructure and to areas where there is available infrastructure capacity.				✓
Policies:				
(a) Capitalize on existing infrastructure capacity as a priority over infrastructure expansion.				✓
(b) Planning for new towns should only be considered if a region's growth is too large to be directed into infill and adjacent growth areas.				✓
(c) Utilize appropriate infrastructure technologies in the appropriate locations.				✓
(d) Promote land use patterns that can be provided with infrastructure and public facilities in a cost-effective manner.				✓
(e) Support catchment systems and on-site wastewater treatment in rural areas and aggregated water and wastewater systems in urban areas if they are appropriately located.				✓
Implementing Actions:				
(a) Develop a streamlining system for urban infill projects.				✓
(b) Identify appropriate areas for urban expansion of existing towns where infrastructure and public facilities can be provided in a cost-effective manner.				✓
Analysis: Not Applicable.				
Objective:				
(5) Improve the planning and management of infrastructure systems.		✓		
Policies:				
(a) Provide a reliable and sufficient level of funding to enhance and maintain infrastructure systems.				✓
(b) Require new developments to contribute their pro rata share of local and regional infrastructure costs.				✓
(c) Improve coordination among infrastructure providers and planning agencies to minimize construction impacts.				✓
(d) Maintain inventories of infrastructure capacity, and project future infrastructure needs.				✓
(e) Require social-justice and -equity issues to be considered during the infrastructure-planning process.				✓
(f) Discourage the development of critical infrastructure systems within hazard zones and the tsunami-inundation zone to the extent practical.				✓
(g) Ensure that infrastructure is built concurrent with or prior to development.				✓
(h) Ensure that basic infrastructure needs can be met during a disaster.		✓		
(i) Locate public facilities and emergency services in appropriate locations that support the health, safety, and welfare of each community and that minimize delivery inefficiencies.				✓
(j) Promote the undergrounding of utility and other distribution lines for health safety, and aesthetic reasons.				✓
Implementing Actions:				
(a) Develop and regularly update functional plans for infrastructure systems.				✓
(b) Develop, adopt, and regularly update local or community-sensitive level-of service standards for infrastructure systems.				✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)		S	N/S	N/A
Analysis:	Ke'anae Road is the evacuation route for everyone on the peninsula in the event of a flood or tsunami event, making reliability and safety of the road critical during a flood or tsunami event. The proposed project would improve the reliability and safety of vehicular access off the peninsula, improving the safety of residents and visitors to the peninsula.			
J. PROMOTE SUSTAINABLE LAND USE AND GROWTH MANAGEMENT				
Goal:	Community character, lifestyles, economies, and natural assets will be preserved by managing growth and using land in a sustainable manner.			✓
Objective:				
(1) Improve land use management and implement a directed-growth strategy.				✓
Policies:				
(a) Establish, map, and enforce urban- and rural-growth limits.				✓
(b) Direct urban and rural growth to designated areas.				✓
(c) Limit the number of visitor-accommodation units and facilities in Community Plan Areas.				✓
(d) Maintain a sustainable balance between the resident, part-time resident, and visitor populations.				✓
(e) Encourage redevelopment and infill in existing communities on lands intended for urban use to protect productive farm land and open-space resources.				✓
(f) Discourage new entitlements for residential, resort, or commercial development along the shoreline.				✓
(g) Restrict development in areas that are prone to natural hazards, disasters, or sea-level rise.				✓
(h) Direct new development in and around communities with existing infrastructure and service capacity, and protect natural, scenic, shoreline, and cultural resources.				✓
(i) Establish and maintain permanent open space between communities to protect each community's identity.				✓
(j) Support the dedication of land for public uses.				✓
(k) Preserve the public's rights of access to and continuous lateral access along all shorelines.				✓
(l) Enable existing and future communities to be self-sufficient through sustainable land use planning and management practices.				✓
(m) Protect summits, slopes, and ridgelines from inappropriate development.				✓
Implementing Actions:				
(a) Regularly update urban- and rural-growth boundaries and their maps.				✓
(b) Establish transfer and purchase of development rights programs.				✓
(c) Develop and adopt a green infrastructure plan.				✓
(d) Develop studies to help determine a sustainable social, environmental, and economic carrying capacity for each island.				✓
(e) Identify and define resort-destination areas.				✓
Analysis:	Not Applicable.			
Objective:				
(2) Improve planning for and management of agricultural lands and rural areas.				✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)				S	N/S	N/A
<u>Policies:</u>						
(a) Protect prime, productive, and potentially productive agricultural lands to maintain the islands' agricultural and rural identities and economies.						✓
(b) Provide opportunities and incentives for self-sufficient and subsistence homesteads and farms.						✓
(c) Discourage developing or subdividing agriculturally designated lands when non-agricultural activities would be primary uses.						✓
(d) Conduct agricultural-development planning to facilitate robust and sustainable agricultural activities.						✓
<u>Implementing Actions:</u>						
(a) Inventory and protect prime, productive, and potentially productive agricultural lands from competing non-agricultural land uses.						✓
<u>Analysis:</u> Not Applicable.						
<u>Objective:</u>						
(3) Design all developments to be in harmony with the environment and to protect each community's sense of place.						✓
<u>Policies:</u>						
(a) Support and provide incentives for green building practices.						✓
(b) Encourage the incorporation of green building practices and technologies into all government facilities to the extent practicable.						✓
(c) Protect and enhance the unique architectural and landscape characteristics of each Community Plan Area, small town, and neighborhood.						✓
(d) Ensure that adequate recreational areas, open spaces, and public-gathering places are provided and maintained in all urban centers and neighborhoods.						✓
(e) Ensure business districts are distinctive, attractive, and pedestrian-friendly destinations.						✓
(f) Use trees and other forms of landscaping along rights-of-way and within parking lots to provide shade, beauty, urban-heat reduction, and separation of pedestrians from automobile traffic in accordance with community desires.						✓
(g) Where appropriate, integrate public-transit, equestrian, pedestrian, and bicycle facilities, and public rights-of-way as design elements in new and existing communities.						✓
(h) Ensure better connectivity and linkages between land uses.						✓
(i) Adequately buffer and mitigate noise and air pollution in mixed-use areas to maintain residential quality of life.						✓
(j) Protect rural communities and traditional small towns by regulating the footprint, locations, site planning, and design of structures.						✓
(k) Support small-town revitalization and preservation.						✓
(l) Facilitate safe pedestrian access, and create linkages between destinations and within parking areas.						✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)				S	N/S	N/A
<u>Implementing Actions:</u>						
(a) Establish design guidelines and standards to enhance urban and rural environments.						✓
(b) Provide funding for civic-center and civic-space developments.						✓
(c) Establish and enhance urban forests in neighborhoods and business districts.						✓
Analysis: Not Applicable.						
<u>Objective:</u>						
(4) Improve and increase efficiency in land use planning and management.						✓
<u>Policies:</u>						
(a) Assess the cumulative impact of developments on natural ecosystems, natural resources, wildlife habitat, and surrounding uses.						✓
(b) Ensure that new development projects requiring discretionary permits demonstrate a community need, show consistency with the General Plan, and provide an analysis of impacts.						✓
(c) Encourage public and private partnerships to preserve lands of importance, develop housing, and meet the needs of residents.						✓
(d) Promote creative subdivision designs that implement best practices in land development, sustainable management of natural and physical resources, increased pedestrian and bicycle functionality and safety, and the principles of livable communities.						✓
(e) Coordinate with Federal, State, and County officials in order to ensure that land use decisions are consistent with County plans and the vision local populations have for their communities.						✓
(f) Enable greater public participation in the review of subdivisions.						✓
(g) Improve land use decision making through the use of land- and geographic information systems.						✓
<u>Implementing Actions:</u>						
(a) Institute a time limit and sunseting stipulations on development entitlements and their implementation.						✓
Analysis: Not Applicable.						
K. STRIVE FOR GOOD GOVERNANCE						
<u>Goal:</u> Government services will be transparent, effective, efficient, and responsive to the needs of residents.	✓					
<u>Objective:</u>						
(1) Strengthen governmental planning, coordination, consensus building, and decision making.						✓
<u>Policies:</u>						
(a) Plan and prepare for the effects of social, demographic, economic, and environmental shifts.						✓
(b) Plan for and address the possible implications of Hawaiian sovereignty.						✓
(c) Encourage collaboration among government agencies to reduce duplication of efforts and promote information availability and exchange.						✓
(d) Expand opportunities for the County to be involved in and affect State and Federal decision making.						✓
(e) Plan and prepare for large-scale emergencies and contingencies.	✓					

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(f) Improve public awareness about preparing for natural hazards, disasters, and evacuation plans.			✓
(g) Improve coordination among Federal, State, and County agencies.			✓
Implementing Actions:			
(a) Develop policies, regulations, and programs to protect and enhance the unique character and needs of the County's various communities.			✓
(b) Evaluate and if necessary, recommend modifications to the County Charter that could result in a possible change to the form of governance for Maui County.			✓
(c) Study and evaluate the feasibility and implications of voting in Maui County Council elections.			✓
(d) Study and evaluate the feasibility of authorizing town governments in Maui County.			✓
Analysis: Ke'anae Road is the evacuation route for everyone on the peninsula in the event of a flood or tsunami event, making reliability and safety of the road critical during a flood or tsunami event. The proposed project would improve the reliability and safety of vehicular access off the peninsula, improving the safety of residents and visitors to the peninsula.			
Objective:			
(2) Promote civic engagement.			✓
Policies:			
(a) Foster consensus building through in-depth, innovative, and accessible public participatory processes.			✓
(b) Promote and ensure public participation and equal access to government among all citizens.			✓
(c) Encourage a broad cross-section of residents to volunteer on boards and commissions.			✓
(d) Encourage the State to improve its community-involvement processes.			✓
(e) Support community-based decision making.			✓
(f) Expand advisory functions at the community level.			✓
(g) Expand opportunities for all members of the public to participate in public meetings and forums.			✓
(h) Facilitate the community's ability to obtain relevant documentation.			✓
(i) Increase voter registration and turnout.			✓
Implementing Actions:			
(a) Implement two-way communication using audio-visual technology that allows residents to participate in the County's planning processes.			✓
(b) Ensure and expand the use of online notification of County business and public meetings, and ensure the posting of all County board and commission meeting minutes.			✓
(c) Explore funding mechanisms to improve participation by volunteers on boards and commissions.			✓
(d) Develop a project-review process that mandates early and ongoing consultation in and with communities affected by planning and land use activities.			✓
Analysis: Not Applicable.			
Objective:			
(3) Improve the efficiency, reliability, and transparency of County government's internal processes and decision making.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)				S	N/S	N/A
Policies:						
(a) Use advanced technology to improve efficiency.						✓
(b) Simplify and clarify the permitting process to provide uniformity, reliability, efficiency, and transparency.						✓
(c) Improve communication with Lana'i and Moloka'i through the expanded use of information technologies, expanded staffing, and the creation and expansion of government-service centers.						✓
(d) Ensure that laws, policies, and regulations are internally consistent and effectuate the intent of the General Plan.						✓
Implementing Actions:						
(a) Update the County Code to be consistent with the General Plan.						✓
(b) Identify and update County regulations and procedures to increase the productivity and efficiency of County government.						✓
(c) Develop local level-of-service standards for infrastructure, public facilities, and services.						✓
(d) Implement plans through programs, regulations, and capital improvements in a timely manner.						✓
(e) Expand government online services.						✓
Analysis: Not Applicable.						
Objective:						
(4) Adequately fund in order to effectively administer, implement, and enforce the General Plan.						✓
Policies:						
(a) Adequately fund, staff, and support the timely update and implementation of planning policy, programs, functional plans, and enforcement activities.						✓
(b) Ensure that the County's General Plan process provides for efficient planning at the County, island, town, and neighborhood level.						✓
(c) Encourage ongoing professional development, education, and training of County employees.						✓
(d) Encourage competitive compensation packages for County employees to attract and retain County personnel.						✓
(e) Enable the County government to be more responsive in implementing our General Plan and Community Plans.						✓
(f) Review discretionary permits for compliance with the Countywide Policy Plan.						✓
(g) Strengthen the enforcement of County, State, and Federal land use laws.						✓
Implementing Actions:						
(a) Establish penalties to ensure compliance with County, State, and Federal land use laws.						✓
Analysis: Not Applicable.						
Objective:						
(5) Strive for County government to be a role model for implementing cultural and environmental policies and practices.						✓
Policies:						
(a) Educate residents on the benefits of sustainable practices.						✓
(b) Encourage the retention and hiring of qualified professionals who can improve cultural and environmental practices.						✓
(c) Incorporate environmentally sound and culturally appropriate practices in government operations and services.						✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(d) Encourage all vendors with County contracts to incorporate environmentally sound and culturally appropriate practices.			✓
Analysis: Not Applicable.			

2. Maui Island Plan

The Maui Island Plan (MIP) is applicable to the island of Maui only, providing more specific policy-based strategies for population, land use, transportation, public and community facilities, water and sewage systems, visitor destinations, urban design, and other matters related to future growth.

As provided by Chapter 2.80B, the MIP shall include the following components:

1. *An island-wide land use strategy, including a managed and directed growth plan*
2. *A water element assessing supply, demand and quality parameters*
3. *A nearshore ecosystem element assessing nearshore waters and requirements for preservation and restoration*
4. *An implementation program which addresses the County's 20-year capital improvement requirements, financial program for implementation, and action implementation schedule*
5. *Milestone indicators designed to measure implementation progress of the MIP*

It is noted that the Ordinance No. 4004 does not address the component relating to the implementation program. Chapter 2.80B of the Maui County Code, relating to the General Plan, was amended by Ordinance No. 3979, effective October 5, 2012, to provide that the implementation program component be adopted no later than one (1) year following the effective date of Ordinance No. 4004. In December 2013 and March 2014, the Council approved time extensions for adopting the implementation program component of the MIP. The implementation program component was adopted by Ordinance No. 4126 on May 19, 2014.

The MIP addresses a number of planning categories with detailed policy analysis and recommendations which are framed in terms of goals, objectives, policies and implementing actions. These planning categories address the following areas:

1. *Population*
2. *Heritage Resources*

3. *Natural Hazards*
4. *Economic Development*
5. *Housing*
6. *Infrastructure and Public Facilities*
7. *Land Use*

Additionally, an essential element of the MIP is its directed growth plan which provides a management framework for future growth in a manner that is fiscally, environmentally, and culturally prudent. Among the directed growth management tools developed through the MIP process are maps delineating urban growth boundaries (UGB), small town boundaries (STB), and rural growth boundaries (RGB). The respective boundaries identify areas appropriate for future growth and their corresponding intent with respect to development character.

The Ke'anae Road Safety Improvements are not proposed within an area of future growth; however, the proposed action is not related to growth. The proposed project will not increase the capacity of Ke'anae Road, which will remain a two-lane road. Rather, the improvements are necessary to ensure the safety of drivers on Ke'anae Road. In this regard, it does not conflict with the directed growth strategy defined via growth maps adopted in the MIP.

In addition, the proposed action has been reviewed with respect to pertinent goals, objectives, policies, and implementing actions of the MIP. A summary of these policy statements are provided below:

NATURAL HAZARDS

Goal:

- 3.1 *Maui will be disaster resilient.*

Objective:

- 3.1.2 *Greater protection of life and property.*

Policy:

- 3.1.2.a *Identify critical infrastructure, lifelines, roads, and populations that are vulnerable to coastal hazards, and encourage strategic retreat and relocation to safer areas.*

INFRASTRUCTURE AND PUBLIC FACILITIES – TRANSPORTATION

Goal:

- 6.4 *An interconnected, efficient, and well-maintained, multimodal transportation system..*

Objective:

- 6.4.2 *Safe, interconnected transit, roadway, bicycle, equestrian, and pedestrian network.*

Policy:

- 6.4.2.d *Identify and improve hazardous and substandard sections of roadways, drainage infrastructure, and bridges, provided that the historical integrity of the roads and bridges are protected.*

In summary, the proposed action is consistent with the above-noted themes and principles of the Countywide Policy Plan and the MIP.

E. HANA COMMUNITY PLAN

The proposed project is located within the Hana Community Plan, which covers approximately 145,000 acres from Makaīwa Bay to Kanaloa Point in East Maui that are part of Tax Zone 1. The Hana Community Plan designates the project area as “Agriculture” and “Conservation”.

The 1994 Hana Community Plan has nine (9) Goals, Objectives, Policies and Implementing Actions. They include Land Use, Environment, Cultural Resources, Economic Activity, Housing, Urban Design, Physical Infrastructure, Social Infrastructure, and Government. Because the proposed project is limited in its scope and impact, the most relevant of these nine (9) goals and policies is that of “Physical Infrastructure.” The proposed project is consistent with this goal and policy of the Hana Community Plan as is discussed below.

PHYSICAL INFRASTRUCTURE

Goal

Timely and environmentally sensitive development and maintenance of infrastructure systems which protect and preserve the safety and health of the Hāna region’s residents and visitors, including the provision of domestic water, utility and waste disposal services, and effective transportation systems which meet the needs of residents and visitors while protecting the region’s rural character.

Policy (Transportation)

* * *

2. *Improve road conditions through more frequent resurfacing and repair.*

Implementing Actions

* * *

4. *Improve walkways and roads within residential areas to ensure safe passage for pedestrians and vehicular traffic.*

* * *

F. ZONING

Permitted uses and development standards are set forth by Title 19 of the Maui County Code (MCC) relating to zoning. The proposed project is located within Agricultural and Interim zoned lands. Infrastructure systems, including roadways and supporting structures, are permitted in each of the County zoning districts.

G. HAWAII COASTAL ZONE MANAGEMENT PROGRAM – OBJECTIVES AND ENFORCEABLE POLICIES

The project site is located within the County of Maui's Special Management Area (SMA). See **Figure 12**. Pursuant to Chapter 205A, HRS, and the SMA Rules and Regulations for the Maui Planning Commission, actions proposed within the SMA are evaluated with respect to SMA objectives, policies and guidelines. This section addresses the proposed action in relation to applicable coastal zone management considerations, as set forth in Chapter 205A and the Rules and Regulations of the Maui Planning Commission.

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;*

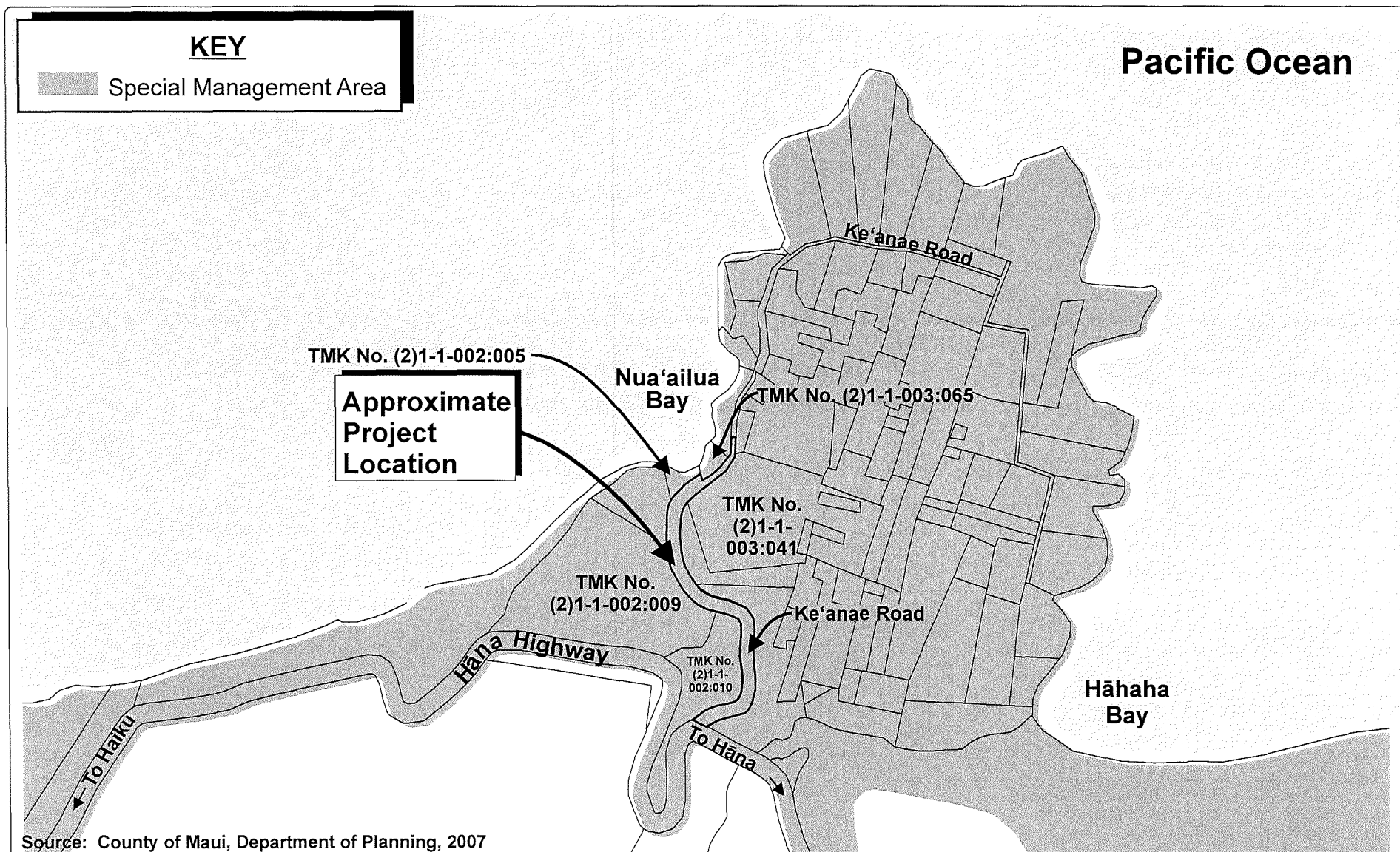
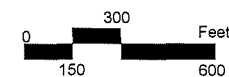


Figure 12

Proposed Ke'anae Road Safety Improvements Special Management Area



 MUNEKIYO HIRAGA

Prepared for: County of Maui, Department of Public Works

- ii. *Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;*
- iii. *Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;*
- iv. *Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;*
- v. *Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;*
- vi. *Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;*
- vii. *Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and*
- viii. *Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of Section 46-6.*

Response: Inasmuch as the proposed road safety improvements project will improve reliability of Ke'anae Road, which is used to access nearby shoreline areas, it will improve coastal recreational opportunities. During certain phases of construction, Ke'anae Road will be temporarily closed for part of the day for safety reasons. Coordination will be undertaken with residents and tour companies to ensure that appropriate notification is provided.

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: No historic properties were identified during the archaeological survey work. Refer to **Appendix “D”**. However, the possibility of encountering previously disturbed traditional-era sites is acknowledged, as a few residents have noted that caves with traditional-era burials may exist on the cliff faces. Therefore, archaeological monitoring will be undertaken during ground-altering work. In accordance with Section 6E-43.6, HRS and Chapter 13-300, HAR, if any significant cultural deposits or human skeletal remains are encountered, work will stop in the immediate vicinity and SHPD will be contacted to establish the appropriate protocols and level of mitigation. As such, no significant adverse impacts on archaeological resources are anticipated as a result of the proposed project.

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 that are not coastal dependent to locate in inland areas.*

Response: The proposed action is limited to road safety improvements and rockfall mitigation along Ke‘anae Road and is not anticipated to result in adverse impacts to shoreline views or open space resources.

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: Best Management Practices (BMPs) will be utilized to ensure that work associated with the proposed action does not adversely impact coastal ecosystems.

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 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 Ke'anae Road rockfall mitigation project will improve an important existing public road for the Ke'anae community. The proposed project is anticipated to result in short-term beneficial impacts to the economy of East Maui and Maui County through local contract expenditures for goods and services. As noted above, during certain phases of construction, Ke'anae Road will be temporarily closed for part of the day for safety reasons. Coordination will be undertaken with residents and tour companies to ensure that appropriate notification is provided.

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: According to the Flood Insurance Rate Map for the area, the project area is located within Flood Zone X, an area of minimal flooding located outside of the 0.2 percent chance annual flood plain with no development restrictions. Refer to **Figure 7**.

The Ke'anae peninsula is located in a tsunami evacuation zone. Refer to **Figure 8**. Given that Ke'anae Road provides the only access to and from the Ke'anae peninsula, it serves as the main evacuation route for that community.

Implementation of the project will thereby reduce the region's susceptibility 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 of 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 205A, HRS, this SMA permit application has been prepared to inform the public of the proposed project and its implications on the surrounding environment. Also, as required by Chapter 343, HRS, this EA has been prepared to facilitate public understanding and involvement with the proposed action. The EA is also the technical supporting document for the SMA Use Permit.

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 previously noted, public awareness of the proposed action is being promoted through the EA and SMA Use Permit processes. Additionally, a public meeting was held at the Ke'anae Church on the peninsula on July 27, 2017 to inform community members about the project and to get feedback on the schedule for road closures during construction. Copies of written comments received as a result of the meeting are included in Chapter IX with the early consultation letters received on the project, along with written responses to those comments. The proposed project complies with the objectives of public awareness, education, and participation.

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;*
- c. *Minimize the construction of public erosion-protection structures seaward of the shoreline.*
- d. *Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor; and*
- e. *Prohibit private property owners from creating a public nuisance by allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor;*

Response: During work associated with the proposed action, appropriate BMPs will be utilized to ensure 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: During work associated with the proposed action, appropriate BMPs will be utilized to ensure the downstream coastal environment is not adversely impacted. As such, the proposed action is not anticipated to adversely impact coastal marine resources.

In addition to the foregoing objectives and policies, SMA permit review criteria pursuant to §205A-30.5(a), HRS entitled "Prohibitions" provides that:

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.*

Further, artificial lighting provided by a government agency or its authorized users for government operations, security, public safety, or navigational needs shall make reasonable efforts to properly position or shield lights to minimize adverse impacts.

Response: Work associated with the proposed action will be carried out during daylight hours. There will be no artificial outdoor lights that directly illuminate the shoreline or ocean waters.

H. MAUI PLANNING COMMISSION SPECIAL MANAGEMENT AREA RULES AND REGULATIONS

The Rules and Regulations of the Maui Planning Commission, HRS, entitled Chapter 202 were established in order to implement Chapter 205A, "Coastal Zone Management". In addition to establishing procedures for processing SMA applications and related permits, the rules assist the Commission in giving consideration to State policy regarding coastal zones.

This section addresses the project's relationship to applicable coastal zone management considerations as set forth in the Maui Planning Commission's Rules, entitled Chapter 202, "Special Management Area Rules". These rules which are provided for considering the significance of potential environmental and ecological effects of a proposed action. The criteria are listed in the Hawai'i Administrative Rules (HAR) §12.202-12(2). They are analyzed below with respect to this proposed project.

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

No significant adverse impacts to natural or cultural resources anticipated as a result of the proposed project. There are no streams or wetlands which will be impacted, and there are no rare, threatened, or endangered species of plants or wildlife anticipated to be adversely affected by the proposed project.

As recommended in the Archaeological Assessment report, archaeological monitoring will be undertaken during ground disturbing activities. In accordance with §6E-43.6, HRS and Chapter 13-300, HAR, if any significant cultural deposits or human skeletal remains are encountered, work will stop in the immediate vicinity and SHPD will be contacted to establish the appropriate protocols and level of mitigation.

As recommended in the CIA, mitigation will be provided for short-term impacts related to construction that could potentially impact cultural resources or activities, such as taro farming and gathering of marine resources. Although daily temporary road closures are required during project construction, DPW has identified construction hours that would minimize impacts to local farmers and businesses from restricted access due to construction. They also agreed that the community would be notified in advance of the road closure schedule so they can plan their trips to and from the peninsula accordingly.

2. Significantly curtails the range of beneficial uses of the environment.

The proposed project will not curtail the range of beneficial uses of the environment. Applicable dust control, noise control, and drainage control

measures will be implemented during the clean-up operations to minimize any construction-related impacts.

3. **Conflicts with the county's or the state's long-term environmental policies or goals.**

As the proposed project protects the Ke'anae Road from long-term closure, the activity does not conflict with the State's Environmental Policy and Guidelines as set forth in Chapter 344, HRS. The proposed action is consistent with the underlying land use designations.

4. **Substantially affects the economic or social welfare and activities of the community, county, or state.**

On a short-term basis, the project will support construction and construction-related employment and have a beneficial impact on the local economy during the period of construction. On a long-term basis, the project benefits the community welfare by ensuring a road that is somewhat protected from rockfall.

5. **Involves substantial secondary impacts, such as population changes and increased effects on public facilities, streets, drainage, sewage, and water systems, and pedestrian walkways.**

As the proposed action involves road safety improvements and does not increase the capacity of the road, the project will not result in adverse secondary impacts to population, public services and facilities, and public infrastructure systems.

6. **In itself has no significant adverse effects but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.**

The proposed project is meant to protect the road and mitigate rockfalls and, as such, the proposed project is not anticipated to have a cumulative adverse impact on the environment nor involve a commitment to larger actions.

7. **Substantially affects a rare, threatened, or endangered species of animal or plant, or its habitat.**

There are no rare, threatened, or endangered species of fauna, flora, or their habitats in or adjacent to the project site. Adverse impacts to these features are not anticipated.

The plant species in the project area are made up primarily of non-native plant species. The seven (7) native plants that are in the area are all of common occurrence on multiple islands and are of no special conservation concern. Likewise, the six (6) Polynesian-introduced species are common throughout

Hawai'i. No endangered or threatened plant species were found in the area, therefore, no significant impacts are anticipated to plant species in the area. Refer to **Appendix "C"**.

Significant negative impact on native fauna species are not anticipated as a result of the proposed project. However, it was noted that seabirds may fly over the project area at dawn and dusk, and could be disoriented by significant outdoor lighting. As recommended, any significant outdoor lighting that may be associated with this project will be hooded to direct the light downward to mitigate the threat. Additionally, consultation with the U.S. Fish and Wildlife Service will be sought to mitigate potential impacts to the Hawaiian Hoary bat.

8. Is contrary to the state plan, county's general plan, appropriate community plans, zoning and subdivision ordinances.

The proposed action is in accordance with applicable State, County, and the Hana Community Plan land use policies and plans.

As previously noted, a SMA Use Permit application will be processed for the proposed project.

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

Short-term air quality and noise impacts from the proposed action will be mitigated through the implementation of BMPs. There are no long-term effects on air, water quality, or noise as a result of the proposed project.

10. Affects an environmentally sensitive area, such as flood plains, shoreline, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh waters, or coastal waters.

The project improvements are located within Flood Zone X (unshaded). Zone X designation denotes an area of low flood risk and minimal flooding with no development restrictions. The project site is located within the tsunami evacuation zone. Ke'anae Road serves as the only access road to and from the peninsula, therefore, improvements to the safety and reliability of Ke'anae Road will improve the tsunami evacuation route. As previously noted, Parcels 5 and 65 are shoreline fronting properties. Per the DPW discussion with Department of Planning staff, a Shoreline Setback Assessment application will be prepared and filed for those parcels. The proposed project is not anticipated to present significant adverse impacts on any environmentally sensitive areas.

11. Substantially alters natural land forms and existing public views to and along the shoreline.

The proposed project will not adversely alter natural land forms and is not within a public view corridor.

12. Is contrary to the objectives and policies of chapter 205A, HRS.

A review of the objectives and policies of Chapter 205A, HRS, is provided in its entirety in the previous part of this section. Therein, it addresses the project's relationship to the Coastal Zone Management considerations. Based on the foregoing analysis, the project will appropriately and adequately mitigate impacts to SMA-relevant areas of interest. Accordingly, there are no significant adverse environmental impacts anticipated with the proposed project.

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

IV

IV. SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The proposed Ke'anae rockfall mitigation and roadway improvements will result in certain unavoidable operational and construction-related impacts, including noise-generated impacts and air quality impacts associated with the operation of equipment. Air quality will also be temporarily impacted by dust generated from grading work. However, all operational and construction-related impacts will be temporary and mitigated through implementation of appropriate Best Management Practices. The long-term impacts of the proposed action are not anticipated to be significant.

**ALTERNATIVES TO THE
PROPOSED ACTION**



V. ALTERNATIVES TO THE PROPOSED ACTION

The proposed action is necessary to increase the reliability and safety of Ke'anae Road by mitigating possible rockfalls.

A. PREFERRED ALTERNATIVE – ROAD IMPROVEMENTS

The preferred alternative is the planned improvements to Ke'anae Road as described in Chapter I, Project Overview. The improvements involve the installation of netting to reduce the impact of rockfalls, road widening, repaving, and installation of concrete barriers to improve safety.

B. ALTERNATIVE METHODS OF ROCKFALL MITIGATION

Rockfall mitigation can be accomplished by a number of methods, including relocating the roadway, posting signage, or structural solutions. Relocating the roadway is not a feasible alternative due to the topography at the site which limits the area for a road. Posting signage will not help avoid the road closures that occur as a result of rockfall events. Therefore, relocating the roadway and posting signage are not considered viable rockfall mitigation solutions for this area.

General structural solutions include physically removing rocks and bolting rocks in place. Removal of rocks will be performed, but this is only considered a temporary mitigation method and would typically need to be completed every five (5) years to maintain effectiveness. Bolting of rocks could occur where rocks are too large to remove and where rock size could exceed the capacity of the primary, site-specific mitigations proposed in the preferred alternative.

The project team reviewed the existing rockfall conditions along Ke'anae Road in order to propose a plan to mitigate falling rocks. Based on the technical review of the site and existing conditions, a combination of mitigation methods are proposed in the preferred alternative. Due to the vertical cliff face that exists in the central portion along the roadway and the certainty that rocks that fall in this area would project away from the cliff face and fall onto the road, netting is proposed to capture the rocks in this area. As such, the project team confirmed that the netting is needed in order to protect the roadway.

C. NO ACTION ALTERNATIVE

The no action alternative would mean Ke'anae Road would not be improved for safety and reliability. While there are no present implications on Ke'anae Road's ability to be used, its long-term usefulness to the community would be diminished by the failure to undertake these improvements. As such, the no action alternative is not considered viable in this instance.

D. DEFERRED ACTION ALTERNATIVE

The “deferred action” alternative would have similar consequences as a “no action” alternative as Ke‘anae Road would not be improved for safety and reliability. As such, deferring action would delay the safety and reliability of the road which delays its benefit to the Ke‘anae community.

**IRREVERSIBLE AND
IRRETRIEVABLE COMMITMENT
OF RESOURCES**

VI

VI. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The proposed action will involve the commitment of fuel, labor, funding, and material resources. Given the need for vehicle access to Ke'anae by residents and visitors and the need to improve safety by mitigating potential rock slides, the commitment of resources is justified for the continued safe and reliable vehicle access to the Ke'anae Peninsula.

**SIGNIFICANCE CRITERIA
ASSESSMENT**

VII

VII. SIGNIFICANCE CRITERIA ASSESSMENT

The proposed project has been evaluated in accordance with the Significance Criteria of Department of Health (DOH), Section 11-200-12 of the Hawai'i Administrative Rules (HAR), Environmental Impact Statement Rules. Based on the following analysis, the proposed project is not anticipated to result in any significant adverse impacts. A discussion of project conformance to the criteria is presented below:

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

According to a 2017 biological report for the Department of Public Works (DPW), implementation of the project is not anticipated to result in adverse impacts to biological resources. The plant species in the project area are made up primarily of non-native plant species. The seven (7) native plants that are in the area are all of common occurrence on multiple islands and are of no special conservation concern. Likewise, the six (6) Polynesian-introduced species are common throughout Hawai'i. No endangered or threatened plant species were found in the area, therefore, no significant impacts are anticipated to plant species in the area.

Significant negative impact on native fauna species are not anticipated as a result of the proposed project. However, it was noted that seabirds may fly over the project area at dawn and dusk, and could be disoriented by significant outdoor lighting. As recommended, any significant outdoor lighting that may be associated with this project will be hooded to direct the light downward to mitigate the threat. Furthermore, as recommended in the Biological Resources Survey report, the U.S. Fish and Wildlife Service will be consulted on tree removal to minimize potential impacts to the endangered Hawaiian Hoary bat.

No historic properties were identified during the archaeological survey work. However, the possibility of encountering previously disturbed traditional-era sites is acknowledged, as a few residents have noted that caves with traditional-era burials may exist on the cliff faces. Therefore, archaeological monitoring will be undertaken during ground-altering work. In accordance with Section 6E-43.6, Hawai'i Revised Statutes (HRS) and Chapter 13-300, HAR, if any significant cultural deposits or human skeletal remains are encountered, work will stop in the immediate vicinity and SHPD will be contacted to establish the appropriate protocols and level of mitigation. Refer to **Appendix "D"**.

As recommended in the CIA, mitigation will be provided for short-term impacts related to construction that could potentially impact cultural resources or activities, such as taro farming and gathering of marine resources. Although temporary road

closures are required during project construction, DPW has identified construction hours that would minimize impacts to local farmers and businesses from restricted access due to construction. They also agreed that the community would be notified in advance of the road closure schedule so they can plan their trips to and from the peninsula accordingly.

The proposed project is not anticipated to result in significant adverse impact to natural or cultural resources.

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

The proposed project involves the mitigation of rockfalls and roadway improvements. The proposed improvements are not anticipated to 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.

The State Environmental Policy and Guidelines are set forth in Chapter 344, HRS. The proposed action is not contrary to the policies and guidelines set forth in Chapter 344, HRS.

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

Based on the analysis presented herein, there are no long-term adverse economic, social welfare, or cultural impacts anticipated as a result of project implementation.

As recommended in the CIA, mitigation will be provided for short-term impacts related to construction that could potentially impact cultural resources or activities, such as taro farming and gathering of marine resources. Although daily temporary road closures are required during project construction, DPW has identified construction hours that would minimize impacts to local farmers and businesses from restricted access due to construction. They also agreed that the community would be notified in advance of the road closure schedule so they can plan their trips to and from the peninsula accordingly.

5. Substantially affects public health.

The proposed action is not anticipated to adversely impact public health. The proposed improvements are meant to provide safety improvements for Ke'anae Road.

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

The proposed project is not anticipated to result in secondary impacts such as population changes or increased demands on regional public facilities. The proposed project will ensure continuation of convenient and reliable access to the Ke'anae Peninsula.

7. Involves a substantial degradation of environmental quality.

The cliff and road have been existing for sometime. During work associated with the project, appropriate BMPs will be utilized to ensure that potential adverse environmental effects are mitigated. No substantial degradation of the environment is anticipated as a result of project implementation.

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

The proposed project does not represent a commitment to larger actions. The proposed action only addresses improvements to Ke'anae Road to ensure improved vehicle access to the Ke'anae Peninsula, and the action is not anticipated to create or contribute to significant adverse long-term environmental effects.

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

There are no known or identified habitats of rare, threatened, or endangered species of flora or fauna in the vicinity of the project site. As previously noted, work is proposed during daylight hours to avoid potential impacts to endangered bird species. Further, consultation will be sought with the U.S. Fish and Wildlife Service to avoid impacts to the native Hawaiian Hoary bat which may travel in the project area. Given the scale and location of the work, no habitats or natural environments are anticipated to be adversely affected by the proposed project.

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

Appropriate BMPs will be implemented during work related to the project to ensure that adverse environmental impacts on air quality and ambient noise levels are

mitigated. In the long term, the proposed project is not anticipated to have a significant impact on air quality, water quality or noise parameters.

11. **Affects or 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 area is not anticipated to adversely impact environmentally sensitive areas. While Ke'anae Road is located within the tsunami zone, the road provides the only vehicular access to and from the peninsula. As such, the proposed improvements will provide for greater reliability for the vehicle access.

12. **Substantially affects scenic vistas and viewplanes identified in country or State plans or studies.**

The proposed project is not identified as a scenic vista or viewplane. The proposed action will not affect scenic corridors and coastal scenic and open space resources.

13. **Requires substantial energy consumption.**

The proposed project will result in the short-term commitment of fuel for equipment, vehicles and machinery during grading activities. However, the short-term energy demand is not considered substantive or excessive within the context of the region's overall energy consumption. In the long term, the project is not anticipated to create additional demands for energy consumption.

Based on the foregoing analysis, this Final EA for the project will be published in the Office of Environmental Quality Control's (OEQC) Environmental Notice as a Finding of No Significant Impact (FONSI) as determined by the Department of Public Works.

**LIST OF PERMITS AND
APPROVALS**

VIII

VIII. LIST OF PERMITS AND APPROVALS

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

State of Hawai'i

1. Hawai'i Revised Statutes, Chapter 343 Compliance
2. National Pollutant Discharge Elimination System (NPDES) Permit, as applicable
3. Community Noise Permit, as applicable
4. Oversize/Overweight Vehicle Transport over State Highways Permit, as applicable

County of Maui

1. Special Management Area (SMA) Use Permit
2. Shoreline Setback Assessment Approval
3. Grading and Grubbing Permit
4. Work on County Highway Permit

**AGENCIES CONSULTED DURING
THE PREPARATION OF THE DRAFT
ENVIRONMENTAL ASSESSMENT;
LETTERS RECEIVED, AND
RESPONSES TO SUBSTANTIVE
COMMENTS**

IX

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

The following agencies were consulted during preparation of the Draft Environmental Assessment (EA). Agency comments and responses to substantive comments are included herein.

FEDERAL AGENCIES

1. Ranae Ganske-Cerizo, Soil Conservationist
**U.S. Department of Agriculture
Natural Resources Conservation Service**
77 Ho'okele Street, Suite 202
Kahului, Hawai'i 96732
2. Tunis W. McElwain, Acting Chief
U.S. Department of the Army
U.S. Army Corps of Engineers
Regulatory Branch, Building 230
Fort Shafter, Hawai'i 96858-5440
3. Michelle Bogardus, Island Team Leader
U. S. Fish and Wildlife Service
300 Ala Moana Blvd., Rm. 3-122
Honolulu, Hawai'i 96850
7. Virginia "Ginny" Pressler, MD, MBA, FACS, Director
State of Hawai'i
Department of Health
919 Ala Moana Blvd., Room 300
Honolulu, Hawai'i 96814
8. Alec Wong, P.E., Chief
State of Hawai'i
Department of Health
Clean Water Branch
919 Ala Moana Blvd., Room 300
Honolulu, Hawai'i 96814
9. Laura McIntyre, AICP
State of Hawai'i
Department of Health
Environmental Planning Office
919 Ala Moana Blvd., Suite 312
Honolulu, Hawai'i 96814

STATE AGENCIES

4. Scott Enright, Chair
State of Hawai'i
Department of Agriculture
1428 South King Street
Honolulu, Hawai'i 96814-2512
5. Christina Kishimoto, Superintendent
Department of Education
P. O. Box 2360
Honolulu, Hawai'i 96804
6. Heidi Meeker
State of Hawai'i
Department of Education
Office of Business Services
c/o Kalani High School
4680 Kalaniana'ole Highway, #T-B1A
Honolulu, Hawai'i 96821
10. Patti Kitkowski
State of Hawai'i
Department of Health
Maui Sanitation Branch
54 South High Street, Room 300
Wailuku, Hawai'i 96793
11. Suzanne Case, Chairperson
State of Hawai'i
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai'i 96809

12. Alan Downer, Administrator
State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Boulevard, Room 555
Kapolei, Hawai'i 96707
13. Barker Fariss
State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
101 Maalaea Boat Harbor Road
Wailuku, Hawai'i 96793
14. Jade Butay, Interim Director
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i
15. Brigadier General Arthur "Joe" Logan,
Adjutant General
State of Hawai'i
Hawai'i State Civil Defense
3949 Diamond Head Road
Honolulu, Hawai'i 96816
16. Jobie Masagatani, Chair
State of Hawai'i
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, Hawai'i 96805
17. Scott Glenn, Director
State of Hawai'i
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawai'i 96813
18. Dr. Kamana'opono Crabbe, Chief
Executive Officer
State of Hawai'i
Office of Hawaiian Affairs
560 N. Nimitz Highway, Suite 200
Honolulu, Hawai'i 96817

19. Dan Orodener, Executive Officer
State of Hawai'i
State Land Use Commission
P.O. Box 2359
Honolulu, Hawai'i 96804
20. Senator J. Kalani English
Hawai'i State Senate
Hawai'i State Capitol, Room 205
415 S. Beretania Street
Honolulu, Hawai'i 96813
21. Representative Lynn DeCoite
House of Representatives
Hawai'i State Capitol, Room 405
415 S. Beretania Street
Honolulu, Hawai'i 96813

COUNTY AGENCIES

22. Stewart Stant, Director
County of Maui
Department of Environmental Management
2050 Main Street, Suite 2B
Wailuku, Hawai'i 96793
23. Jeffrey A. Murray, Chief
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawai'i 96732
24. Ka'ala Buenconsejo, Director
County of Maui
Department of Parks and Recreation
700 Hali'a Nakoa Street, Unit 2F
Wailuku, Hawai'i 96793
25. William Spence, Director
County of Maui
Department of Planning
2200 Main Street, Suite 315
Wailuku, Hawai'i 96793
26. Tivoli Faaumu, Chief
County of Maui
Department of Police
55 Mahalani Street
Wailuku, Hawai'i 96793

27. Don Medeiros, Director
County of Maui
Department of Transportation
2145 Kaohu Street
David Trask Building, Suite 102
Wailuku, Hawai'i 96793
28. David Taylor, Director
County of Maui
Department of Water Supply
200 South High Street, 5th Floor
Wailuku, Hawai'i 96793
29. Herman Andaya, Interim Emergency
Management Officer
County of Maui
Emergency Management Agency
200 South High Street
Wailuku, Hawai'i 96793
30. Mayor Alan Arakawa
County of Maui
200 South High Street
Wailuku, Hawai'i 96793
31. Honorable Robert Carroll, Council
Vice Chair
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793

ORGANIZATIONS

32. John Kahalehoe
Hāna Community Association
P.O. Box 471
Hāna, Hawai'i 96713
33. **Hawaiian Telcom**
60 South Church Street
Wailuku, Hawai'i 96793
34. Michael Grider, Manager,
Engineering
Maui Electric Company, Ltd.
P.O. Box 398
Kahului, Hawai'i 96733

AUG 31 2017



United States Department of the Interior



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

In Reply Refer To:
01EPIF00-2017-TA-0390

AUG 29 2017

Munekiyo Hiraga
Attention: Marisa Fujimoto
305 High Street, Suite 104
Wailuku, Hawaii 96793

Subject: Technical Assistance for the Preparation of a Draft Environmental Assessment for
a Proposed Rockfall Mitigation Project on Keanae Road, Maui

Dear Ms. Fujimoto:

Thank you for your letter received August 11, 2017, requesting technical assistance for the preparation of a draft environmental assessment for a proposed rockfall mitigation project along Keanae Road, Maui. The County of Maui, Department of Public Works (DPW) is proposing a road safety improvement project consisting of rockfall mitigation along portions of Keanae Road. The existing road lies between Tax Map Key Numbers (TMK) (2)1-1-002:009 and (2)1-1-002:010 owned by the State of Hawaii, and TMK (2)1-1-003:031 is privately owned. The total project area encompasses 2.3 acres which includes road grading, installation of rock fall protection including concrete barriers and netting, pavement replacement, road widening, the installation of metal guardrails, and the relocation of fencing.

Based on information you provided and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Project, there are 3 federally listed species in the vicinity of the project area: the endangered Hawaiian petrel (*Pterodroma sandwichensis*), band-rumped storm petrel (*Oceanodroma castro*), and the threatened Newell's shearwater (*Puffinus newelli*). There is no proposed or final critical habitat within the vicinity of the project area. The Service recommends the following measures to avoid and minimize project impacts listed species:

Seabirds

Hawaiian seabirds may traverse the project area at night during the breeding season (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable.

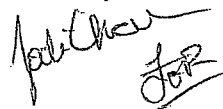
To minimize potential project impacts to seabirds:

- All outdoor lights should be fully shielded so the bulb can only be seen from below bulb height and only used when necessary.
- Automatic motion sensor switches and controls should be installed on all outdoor lights or lights should be turned off when human activity is not occurring in the lighted area.
- Nighttime construction should be avoided during the seabird fledging period, September 15 through December 15.

Implementation of these measures will minimize but does not ensure that take of listed species associated with this proposed action will be fully avoided. If there is a federal action agency funding, permitting, or assisting in the implementation of this project, we recommend that agency consult with the Service to address potential project impacts to listed species pursuant to section 7 (a)(2) of the Endangered Species Act. If there is no federal action agency associated with the project, but impacts to listed species cannot be fully avoided, the project should coordinate with the Service directly pursuant to section 10 (a)(1)(B) of the Endangered Species Act.

Thank you for your efforts to conserve listed species and native habitats. Please contact Fish and Wildlife Biologist William O'Neill (808-875-1582 ext 202, email: william_oneill@fws.gov) if you have any questions or for further guidance. When referring to this project, please include this reference number: **01EPIF00-2017-TA-0390**.

Sincerely,

A handwritten signature in black ink, appearing to read "Michelle Bogardus".

Michelle Bogardus
Island Team Leader
Maui Nui and Hawaii Island

March 20, 2018

Michelle Bogardus
Island Team Leader
United States Department of the Interior
Fish and Wildlife Service
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

SUBJECT: Early Consultation for Proposed Ke'anae Road Safety Improvements, Ke'anae, Maui, Hawai'i, (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road right-of-way) (REF: 01EPIF00-2017-TA-0390)

Dear Ms. Bogardus:

Thank you for your letter dated August 29, 2017 providing early consultation comments on the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works, we offer the following responses in the order of your comments:

1. It is noted that the endangered Hawaiian petrel, band-rumped storm petrel, and the threatened Newell's shearwater may be in the vicinity of the project area. It is further noted that there are no critical habitat within the vicinity of the project area.
2. The proposed project does not involve any permanent outdoor lighting. If used during construction, outdoor lights will be down-shielded to minimize impacts to seabirds. Night construction will be avoided during seabird fledgling period from September 15 to December 15.
3. There is no federal action agency funding, permitting, or assistance in implementing the project; therefore, Section 10 (a)(1)(B) of the Endangered Species Act is not triggered by this project.

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anae Road encroach into portions of TMK Nos. (2)1-1-002:005 and

Michelle Bogardus
March 20, 2018
Page 2

(2)1-1003:041 and 065; therefore, those parcels have been added to the list of affected properties.

Furthermore, the Biological Resources Survey report for the project recommended that the U.S. Fish and Wildlife (USFWS) be consulted on guidance to minimize potential impact to the endangered ōpeʻapeʻa, particularly regarding the tree removal associated with the project. A copy of Draft Environmental Assessment (EA) will be sent to the USFWS for review. Would you kindly include any recommended minimization measures related to this matter in your comments on the Draft EA?

We appreciate your input and will include a copy of your comment letter along with this response in the Draft EA for the proposed project.

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

Very truly yours,



Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.
Robert Hobdy

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AUG 21 2017

DAVID Y. IGE
GOVERNOR OF HAWAII



VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
EMD/CWB

08040PGH.17

August 16, 2017

Ms. Marisa Fujimoto
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Fujimoto:

SUBJECT: Comments on Early Consultation for the preparation of a Draft Environmental Assessment for a Proposed Rockfall Mitigation Project on Keanae Road, Keanae, Maui (Portions of TMK Nos. (2) 1-1-002:009, 010, 999 and (2) 1-1-003:031 and 999)

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated August 9, 2017, requesting comments on your project. The DOH-CWB has reviewed the subject document and offers these comments. Please note that our review is based solely on the information provided in the subject document and its compliance with the 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://health.hawaii.gov/epo/files/2013/05/Clean-Water-Branch-Std-Comments.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. You may be required to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55).

For NPDES general permit coverage, a Notice of Intent (NOI) form must be submitted at least 30 calendar days before the commencement of the discharge. An application for a NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. To request NPDES permit coverage, you must submit the applicable form ("CWB Individual NPDES Form" or "CWB NOI Form") through the e-Permitting Portal and the hard copy certification statement with the respective filing fee (\$1,000 for an individual NPDES permit or \$500 for a Notice of General Permit Coverage). Please open the e-Permitting Portal website located at: <https://eha-cloud.doh.hawaii.gov/epermit/>. You will be asked to do a one-time registration to obtain your login and password. After you register, click on the Application Finder tool and locate the appropriate form. Follow the instructions to complete and submit the form.

3. If your project involves work in, over, or under waters of the United States, it is highly recommended that you contact the Army Corp of Engineers, Regulatory Branch (Tel: 835-4303) regarding their permitting requirements.

Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and Hawaii Administrative Rules (HAR), Chapter 11-54.

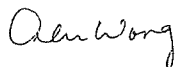
4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of \$25,000 per day per violation.
5. It is the State's position that all projects must reduce, reuse, and recycle to protect, restore, and sustain water quality and beneficial uses of State waters. Project planning should:
 - a. Treat storm water as a resource to be protected by integrating it into project planning and permitting. Storm water has long been recognized as a source of irrigation that will not deplete potable water resources. What is often overlooked is that storm water recharges ground water supplies and feeds streams and estuaries; to ensure that these water cycles are not disrupted, storm water cannot be relegated as a waste product of impervious surfaces. Any project

planning must recognize storm water as an asset that sustains and protects natural ecosystems and traditional beneficial uses of State waters, like community beautification, beach going, swimming, and fishing. The approaches necessary to do so, including low impact development methods or ecological bio-engineering of drainage ways must be identified in the planning stages to allow designers opportunity to include those approaches up front, prior to seeking zoning, construction, or building permits.

- b. Clearly articulate the State's position on water quality and the beneficial uses of State waters. The plan should include statements regarding the implementation of methods to conserve natural resources (e.g. minimizing potable water for irrigation, gray water re-use options, energy conservation through smart design) and improve water quality.
- c. Consider storm water Best Management Practice (BMP) approaches that minimize the use of potable water for irrigation through storm water storage and reuse, percolate storm water to recharge groundwater to revitalize natural hydrology, and treat storm water which is to be discharged.
- d. Consider the use of green building practices, such as pervious pavement and landscaping with native vegetation, to improve water quality by reducing excessive runoff and the need for excessive fertilization, respectively.
- e. Identify opportunities for retrofitting or bio-engineering existing storm water infrastructure to restore ecological function while maintaining, or even enhancing, hydraulic capacity. Particular consideration should be given to areas prone to flooding, or where the infrastructure is aged and will need to be rehabilitated.

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

Sincerely,



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

GH

c: DOH-EPO [via e-mail Noella.Narimatsu@doh.hawaii.gov only]

March 20, 2018

Alec Wong, P.E., Chief
State of Hawai'i
Department of Health
Clean Water Branch
P.O. Box 3378
Honolulu, Hawai'i 96801-3378

SUBJECT: Early Consultation for Proposed Ke'anae Road Safety Improvements, Ke'anae, Maui, Hawai'i, (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road right-of-way) (REF: EMD/CWB 08040PGH.17)

Dear Mr. Wong:

Thank you for your letter dated August 16, 2017 providing early consultation comments on the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works (DPW), we offer the following responses in the order of your comments:

1. The project and its potential impacts to State waters will meet the antidegradation policy, designated uses, and water quality criteria.
2. DPW or its contractor will obtain a National Pollutant Discharge Elimination System (NPDES) permit, as applicable.
3. The project does not involve work in, over, or under waters of the United States.
4. All discharges related to project construction or operation activities will comply with the State's Water Quality Standards.
5. The State's position that all projects must reduce, reuse, and recycle to protect, restore, and sustain water quality and beneficial uses of State waters is noted. The project planning requirements noted in your letter has been shared with the DPW for consideration and implementation in the project, as practicable.

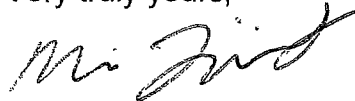
Alec Wong, P.E., Chief
March 20, 2018
Page 2

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1003:041 and 065; therefore, those parcels have been added to the list of affected properties.

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

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

Very truly yours,



Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

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AUG 18 2017

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:

EPO 17-198

August 15, 2017

Ms. Marisa Fujimoto
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Fujimoto:

SUBJECT: Early Consultation (EC) for a Rockfall Mitigation Project on Keanae Road, Maui
TMK: (2) 1-1-002:009, 010, 999, and (2) 1-1-003:031, 999

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your EC to our office on August 10, 2017.

We understand from the project summary that *"The County of Maui, Department of Public Works (DPW) is proposing a road safety improvement project consisting of rockfall mitigation along a portion of Keanae Road in Keanae, Maui, Hawaii."*

Hawaii's environmental review laws require Environmental Assessments (EAs) and Environmental Impact Statements (EISs) to consider health in the discussion and the mitigation measures to reduce negative impacts. In its definition of 'impacts,' §11-200-2, Hawaii Administrative Rules (HAR) includes health effects, whether primary (direct), secondary (indirect), or cumulative. Further, §11-200-12(b)(5), HAR, lists public health as one of the criteria for determining whether an action may have a significant impact on the environment.

In the development and implementation of all projects, EPO strongly recommends regular review of State and Federal environmental health land use guidance. State standard comments to support sustainable healthy design are provided at: <http://health.hawaii.gov/epo/landuse>. Projects are required to adhere to all applicable standard comments. EPO has an updated environmental Geographic Information System (GIS) website page <http://health.hawaii.gov/epo/egis>. It compiles various maps and viewers from our environmental health programs.

EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal at: <https://eha-cloud.doh.hawaii.gov>. This site provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings.

Any waste generated by the project (that is not a hazardous waste as defined in state hazardous waste laws and regulations), needs to be disposed of at a solid waste management facility that complies with the applicable provisions (HAR, Chapter 11-58.1 "Solid Waste Management Control"). The open burning of any of these wastes, on or off site, is strictly prohibited. You may wish you review the Minimizing Construction & Demolition Waste Management Guide at: <http://health.hawaii.gov/shwb/files/2016/05/constdem16.pdf>. Additional information is accessible at: <http://health.hawaii.gov/shwb>. For specific questions call (808) 586-4226.

If noise created during the construction phase of the project may exceed the maximum allowable levels (HAR, Chapter 11-46, "Community Noise Control") then a noise permit may be required and needs to be obtained before

Ms. Marisa Fujimoto
Page 2
August 15, 2017

the commencement of work. Relevant information is online at: <http://health.hawaii.gov/irhb/noise> EPO recommends you contact the Indoor and Radiological Health Branch (IRHB) at (808) 586-4700 with any specific questions.


If temporary fugitive dust emissions could be emitted when the project site is prepared for construction and/or when construction activities occur, we recommend you review the need and/or requirements for a Clean Air Branch (CAB) permit (HAR, Chapter 11-60.1 "Air Pollution Control"). Effective air pollution control measures need to be provided to prevent or minimize any fugitive dust emissions caused by construction work from affecting the surrounding areas. This includes the off-site roadways used to enter/exit the project. The control measures could include, but are not limited to, the use of water wagons, sprinkler systems, and dust fences. For questions contact the Clean Air Branch via e-mail at: Cab.General@doh.hawaii.gov or call (808) 586-4200.

You may also wish to review the draft Office of Environmental Quality Control (OEQC) viewer at: <http://eha-web.doh.hawaii.gov/oegc-viewer>. This viewer geographically shows where some previous Hawaii Environmental Policy Act (HEPA) {Hawaii Revised Statutes, Chapter 343} documents have been prepared.

To better protect public health and the environment, the U.S. Environmental Protection Agency (EPA) has developed a new environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and combines environmental and demographic indicators in maps and reports. EPO encourages you to explore, launch and utilize this powerful tool in planning your project. The EPA EJSCREEN tool is available at: <http://www.epa.gov/ejscreen>.

We request that you utilize this information on your proposed project to increase sustainable, innovative, inspirational, transparent and healthy design. Thank you for the opportunity to comment.

Mahalo nui loa,



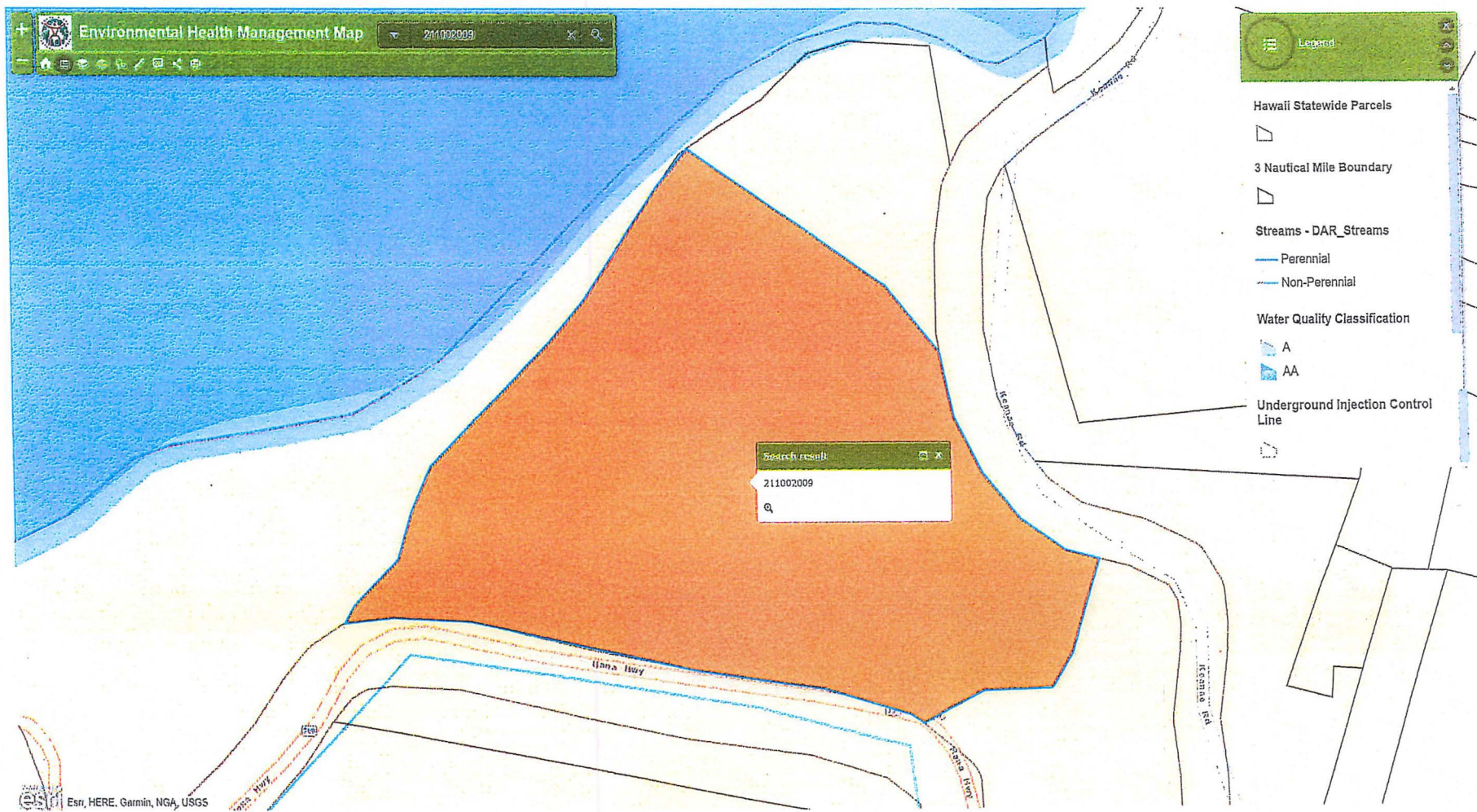
Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office

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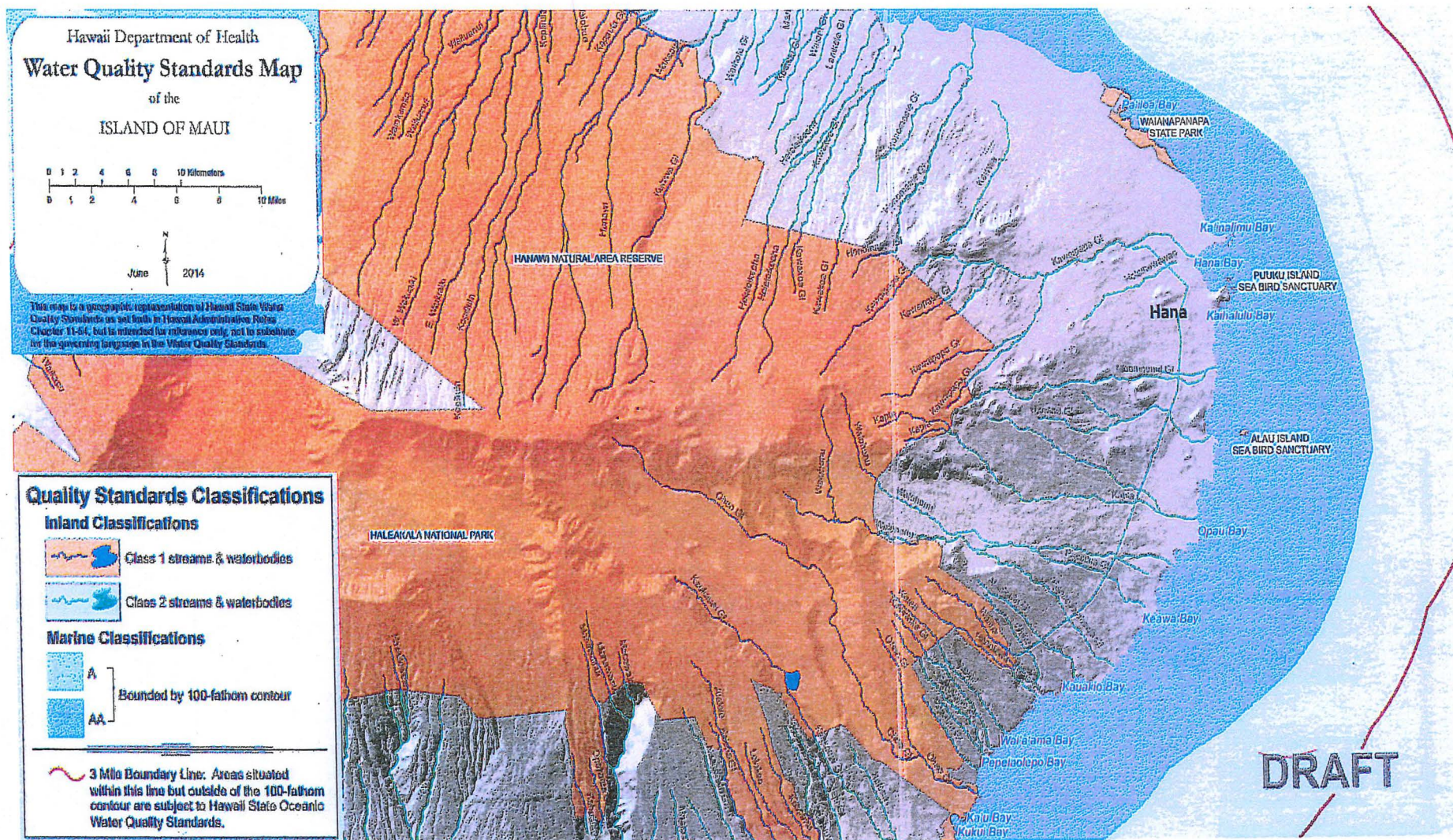
Attachment 1: Environmental Health Management Web App Snipit of Project Area: <http://health.hawaii.gov/epo/egis>
Attachment 2: Clean Water Branch: Water Quality Standards Map - Maui
Attachment 3: OEQC viewer (of some past EA's, EIS's in area)
Attachment 4: U.S. EPA EJSCREEN Report for Project Area

c: DOH: DHO Maui, IRHB, CAB {via email only}

Attachment 1: Environmental Health Management Web App Snipit of Project Area: <http://health.hawaii.gov/epo/egis>



Attachment 2: Clean Water Branch: Water Quality Standards Map - Maui



HANA

2 sites found

Results **Filter**

Show sites with no location

HANA HWY REPAIR (FEA-FONSI)
Environmental Assessment (Agency)

HANA HWY ROCKFALL MITIGATION (FEA-FONSI)
Environmental Assessment (Agency)

Map of the Hana area showing environmental assessment sites. The map includes a scale bar (0 to 0.50 miles) and a Google logo.



EJSCREEN Report (Version 2016)



1 mile Ring Centered at 20.861487, -156.148063, HAWAII, EPA Region 9

Approximate Population: 46

Input Area (sq. miles): 3.14

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	N/A	N/A	N/A
EJ Index for Ozone	N/A	N/A	N/A
EJ Index for NATA* Diesel PM	13	35	59
EJ Index for NATA* Air Toxics Cancer Risk	20	42	64
EJ Index for NATA* Respiratory Hazard Index	18	39	61
EJ Index for Traffic Proximity and Volume	13	36	59
EJ Index for Lead Paint Indicator	47	57	72
EJ Index for Superfund Proximity	35	44	65
EJ Index for RMP Proximity	17	38	61
EJ Index for Hazardous Waste Proximity*	N/A	N/A	N/A
EJ Index for Water Discharger Proximity	17	40	61



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

August 14, 2017

1/3

1 mile Ring Centered at 20.861487,-156.148063, HAWAII, EPA Region 9

Approximate Population: 46

Input Area (sq. miles): 3.14



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0
National Pollutant Discharge Elimination System (NPDES)	0

EJSCREEN Report (Version 2016)

1 mile Ring Centered at 20.861487, -156.148063, HAWAII, EPA Region 9

Approximate Population: 46

Input Area (sq. miles): 3.14



Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$)	N/A	N/A	N/A	9.37	N/A	9.32	N/A
Ozone (ppb)	N/A	N/A	N/A	51	N/A	47.4	N/A
NATA* Diesel PM ($\mu\text{g}/\text{m}^3$)	0.00842	0.149	3	0.978	<50th	0.937	<50th
NATA* Cancer Risk (lifetime risk per million)	24	34	0	43	<50th	40	<50th
NATA* Respiratory Hazard Index	0.47	1	1	2	<50th	1.8	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	0	990	4	1100	2	590	2
Lead Paint Indicator (% Pre-1960 Housing)	0.17	0.16	61	0.24	53	0.3	46
Superfund Proximity (site count/km distance)	0	0.098	29	0.15	13	0.13	16
RMP Proximity (facility count/km distance)	0.025	0.19	4	0.57	2	0.43	2
Hazardous Waste Proximity* (facility count/km distance)	N/A	0.14	N/A	0.14	N/A	0.11	N/A
Water Discharger Proximity (facility count/km distance)	0.021	0.34	7	0.2	4	0.31	1
Demographic Indicators							
Demographic Index	49%	52%	40	47%	54	36%	72
Minority Population	50%	77%	11	58%	41	37%	68
Low Income Population	48%	26%	88	36%	68	35%	73
Linguistically Isolated Population	0%	6%	23	9%	19	5%	44
Population With Less Than High School Education	3%	9%	17	17%	13	14%	14
Population Under 5 years of age	5%	6%	36	7%	35	6%	38
Population over 64 years of age	14%	15%	47	13%	66	14%	58

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: <https://www.epa.gov/national-air-toxics-assessment>.

+ The hazardous waste environmental indicator and the corresponding EJ Index will appear as N/A if there are no hazardous waste facilities within 50 km of a selected location.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

August 14, 2017

3/3

March 20, 2018

Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office
State of Hawai'i
Department of Health
P.O. Box 3378
Honolulu, Hawai'i 96801-3378

SUBJECT: Early Consultation for Proposed Ke'anae Road Safety Improvements, Ke'anae, Maui, Hawai'i, (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road right-of-way) (REF: EPO 17-198)

Dear Ms. McIntyre:

Thank you for your letter dated August 15, 2017 providing early consultation comments on the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works (DPW), we offer the following responses in the order of your comments:

1. It is noted that health must be considered in the discussion and mitigation measures to minimize or avoid potential negative primary, secondary, or cumulative impacts from a project.
2. The online resources you provided, including the State standard comments to support sustainable healthy design, the Department's Environmental Health Portal, and the Minimizing Construction & Demolition Waste Management Guide, and mapping tools have been forwarded to DPW for review/consideration.
3. A noise permit will be obtained by DPW or its contractor, as applicable.
4. Air quality Best Management Practices (BMPs) will be implemented during construction activities to minimize impacts from construction work.

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will

Laura Leialoha Phillips McIntyre, AICP
March 20, 2018
Page 2

not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1003:041 and 065; therefore, those parcels have been added to the list of affected properties.

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

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

Very truly yours,



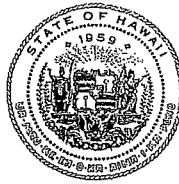
Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

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DAVID Y. IGE
GOVERNOR OF HAWAII



AUG 30 2017

VIRGINIA PRESSLER, 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, HAWAII 96793-3378

August 28, 2017

Ms. Marisa Fujimoto
Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Fujimoto:

Subject: Early Consultation Request for the Preparation of a Draft Environmental Assessment for a Proposed Rockfall Mitigation Project on Keanae Road, Keanae, Maui [Portions of TMK: (2) 1-1-002:009, 010, 999, and (2) 1-1-003:031 and 999]

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

The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules, Chapter 11-46, "Community Noise Control." A noise permit may be required and should be obtained before the commencement of work. Please call the Indoor & Radiological Health Branch at 808 586-4700.

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

Ms. Marisa Fujimoto
August 28, 2017
Page 2

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

Sincerely,

A handwritten signature in black ink that reads "Patti Kitkowski". The signature is fluid and cursive, with the first name "Patti" and last name "Kitkowski" clearly legible.

Patti Kitkowski
District Environmental Health Program Chief

c EPO {via Email}

March 20, 2018

Patti Kitkowski
District Environmental Health Program Chief
State of Hawai'i
Department of Health
Maui District Health Office
54 High Street
Wailuku, Hawai'i 96793-3378

SUBJECT: Early Consultation for Proposed Ke'anae Road Safety Improvements, Ke'anae, Maui, Hawai'i, (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road right-of-way)

Dear Ms. Kitkowski:

Thank you for your letter dated August 28, 2017 providing early consultation comments on the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works (DPW), we offer the following responses in the order of your comments:

1. A noise permit will be obtained by DPW or its contractor, as applicable.
2. The Standard Comments on the Department's website will be considered for the project, as applicable.

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1-003:041 and 065; therefore, those parcels have been added to the list of affected properties.

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

Patti Kitkowski
March 20, 2018
Page 2

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

Very truly yours,

A handwritten signature in black ink, appearing to read 'Marisa Fujimoto', written in a cursive style.

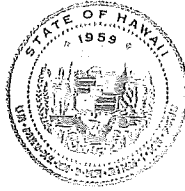
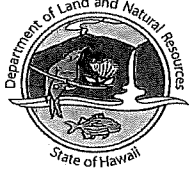
Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

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DAVID Y. IGE
GOVERNOR OF HAWAII



SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 7, 2017

Munekiyo & Hiraga, Inc.
Attention: Ms. Marisa Fujimoto
Senior Associate
305 High Street, Suite 104
Wailuku, Hawaii 96793

via email: planning@mhplanning.com

Dear Ms. Fujimoto:

SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for Ke'anae Road Rockfall Mitigation Project, Ke'anae, Hana, Island of Maui; TMK: (2) 1-1-002:999 and (2) 1-1-003:999, which road lies between (2) 1-1-002:009 and 010, and (2) 1-1-003:031

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

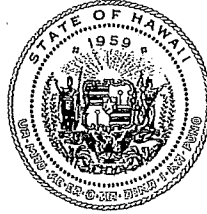
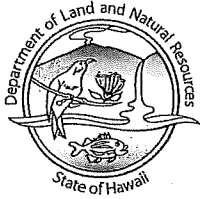
At this time, enclosed are comments from the (a) Engineering Division, (b) Division of Forestry & Wildlife, (c) Office of Conservation & Coastal Lands, and (d) Land Division – Maui District on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at (808) 587-0417. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji
Land Administrator

Enclosures
cc: Central Files



17 AUG 21 AM 11:29 ENGINEERING

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 17, 2017

MEMORANDUM

TO:

DLNR Agencies:

- ☐ Div. of Aquatic Resources
☐ Div. of Boating & Ocean Recreation
From: ☒ Engineering Division
☒ Div. of Forestry & Wildlife
☐ Div. of State Parks
☒ Commission on Water Resource Management
☒ Office of Conservation & Coastal Lands
☒ Land Division – Maui District
☒ Historic Preservation

to
FROM:

SUBJECT:

LOCATION:

APPLICANT:

for Russell Y. Tsuji, Land Administrator *✓*

Early Consultation Request for the Preparation of a Draft Environmental Assessment for Ke'anae Road Rockfall Mitigation Project

Ke'anae, Hana, Island of Maui; TMK: (2) 1-1-002:999 and (2) 1-1-003:999, which road lies between (2) 1-1-002:009 and 010, and (2) 1-1-003:031

Munekiyo Hiraga on behalf of the County of Maui, Department of Public Works

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments by **August 28, 2017**.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417. Thank you.

Attachments

- () We have no objections.
(✓) We have no comments.
() Comments are attached.

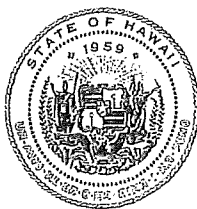
Signed: *[Signature]*

Print Name: Carty S. Chang, Chief Engineer

Date: 8/22/17

cc: Central Files

DAVID Y. ICE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.
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
KAIKOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

August 29, 2017

TO: Russel Y. Tsuji, Administrator
Land Division

ATTN: Darlene Nakamura

FROM: James Cogswell, Wildlife Program Manager
Division of Forestry and Wildlife

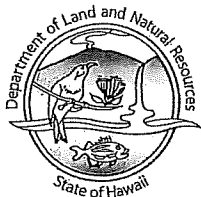
SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for Ke'anae Road Rockfall Mitigation Project

The Department of Land and Natural Resources Division of Forestry and Wildlife (DOFAW) has received your inquiry regarding the early consultation request for the preparation of a draft environmental assessment for Ke'anae Road rockfall mitigation project. The proposed project is located on Ke'anae Road, Hana, Maui, at TMK (2) 1-1-002:999 and (2) 1-1-003:999. Proposed activity includes installation of rock fall protection along the pali west of Ke'anae road, improvements in the County right-of-way, including pavement replacement, road widening and restriping, installation of metal guardrails, and relocation of existing hogwire fencing and fire protection standpipe east of Ke'anae Road. Some grading is proposed in the approximately 2.3 project area. DOFAW would like to ensure that the following best management practices are followed:

The State and Federally listed Hawaiian hoary bat or 'Ōpe'ape'a (*Lasiurus cinereus semotus*) has the potential to occur in the vicinity of the proposed project. Hawaiian hoary bats roost in both exotic and native trees. DOFAW recommends avoiding the use of barbed wire, as bat mortalities have been documented as a result of becoming ensnared by barbed wire during flight. If any trees are planned for removal during the bat breeding season there is a risk of injury or mortality to juvenile bats. To minimize the potential for impacts to this species, site clearing should be timed to avoid disturbance to breeding Hawaiian hoary bats; woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15).

Finally, we note that artificial lighting can adversely impact seabirds that may pass through the area at night, causing disorientation which could result in collision with manmade artifacts or grounding of birds. If nighttime lighting is required DOFAW recommends that any lights used be fully shielded to minimize impacts.

We appreciate your efforts to work with our office for the conservation of our native species. Should the scope of the project change significantly, or should it become apparent that threatened or endangered species may be impacted, please contact our staff as soon as possible. If you have any questions, please contact Katherine Cullison, Conservation Initiatives Coordinator at (808)587-4148 or Katherine.cullison@hawaii.gov.



RECEIVED
LAND DIVISION



RECEIVED
OFFICE OF CONSERVATION
AND COASTAL LANDS

2017 SEP - 1 AM 11:11

2017 AUG 21 P 12:46

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

August 17, 2017

SEP - 1 2017

MEMORANDUM

TO:
FROM

DLNR Agencies:

- ☐ Div. of Aquatic Resources
- ☐ Div. of Boating & Ocean Recreation
- ☒ Engineering Division
- ☒ Div. of Forestry & Wildlife
- ☐ Div. of State Parks
- ☒ Commission on Water Resource Management
- ☒ Office of Conservation & Coastal Lands
- ☒ Land Division - Maui District
- ☒ Historic Preservation

TO:

FROM: *fr*

SUBJECT:

Russell Y. Tsuji, Land Administrator *U*

LOCATION:

Early Consultation Request for the Preparation of a Draft Environmental Assessment for Ke'anae Road Rockfall Mitigation Project

APPLICANT:

Ke'anae, Hana, Island of Maui; TMK: (2) 1-1-002:999 and (2) 1-1-003:999, which road lies between (2) 1-1-002:009 and 010, and (2) 1-1-003:031
Munekio Hiraga on behalf of the County of Maui, Department of Public Works

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments by **August 28, 2017**.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417. Thank you.

Attachments

*No proposed
work w/in SLU
Conservation District.*

- ☐ We have no objections.
- ☒ We have no comments.
- ☐ Comments are attached.

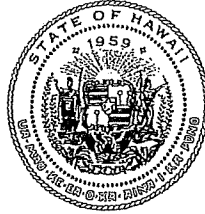
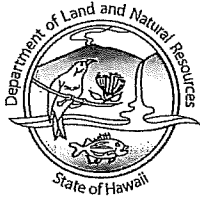
Signed:

Print Name:

ALEX J. ROY

Date:

9-1-17



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 17, 2017

MEMORANDUM

TO: DLNR Agencies:
___ Div. of Aquatic Resources
___ Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
___ Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Maui District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for Ke'anae Road Rockfall Mitigation Project
LOCATION: Ke'anae, Hana, Island of Maui; TMK: (2) 1-1-002:999 and (2) 1-1-003:999, which road lies between (2) 1-1-002:009 and 010, and (2) 1-1-003:031
APPLICANT: Munekiyo Hiraga on behalf of the County of Maui, Department of Public Works

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments by **August 28, 2017**.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417. Thank you.

Attachments

(X) We have no objections.
() We have no comments.
() Comments are attached.

Signed: _____

Print Name: _____

Date: _____

Doniel Ornelas

8/28/17

cc: Central Files

March 20, 2018

Russell Y. Tsuji, Land Administrator
State of Hawai'i
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawai'i 96809

SUBJECT: Early Consultation for Proposed Ke'anae Road Safety Improvements, Ke'anae, Maui, Hawai'i, (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road right-of-way)

Dear Mr. Tsuji:

Thank you for your letter dated September 7, 2017 providing early consultation comments on the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works, we offer the following responses in the order of your comments:

Engineering Division

1. It is noted that the Engineering Division does not have any comments on the proposed project.

Division of Forestry and Wildlife

1. Minimization measures to protect the Hawaiian hoary bat, including avoiding use of barbed wire and cutting down woody plants greater than 15 feet during the bat birthing and pup rearing season will be adhered to.
2. The project does not involve any permanent outdoor lighting. If needed during construction, outdoor lights will be down-shielded to minimize impacts to seabirds. Night construction will be avoided during seabird fledgling period from September 15 to December 15.

Office of Conservation and Coastal Lands

1. Since the requests for early consultation comments, the project scope has been modified to include repaving of the existing road within a portion of the State Land Use Conservation District. We respectfully request confirmation that the proposed improvements fall under the Resource Subzone Permitted Use P-8 Structures and Land Uses, Existing.

Land Division – Maui

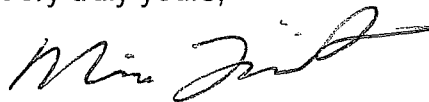
1. It is noted that the Land Division does not have any comments on the proposed project.

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'ānae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1-003:041 and 065; therefore, those parcels have been added to the list of affected properties.

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

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

Very truly yours,



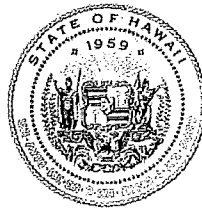
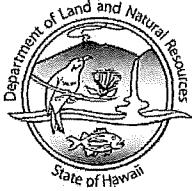
Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.
Robert Hobdy

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DAVID Y. IGE
GOVERNOR OF HAWAII



**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD, STE 555
KAPOLEI, HAWAII 96707

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT

ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

September 15, 2017

Russell Y. Tsuji, Land Administrator
Land Division, Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

IN REPLY REFER TO:
Log No. 2017.01791
Doc No. 1709GC03
Archaeology

Dear Mr. Tsuji:

**SUBJECT Chapter 6E-8 Historic Preservation Review –
Pre-Consultation for Draft Environmental Assessment for
Ke‘anae Road Rockfall Mitigation Project
Ke‘anae Ahupua‘a, Hāna District, Island of Maui
TMK: (2) 1-1-002:009 por., 010 por., 999; and (2) 1-1-003:031 por., 999**

Thank you for the opportunity to review and comment on this submittal that SHPD Maui Office received on August 22, 2017. The County of Maui, Department of Public Works (DPW) is proposing a road safety improvement project along a portion of Ke‘anae Road, and portions of the above-mentioned land parcels. The submittal indicates that TMK: (2) 1-1-002:009 and 010 are owned by the State of Hawai‘i; TMK: (2) 1-1-003:031 is privately owned; and TMK: (2) 1-1-002:999 and (2) 1-1-003:999 are County-owned roads rights-of-way (ROW).

The scope of work includes installation of rock fall protection, consisting of a concrete barrier, netting, and a rock fall fence along the rock cliff west Ke‘anae road; road improvements within the ROW; installation of metal guardrails; relocation of existing hog-wire fencing and fire protection standpipe and other related improvements, as needed.

A review of SHPD records indicates that no archaeological inventory survey has not been conducted for the subject parcels. Several historic properties have been documented within the vicinity of the proposed project area, including the following 12 Heiau: Kukuioolono (Site 50-50-07-0082); Lalaola (Site 50-50-07-0083); Pakanaloa (Site 50-50-07-0084); Leleiwi (Site 50-50-07-0085); Paliuli (Site 50-50-07-0086); Kanekauolono (Site 50-50-07-0087); Kamokukupeu (Site 50-50-07-0088); Kawailimukala (Site 50-50-07-0090); Kupau (Site 50-50-07-0091); Kualani (Site 50-50-07-0092); Kukuiaupuni (Site 50-50-07-0096) and Kanekauolono (50-50-07-0097); and the Ke‘anae Peninsula Lo‘i Complex (Site 50-50-07-3933), which is the most tightly clustered concentration of taro lo‘i within Ke‘anae-Wailuanui Ahupua‘a.

SHPD does not have sufficient information to determine the potential effect of the project on historic properties. Therefore, **SHPD requests** the County of Maui, Department of Public Works (DPW) provide the following information:

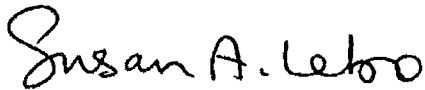
- (1) Narrative description of the proposed project, including total area in acres, the nature of any land alteration, new construction, and demolition or modification of existing structures for each project area location;
- (2) TMK map(s) showing the full extent of the project area within the affected parcels, including identification of all TMKs;

Mr. Tsuji
September 11, 2017
Page 2

- (3) Description and photographs of current vegetation cover and condition of the project area, including structures, roads, walls or other features within the project area locations;
- (4) Summary of land use history, such as previous intensive cultivation, grubbing or grading by project area location;
- (5) Copies or dates of previously approved permits, survey reports, and/or prior SHPD review letters that pertain to the project area TMKs; and
- (6) Copy of 60% completion project plans.

Please contact me at (808) 692-8019 or at Susan.A.Lebo@hawaii.gov for any concerns regarding this letter.

Aloha,



Susan A. Lebo, PhD
Archaeology Branch Chief

cc: Darlene Nakamura, DLNR-Land (Darlene.K.Nakamura@hawaii.gov)
County of Maui: Planning@co.maui.hi.us; Annalise.Kehler@co.maui.hi.us; cathy.asfurther@co.maui.hi.us
Marisa Fujimoto (marisa@munekiyohiraga.com)
Ty Takeno, County of Maui, Department of Public Works (Ty.Takeno@co.maui.hi.us)

March 20, 2018

Susan A. Lebo, PhD
State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Suite 555
Kapolei, Hawai'i 96707

SUBJECT: Early Consultation for Proposed Ke'anae Road Safety Improvements, Ke'anae, Maui, Hawai'i, (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road right-of-way)

Dear Dr. Lebo:

Thank you for your letter dated September 15, 2017 providing early consultation comments on the proposed Ke'anae Road Safety Improvements project (formerly referenced as the Ke'anae Road Rockfall Mitigation project). On behalf of the County of Maui, Department of Public Works, we offer the following responses in the order of your comments:

1. An Archaeological Inventory Survey (AIS) was conducted for the proposed project and an Archaeological Assessment (AA) report with the requested information was submitted to SHPD for review and acceptance on October 5, 2017. Additionally, a Special Management Area Use Permit application and Chapter 343 Hawaii Revised Statutes (HRS) Environmental Assessment will be prepared for the project and submitted to SHPD for review and comment. Information requested in your letter will be provided as noted below:
 - a. The project description is included in the AA report and will be included in the Draft EA and SMA application package for the project.
 - b. TMK maps showing the extent of the project area are included in the AA report and will be included in the Draft EA and SMA application package for the project.

- c. Description and photographs are included in the AA report and will be included in the Draft EA and SMA application package for the project.
- d. Land use history is included in the AA report and will be included in the Draft EA and SMA application package for the project.
- e. We are not aware of any previously approved permits, survey reports, or SHPD review letters for the project area.
- f. Eighty (80) percent completion project plans will be included in the Draft EA and SMA application package for the project.

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1-003:041 and 065; therefore, those parcels have been added to the list of affected properties.

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

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

Very truly yours,



Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.
Michael Dega, Scientific Consultant Services, Inc.

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DAVID Y. IGE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

SEP 04 2017

ARTHUR J. LOGAN
MAJOR GENERAL
ADJUTANT GENERAL

KENNETH S. HARA
BRIGADIER GENERAL
DEPUTY ADJUTANT GENERAL

August 29, 2017

Ms. Marisa Fujimoto
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Dear Ms. Fujimoto

Subject: Early Consultation Request for the Preparation of a Draft Environmental Assessment for a Proposed Rockfall Mitigation Project on Ke'anae Road, Ke'anae, Maui (Portions of TMK Nos. (2)1-1-002:009, 010, 999, and (2)1-1-003:031 and 999)

Thank you for the opportunity to comment on the above project. The State of Hawaii Department of Defense has no comments to offer relative to the proposed project.

Should you have any questions or concerns, please have your staff contact Ms. Shao Yu Lee, our Land Manager on Oahu, at (808) 733-4222.

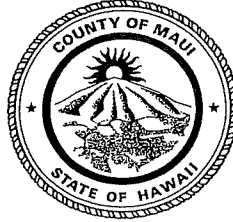
Sincerely,

A handwritten signature in black ink, appearing to read "Neal S. Mitsuyoshi", with a long horizontal line extending to the right.

NEAL S. MITSUYOSHI, P.E.
Colonel, Hawaii National Guard
Chief Engineering Officer

c: Mr. David Kennard, Hawaii Emergency Management Agency (HI-EMA)
Ms. Havinne Okamura, HI-EMA
Mr. Albert Chong, HI-EMA

ALAN M. ARAKAWA
Mayor
STEWART STANT
Director
MICHAEL M. MIYAMOTO
Deputy Director



AUG 28 2017
MICHAEL RATTE
Solid Waste Division
ERIC NAKAGAWA, P.E.
Wastewater Reclamation Division

**COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT**
2050 MAIN STREET, SUITE 2B
WAILUKU, MAUI, HAWAII 96793

August 15, 2017

Munekiyo Hiraga
Attention: Marisa Fujimoto
305 High Street, Suite 104
Wailuku, Hawaii 96793

**SUBJECT: ROCKFALL MITIGATION PROJECT - EARLY CONSULTATION
FOR DRAFT ENVIRONMENTAL ASSESSMENT
TMK (2) 1-1-002:009, 010, 999 AND (2) 1-1-003:031, 999, KEANAE**

We reviewed the subject application and have the following comments:

1. Solid Waste Division comments:
 - a. The contractor shall apply to the Central Maui Landfill for the disposal of waste generated by this project as Hana Landfill cannot accept the project waste.
2. Wastewater Reclamation Division (WWRD) comments:
 - a. The County does not have a wastewater system in the area of the subject project.

If you have any questions regarding this letter, please contact Michael Miyamoto at 270-8230.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael M. Miyamoto".

MICHAEL M. MIYAMOTO
Deputy Director of Environmental Management

March 20, 2018

Michael M. Miyamoto, Deputy Director
County of Maui
Department of Environmental Management
2050 Main Street, Suite 2B
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation for Proposed Ke'anae Road Safety Improvements, Ke'anae, Maui, Hawai'i, (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road right-of-way)

Dear Mr. Miyamoto:

Thank you for your letter dated August 15, 2017 providing early consultation comments on the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works, we offer the following responses in the order of your comments:

Solid Waste Division Comments

1. It is noted that Hāna Landfill cannot accept construction and/or demolition waste from the project. The contractor will be advised to apply to the Central Maui Landfill for waste disposal for the project.

Wastewater Reclamation Division Comments

1. It is noted that the County does not have a wastewater system in the area of the subject project. The proposed project is limited to road safety improvements and will not require wastewater infrastructure.

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1-003:041 and 065; therefore, those parcels have been added to the list of affected properties.

Michael M. Miyamoto, Deputy Director
March 20, 2018
Page 2

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

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

Very truly yours,



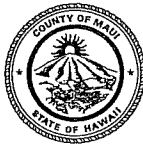
Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

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ALAN M. ARAKAWA
Mayor



AUG 25 2017

KA'ALA BUENCONSEJO
Director

BRIANNE L. SAVAGE
Deputy Director

DEPARTMENT OF PARKS & RECREATION

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

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

August 21, 2017

Marisa Fujimoto
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, HI 96793

Dear Ms. Fujimoto:

SUBJECT: EARLY CONSULTATION REQUEST FOR THE PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT FOR A PROPOSED ROCKFALL MITIGATION PROJECT ON KE'ANAE ROAD, KE'ANAE, MAUI (PORTIONS OF TMK NOS. (2) 1-1-002:009, 010, 999, AND (2) 1-1-003:031 AND 999)

Thank you for the opportunity to review and comment on the Rockfall Mitigation Project on Ke'anae Road. The Department has no objections to the proposed action, but would like to review the project as it develops. In accordance with the requirements of Chapter 343, Hawaii Revised Statutes (HRS) and Section 11-2-00-6, Hawaii Administrative Rules (HAR) please provide a copy of the Draft Environmental Assessment (EA).

Feel free to contact me or Robert Halvorson, Chief of Planning and Development, at 270-7981 or Robert.Halvorson@co.maui.hi.us, should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Ka'ala Buenconsejo", written over a horizontal line.

KA'ALA BUENCONSEJO
Director of Parks and Recreation

c: Robert Halvorson, Chief

KB:RH:do

March 20, 2018

Ka'ala Buenconsejo, Director
County of Maui
Department of Parks & Recreation
700 Hali'a Nako Street, Unit 2
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation for Proposed Ke'anae Road Safety Improvements, Ke'anae, Maui, Hawai'i, (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road right-of-way)

Dear Mr. Buenconsejo:

Thank you for your letter dated August 21, 2017 providing early consultation comments on the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works, we offer the following response to your comment:

1. It is noted that the Department of Parks and Recreation does not have any objections to the project, but would like to review the project as it develops. A copy of the Draft Environmental Assessment will be provided to you for review and comment in accordance with Chapter 343 Hawai'i Revised Statutes and Section 11-2-00-6, Hawai'i Administrative Rules.

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1-003:041 and 065; therefore, those parcels have been added to the list of affected properties.

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

Ka'ala Buenconsejo, Director
March 20, 2018
Page 2

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

Very truly yours,

A handwritten signature in black ink, appearing to read "Marisa Fujimoto".

Marisa Fujimoto
Senior Associate

MF:lh

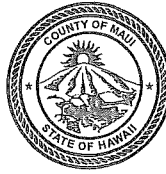
cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

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ALAN M. ARAKAWA
Mayor

WILLIAM R. SPENCE
Director

MICHELE CHOUTEAU McLEAN
Deputy Director



AUG 29 2017

COUNTY OF MAUI
DEPARTMENT OF PLANNING

August 29, 2017

Ms. Marisa Fujimoto, Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Fujimoto:

SUBJECT: REQUEST FOR EARLY CONSULTATION FOR A DRAFT ENVIRONMENTAL ASSESSMENT FOR A PROPOSED ROAD SAFETY IMPROVEMENT PROJECT FOR KEANAE ROAD, HANA, ISLAND OF MAUI, HAWAII; TMKS: (2) 1-1-002:009 (POR.), (2) 1-1-002:010 (POR.), (2) 1-1-009:999 (POR.), (2) 1-1-003:031 (POR.) AND (2) 1-1-003:999 (POR.) (RFC 2017/0087)

The Planning Department (Department) is in receipt of your Early Consultation Request as of August 10, 2017, and offers the following comments:

1. Please include a discussion of an alternative that would not require rock-fall netting.
2. Please include project-specific Best Management Practices for project mitigation.

We look forward to reviewing the Draft Environmental Assessment.

Thank you for your cooperation in this matter. If additional clarification is required, please contact Staff Planner Keith Scott by email at keith.scott@mauicounty.gov or by telephone at (808) 463-3867.

Sincerely, -

A handwritten signature in black ink, appearing to read "William Spence", is written over a horizontal line.

WILLIAM SPENCE
Planning Director

xc: Clayton I. Yoshida, AICP, Planning Program Administrator (PDF)
Keith C. Scott, Staff Planner (PDF)
General File
Project File

WRS:CIY:KCS:ela

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March 20, 2018

William Spence, Director
County of Maui
Department of Planning
Attention: Keith Scott, Planner
2200 Main Street, Suite 315
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation for Proposed Ke'anae Road Safety Improvements, Ke'anae, Maui, Hawai'i, (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road right-of-way)

Dear Mr. Spence:

Thank you for your letter dated August 29, 2017 providing early consultation comments on the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works, we offer the following responses in the order of your comments:

1. The Draft Environmental Assessment (EA) will include discussion on the project requirements and feasible alternatives.
2. Project-specific Best Management Practices will be included in the Draft EA for the project.

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1-003:041 and 065; therefore, those parcels have been added to the list of affected properties.

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

William Spence, Director
March 20, 2018
Page 2

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

Very truly yours,

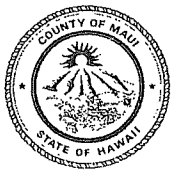
A handwritten signature in black ink, appearing to read "Marisa Fujimoto".

Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.
Tim Blackwood, Hart Crowser

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ALAN M. ARAKAWA
MAYOR

OUR REFERENCE
YOUR REFERENCE

POLICE DEPARTMENT
COUNTY OF MAUI

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

AUG 28 2017



TIVOLI S. FAAUMU
CHIEF OF POLICE

DEAN M. RICKARD
DEPUTY CHIEF OF POLICE

August 22, 2017

Ms. Marisa Fujimoto
Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Fujimoto:


SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for a Proposed Rockfall Mitigation Project on Ke'anae Road, Ke'anae, Maui (Portions of TMK Nos. (2) 1-1-002:009, 010, and (2) 1-1-003:031 and 999)

This is in response to your letter dated August 9, 2017, requesting comments on the above subject.

Please refer to the enclosed copy of the to/from submitted by Officer Jason Thompson of our Hana Patrol District.

Thank you for giving us the opportunity to comment on this project.

Sincerely,


Assistant Chief John Jakubczak
for: TIVOLI S. FAAUMU
Chief of Police

Enclosure

TO : TIVOLI FA'AUMU, POLICE CHIEF, COUNTY OF MAUI

VIA : CHANNELS - *NOTED. RESPONSE ON MPD LETTER HEAD TO BE DRAFTED AND SENT TO MUNEKIYO HIRAGA PLANNING.*

FROM : JASON THOMPSON, POLICE OFFICER III, HANA PATROL DIVISION

SUBJECT : RESPONSE TO A REQUEST FOR COMMENTS AND RECOMMENDATIONS FOR PROPOSED ROCKFALL MITIGATION ON KEANAE ROAD.

John Jakubczak
Assistant Chief
8.22.17

This communication is submitted as a response to a request for comments and recommendations by the Marisa FUJIMOTO of Munekiyo Hiraga Planning, in regards to the following project;

PROJECT	: Rockfall Mitigation Project
APPLICANT	: County of Maui, Department of Public Works
PROJECT ADDRESS	: Keanae Road, Keanae, Maui (Just north of Hana Highway)
PROJECT DESCRIPTION	: Rockfall Mitigation of Cliffside on Keanae Road
TAX MAP KEYS	: TMK Nos. (2)1-1-002:009, 010, 999 and (2)1-1-003;031 and 999.

RESPONSE:

In review of the provided documents (compact disk and face page), it appears that the County of Maui Department of Public Works plans to improve Keanae Road in the area just north of Hana Highway 360. The County plans to erect concrete barriers, netting and rock walls to help mitigate rock and landslides during periods of heavy rain. The area is a narrow but two lane asphalt area of the roadway up against a steep overhanging cliff area.

The roadway is narrow with no shoulders on either side. The County proposes to conduct road construction during day hours only (0700-1500) hours, with limited complete road closures. During construction hours, it has been proposes to implement flag men or Police to alternate traffic in both directions.

CONCLUSION:

There are no objections to the progression of the project. Although I suggest the following concerns be addressed.

1. Recommend signage (message boards) in both directions informing local traffic and tourist traffic of delays and times.
2. If there are to be any complete closures, Police, Fire and Medics will need a communication system to alert construction personnel if and when Police, Fire, and Medics need to access the area.

3. Flag men are a must during construction hours, as the road is windy with no sight distance in either direction. ✓

If any other concerns are to arise during or after the start of the project, they can be addressed at that time.

Respectfully submitted for your review and approval.

CONCUR WITH OFC. THOMPSON,
IF COMPLETE ROAD CLOSURE
SIGNAGE/FLAGMEN & EMERGENCY
VEHICLE ACCESS NEED TO BE
ADDRESSED.

JS180
Jason THOMPSON E#15190
Police Officer III/Hana Patrol Division
08/16/2017 @ 1554 Hours

[Signature] 8/17/17



MUNEKIYO HIRAGA

Planning. Project Management. Sustainable Solutions.

Michael T. Munekiyo
PRESIDENT

Karlynn K. Fukuda
EXECUTIVE VICE PRESIDENT

Mark Alexander Roy
VICE PRESIDENT

Tessa Munekiyo Ng
VICE PRESIDENT

March 20, 2018

Tivoli S. Faaumu, Chief of Police
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation for Proposed Ke'anae Road Safety Improvements, Ke'anae, Maui, Hawai'i, (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road right-of-way)

Dear Chief Faaumu:

Thank you for your letter dated August 22, 2017 providing early consultation comments on the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works (DPW), we offer the following responses in the order of your comments:

1. Appropriate signage will be provided during lane and road closures. The Office of Economic Development will issue a press release through the Mayor's office promoting the times that the road will be open. They will also inform the Maui Hotel Association and Maui Visitor's Bureau of the road closure schedule. Additionally, local residents will be notified directly of the road closure schedule.
2. Temporary road closures are anticipated during work hours. A traffic control plan for temporary road closure will be included in the Draft Environmental Assessment (EA) and construction documents. DPW will coordinate with Police, Fire, and Medics to ensure that emergency access is provided, as needed.
3. Flag men will be used to direct traffic during lane closures.

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Keanae Road encroach into portions of TMK Nos. (2)1-1-002:005 and

Maui: 305 High Street, Suite 104 • Wailuku, Hawaii 96793 • Tel: 808.244.2015 • Fax: 808.244.8729

Oahu: 735 Bishop Street, Suite 321 • Honolulu, Hawaii 96813 • Tel: 808.983.1233

www.munekiyoahiraga.com

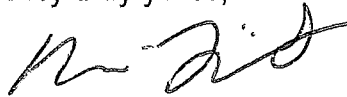
Tivoli S. Faaumu, Chief
March 20, 2018
Page 2

(2)1-1003:041 and 065; therefore, those parcels have been added to the list of affected properties.

We appreciate your input and will include a copy of your comment letter along with this response in the Draft EA for the proposed project.

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

Very truly yours,



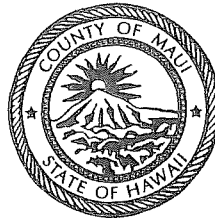
Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

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ALAN M. ARAKAWA
Mayor



AUG 28 2017
DON MEDEIROS
Director

MARC I. TAKAMORI
Deputy Director
(808) 270-7511

DEPARTMENT OF TRANSPORTATION

COUNTY OF MAUI
2145 Kaolu Street, Suite 102
Wailuku, Hawaii, USA 96793

August 23, 2017

Ms. Marisa Fujimoto
Munekiyo & Hiraga, Inc.
305 South High St., Suite 104
Wailuku, HI 96793

Subject: EA for Proposed Rockfall Mitigation Project on Ke`anae Road

Dear Ms. Fujimoto,

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

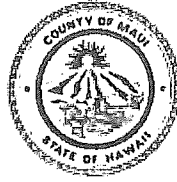
Please feel free to contact me if you have any questions.

Sincerely,

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

Don Medeiros
Director

ALAN M. ARAKAWA
Mayor



DAVID TAYLOR, P.E.
Director

GLADYS C. BAISA
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2155
www.mauewater.org

August 29, 2017

Marisa Fujimoto, Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Subject: Early Consultation for the Draft EA Ke'anae Road Rockfall Mitigation Project
TMKs: (2)1-1-002:009, 010, 999 and (2)1-1-003:031 and 999

Dear Ms. Fujimoto,

Thank you for the opportunity to participate in the Early Consultation process. The Department of Water Supply (DWS) understands that the Department of Public Works (DPW) is proposing road improvements consisting of rockfall mitigation along the Ke'anae Road where DWS maintains infrastructure.

System Infrastructure

DPW should coordinate with DWS Engineering in order to protect our infrastructure and in the relocation of a standpipe noted in the plans. We maintain a 4-inch water line along Ke'anae Road at the project location. One stand pipe is located at the intersection of Hana Highway and Ke'anae Road as well as several valves and one is located down the road at TMK No. (2)1-1-002:999. DWS requests that valves should remain uncovered upon completion of any paving.

Should you have any questions, please contact staff planner Audrey Dack at (808) 463-3109 or Audrey.dack@co.maui.hi.us.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Taylor", with a stylized flourish at the end.

Dave Taylor, P.E., Director
apd

March 20, 2018

Dave Taylor, P.E., Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawai'i 96793-2155

SUBJECT: Early Consultation for Proposed Ke'anae Road Safety Improvements, Ke'anae, Maui, Hawai'i, (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road right-of-way)

Dear Mr. Taylor:

Thank you for your letter dated August 29, 2017 providing early consultation comments on the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works, we offer the following response to your comment:

1. Thank you for providing information on the existing water system infrastructure at or in close proximity to the proposed project. Coordination will be undertaken with the Department of Water Supply (DWS) Engineering Division to ensure that DWS infrastructure is not negatively impacted by the project.

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1003:041 and 065; therefore, those parcels have been added to the list of affected properties.

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

Dave Taylor, P.E., Director
March 20, 2018
Page 2

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

Very truly yours,

A handwritten signature in black ink, appearing to read "Marisa Fujimoto".

Marisa Fujimoto
Senior Associate

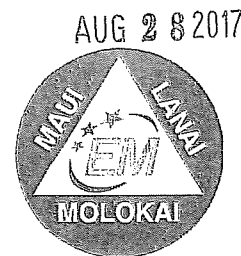
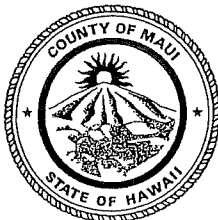
MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

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ALAN M. ARAKAWA
MAYOR

HERMAN ANDAYA
INTERIM EMERGENCY
MANAGEMENT
OFFICER



COUNTY OF MAUI
MAUI EMERGENCY MANAGEMENT AGENCY

200 South High Street
Wailuku, Maui, Hawaii 96793-2155
email: emergency.management@mauicounty.gov

Phone (808) 270-7285
FAX (808) 270-7275

August 23, 2017

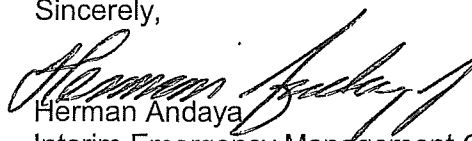
Munekiyo Hiraga
Attn: Marisa Fujimoto
305 High Street, Suite 104
Wailuku, Hawaii, 96793

SUBJECT: EARLY CONSULTATION REQUEST FOR THE PREPARATION OF A DRAFT
ENVIRONMENTAL ASSESSMENT FOR A PROPOSED ROCKFALL
MITIGATION PROJECT ON KEANAE ROAD, KEANAE, MAUI (PORTIONS OF
TMK NOS. (2)1-1-002:009, 010, 999, AND (2)1-1-003:031 AND 999)

Dear Ms. Fujimoto,

Maui Emergency Management Agency (MEMA) is in full support of this project. The agency would like to discuss the potential safety risk to the community should road closures be necessary.

Sincerely,


Herman Andaya
Interim Emergency Management Officer

xc: Keanu Lau Hee, MEMA Hazard Mitigation Specialist

March 20, 2018

Herman Andaya, Emergency Management Officer
County of Maui
Maui Emergency Management Agency
200 South High Street
Wailuku, Hawai'i 96793-2155

SUBJECT: Early Consultation for Proposed Ke'anae Road Safety Improvements, Ke'anae, Maui, Hawai'i, (Portions of TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065; and Ke'anae Road right-of-way)

Dear Mr. Andaya:

Thank you for your letter dated August 23, 2017 providing early consultation comments on the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works (DPW), we offer the following response to your comment:

1. Thank you for your support of this project. Temporary road closures will be necessary during some phases of project implementation; however, the contractor will be required to have a traffic control plan that allows for emergency vehicle access. DPW held a community meeting with residents from the Ke'anae Peninsula in July 2017 to discuss the proposed project. The residents, some of whom advocated for the project funding, shared comments about the temporary road closures at the community meeting. DPW will continue to keep the community informed as the project proceeds. Please contact Ty Takeno of the Department of Public Works, Engineering Division at 270-7745 to discuss any additional potential safety risks that the Maui Emergency Management Agency is concerned about.

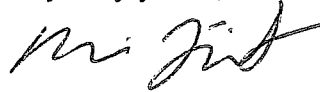
Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1003:041 and 065; therefore, those parcels have been added to the list of affected properties.

Herman Andaya, Emergency Management Officer
March 20, 2018
Page 2

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

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

Very truly yours,



Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.
Tim Blackwood, Hart Crowser

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COMMENT FORM

AUG 17 2017

Ke'anae Road Safety Improvements

Public Meeting

July 27, 2017

Name: Napua Hilen Phone No. _____
Address: 13705 Hana Hwy
Keanae, HI 96793
Email Address: napua14@gmail.com

Please write any comments you wish to share on the proposed project below.

Strong intuition that the State Baseyard and Ymca buildings need to be relocated entirely that is a great stress to the hillside that should be elevated. Please consider local traffic needs however do not compromise the safety and efficiency of the Roadway. I suggest work hours of 11:00am - 6:00pm as early as 10am would be fine. Public service announcements for the full scope of visitor industry must be prepared for issue.

Please do work and preventative methods that will have long-term solution. Consider climate change effects and implement as much intensive methods as necessary such as relocating State baseyard & Ymca.

Please submit your comments by the end of the meeting or mail to:

Munekiyo Hiraga
Attention: Marisa Fujimoto
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Should you have any questions, please feel free to contact Ty Takeno, Department of Public Works, at 270-7745.

March 20, 2018

VIA EMAIL: napua14@gmail.com

Nāpua Hū'eu
13705 Hāna Highway
Haiku, Hawai'i 96708

SUBJECT: County of Maui, Department of Public Works Proposed Ke'anae Road Safety Improvements Public Meeting on July 27, 2017

Dear Ms. Hū'eu:

Thank you very much for participating in the public meeting for the proposed Ke'anae Road Safety Improvements on July 27, 2017 at the Ke'anae Church hall and for submitting your comments on the project. Below are responses in the order of your comments:

1. The proposed road safety improvements are limited to Ke'anae Road and the immediately adjacent area. The surrounding properties are not owned by the County, and, therefore, the County does not have the ability to relocate uses on those properties.
2. Based on discussion during the meeting, the road closures are planned between the hours of 11 a.m. and 6 p.m., as you suggested in your letter. The Office of Economic Development will issue a press release through the Mayor's office promoting the times that the road will be open. They will also inform the Maui Hotel Association and Maui Visitor's Bureau of the road closure schedule.
3. The proposed road safety improvements are intended to be a long term solution to improve road conditions and implement rockfall and other road safety mitigation. We believe the proposed improvements will make Ke'anae Road safer for all residents and visitors driving to the peninsula, which are intended to benefit the Ke'anae community in the long run.

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined

Nāpua Hū'eū
March 20, 2018
Page 2

that portions of Keanae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1003:041 and 065; therefore, those parcels have been added to the list of affected properties.

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

Should you have any additional questions, please contact Ty Takeno of the County of Maui, Department of Public Works at 270-7745.

Very truly yours,



Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.
Tim Blackwood, Hart Crowser

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COMMENT FORM

Ke'anae Road Safety Improvements

Public Meeting

July 27, 2017

Name: Tammy Luat-Huca Phone No.
Address: 210 Keanae Rd
Haiku, HI 96708
Email Address: TammyLuat85@yahoo.com

Please write any comments you wish to share on the proposed project below.

I own a home on the Keanae peninsula and my family owns & operates the Keanae Leading Fruit Stand on my property. This project will directly impact my family financially. I do understand the importance of safety. I want the area to be improved and made safer for all who travel on this ~~road~~ road.

I feel that with enough lighting, this project can be done at night. If not at night - then at least adjust the hours to start at 1pm - 6pm. This will allow us to at least open our business 1/2 a day. We also employ 7 members of our community and they will be impacted.

Please submit your comments by the end of the meeting or mail to:

Munekiyo Hiraga
Attention: Marisa Fujimoto
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Should you have any questions, please feel free to contact Ty Takeno, Department of Public Works, at 270-7745.

(May - Aug)

* We really do not want this work during Summer months and school is out -

March 20, 2018

VIA EMAIL: TammyLuat85@yahoo.com

Tammy Luat-Hū'eu
210 Ke'anae Road
Haiku, Hawai'i 96708

SUBJECT: County of Maui, Department of Public Works Proposed Ke'anae Road Safety Improvements Public Meeting on July 27, 2017

Dear Ms. Luat-Hū'eu:

Thank you very much for participating in the public meeting for the proposed Ke'anae Road Safety Improvements on July 27, 2017 at the Ke'anae Church hall and for submitting your comments on the project. Below are responses in the order of your comments:

1. We understand and apologize for the inconvenience and financial impacts that your business and employees will experience during construction. As promised during the public meeting on July 27, 2017, the Department of Public Works followed up with the Office of Economic Development (OED) regarding possible assistance for business and/or individuals who are financially impacted by the project's construction. Unfortunately, OED advised that financial assistance is not available at this time. DPW believes the proposed improvements will make Ke'anae Road safer for all of the residents and visitors driving to the peninsula, which are intended to benefit the Ke'anae community, including your business and employees, in the long run.
2. Much of the work, particularly involving clearing the loose rocks and vegetation from the cliff face, is too dangerous and may be too noisy to be done at night. Based on discussion during the meeting, the road closures are planned between the hours of 11 a.m. and 6 p.m. to allow Aunt Sandy's fruit stand to open for a few hours in the morning, which we understood to be the busiest time of day for that business. Unfortunately, shorter road closure intervals would increase the project cost beyond what is feasible.

3. There are increased safety concerns with doing the work during the fall, winter, or spring, when there is more rain, and potentially higher risk of rockfalls and mudslides within the project area. Additionally, much of the work, particularly involving clearing the loose rocks and vegetation from the cliff face, is too dangerous and may be too noisy to be done at night, and since the construction-related road closures would be starting at 11 a.m. instead of 8 a.m., the work would need to occur during the summer, when the days are longer. Lastly, requirements from the U.S. Fish and Wildlife Service and concerns for threatened or endangered species that travel through the area may also restrict construction periods.

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1-003:041 and 065; therefore, those parcels have been added to the list of affected properties.

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

Should you have any additional questions, please contact Ty Takeno of the County of Maui, Department of Public Works at 270-7745.

Very truly yours,



Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.
Tim Blackwood, Hart Crowser

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COMMENT FORM

Ke'anae Road Safety Improvements

Public Meeting

July 27, 2017

Name: JOCELYN HYUN Phone No. _____
Address: 13705 HANA HWY
HAKAI, HI 96703
Email Address: JOCELYN.MUN@gmail.com

Please write any comments you wish to share on the proposed project below.

How long will the rd. be closed? 30 MIN-
1 HR intervals? Please DON'T close the
rd during summer time. ~~and~~ I am a
worker at Jaimie's Conch's fruitstand &
also a single mother so please if no
could come to an agreement on the ~~closed~~
times of closing the rd.

Please submit your comments by the end of the meeting or mail to:

Munekiyo Hiraga
Attention: Marisa Fujimoto
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Should you have any questions, please feel free to contact Ty Takeno, Department of Public Works, at 270-7745.



MUNEKIYO HIRAGA

Planning, Project Management, Sustainable Solutions.

Michael T. Munekiyo
PRESIDENT

Karlynn K. Fukuda
EXECUTIVE VICE PRESIDENT

Mark Alexander Roy
VICE PRESIDENT

Tessa Munekiyo Ng
VICE PRESIDENT

March 20, 2018

VIA EMAIL: Jocelynhueu@gmail.com

Jocelyn Hū'eu
13705 Hana Highway
Haiku, Hawai'i 96708

SUBJECT: County of Maui, Department of Public Works Proposed Ke'anae Road Safety Improvements Public Meeting on July 27, 2017

Dear Ms. Hū'eu:

Thank you very much for participating in the public meeting for the proposed Ke'anae Road Safety Improvements on July 27, 2017 at the Ke'anae Church hall and for submitting your comments on the project. Below are responses in the order of your comments:

1. Based on discussion during the meeting, the road closures are planned between the hours of 11 a.m. and 6 p.m. Monday through Friday to allow Auntie Sandy's fruit stand to open for a few hours in the morning, which we understood to be the busiest time of day for the business. Unfortunately, shorter road closure intervals would increase the project cost beyond what is feasible.
2. There are increased safety concerns with doing the work during the fall, winter, or spring, when there is more rain, and potentially higher risk of rockfalls and mudslides within the project area. Additionally, much of the work, particularly involving clearing the loose rocks and vegetation from the cliff face, is too dangerous and may be too noisy to be done at night, and since the construction-related road closures would be starting at 11 a.m. instead of 8 a.m., the work would need to occur during the summer, when the days are longer. Lastly, requirements from the U.S. Fish and Wildlife Service and concerns for threatened or endangered species that travel through the area may also restrict construction periods.
3. We understand and apologize for the inconvenience and financial impacts that you will experience during construction. As promised during the public meeting on July 27, 2017, the Department of Public Works followed

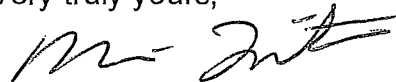
up with the Office of Economic Development (OED) regarding possible assistance for business and/or individuals who are financially impacted by the project's construction. Unfortunately, OED advised that financial assistance is not available at this time. DPW believes the proposed improvements will make Ke'anae Road safer for all of the residents and visitors driving to the peninsula, which they hope will benefit the Ke'anae community in the long run.

Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1-003:041 and 065; therefore, those parcels have been added to the list of affected properties.

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

Should you have any additional questions, please contact Ty Takeno of the County of Maui, Department of Public Works at 270-7745.

Very truly yours,



Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.
Tim Blackwood, Hart Crowser

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March 20, 2018

Dennis Kaaihue
HC1 Box 127
Haiku, Hawai'i 96708

SUBJECT: County of Maui, Department of Public Works Proposed Ke'anae Road Safety Improvements Public Meeting on July 27, 2017

Dear Mr. Kaaihue:

Thank you very much for participating in the public meeting for the proposed Ke'anae Road Safety Improvements on July 27, 2017 at the Ke'anae Church hall and for submitting your comments on the project. Below are responses in the order of your comments:

1. Based on discussion during the meeting, the road closures are planned between the hours of 11 a.m. and 6 p.m. The Office of Economic Development will issue a press release through the Mayor's office promoting the times that the road will be open. They will also inform the Maui Hotel Association and Maui Visitor's Bureau of the road closure schedule. Additionally, local residents will be notified directly of the road closure schedule.
2. The roadway will be widened where space permits. The current roadway plans specify a minimum of 14-foot wide pavement for the entire project. Roughly 410 feet of roadway will have a width ranging between 14 and 20 feet.

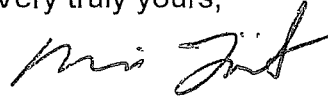
Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anae Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1003:041 and 065; therefore, those parcels have been added to the list of affected properties.

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

Dennis Kaaihue
March 20, 2018
Page 2

Should you have any additional questions, please contact Ty Takeno of the County of Maui, Department of Public Works at 270-7745.

Very truly yours,



Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.
Tim Blackwood, Hart Crowser

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COMMENT FORM

Ke'anae Road Safety Improvements

Public Meeting

July 27, 2017

Name: Dan Clark Phone No. _____
Address: PO Box 2148 Wailuku
96793
Email Address: _____

Please write any comments you wish to share on the proposed project below.

- establish agreed time of day closures
- concerns on drainage plan -
- concern on guard rail locations
necessary w/ drop off sections

Please submit your comments by the end of the meeting or mail to:

Munekiyo Hiraga
Attention: Marisa Fujimoto
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Should you have any questions, please feel free to contact Ty Takeno, Department of Public Works, at 270-7745.

March 20, 2018

Dan Clark
P.O. Box 2148
Wailuku, Hawai'i 96793

SUBJECT: County of Maui, Department of Public Works Proposed Ke'anāe Road Safety Improvements Public Meeting on July 27, 2017

Dear Mr. Clark:

Thank you very much for participating in the public meeting for the proposed Ke'anāe Road Safety Improvements on July 27, 2017 at the Ke'anāe Church hall and for submitting your comments on the project. Below are responses in the order of your comments:

1. Based on discussion during the meeting, the road closures are planned between the hours of 11 a.m. and 6 p.m. Monday through Friday. The Office of Economic Development will issue a press release through the Mayor's office promoting the times that the road will be open. They will also inform the Maui Hotel Association and Maui Visitor's Bureau of the road closure schedule. Additionally, local residents and tour companies will be notified directly of the road closure schedule.
2. The proposed road safety improvements are not anticipated to significantly impact existing drainage conditions for the project area, and therefore, existing drainage patterns will be maintained.
3. Adding guardrails within and beyond the project limits will be evaluated. Specific locations could include the area above Isaac Kanoa's driveway and the area up to Hāna Highway.

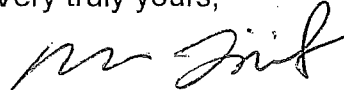
Please note that since the early consultation process was initiated, the project scope has been revised. The project will no longer include the relocation of fencing and will not affect TMK No. (2)1-1-003:031. Additionally, further survey work has determined that portions of Ke'anāe Road encroach into portions of TMK Nos. (2)1-1-002:005 and (2)1-1003:041 and 065; therefore, those parcels have been added to the list of affected properties.

Dan Clark
March 20, 2018
Page 2

We appreciate your input and will include a copy of your comment letter along with this response in the Draft Environmental Assessment for the proposed project.

Should you have any additional questions, please contact Ty Takeno of the County of Maui, Department of Public Works at 270-7745.

Very truly yours,



Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.
Tim Blackwood, Hart Crowser

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**LETTERS RECEIVED DURING
THE DRAFT ENVIRONMENTAL
ASSESSMENT REVIEW PERIOD
AND RESPONSES TO
SUBSTANTIVE COMMENTS**



X. LETTERS RECEIVED DURING THE DRAFT ENVIRONMENTAL ASSESSMENT REVIEW PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS

The Draft Environmental Assessment (EA) for the subject action was filed and published in the Office of Environmental Quality Control's Environmental Notice on April 8, 2018. The following agencies were sent a copy of the Draft EA. Comments on the Draft EA were received during the 30-day public comment period. Letters received, as well as responses to substantive comments, are included in this Chapter.

FEDERAL AGENCIES

1. Ranae Ganske-Cerizo, Soil Conservationist
**U.S. Department of Agriculture
Natural Resources
Conservation Service**
77 Ho'okele Street, Suite 202
Kahului, Hawai'i 96732
2. Tunis W. McElwain, Acting Chief
U.S. Department of the Army
U.S. Army Corps of Engineers
Regulatory Branch, Building 230
Fort Shafter, Hawai'i 96858-5440
3. **U. S. Fish and Wildlife Service**
300 Ala Moana Blvd., Rm. 3-122
Honolulu, Hawai'i 96850

STATE AGENCIES

4. Scott Enright, Chair
State of Hawai'i
Department of Agriculture
1428 South King Street
Honolulu, Hawai'i 96814-2512
5. Christina Kishimoto,
Superintendent
Department of Education
P. O. Box 2360
Honolulu, Hawai'i 96804
6. Heidi Meeker
State of Hawai'i
Department of Education
Office of Business Services
c/o Kalani High School
4680 Kalaniana'ole Highway, #T-B1A
Honolulu, Hawai'i 96821
7. Brigadier General Arthur "Joe" Logan, Adjutant General
State of Hawai'i
Hawai'i State Civil Defense
3949 Diamond Head Road
Honolulu, Hawai'i 96816
8. State of Hawai'i
Department of Health
919 Ala Moana Blvd., Room 300
Honolulu, Hawai'i 96814
9. State of Hawai'i
Department of Health
Clean Water Branch
919 Ala Moana Blvd., Room 300
Honolulu, Hawai'i 96814
10. State of Hawai'i
Department of Health
Environmental Planning Office
919 Ala Moana Blvd., Suite 312
Honolulu, Hawai'i 96814

11. State of Hawai'i
Department of Health
Maui Sanitation Branch
54 South High Street, Room 300
Wailuku, Hawai'i 96793
 12. State of Hawai'i
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai'i 96809
 13. State of Hawai'i
Department of Land and Natural Resources
Office of Conservation and Coastal Lands
1151 Punchbowl Street, Room 131
Honolulu, Hawai'i 96813
 14. State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Boulevard, Room 555
Kapolei, Hawai'i 96707
 15. State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
101 Maalaea Boat Harbor Road
Wailuku, Hawai'i 96793
 16. State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i
 17. State of Hawai'i
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, Hawai'i 96805
 18. State of Hawai'i
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawai'i 96813
 19. State of Hawai'i
Office of Hawaiian Affairs
560 N. Nimitz Highway, Suite 200
Honolulu, Hawai'i 96817
 20. Dan Orodener, Executive Officer
State of Hawai'i
State Land Use Commission
P.O. Box 2359
Honolulu, Hawai'i 96804
 21. Senator J. Kalani English
Hawai'i State Senate
Hawai'i State Capitol, Room 205
415 S. Beretania Street
Honolulu, Hawai'i 96813
 22. Representative Lynn DeCoite
House of Representatives
Hawai'i State Capitol, Room 405
415 S. Beretania Street
Honolulu, Hawai'i 96813
- COUNTY AGENCIES**
23. Mayor Alan Arakawa
County of Maui
200 South High Street
Wailuku, Hawai'i 96793
 24. Honorable Robert Carroll, Council Vice Chair
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793
 25. County of Maui
Department of Environmental Management
2050 Main Street, Suite 2B
Wailuku, Hawai'i 96793

26. County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawai'i 96732
27. County of Maui
Department of Parks and Recreation
700 Hali'a Nakoa Street, Unit 2F
Wailuku, Hawai'i 96793
28. County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawai'i 96793
29. County of Maui
Department of Transportation
2145 Kaohu Street
David Trask Building, Suite 102
Wailuku, Hawai'i 96793
30. County of Maui
Department of Water Supply
200 South High Street, 5th Floor
Wailuku, Hawai'i 96793
31. County of Maui
Emergency Management Agency
200 South High Street
Wailuku, Hawai'i 96793

ORGANIZATIONS

32. **Hāna Community Association**
P.O. Box 471
Hāna, Hawai'i 96713
33. **Hawaiian Telcom**
60 South Church Street
Wailuku, Hawai'i 96793
34. **Maui Electric Company, Ltd.**
P.O. Box 398
Kahului, Hawai'i 96733



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

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

May 2, 2018

Mr. Ty Takeno
County of Maui
Department of Public Works
200 High Street
Wailuku, Hawaii 96793

RE: Draft Environmental Assessment (DEA) for the Proposed Keanae Road
Safety Improvements, Keanae, Maui, Hawaii, Keanae Road Right-of-Way
TMK 1-1-002: por. 005, por. 009, por. 010; 1-1-003: por. 041 and por. 065

Dear Mr. Takeno:

The Hawaii State Department of Education (HIDOE) has the following comments for the Draft Environmental Assessment (DEA) for the proposed Keanae Road Safety Improvements (Project). According to the DEA, the proposed Project is for rock fall mitigation along 1,570 feet of Keanae Road on approximately 1.6 acres at Keanae, Maui, Hawaii, Keanae Road Right-of-Way; TMK 1-1-002: por. 005, por. 009, por. 010; 1-1-003: por. 041 and por. 065.

The DEA notes that Keanae Road is the only access road to and from the Keanae Peninsula. The HIDOE students living on the Keanae Peninsula attend Hana High and Elementary Schools. The planned road closures will impact HIDOE transportation services for these students. The HIDOE request your consultation and coordination with Hana High and Elementary School and HIDOE Student Transportation Services Branch to ensure that there are minimal impacts to existing HIDOE transportation services.

Thank you for the opportunity to comment. Should you have any questions, please contact Robyn Loudermilk, School Lands and Facilities Specialist of the Facilities Development Branch, Planning Section at (808) 784-5093 or via email at robyn_loudermilk@notes.ki2.hi.us.

Respectfully,

A handwritten signature in black ink, appearing to read "Kenneth G. Masden, II".

Kenneth G. Masden, II
Public Works Manager
Planning Section

KGM:rl

c: Richard Paul, Principal, Hana High & Elementary School
James Kauhi, Student Transportation Services Branch
✓ Marissa Fujimoto, Munekiyo Hiraga

June 18, 2018

Kenneth G. Masden, II
Public Works Manager
Planning Section
State of Hawai'i
Department of Education
P.O. Box 2360
Honolulu, Hawai'i 96804

SUBJECT: Draft Environmental Assessment for Proposed Ke'anae Road
Safety Improvements, Ke'anae, Maui, Hawai'i, (TMK Nos. (2)1-1-
002:005, 009, and 010; (2)1-1-003:041 and 065)

Dear Mr. Masden, II:

Thank you for your letter dated May 2, 2018 providing comments on the Draft Environmental Assessment (EA) for the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works (DPW), we offer the following response to your comment:

1. As requested, coordination will be undertaken with Hana High and Elementary School and Hawai'i State Department of Education (HIDOE) Student Transportation, as needed, to ensure that any potential impacts to existing HIDOE transportation services are minimized.

We appreciate your input and will include a copy of your comment letter along with this response in the Final EA for the proposed project.

Kenneth G. Masden, II
June 18, 2018
Page 2

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

Very truly yours,



Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

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DAVID Y. IGE
GOVERNOR OF HAWAII



APR 23 2018

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

**STATE OF HAWAII
DEPARTMENT OF HEALTH**

P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

EPO 18-106

April 12, 2018

Ms. Marisa Fujimoto
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793
Email: planning@munekiyohiraga.com

Dear Ms. Fujimoto

SUBJECT: Draft Environmental Assessment (DEA) for Keanae Road Safety Improvements, Hana, Maui
TMK: (2)1-1-002:005, 009, and 010; (2)1 -1-003:041 and 065, and Keanae Road Right-of-Way

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your DEA to our office via the OEQC link:

http://oeqc2.doh.hawaii.gov/EA_EIS_Library/2018-04-08-MA-DEA-Keanae-Road-Safety-Improvements.pdf

We understand from the OEQC publication form project summary that *"The proposed improvements are to manage a rockfall area along a portion of Keanae Road near its intersection with Hana Highway. The proposed improvements begin at the Hana Highway intersection and continue approximately 1,570 feet down Keanae Road into the peninsula. The proposed rock fall mitigation improvements extend along approximately 900 feet of cliff face along Keanae Road and includes installation of concrete barriers, netting, and rockfall fence along the pali (rock cliff). The project also includes minor grading, realignment and widening portions of the roadway, repaving of approximately 1,570 feet of roadway, relocation of an existing standpipe, and installation of guardrails."*

Hawaii's environmental review laws require Environmental Assessments (EAs) and Environmental Impact Statements (EISs) to consider health in the discussion and the mitigation measures to reduce negative impacts. In its definition of 'impacts,' §11-200-2, Hawaii Administrative Rules (HAR) includes health effects, whether primary (direct), secondary (indirect), or cumulative. Further, §11-200-12(b)(5), HAR, lists public health as one of the criteria for determining whether an action may have a significant impact on the environment.

In the development and implementation of all projects, EPO strongly recommends regular review of State and Federal environmental health land use guidance. State standard comments to support sustainable healthy design are provided at: <http://health.hawaii.gov/epo/landuse>. Projects are required to adhere to all applicable standard comments.

EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal at: <https://eha-cloud.doh.hawaii.gov>. This site provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings.

We suggest you review the requirements of the Clean Water Branch (Hawaii Administrative Rules {HAR}, Chapter 11-54-1.1, -3, 4-8) and/or the National Pollutant Discharge Elimination System (NPDES) permit (HAR, Chapter 11-55) at: <http://health.hawaii.gov/cwb>. If you have any questions, please contact the Clean Water Branch (CWB), Engineering

Ms. Marisa Fujimoto
Page 2
April 12, 2018

Section at (808) 586-4309 or cleanwaterbranch@doh.hawaii.gov. If your project involves waters of the U.S., it is highly recommended that you contact the Army Corps of Engineers, Regulatory Branch at: (808) 835-4303.

Any waste generated by the project (that is not a hazardous waste as defined in state hazardous waste laws and regulations), needs to be disposed of at a solid waste management facility that complies with the applicable provisions (HAR, Chapter 11-58.1 "Solid Waste Management Control"). The open burning of any of these wastes, on or off site, is strictly prohibited. You may wish you review the Minimizing Construction & Demolition Waste Management Guide at: <http://health.hawaii.gov/shwb/files/2016/05/constdem16.pdf> Additional information is accessible at: <http://health.hawaii.gov/shwb>. For specific questions call (808) 586-4226.

If noise created during the construction phase of the project may exceed the maximum allowable levels (HAR, Chapter 11-46, "Community Noise Control") then a noise permit may be required and needs to be obtained before the commencement of work. Relevant information is online at: <http://health.hawaii.gov/irhb/noise> EPO recommends you contact the Indoor and Radiological Health Branch (IRHB) at (808) 586-4700 with any specific questions.

To better protect public health and the environment, the U.S. Environmental Protection Agency (EPA) has developed an environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and combines environmental and demographic indicators in maps and reports. EPO encourages you to explore, launch and utilize this powerful tool in planning your project. The EPA EJSCREEN tool is available at: <http://www.epa.gov/ejscreen>.

We hope this information is helpful. If you have any questions please contact us at DOH.epo@doh.hawaii.gov or call us at (808) 586-4337. Thank you for the opportunity to comment.

Mahalo nui loa,



Laura Leialoha Phillips McIntyre, AICP
Environmental Planning Office

LM:nn

c: Ty Takeno, Dept. of Public Works, Maui (via email: Ty.Takeno@co.maui.hi.us)
DOH: DHO Maui, CWB, IRHB (via email only)

Attachment: U.S. EPA EJSCREEN Report for Project Area

Attachment: U.S. EPA EJSCREEN Report for Project Area



EJSCREEN Report (Version 2017)

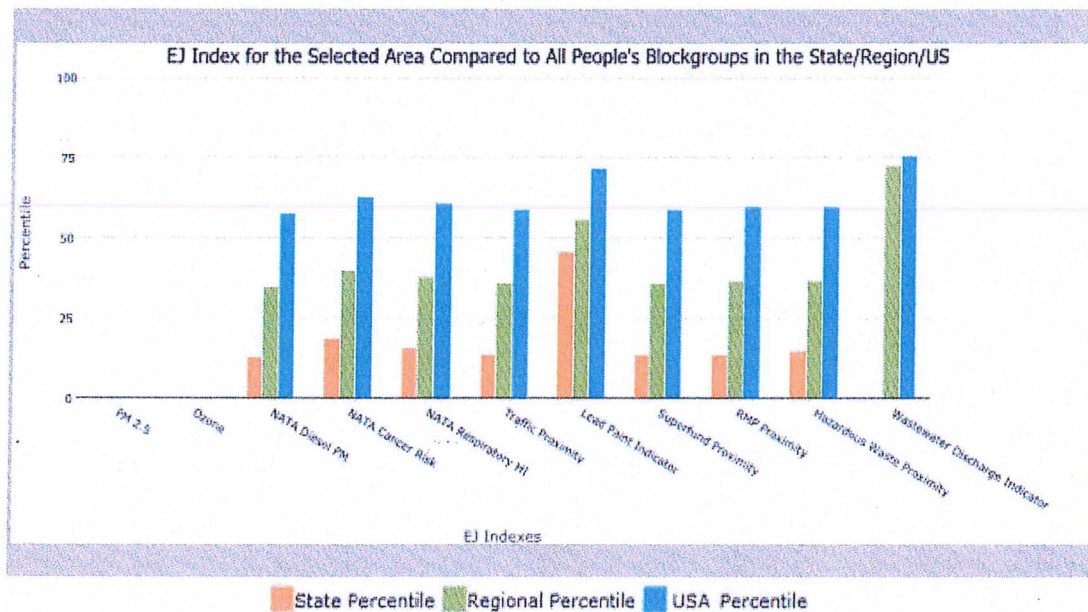


1 mile Ring Centered at 20.860763,-156.148651, HAWAII, EPA Region 9

Approximate Population: 42

Input Area (sq. miles): 3.14

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	N/A	N/A	N/A
EJ Index for Ozone	N/A	N/A	N/A
EJ Index for NATA* Diesel PM	13	35	58
EJ Index for NATA* Air Toxics Cancer Risk	19	40	63
EJ Index for NATA* Respiratory Hazard Index	16	38	61
EJ Index for Traffic Proximity and Volume	14	36	59
EJ Index for Lead Paint Indicator	46	56	72
EJ Index for Superfund Proximity	14	36	59
EJ Index for RMP Proximity	14	37	60
EJ Index for Hazardous Waste Proximity	15	37	60
EJ Index for Wastewater Discharge Indicator	N/A	73	76



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

April 12, 2018

1/3

EJSCREEN Report (Version 2017)

1 mile Ring Centered at 20.860763,-156.148651, HAWAII, EPA Region 9

Approximate Population: 42

Input Area (sq. miles): 3.14



Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$)	N/A	N/A	N/A	9.9	N/A	9.14	N/A
Ozone (ppb)	N/A	N/A	N/A	41.8	N/A	38.4	N/A
NATA* Diesel PM ($\mu\text{g}/\text{m}^3$)	0.00842	0.149	3	0.978	<50th	0.938	<50th
NATA* Cancer Risk (lifetime risk per million)	24	34	0	43	<50th	40	<50th
NATA* Respiratory Hazard Index	0.47	1	1	2	<50th	1.8	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	0	1000	4	1100	2	590	2
Lead Paint Indicator (% Pre-1960 Housing)	0.18	0.16	64	0.24	55	0.29	48
Superfund Proximity (site count/km distance)	0.0047	0.1	13	0.15	3	0.13	0
RMP Proximity (facility count/km distance)	0.045	0.39	5	0.98	2	0.73	3
Hazardous Waste Proximity (facility count/km distance)	0.0049	0.1	13	0.12	1	0.093	0
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0	0.04	N/A	13	59	30	40
Demographic Indicators							
Demographic Index	48%	51%	35	47%	52	36%	71
Minority Population	53%	77%	12	59%	43	38%	70
Low Income Population	42%	26%	85	36%	62	34%	66
Linguistically Isolated Population	0%	6%	22	9%	19	5%	44
Population With Less Than High School Education	3%	9%	20	17%	14	13%	16
Population Under 5 years of age	5%	6%	36	7%	35	6%	38
Population over 64 years of age	12%	16%	36	13%	58	14%	48

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: <https://www.epa.gov/national-air-toxics-assessment>.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

April 12, 2018

3/3



June 18, 2018

Laura Leialoha Phillips McIntyre, AICP
State of Hawai'i
Department of Health
Environmental Planning Office
P.O. Box 3378
Honolulu, Hawai'i 96801-3378

SUBJECT: Draft Environmental Assessment and Special Management Area
Use Permit Application for Proposed Ke'anae Road Safety
Improvements, Ke'anae, Maui, Hawai'i, (TMK Nos. (2)1-1-002:005,
009, and 010; (2)1-1-003:041 and 065), EPO 18-106

Dear Ms. McIntyre:

Thank you for your letter dated April 12, 2018 providing comments on the Draft Environmental Assessment (EA) and Special Management Area Use Permit Application for the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works (DPW), we offer the following responses in order of your comments:

1. It is noted that health must be considered in the discussion and mitigation measures to minimize or avoid potential negative primary, secondary, or cumulative impacts from a project.
2. The online resources you provided, including the State standard comments to support sustainable healthy design, the Department's Environmental Health Portal, and the Minimizing Construction & Demolition Waste Management Guide, and mapping tools will be forwarded to the DPW for review/consideration.
3. DPW will comply with applicable requirements of the Clean Water Branch and National Pollutant Discharge Elimination System permit. The proposed project does not involve waters of the U.S. Additionally, the U.S. Army Corps of Engineers received a copy of the Draft EA for comment.
4. As noted in the Draft EA, the contractor will apply to the Central Maui Landfill to appropriately dispose of construction waste generated by the project.

Laura Leialoha Phillips McIntyre, AICP
June 18, 2018
Page 2

5. A noise permit will be obtained by the Applicant, as applicable.

We appreciate your input and will include a copy of your comment letter along with this response in the Final EA for the proposed project.

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

Very truly yours,



Marisa Fujimoto
Senior Associate

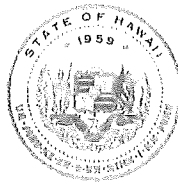
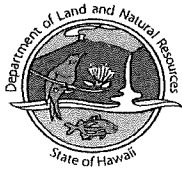
MF:lh

cc: Keith Scott, County of Maui, Department of Planning
Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

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MAY 07 2018

DAVID Y. IGE
GOVERNOR OF HAWAII



SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 7, 2018

County of Maui
Department of Public Works
Mr. David Goode, Director
Attention: Ty Takeno
200 South High Street, 4th Floor
Wailuku, Hawaii 96793

via email: ty.takeno@mauicounty.gov

County of Maui
Department of Planning
Mr. William Spence, Director
Attention: Keith Scott, Staff Planner
2200 Main Street; Suite 315
Wailuku, Hawaii 96793

via email: keith.scott@mauicounty.gov

Gentlemen:

SUBJECT: Draft Environmental Assessment and Special Management Area use Permit for Proposed **Ke'anae Road Safety Improvements** located at Hana, Island of Maui; TMK: (2) 1-1-002:05, 09, and 10; and (2) 1-1-003:41 and 65

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from the Engineering Division on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at (808) 587-0417. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Russell Y. Tsuji", is written over a horizontal line.

Russell Y. Tsuji
Land Administrator

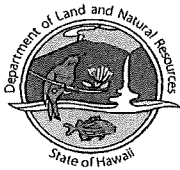
Enclosure

cc: Central Files

Munekiyo Hiraga (w/copy) (via email: planning@munekiyohiraga.com)

Attn: Ms. Marisa Fujimoto

DAVID Y. IGE
GOVERNOR OF HAWAII



SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

April 12, 2018

MEMORANDUM

TO:

DLNR Agencies:

- ☐ Div. of Aquatic Resources
- ☐ Div. of Boating & Ocean Recreation
- ☒ Engineering Division
- ☐ Div. of Forestry & Wildlife
- ☐ Div. of State Parks
- ☒ Commission on Water Resource Management
- ☒ Office of Conservation & Coastal Lands
- ☒ Land Division – Maui District
- ☒ Historic Preservation

FROM:

Russell Y. Tsuji, Land Administrator

SUBJECT:

Draft Environmental Assessment and Special Management Area Use Permit for
Proposed **Ke'anae Road Safety Improvements**
Hana, Island of Maui; TMK: (2) 1-1-002:05, 09, and 10; and (2) 1-1-003:41 and 65
County of Maui, Department of Public Works and Department of Planning

LOCATION:

APPLICANT:

Transmitted for your review and comment is information on the above-referenced subject matter which can be found at:

1. <https://hawaiioint.sharepoint.com/sites/dlnr-ld> (using the Chrome browser)
2. Username: your Hawaii.gov email address
3. Password: outlook password (if you do not know it, please contact IT by email to reset and get a new password)
4. Click on: Request for Comments, then click on the subject link.
5. If you cannot access the document, please scan this Memo and email to Quoc Le at quoc.le@hawaii.gov to grant you access.

We would appreciate your comments by **May 4, 2018**. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417. Thank you.

- ☐ We have no objections.
- ☐ We have no comments.
- ☒ Comments are attached.

Signed:

Print Name:

Date:

Carty S. Chang, Chief Engineer

4/19/18

Attachment(s)
cc: Central Files

18 APR 12 PM 1:03 ENGINEERING

RECEIVED
LAND DIVISION
2018 APR 12 PM 10:51
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

**DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION**

LD/Russell Y. Tsuji

**Ref: Draft Environmental Assessment and Special Management Area Use Permit
for Proposed Ke'anae Road Safety Improvements, Hana, Island of Maui;
TMK: (2) 1-1-002:05, 09, and 10; and (2) 1-1-003:41 and 65**

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM), which can be viewed on our Flood Hazard Assessment Tool (FHAT) (<http://gis.hawaiiinfip.org/FHAT>).

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai: County of Maui, Department of Planning (808) 270-7253.
- Kauai: County of Kauai, Department of Public Works (808) 241-4846.

Signed: 
CARTY S. CHANG, CHIEF ENGINEER

Date: 9/10/12

June 18, 2018

Russell Y. Tsuji
Land Administrator
State of Hawai'i
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawai'i 96809

SUBJECT: Draft Environmental Assessment and Special Management Area
Use Permit Application for Proposed Ke'anae Road Safety
Improvements, Ke'anae, Maui, Hawai'i, (TMK Nos. (2)1-1-002:005,
009, and 010; (2)1-1-003:041 and 065)

Dear Mr. Tsuji:

Thank you for your letter dated May 7, 2018 providing comments on the Draft Environmental Assessment (EA) and Special Management Area Use Permit Application for the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works, we offer the following response to your comment:

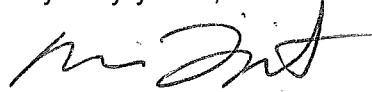
1. As noted in the Draft EA, the proposed project is located in Flood Zone X, an area of minimal flooding without development restrictions.

We appreciate your input and will include a copy of your comment letter along with this response in the Final EA for the proposed project.

Russell Y. Tsuji
June 18, 2018
Page 2

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

Very truly yours,

A handwritten signature in black ink, appearing to read 'Marisa Fujimoto', with a stylized, cursive script.

Marisa Fujimoto
Senior Associate

MF:lh

cc: Keith Scott, County of Maui, Department of Planning
Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

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MAY 04 2018

DAVID Y. IGE
GOVERNOR
STATE OF HAWAII



JOBIE M. K. MASAGATANI
CHAIRMAN
HAWAIIAN HOMES COMMISSION

DOUGLAS S. CHIN
LT. GOVERNOR
STATE OF HAWAII

WILLIAM J. AILA, JR.
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

P. O. BOX 1879
HONOLULU, HAWAII 96805

May 1, 2018

Ty Takeno
County of Maui
Department of Public Works
200 South High Street, 4th Floor
Wailuku, Hawai'i 96793

Subject: Draft Environmental Assessment for the Proposed
Ke'anae Road Safety Improvements Project; Ko'olau
Moku, Maui Island, Hawai'i

Dear Mr. Takeno:

The Department of Hawaiian Home Lands (DHHL) acknowledges receiving the request for comments on the Draft Environmental Assessment (EA) for the above-mentioned project. After reviewing the Draft EA, we have determined that the proposed project is in proximity to Hawaiian Home Lands in Ke'anae. DHHL owns a parcel of land mauka of Hāna Highway approximately 148.7 acres in size, as well as two (2) parcels on Ke'anae peninsula totaling approximately 1.77 acres. However, we note that these lands are currently undeveloped and are not being actively used for homesteads for our Beneficiaries. As such, we do not anticipate any direct impacts to our lands or Beneficiaries resulting from the project.

We note that the DHHL highly encourages all agencies to consult with Hawaiian Homestead community associations and other (N)ative Hawaiian organizations when preparing EA documents in order to better assess the potential for impacts to cultural and natural resources, access, and other rights of Native Hawaiians. We appreciate your effort in this regard.

With respect to the proposed action, our concerns are related to road closures and the potential for restriction of access to Ke'anae peninsula. While the proposed project will not directly impact Hawaiian Home Lands or DHHL Beneficiaries as previously mentioned, the DHHL requests that notification of road

Mr. Takeno
May 1, 2018
Page 2

closures be made public so that any potential adverse impacts related to accessing resources in Ke'anae by Native Hawaiians may be mitigated.

Mahalo for the opportunity to provide comments. If you have any questions, please call Bryan Esmeralda, Maui Island Liaison for the DHHL Planning Office at 760-5125 or contact via email at bryan.k.esmeralda@hawaii.gov.

Sincerely,



Jobie M. K. Masagatani
Chairman
Hawaiian Homes Commission

cc: Keith Scott, Dept. of Planning, Maui
✓Marisa Fujimoto, Munekiyo Hiraga

June 18, 2018

Jobie M.K. Masagatani, Chairman
State of Hawai'i
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, Hawai'i 96805

SUBJECT: Draft Environmental Assessment and Special Management Area
Use Permit Application for Proposed Ke'anae Road Safety
Improvements, Ke'anae, Maui, Hawai'i, (TMK Nos. (2)1-1-002:005,
009, and 010; (2)1-1-003:041 and 065)

Dear Ms. Masagatani:

Thank you for your letter dated May 1, 2018 providing comments on the Draft Environmental Assessment (EA) and Special Management Area Use Permit Application for the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works, we offer the following response to your comment:

1. Regarding public notification of road closures, the Office of Economic Development will issue a press release through the Mayor's office promoting the times that the road will be open to ensure that potential impacts to all visitors to Ke'anae, including Native Hawaiians, are mitigated. Additionally, at a minimum, the Contractor will advertise road closure days and times in the Maui News.

We appreciate your input and will include a copy of your comment letter along with this response in the Final EA for the proposed project.

Jobie M.K. Masagatani, Chairman
June 18, 2018
Page 2

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

Very truly yours,

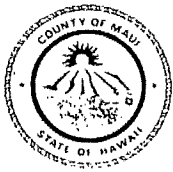
A handwritten signature in black ink, appearing to read "Marisa Fujimoto".

Marisa Fujimoto
Senior Associate

MF:lh

cc: Keith Scott, County of Maui, Department of Planning
Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

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ALAN M. ARAKAWA
MAYOR

OUR REFERENCE

YOUR REFERENCE

POLICE DEPARTMENT
COUNTY OF MAUI

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

May 4, 2018



TIVOLI S. FAAUMU
CHIEF OF POLICE

DEAN M. RICKARD
DEPUTY CHIEF OF POLICE

Mr. David Goode, Director
Department of Public Works
County of Maui
200 South High Street, 4th Floor
Wailuku, Hawaii 96793

Mr. William Spence, Director
Department of Planning
County of Maui
2200 Main Street, Suite 315
Wailuku, Hawaii 96793

COUNTY OF MAUI
DEPT. OF PLANNING - CURRENT

MAY 7 2018

RECEIVED

Subject: Draft Environmental Assessment and Special Management Area Use Permit for Proposed Ke'anae Road Safety Improvements Affecting Portions of TMK Nos. (2) 1-1-002:005, 009, and 010; (2) 1-1-003:041 and 065; and Ke'anae Road Right-of-Way

Dear Mssrs Goode and Spence:

This is in response to your letter dated March 19, 2018 requesting comments for the proposed Ke'anae Road Safety Improvements project.

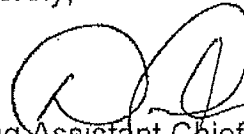
In review of the submitted documents, we have no objection to the progression of the project if the following concerns are addressed:

1. If there are to be any complete closures, Police, Fire, and Medics will need a communication system to alert construction personnel, if and when access to the area is needed.
2. Flag men are a must during construction hours as the road is windy with no sight distance in either direction.
3. Recommend signage (message boards) in both directions informing local traffic and tourist traffic of delays and times.
4. Suggest construction be conducted during night hours during slower vehicular travel periods.

Mssrs. David Goode & William Spence
May 4, 2018
Page 2

Thank you for giving us the opportunity to comment on this project.

Sincerely,

A handwritten signature in black ink, appearing to be 'David Silva', written over a horizontal line.

Acting Assistant Chief David Silva
for: TIVOLI S. FAAUMU
Chief of Police

c: Marissa Fujimoto, Munekiyo Hiraga



June 18, 2018

Tivoli Faaumu, Chief
County of Maui
Maui Police Department
55 Mahalani Street
Wailuku, Hawai'i 96793

SUBJECT: Draft Environmental Assessment and Special Management Area
Use Permit Application for Proposed Ke'anae Road Safety
Improvements, Ke'anae, Maui, Hawai'i, (TMK Nos. (2)1-1-002:005,
009, and 010; (2)1-1-003:041 and 065)

Dear Chief Faaumu:

Thank you for your letter dated April 20, 2018 providing comments on the Draft Environmental Assessment (EA) and Special Management Area Use Permit Application for the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works (DPW), we offer the following responses to your comments:

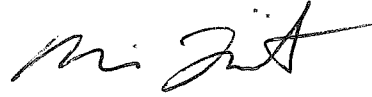
1. DPW will coordinate with Police, Fire, and Medics to ensure that emergency access is provided to the Ke'anae Peninsula during road closures, as needed.
2. Flag men will be used to direct traffic during lane closures.
3. Signage will be provided during road closures. At a minimum, the Contractor will advertise road closure days and times in the Maui News. Furthermore, the Office of Economic Development will issue a press release through the Mayor's Office promoting the times that the road will be open to ensure that potential impacts to Ke'anae residents and visitors are minimized.
4. Unfortunately much of the work, particularly involving clearing the loose rocks and vegetation from the cliff face, is too dangerous and may be too noisy to be done at night.

We appreciate your input and will include a copy of your comment letter along with this response letter in the Final EA for the proposed project.

Tivoli Faaumu, Chief
June 18, 2018
Page 2

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

Very truly yours,

A handwritten signature in black ink, appearing to read 'Mi Jit', with a stylized flourish at the end.

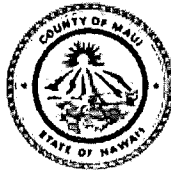
Marisa Fujimoto
Senior Associate

MF:lh

cc: Keith Scott, County of Maui, Department of Planning
Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

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ALAN M. ARAKAWA
Mayor



DAVID TAYLOR, P.E.
Director

GLADYS C. BAISA
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2155
www.mauiwater.org

April 20, 2018

David C. Goode, Director
County of Maui
Department of Public Works
200 South High Street, 4th Floor
Wailuku, Hawai'i 96793

Subject: Draft Environmental Assessment and Special Management Area Use Permit
Proposed Ke'anae Road Safety Improvements Project
TMKs: (2)1-1-002:005, 009, 010 and (2)1-1-003:041 and 065

Dear Mr. Goode,

Thank you for the opportunity to comment on the proposed Ke'anae Road Safety Improvements Project. The Department of Water Supply (DWS) understands that the Department of Public Works (DPW) is proposing road improvements consisting of rockfall mitigation and road widening along the Ke'anae Road where DWS maintains infrastructure. We acknowledge the addition and deletion of TMKs in the project area. Our early consultation letter of August 29, 2017 is attached.

System Infrastructure

DPW should continue to coordinate with DWS Engineering in order to protect our infrastructure. In addition to the infrastructure cited in the attached previous letter, a standpipe exists adjacent to TMK: (2)1-1-003:041 at the end of the project area north of Hana Highway.

Should you have any questions, please contact staff planner Audrey Dack at (808) 463-3109 or Audrey.dack@co.maui.hi.us.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Baisa", is written over the word "Sincerely,".

Gladys C. Baisa, Deputy Director

apd

cc: William Spence, Director Department of Planning
Marisa Fujimoto, Munekiyo Hiraga

ALAN M. ARAKAWA
Mayor



DAVID TAYLOR, P.E.
Director

GLADYS C. BAISA
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2155
www.mauewater.org

August 29, 2017

Marisa Fujimoto, Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Subject: Early Consultation for the Draft EA Ke'anae Road Rockfall Mitigation Project
TMKs: (2)1-1-002:009, 010, 999 and (2)1-1-003:031 and 999

Dear Ms. Fujimoto,

Thank you for the opportunity to participate in the Early Consultation process. The Department of Water Supply (DWS) understands that the Department of Public Works (DPW) is proposing road improvements consisting of rockfall mitigation along the Ke'anae Road where DWS maintains infrastructure.

System Infrastructure

DPW should coordinate with DWS Engineering in order to protect our infrastructure and in the relocation of a standpipe noted in the plans. We maintain a 4-inch water line along Ke'anae Road at the project location. One stand pipe is located at the intersection of Hana Highway and Ke'anae Road as well as several valves and one is located down the road at TMK No. (2)1-1-002:999. DWS requests that valves should remain uncovered upon completion of any paving.

Should you have any questions, please contact staff planner Audrey Dack at (808) 463-3109 or Audrey.dack@co.maui.hi.us.

Sincerely,

A handwritten signature in black ink, appearing to read "DT", is written over a horizontal line.

Dave Taylor, P.E., Director
apd

June 18, 2018

Gladys C. Baisa, Deputy Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawai'i 96793

SUBJECT: Draft Environmental Assessment and Special Management Area
Use Permit Application for Proposed Ke'anae Road Safety
Improvements, Ke'anae, Maui, Hawai'i, (TMK Nos. (2)1-1-002:005,
009, and 010; (2)1-1-003:041 and 065)

Dear Ms. Baisa:

Thank you for your letter dated April 20, 2018 providing comments on the Draft Environmental Assessment (EA) and Special Management Area Use Permit Application for the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works (DPW), we offer the following response to your comment:

1. DPW will coordinate with the Department of Water Supply (DWS) to ensure that adverse impacts to DWS infrastructure in the project area are avoided.

We appreciate your input and will include a copy of your comment letter along with this response in the Final EA for the proposed project.

Gladys C. Baisa, Deputy Director
June 18, 2018
Page 2

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

Very truly yours,



Marisa Fujimoto
Senior Associate

MF:lh

cc: Keith Scott, County of Maui, Department of Planning
Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

K:\DATA\FE\KeaneeRd Rockfall\Applications\SMA Use Permit\SMA Responses\DWSres.letter.doc

30 KEANAE RD.
HAIKU, HI 96708
4/24/18

RE: DRAFT EA
KEANAE ROAD SAFETY IMPROVEMENTS

BOTH IGGAL AND I FEEL THE MOST IMPORTANT THING IS TO GET THE JOB DONE IN THE SHORTEST AMOUNT OF TIME. WHATEVER THE HOURS TURN OUT TO BE, PERHAPS THERE COULD BE AN OPENING FOR RESIDENTS TO COME AND GO HALFWAY THROUGH THE DAY (WHEN THE CREW HAS LUNCH)

IF THE COUNTY HAS NO \$ (OED) TO HELP EMPLOYEES OF BUSINESS, COULD THE STATE DOT ICET PROGRAM BE ASSESSED? AT LEAST THE BUSINESS MIGHT BE ABLE TO OPERATE WEEKENDS, RAINDAYS AND HOLIDAYS IF THE ROAD WILL BE OPEN TO ALL TRAFFIC AT THAT TIME.

THANK YOU.

Uldep Karan

P.S. Thank you for providing me with a hard copy so I could go over it

June 18, 2018

Gladys Kanoa
30 Keanae Road
Ha'ikū, Hawai'i 96708

SUBJECT: Draft Environmental Assessment for Proposed Ke'anae Road Safety Improvements, Ke'anae, Maui, Hawai'i, (TMK Nos. (2)1-1-002:005, 009, and 010; (2)1-1-003:041 and 065)

Dear Ms. Kanoa:

Thank you for your letter dated April 24, 2018 providing comments on the Draft Environmental Assessment (EA) for the proposed Ke'anae Road Safety Improvements project. On behalf of the County of Maui, Department of Public Works (DPW), we offer the following responses to your comments:

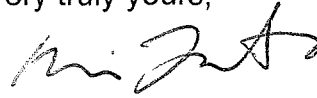
1. We acknowledge your comment that the most important thing is to get the project done in the shortest amount of time. DPW agrees with this, as it will also help to reduce costs for the project. Therefore, they are working with the contractor and technical consultants to create a schedule that minimizes the duration of road closures. Unfortunately, any vehicle access provided during scheduled road closures would require the contractor to spend additional time clearing the road of debris to allow vehicles to pass, which would result in delays to the schedule and increases in cost.
2. Thank you for the suggestion of exploring other venues for financial assistance. Unfortunately, State funds are reserved for State projects and would not be available for a DPW project, since DPW is a County agency. Road closures are not anticipated on weekends or holidays, so businesses could remain open on Saturdays and Sundays and any County holidays.

We appreciate your input and will include a copy of your comment letter along with this response in the Final EA for the proposed project.

Gladys Kanoa
June 18, 2018
Page 2

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

Very truly yours,

A handwritten signature in black ink, appearing to read 'Marisa Fujimoto', written in a cursive style.

Marisa Fujimoto
Senior Associate

MF:lh

cc: Ty Takeno, County of Maui, Department of Public Works
Mike Silva, Fukumoto Engineering, Inc.

K:\DATA\FE\KeanaeRd Rockfall\Applications\Draft EA\Draft EA Responses\Kanoa G. res.letter.doc

REFERENCES

XI

XI. REFERENCES

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PRELIMINARY PLANS

APPENDIX

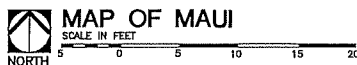
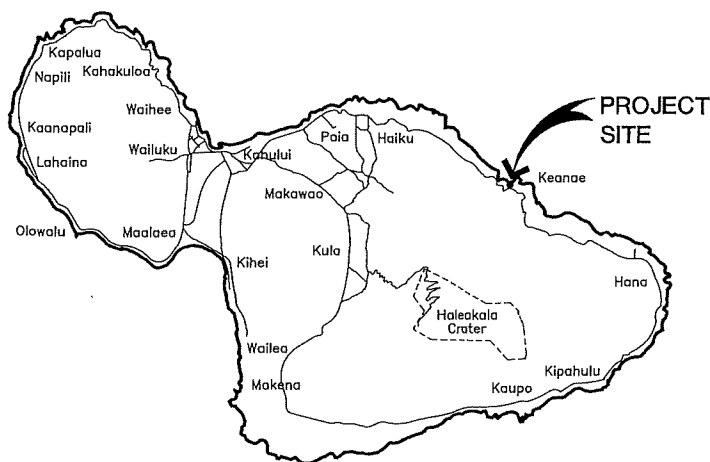
A

KEANAE ROAD SAFETY IMPROVEMENTS

PROJECT NO. 16-21

TAX MAP KEY: (2) 1-1-002:005, 009, AND 010 AND (2) 1-1-003:041

KEANAE, MAUI, HAWAII



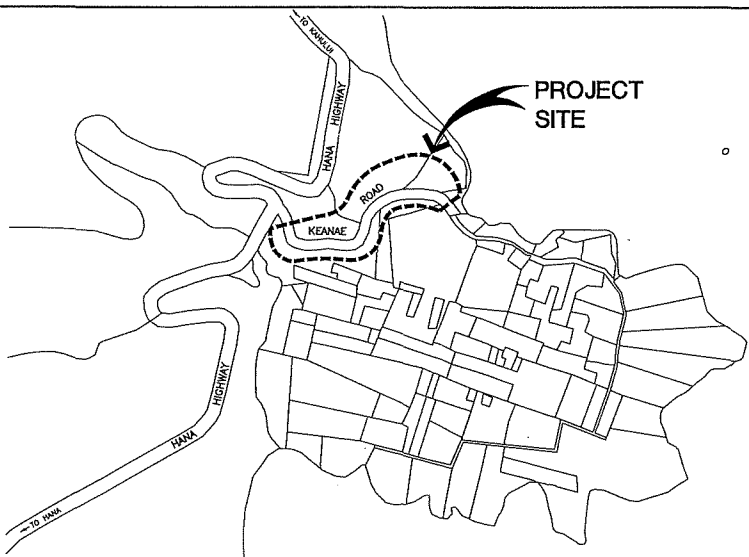
PREPARED FOR:

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

PREPARED BY:



FUKUMOTO ENGINEERING, INC.
Civil Engineering & Land Surveying Consultants
1721 Wili Pa Loop, Suite 203 • Wailuku, Hawaii 96793



SUBCONSULTANT:

GEOTECHNICAL ENGINEER:
HART CROWSER
7 WATERFRONT PLAZA
500 ALA MOANA BOULEVARD
SUITE 7-240
HONOLULU, HAWAII 96813
PHONE: (808) 587-7747

APPROVALS:

DIRECTOR,
DEPARTMENT OF PUBLIC WORKS
COUNTY OF MAUI
(APPROVAL GRANTED FOR WORK WITHIN COUNTY RIGHT-OF-WAY)

DATE

DIRECTOR, DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
(APPROVAL LIMITED TO WATER IMPROVEMENTS WHICH WILL
BE DEDICATED TO THE DEPARTMENT OF WATER SUPPLY)

DATE

INDEX OF DRAWINGS

SHT.	SHT. NO.	DESCRIPTION
1	T-1	TITLE SHEET
2	C-1	CONSTRUCTION NOTES AND TRAFFIC CONTROL PLANS
3	C-2	GENERAL PLAN AND PAVING PLAN
4	C-3	EROSION CONTROL BEST MANAGEMENT PRACTICES PLAN
5	C-4	ROADWAY PLAN
6	C-5	GRADING AND DRAINAGE PLAN
7	C-6	KEANAE ROAD PROFILE
8	C-7	ROAD SECTIONS
9	C-8	END TREATMENT TYPE FLEAT 350 DETAILS
10	C-9	GUARDRAIL TYPE W-BEAM DETAILS
11	C-10	GUARDRAIL TYPE W-BEAM AND MISCELLANEOUS DETAILS
12	C-11	MISCELLANEOUS DETAILS
13	C-12	ROCKFALL MITIGATION PLAN
14	C-13	FENCE DETAILS
15	C-14	DRAPERY DETAILS
16	C-15	GENERAL NOTES

80% SUBMITTAL

CONSTRUCTION NOTES

GENERAL NOTES

- LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE BASED ON AVAILABLE "AS-BUILT" OF RECORD CONSTRUCTION PLANS, ARE APPROXIMATE ONLY, AND THEIR ACCURACY IS NOT GUARANTEED.
- EXISTING CONTOURS AND FEATURES ARE BASED ON A "TOPOGRAPHIC SURVEY" PREPARED BY FUKUMOTO ENGINEERING, INC. DATED MAY 10, THROUGH JUNE 21, 2016.
- ELEVATIONS SHOWN ARE BASED ON PROJECT BENCH MARK MAG NAIL (STA. KR-12) LOCATED 15 FEET SOUTH OF STANDPIPE #2 AND 10 FEET NORTH OF RESIDENTIAL DRIVEWAY ON THE EASTERLY SIDE OF KEANAE ROAD. ELEVATION=500.00 FT. (ASSUMED)
- VERIFY EXISTING GRADES BEFORE PROCEEDING WITH GRADING WORK. SHOULD ANY DISCREPANCIES BE DISCOVERED IN THE EXISTING GRADES OR DIMENSIONS GIVEN ON THE PLANS, NOTIFY THE ENGINEER BEFORE PROCEEDING ANY FURTHER WITH THE WORK. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY COST INVOLVED IN THE CORRECTION OF CONSTRUCTION PLACED DUE TO SUCH DISCREPANCIES.
- DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES WITHIN PROJECT LIMITS BEFORE COMMENCING WORK, AND AGREE TO BE FULLY RESPONSIBLE FOR DAMAGES DUE TO FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES.
- REPORT ANY INCONSISTENCIES WITH THE PROPOSED PLAN TO THE OWNER'S REPRESENTATIVE AND DEMOLISH, REMOVE, OR RELOCATE ALL EXISTING UTILITIES, IMPROVEMENTS, ETC. INCONSISTENT WITH THE PROPOSED PLAN AS DIRECTED BY THE OWNER'S REPRESENTATIVE AND AT THE CONTRACTOR'S EXPENSE.
- THE LATEST REVISIONS OF THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION," SEPTEMBER 1984 AND THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," 2005 IS INCLUDED AS PART OF THESE CONSTRUCTION PLANS. OBTAIN THE LATEST REVISIONS BEFORE COMMENCING CONSTRUCTION.
- SHOULD HISTORIC SITES SUCH AS WALLS, PLATFORMS, PAVEMENTS AND MOUNDS, OR REMAINS SUCH AS ARTIFACTS, BURIALS, CONCENTRATION OF CHARCOAL OR SHELLS BE ENCOUNTERED DURING CONSTRUCTION WORK, CEASE WORK IN THE IMMEDIATE VICINITY OF THE FIND, AND PROTECT THE FIND FROM FURTHER DAMAGE. THE CONTRACTOR MUST IMMEDIATELY CONTACT THE STATE HISTORIC PRESERVATION DIVISION (PH: 243-1285 OR 243-4640), WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND MITIGATION MEASURES, IF NECESSARY.
- PURSUANT TO CHAPTER 6E OF THE HAWAII REVISED STATUTES, IN THE EVENT THAT ANY HUMAN SKELETAL REMAINS ARE INADVERTENTLY DISCOVERED DURING CONSTRUCTION, DO NOT MOVE THE REMAINS, CEASE ANY ACTIVITY IN THE IMMEDIATE AREA THAT COULD DAMAGE THE REMAINS OR THE POTENTIAL HISTORIC SITE, AND CONTACT THE DEPARTMENT OF LAND AND NATURAL RESOURCES HISTORIC PRESERVATION DIVISION (PH: 243-1285 OR 243-4640), THE APPROPRIATE MEDICAL EXAMINER OR CORONER, AND THE POLICE DEPARTMENT (TELEPHONE: 244-6400).
- WHEN PERFORMING NIGHT WORK USE HOODED LIGHTS AND DIRECT LIGHT DOWNWARD TO MINIMIZE THREAT TO YOUNG FLEDGING BIRDS.

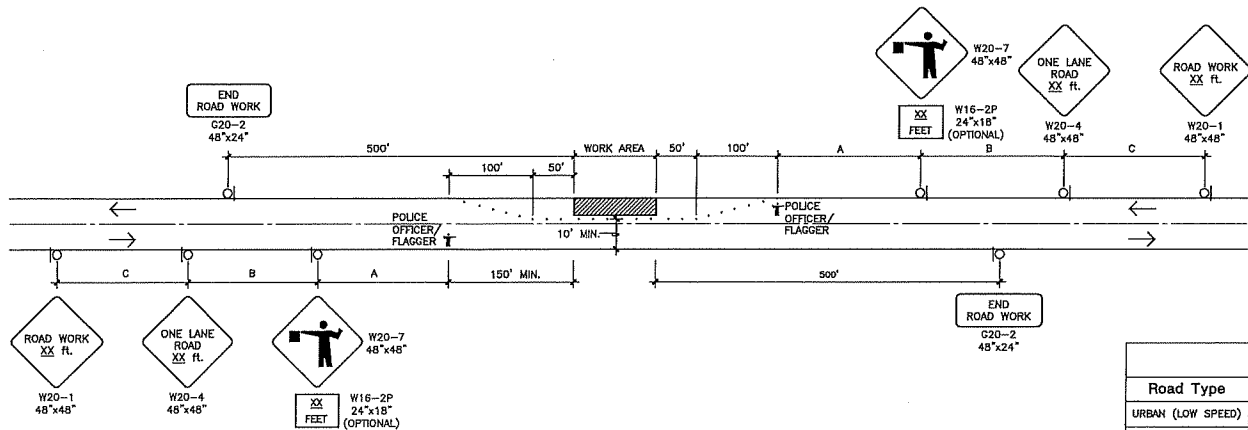
GRADING NOTES

- FINISH SPOT ELEVATIONS AND FINISH CONTOURS, AS SHOWN ON PLAN REPRESENTS FINISH GRADING. THE SITE WORK CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE CONTRACTOR THE LOCATION AND DEPTH OF TOPSOIL. THE FINISH SUBGRADE SHALL REFLECT THE FINISH GRADE LESS SPECIFIED TOPSOIL DEPTH.
- THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE MEASURES OF THE BEST MANAGEMENT PRACTICE (BMP) PLAN. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER POLLUTION CONTROL AND WATER QUALITY STANDARDS CONTAINED IN THE PUBLIC HEALTH REGULATIONS, STATE DEPARTMENT OF HEALTH, ON WATER POLLUTION CONTROL AND WATER QUALITY STANDARDS.
- THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS, AND OTHER AREAS. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE STATE DEPARTMENT OF HEALTH SHALL BE PAYABLE BY THE CONTRACTOR.
- THE CONTRACTOR, AT HIS EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE OF DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.
- CONSTRUCTION DEBRIS AND WASTES SHALL BE DEPOSITED AT AN APPROPRIATE SITE. THE CONTRACTOR SHALL INFORM THE ENGINEER OF THE LOCATION OF DISPOSAL SITES. THE DISPOSAL SITE MUST ALSO FULFILL REQUIREMENTS OF THE GRADING ORDINANCES.
- THE CONTRACTOR SHALL NOT DEMOLISH OR CLEAR ANY STRUCTURE, SITE OR VACANT LOT WITHOUT FIRST ASCERTAINING THE PRESENCE OR ABSENCE OF RODENTS WHICH MAY ENDANGER THE PUBLIC HEALTH BY DISPERSAL FROM SUCH PREMISES. SHOULD SUCH INSPECTION REVEAL THE PRESENCE OF SUCH RODENTS, THE CONTRACTOR SHALL ERADICATE SUCH RODENTS BEFORE DEMOLISHING OR CLEARING SAID STRUCTURE, SITE OR VACANT LOT.
- THE FOLLOWING MEASURES SHALL BE TAKEN TO CONTROL DUST AND EROSION DURING THE SITE DEVELOPMENT PERIOD:
 - MINIMIZE TIME OF CONSTRUCTION.
 - RETAIN EXISTING GROUND COVER UNTIL THE LATEST DATE TO COMPLETE CONSTRUCTION.
 - CONSTRUCT REMAINING PERMANENT EROSION AND DRAINAGE CONTROL FEATURES AS EARLY AS POSSIBLE.
 - USE TEMPORARY AREA SPRINKLERS IN NON-ACTIVE CONSTRUCTION AREAS WHEN GROUND COVER IS REMOVED.
 - STATION WATER TRUCK ON-SITE DURING CONSTRUCTION PERIOD TO PROVIDE FOR IMMEDIATE SPRINKLING, AS NEEDED, IN ACTIVE CONSTRUCTION AREAS (WEEKENDS AND HOLIDAYS INCLUDED).
 - USE TEMPORARY BERMS AND CUT-OFF DITCHES, WHERE NEEDED, FOR CONTROL OF EROSION. IMPLEMENT AND MAINTAIN THE MEASURES OF THE BMP PLAN.
 - GRADED AREAS SHALL BE THOROUGHLY WATERED AFTER CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY AND ON WEEKENDS.
 - ALL CUT AND FILL SLOPES SHALL BE SOODED OR PLANTED IMMEDIATELY AFTER GRADING WORK HAS BEEN COMPLETED.

CONSTRUCTION NOTES WITHIN COUNTY RIGHT-OF-WAY

- CONTRACTOR SHALL OBTAIN A PERMIT TO PERFORM WORK ON COUNTY HIGHWAYS FROM THE DEVELOPMENT SERVICES ADMINISTRATION TWO WEEKS PRIOR TO THE COMMENCEMENT OF WORK.
- STANDARD DETAIL DRAWINGS AND STANDARD SPECIFICATIONS OF THE DEPARTMENT OF PUBLIC WORKS SHALL BE INCLUDED AS PART OF THE CONSTRUCTION PLANS.
- ALL CONSTRUCTION WORK SHALL STRICTLY CONFORM TO THE LATEST VERSION OF THE HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE PUBLIC WORKS CONSTRUCTION, AND THE SEPTEMBER 1984 "STANDARD DETAILS" FOR PUBLIC WORKS CONSTRUCTION OF THE DEPARTMENT OF PUBLIC WORKS, AS AMENDED.
- IF EXISTING UTILITIES, WHETHER OR NOT SHOWN ON PLANS, ARE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL AT HIS OWN EXPENSE BE REQUIRED TO REPAIR SUCH UTILITIES.
- CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, AND OTHER PROTECTIVE DEVICES FOR THE PROTECTION, SAFETY AND CONVENIENCE OF THE PUBLIC, ACCORDING TO THE LATEST VERSION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", AND TO THE RULES AND REGULATIONS GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORKSITES AND/OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS ADOPTED BY THE HIGHWAY SAFETY COORDINATOR AND THE U.S. FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS".
- THE DIRECTOR OF PUBLIC WORKS AND/OR THE DIRECTOR OF THE DEPARTMENT OF WATER SUPPLY HAS THE RIGHT TO STOP CONSTRUCTION SHOULD ANY WORK BE FOUND CONTRARY TO THE APPROVED CONSTRUCTION PLAN OR DETRIMENTAL TO THE PUBLIC'S INTEREST.
- THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE DEVELOPMENT SERVICES ADMINISTRATION FIVE (5) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH AND COUNTY GRADING ORDINANCE.
- THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION ORDERED BY THE DIRECTOR OF PUBLIC WORKS SHALL BE PAID BY THE CONTRACTOR.
- CONSTRUCTION DEBRIS AND WASTES SHALL BE DEPOSITED AT AN APPROPRIATE WORK SITE. THE CONTRACTOR SHALL INFORM THE DIRECTOR OF PUBLIC WORKS OF THE LOCATION OF THE DISPOSAL SITES. THE DISPOSAL SITE MUST FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.
- THE CONTRACTOR SHALL SUBMIT A TIF AND FIVE (5) COPIES OF THE "AS-BUILT" DRAWINGS PRIOR TO THE FINAL APPROVAL OF THE IMPROVEMENTS.
- IF THE CLEARANCE BETWEEN A WASTEWATER LINE AND A NEW OR EXISTING WATERLINE IS EIGHTEEN INCHES (18") OR LESS, THE WASTEWATER LINE SHALL BE CONCRETE-JACKETED IN ACCORDANCE WITH THE STANDARD DETAILS OF PUBLIC WORKS CONSTRUCTION DATED SEPTEMBER 1984, AS AMENDED.
- SHOULD HISTORIC SITES SUCH AS WALLS, PLATFORMS, PAVEMENTS OR MOUNDS, OR REMAINS SUCH AS ARTIFACTS BURIALS, CONCENTRATION OF SHELL OR CHARCOAL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, WORK SHALL CEASE IMMEDIATELY IN THE IMMEDIATE VICINITY OF THE FIND AND THE FIND SHALL BE PROTECTED FROM FURTHER DAMAGE. THE CONTRACTOR AND/OR LANDOWNER SHALL IMMEDIATELY CONTACT THE STATE HISTORIC PRESERVATION DIVISION (692-8015), WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND AN APPROPRIATE MITIGATION MEASURE, IF NECESSARY.
- THE COUNTY OF MAUI IS NOT RESPONSIBLE FOR ANY PARK, ROADWAY, EASEMENT (INCLUDING BUT NOT LIMITED TO DRAINAGE, SEWER, ACCESS, RECLAIMED WATER, OR AVIGATION EASEMENT), OR ANY OTHER INTEREST IN REAL PROPERTY SHOWN ON THIS MAP OR SHOWN ON THESE PLANS, UNLESS THE MAUI COUNTY COUNCIL HAS ACCEPTED ITS DEDICATION BY A RESOLUTION APPROVED BY A MAJORITY OF A COUNCIL MEMBERS AT A REGULAR OR SPECIAL MEETING OF THE MAUI COUNTY COUNCIL OR THE COUNTY OF MAUI HAS SIGNED ITS ACCEPTANCE VIA A CONVEYANCE DOCUMENT RECORDED IN THE BUREAU OF CONVEYANCES OF THE STATE OF HAWAII IN COMPLIANCE WITH MAUI COUNTY CODE SECTION 3.44.015.
- STEEL PLATE WARNING SIGNS ARE REQUIRED FOR ALL STEEL PLATES IN THE RIGHT-OF-WAY.
- WHEELCHAIR RAMP INSPECTION/CERTIFICATION FORMS SHALL BE REQUIRED FOR ALL NEWLY CONSTRUCTED RAMPS.
- ALL STRIPING AND PAVEMENT MARKINGS SHALL BE OF THERMOPLASTIC MATERIAL.
- COMPACTION REQUIREMENTS
 - TESTING OF MATERIALS SHALL BE CONDUCTED BY AN APPROVED INDEPENDENT TESTING AGENCY IN ACCORDANCE WITH ASTM STANDARD METHODS OR AS SPECIFIED BY THE DEPARTMENT OF PUBLIC WORKS, ENGINEERING DIVISION, AS FOLLOWS:
 - EMBANKMENT/SELECT BORROW AND SUBGRADE MATERIALS: ONE (1) COMPACTION TEST PER 600 SQUARE YARDS PER LIFT;
 - AGGREGATE SUBBASE COURSE: ONE (1) COMPACTION TEST PER 400 SQUARE YARDS; ONE (1) GRADATION AND SAND EQUIVALENT TEST PER LIFT PER PROJECT;
 - AGGREGATE BASE COURSE: ONE (1) COMPACTION TEST PER 300 SQUARE YARDS; ONE (1) GRADATION AND SAND EQUIVALENT TEST PER LIFT PER PROJECT;
 - ASPHALT CONCRETE PAVEMENT OR ASPHALT TREATED BASE COURSE; THREE (3) A.C. CORES FOR THICKNESS AND DENSITY TESTS PER PROJECT;
 - TRENCH BACKFILL MATERIAL: ONE (1) TEST FOR EACH 300 LINEAL FEET OF TRENCH PER LIFT OF MATERIAL.
 - CONTRACTOR SHALL SUBMIT ALL TESTING REPORTS INCLUDING RESULTS TO THE COUNTY'S INSPECTION AGENCY FOR REVIEW AND APPROVAL PRIOR TO COUNTY'S ACCEPTANCE OF WORK.
 - THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE COUNTY OF ANY TESTING FAILURES AND CORRECT EACH FAILURE PRIOR TO PROCEEDING TO THE NEXT PHASE OF CONSTRUCTION.

REVISED: 04/2016

TRAFFIC CONTROL PLAN FOR ONE LANE CLOSURE
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS NOTES

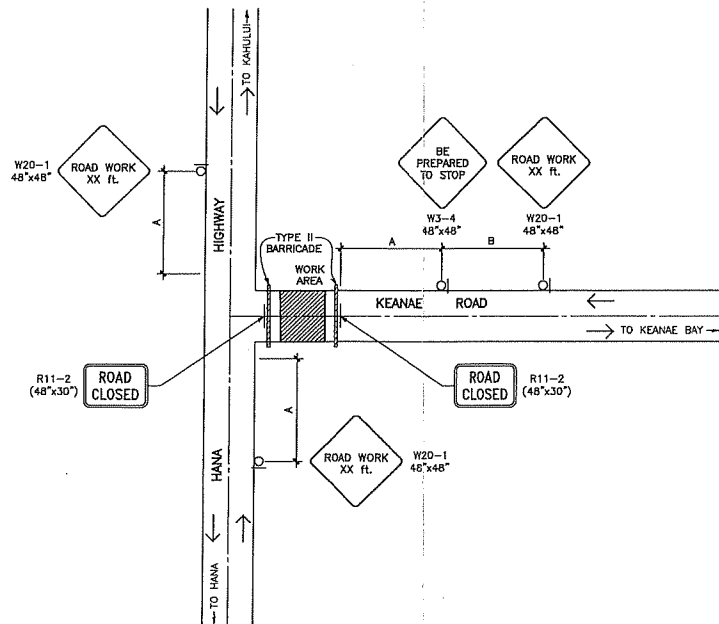
- THE CONTRACTOR SHALL ALLOW FOUR WEEKS TO OBTAIN A GRADING PERMIT FROM THE DEVELOPMENT SERVICES ADMINISTRATION PRIOR TO COMMENCEMENT OF ANY CLEARING AND GRUBBING. A SATISFACTORY DRAINAGE AND EROSION CONTROL PLAN SHALL BE SUBMITTED IN THE EVENT THE GRUBBING AREA EXCEEDS ONE ACRE OR THE PROPOSED CUT OR FILL IS GREATER THAN 15 FEET IN HEIGHT. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL BEST MANAGEMENT PRACTICE MEASURES.
- THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, AND OTHER PROTECTIVE DEVICES FOR THE PROTECTION, SAFETY AND CONVENIENCE OF THE PUBLIC AND IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAY, 2003 EDITION WITH REVISION NO. 1 INCORPORATED, DATED NOVEMBER 2004". THE CONTRACTOR SHALL PREPARE AND OBTAIN NECESSARY APPROVALS OF TRAFFIC CONTROL PLANS IF REQUIRED BY THE DEVELOPMENT SERVICES ADMINISTRATION.
- STANDARD DETAIL DRAWINGS OF THE DEPARTMENT OF PUBLIC WORKS AND THE HAWAII STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND PUBLIC WORKS CONSTRUCTION (1994) SHALL BE INCLUDED AS PART OF THE CONSTRUCTION PLANS.
- ALL CONSTRUCTION WORK SHALL STRICTLY CONFORM TO THE APPLICABLE SECTIONS OF THE 2005 HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE SEPTEMBER 1984 "STANDARD DETAILS" FOR PUBLIC WORKS CONSTRUCTION OF THE DEPARTMENT OF PUBLIC WORKS, AS AMENDED.
- THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH AND COUNTY GRADING ORDINANCE.
- THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION ORDERED BY THE DIRECTOR OF PUBLIC WORKS SHALL BE PAID BY THE CONTRACTOR.

COMPACTION REQUIREMENTS

- TESTING OF MATERIALS SHALL BE CONDUCTED BY AN APPROVED INDEPENDENT TESTING AGENCY IN ACCORDANCE WITH ASTM STANDARD METHODS OR AS SPECIFIED BY THE DEPARTMENT OF PUBLIC WORKS, ENGINEERING DIVISION, AS FOLLOWS:
 - EMBANKMENT/SELECT BORROW AND SUBGRADE MATERIALS: ONE (1) COMPACTION TEST PER 600 SQUARE YARDS PER LIFT;
 - AGGREGATE SUBBASE COURSE: ONE (1) COMPACTION TEST PER 400 SQUARE YARDS; ONE (1) GRADATION AND SAND EQUIVALENT TEST PER LIFT PER PROJECT;
 - AGGREGATE BASE COURSE: ONE (1) COMPACTION TEST PER 300 SQUARE YARDS PER LIFT OF MATERIAL; ONE (1) GRADATION AND SAND EQUIVALENT TEST PER PROJECT;
 - ASPHALT CONCRETE PAVEMENT OR ASPHALT TREATED BASE COURSE; THREE (3) A.C. CORES FOR THICKNESS AND DENSITY TESTS PER PROJECT;
 - TRENCH BACKFILL MATERIAL: ONE (1) TEST FOR EACH 300 LINEAL FEET OF TRENCH PER LIFT OF MATERIAL.
- CONTRACTOR SHALL SUBMIT ALL TESTING REPORTS INCLUDING RESULTS TO THE COUNTY'S INSPECTION AGENCY FOR REVIEW AND APPROVAL PRIOR TO COUNTY'S ACCEPTANCE OF WORK.
- THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE COUNTY OF ANY TESTING FAILURES AND CORRECT EACH FAILURE PRIOR TO PROCEEDING TO THE NEXT PHASE OF CONSTRUCTION.

LEGEND/ABBREVIATIONS:

- PROPERTY LINE
- EXISTING OVERHEAD ELECTRICAL LINE
- EXISTING WATERLINE W/SIZE
- EXISTING DRAINLINE
- EXISTING CONTOURS
- EXISTING SPOT ELEVATION
- HAWAIIAN TELEPHONE COMPANY BOX
- POWER POLE
- CONCRETE POST (5"x5" SQUARE)
- SIGN (AS NOTED)
- ROCKS
- ROCK WALL
- SURVEY CONTROL STATION (AS NOTED)

TRAFFIC CONTROL PLAN FOR ROAD CLOSURE
NOT TO SCALE

NOTES

- SEE TABLE 1 FOR ADDITIONAL DIMENSIONS.
- ONE LANE ROAD (W20-4), BE PREPARED TO STOP (W3-4), ROAD CLOSED (R11-2), AND FLAGGER AHEAD (W20-7) SIGNS SHALL BE REMOVED OR COVERED WHEN NO WORK IS BEING PERFORMED AND LANE IS NOT CLOSED.
- USE SPACING OF 10 FEET FOR CONES OR DELINEATORS.

LEGEND

- SIGN
- CONE OR DELINEATOR
- DIRECTION OF TRAFFIC

80% SUBMITTAL



FUKUMOTO
ENGINEERING, INC.
Civil Engineering &
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1721 Wili Pa Loop, Suite 203
Wailuku, Hawaii 96793
Phone: (808) 242-8611
Email: office@fermail.com
Website: www.fermail.com

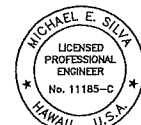
Prepared for:

Department of Public Works
County of Maui
200 S. High Street
Wailuku, Hawaii 96793

KEANAE ROAD SAFETY IMPROVEMENTS

JOB NO. 16-21
TAX MAP KEY: (2) 1-1-002/005, 009 AND 010 AND (2) 1-1-003/041
KEANAE, MAUI, HAWAII

CONSTRUCTION NOTES AND TRAFFIC CONTROL PLANS



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION,
AND CONSTRUCTION OF THIS PROJECT
WILL BE UNDER MY OBSERVATION AS
DEFINED IN HAWAII J.C. 115-2
MICHAEL E. SILVA
LICENSE EXPIRES: 04/30/2018

DESIGNED BY: M.K.S.

DRAWN BY: N.M., M.K.S.

CHECKED BY: M.S.

DATE: FEBRUARY 12, 2018

FILE NO: COM68

SHEET

C-1

2

OF

16



**FUKUMOTO
ENGINEERING, INC.**

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KEANAE ROAD SAFETY IMPROVEMENTS

JOB NO. 16-21
TAX MAP KEY: (2) 1-1-002:005, 009 AND 010 AND (2) 1-1-003:041
KEANAE, MAUI, HAWAII

GENERAL PLAN AND PAVING PLAN



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION,
AND CONSTRUCTION OF THIS PROJECT
WILL BE UNDER MY OBSERVATION AS
DEFINED IN H.A.R. 16-115-2.

Michael E. Silva
LICENSE EXPIRES: 04/30/2018

DESIGNED BY: M.K.S.

DRAWN BY: N.M., M.K.S.

CHECKED BY: M.S.

DATE: FEBRUARY 12, 2018

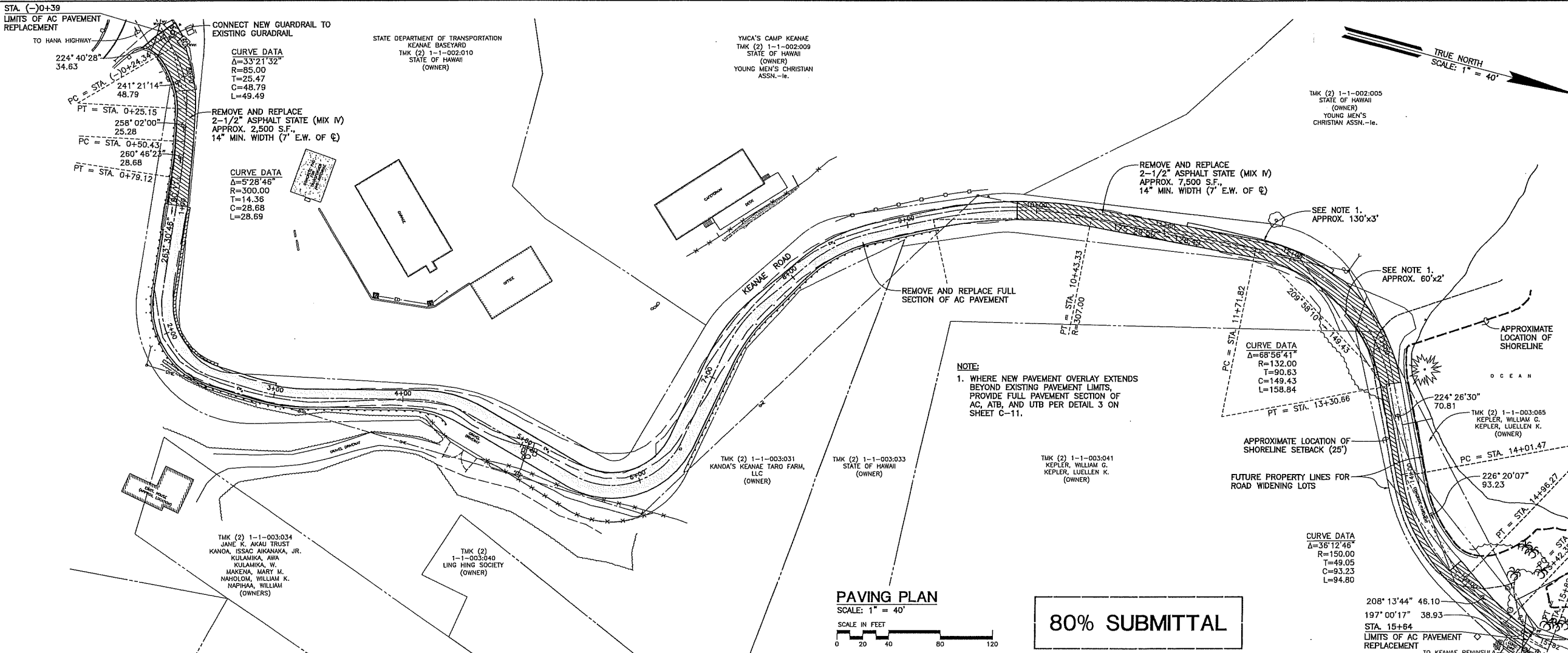
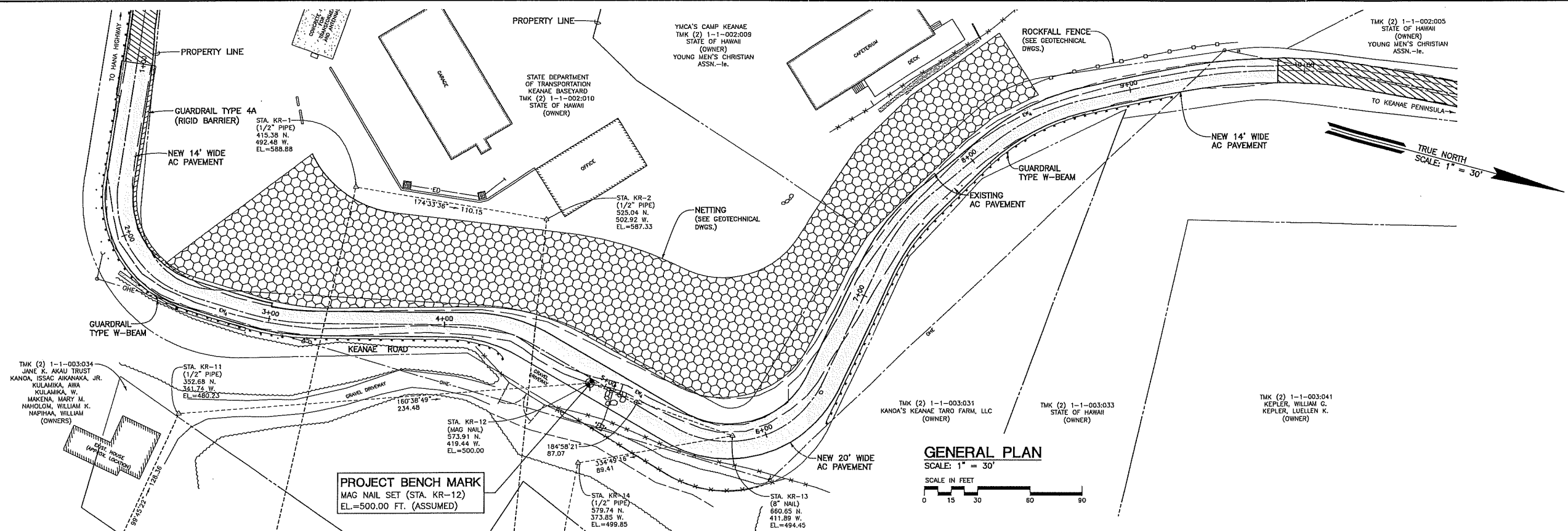
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SHEET

C-2

3

16

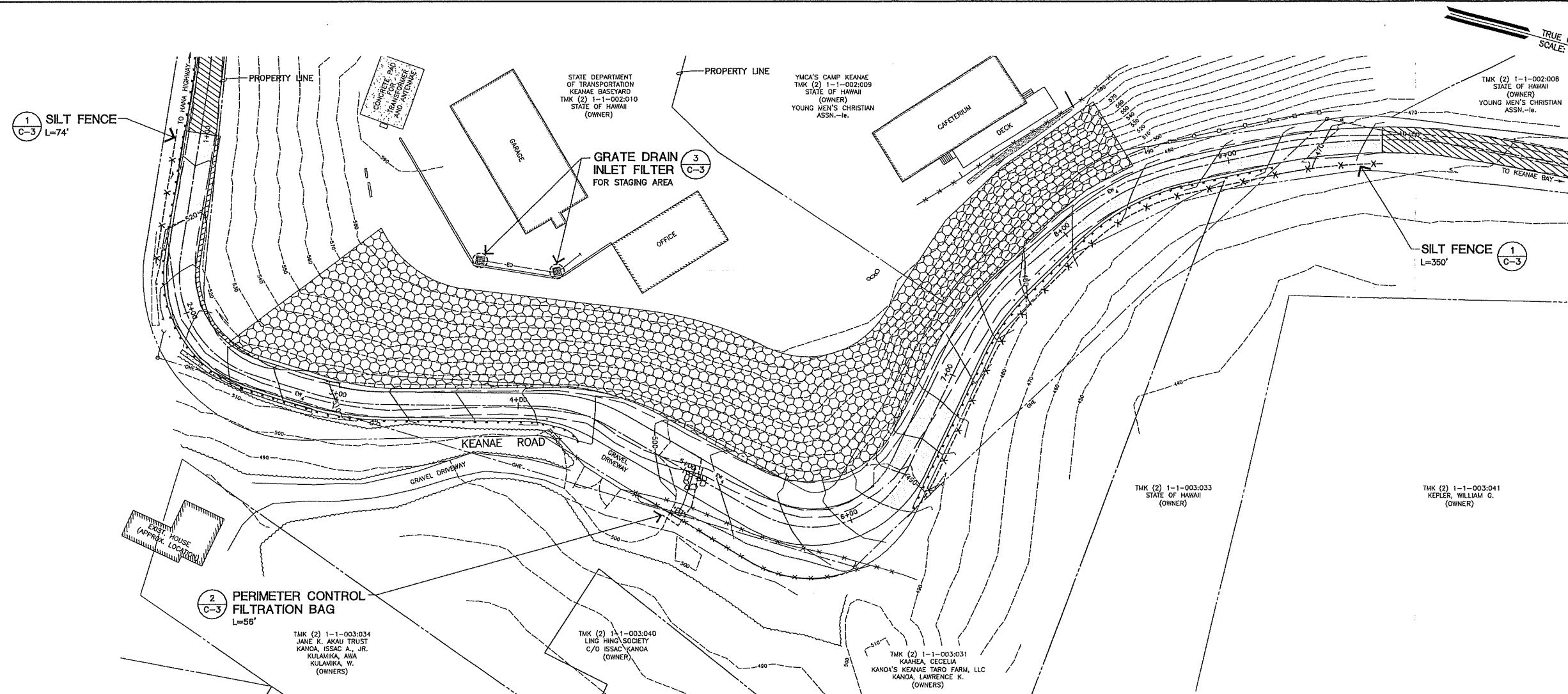


PAVING PLAN

SCALE: 1\"/>

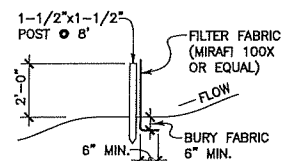


80% SUBMITTAL

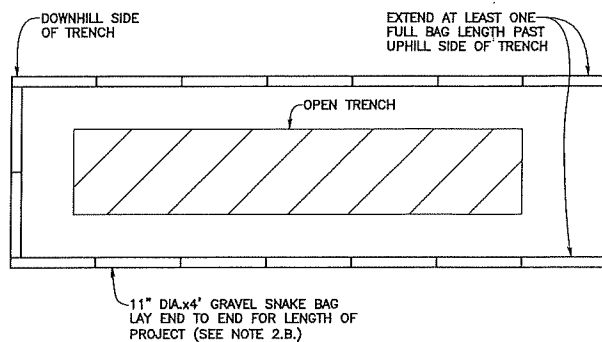


EROSION CONTROL BEST MANAGEMENT PRACTICES PLAN

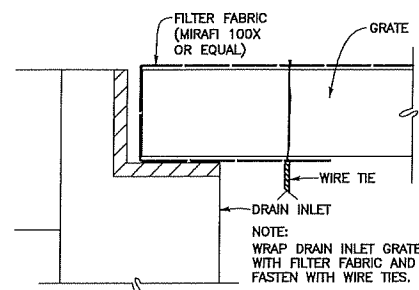
SCALE: 1" = 30'



1 SILT FENCE SECTION
 C-3 NOT TO SCALE



2 PERIMETER CONTROL FILTRATION BAG
 C-3 NOT TO SCALE



3 GRATE DRAIN INLET FILTER
 C-3 NOT TO SCALE

EROSION CONTROL NOTES

IMPLEMENT THE FOLLOWING OUTLINE OF EROSION CONTROL MEASURES DURING CONSTRUCTION.

- GENERAL EROSION CONTROL MEASURES
 - MINIMIZE TIME OF CONSTRUCTION.
 - RETAIN EXISTING GROUND COVER UNTIL THE LATEST DATE TO COMPLETE CONSTRUCTION.
 - PROVIDE TEMPORARY GRAVEL APRON(S) (APPROXIMATELY 50' LONG BY 30' WIDE) AT POINT OF CONNECTION TO PAVED STREET TO PREVENT TRACKING OF SEDIMENTS ONTO STREET.
 - CONTROL DUST BY SPRINKLING WITH WATER WAGONS OR OTHER SUITABLE METHODS. GRADED AREAS SHALL BE THOROUGHLY WATERED AFTER CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY AND ON WEEKENDS.
 - USE TEMPORARY BERMS AND CUT-OFF DITCHES, WHERE NEEDED, FOR CONTROL OF EROSION.
 - CONSTRUCT PERMANENT EROSION AND DRAINAGE CONTROL FEATURES AS EARLY AS POSSIBLE. ALL CUT AND FILL SLOPES SHALL BE SODDED OR PLANTED IMMEDIATELY AFTER GRADING WORK HAS BEEN COMPLETED.
 - MAINTAIN EROSION CONTROL MEASURES UNTIL ESTABLISHMENT OF GRASS AND LANDSCAPE PLANTING.
- SITE-SPECIFIC EROSION CONTROL MEASURES
 - INSTALL SILT FENCES AS NOTED ON PLAN. INSPECT FENCES WEEKLY AND AFTER STORMS. REMOVE AND STABILIZE SEDIMENT WHEN IT REACHES A HEIGHT OF 8 INCHES AT THE FENCE.
 - INSTALL GRAVEL SNAKE BAG AS MANUFACTURED BY PROTECH GENERAL CONTRACTING SERVICES, INC. OR APPROVED EQUAL, PRIOR TO EXCAVATION WITHIN PAVEMENT. PROVIDE TRAFFIC CONTROL AS NECESSARY TO PROTECT EROSION CONTROL DEVICES. THE USE OF WATER TO CLEAN THE PAVEMENT IS PROHIBITED.
- ADDITIONAL EROSION CONTROL NOTES
 - ALL CONTROL MEASURES SHALL BE CHECKED AND REPAIRED AS NECESSARY WEEKLY IN DRY PERIODS AND WITHIN 24 HOURS AFTER ANY RAINFALL OF 1/2 INCH OR GREATER WITHIN A 24-HOUR PERIOD. DURING PROLONGED PERIODS OF RAINFALL, DAILY CHECKING IS NECESSARY. THE PERMITTEE SHALL MAINTAIN RECORDS OF THE DURATION AND ESTIMATED VOLUME OF STORM WATER DISCHARGE(S), CHECKS, AND REPAIRS.
 - EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN. THESE MEASURES SHALL BE PROPERLY CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
 - A SPECIFIC INDIVIDUAL SHALL BE DESIGNATED TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON EACH PROJECT.
 - TEMPORARY SOIL STABILIZATION WITH APPROPRIATE VEGETATION SHALL BE APPLIED ON AREAS THAT WILL REMAIN UNFINISHED FOR MORE THAN 30 CALENDAR DAYS.
 - PERMANENT SOIL STABILIZATION WITH PERENNIAL VEGETATION OR PAVEMENT SHALL BE APPLIED AS SOON AS PRACTICAL AFTER FINAL GRADING. IRRIGATION AND MAINTENANCE OF THE PERENNIAL VEGETATION SHALL BE PROVIDED FOR 30 DAYS OR UNTIL THE VEGETATION TAKES ROOT, WHICHEVER IS SHORTER.

MINIMUM BEST MANAGEMENT PRACTICES

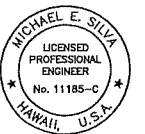
- DRAINAGE: HANDLE DRAINAGE TO CONTROL EROSION, PREVENT DAMAGE TO DOWNSTREAM PROPERTIES, AND RETURN WATER TO THE NATURAL DRAINAGE COURSE IN A MANNER WHICH MINIMIZES SEDIMENTATION OR OTHER POLLUTION TO THE MAXIMUM EXTENT PRACTICABLE.
- DUST CONTROL: CONTROL DUST EMISSIONS TO THE MAXIMUM EXTENT PRACTICABLE THROUGH BMPs SUCH AS WATER SPRINKLING, DUST FENCES, LIMITING AREA OF DISTURBANCE, AND TIMELY GRASSING OF FINISHED AREAS.
- VEGETATION: RETAIN NATURAL VEGETATION, ESPECIALLY GRASSES, WHEREVER FEASIBLE. AVOID STORAGE OF GRUBBED MATERIALS NEAR WATERCOURSES.
- EROSION CONTROLS: STABILIZE ALL DISTURBED AREAS WITH EROSION CONTROL MEASURES SUCH AS VEGETATION, RUNOFF DIVERSION, CHECK DAMS, MULCHING, BLANKETS, BONDED FIBER MATRICES, AND VEHICLE WHEEL WASH FACILITIES.
- SEDIMENT CONTROL: CAPTURE SEDIMENT TRANSPORTED IN RUNOFF TO MINIMIZE THE SEDIMENT FROM LEAVING THE SITE WITH METHODS SUCH AS SEDIMENT BASINS, SEDIMENT TRAPS, SILT FENCES, SAND BAGS, AND VEGETATED FILTER STRIPS.
- MATERIAL AND WASTE MANAGEMENT: PROPERLY STORE TOXIC MATERIAL AND PREVENT THE DISCHARGE OF POLLUTANTS ASSOCIATED WITH CONSTRUCTION MATERIALS.
- TIMING OF CONTROL MEASURE IMPLEMENTATION: TIMING OF CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE APPROVED EROSION CONTROL PLAN. DISTURBED AREAS OF CONSTRUCTION SITES THAT WILL NOT BE RE-DISTURBED FOR TWENTY-ONE DAYS OR MORE WILL BE STABILIZED (GRASSES OR GRAVELED) BY NO LATER THAN THE FOURTEENTH DAY AFTER THE LAST DISTURBANCE.

80% SUBMITTAL

KEANAE ROAD SAFETY IMPROVEMENTS

JOB NO. 16-21
 TAX MAP KEY: (2) 1-1-002:005, 009 AND 010 AND (2) 1-1-003:041
 KANOA, MAUI, HAWAII

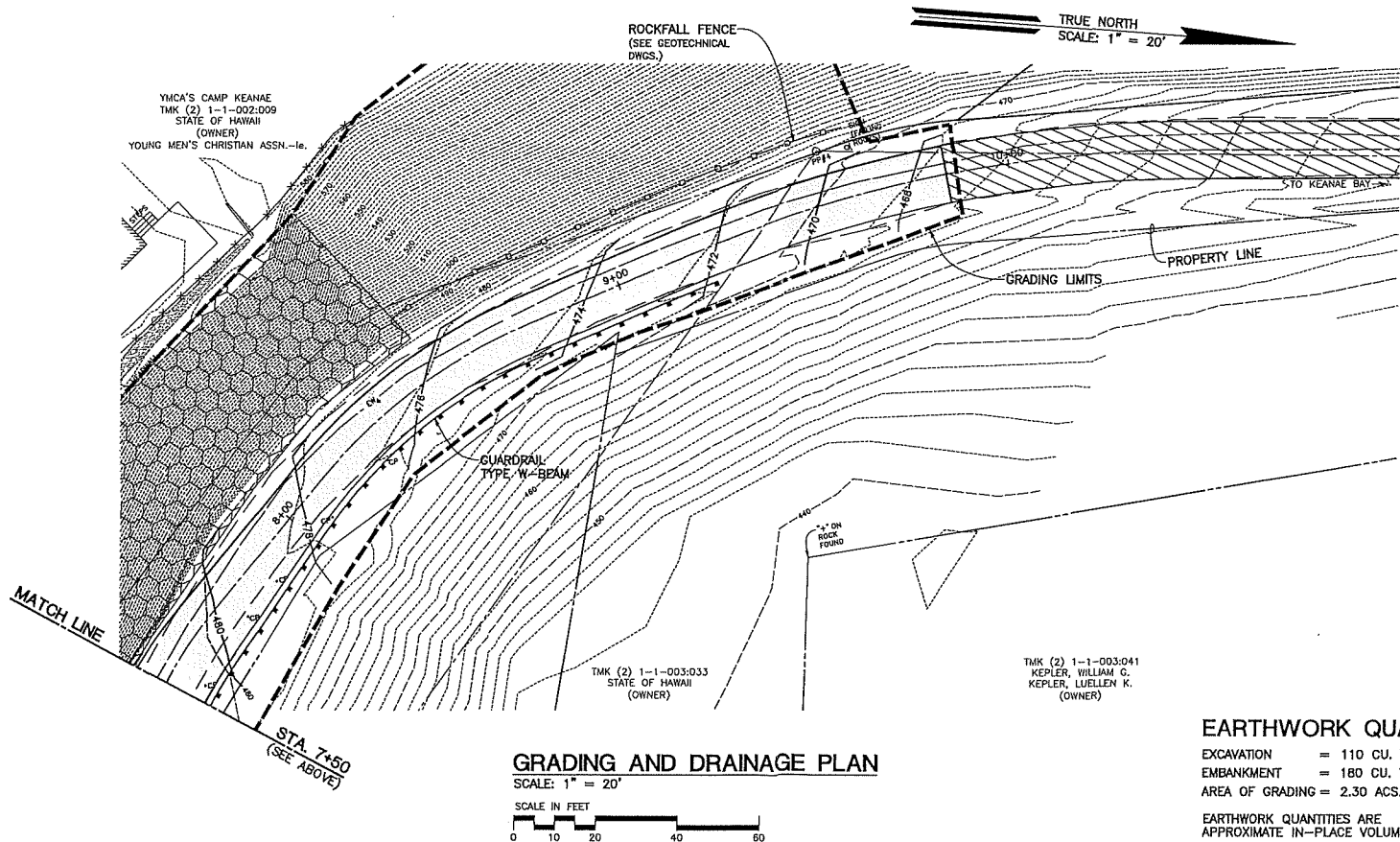
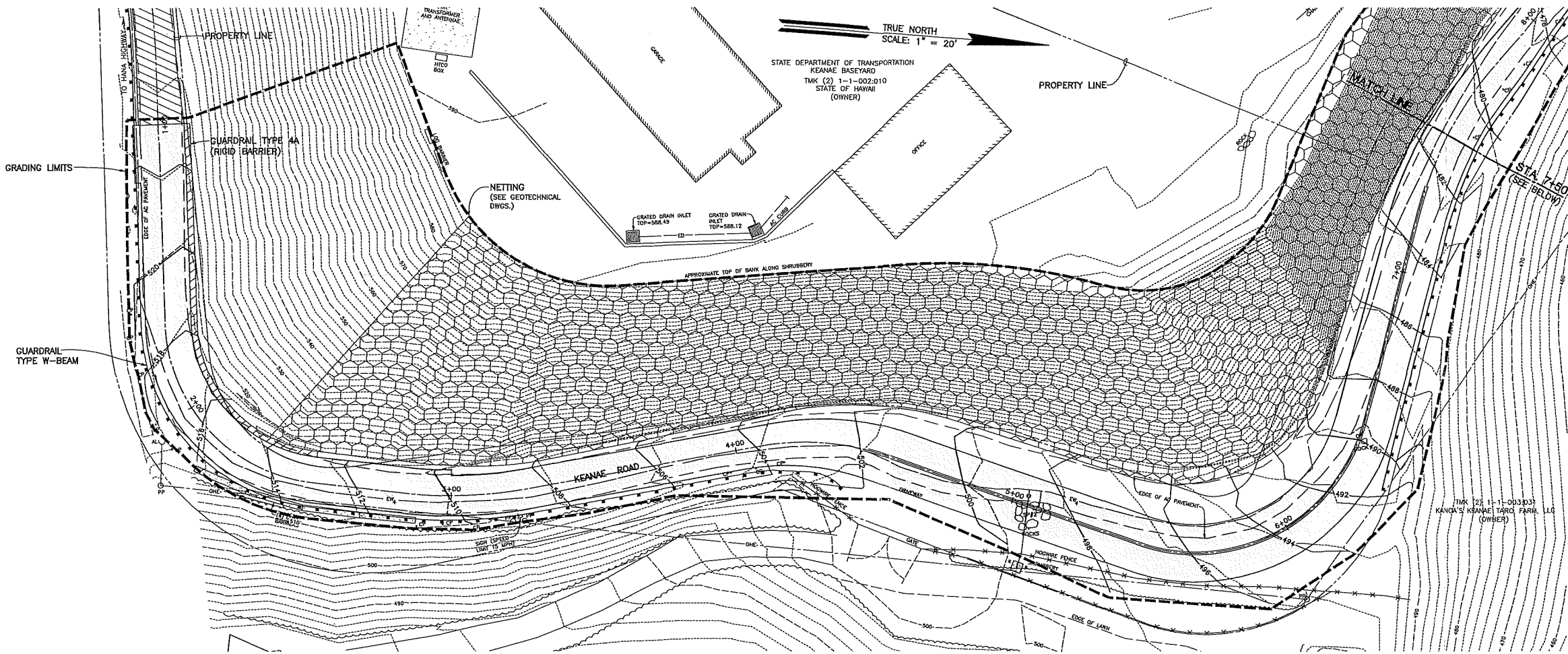
GRADING AND DRAINAGE PLAN



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 AND CONSTRUCTION OF THIS PROJECT
 WILL BE UNDER MY OBSERVATION AS
 DEFINED IN H.A.R. 25-115-2.
 LICENSE EXPIRES: 04/30/2018

DESIGNED BY: M.K.S.
 DRAWN BY: N.M., M.K.S.
 CHECKED BY: M.S.
 DATE: FEBRUARY 12, 2018
 FILE NO: COM68

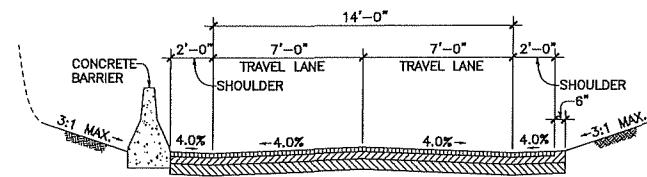
SHEET
C-5
 6 of 16



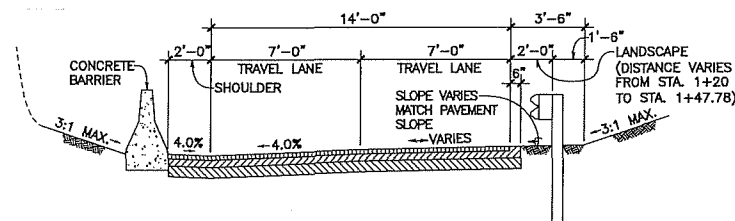
GRADING AND DRAINAGE PLAN
 SCALE: 1" = 20'
 SCALE IN FEET
 0 10 20 40 60

EARTHWORK QUANTITIES:
 EXCAVATION = 110 CU. YDS.
 EMBANKMENT = 160 CU. YDS.
 AREA OF GRADING = 2.30 ACS.
 EARTHWORK QUANTITIES ARE
 APPROXIMATE IN-PLACE VOLUMES.

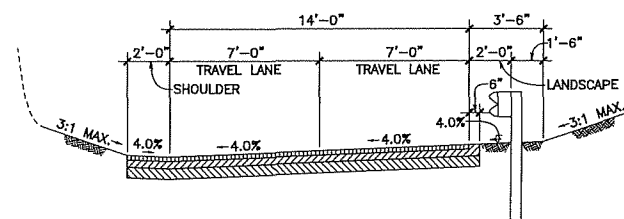
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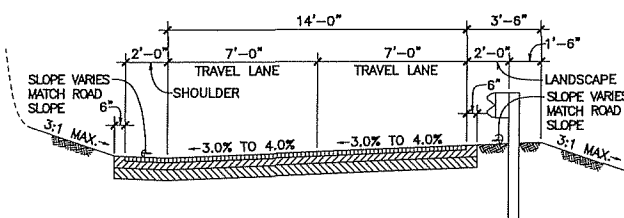
1
C-7
ROAD SECTION
STA. 1+00 TO STA. 1+20
SCALE: 1/4" = 1'-0"



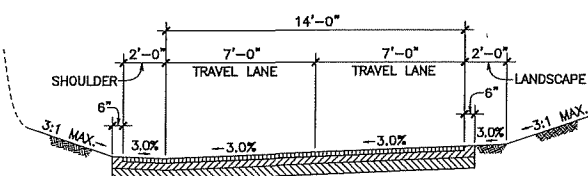
2
C-7
ROAD SECTION
STA. 1+20 TO STA. 2+52.50
SCALE: 1/4" = 1'-0"



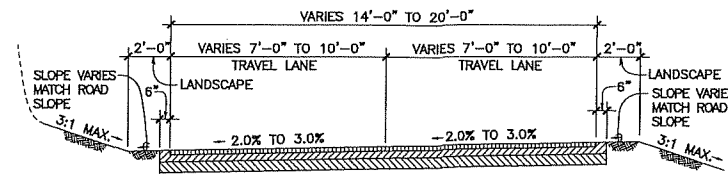
3
C-7
ROAD SECTION
STA. 2+52.50 TO STA. 2+86.25
SCALE: 1/4" = 1'-0"



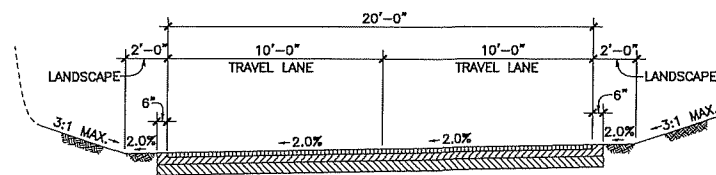
4
C-7
ROAD SECTION
STA. 2+86.25 TO STA. 3+00
SCALE: 1/4" = 1'-0"



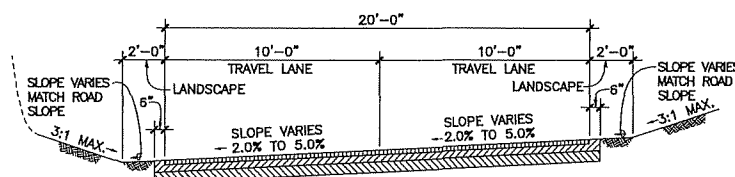
5
C-7
ROAD SECTION
STA. 3+00 TO STA. 4+02.50
SCALE: 1/4" = 1'-0"



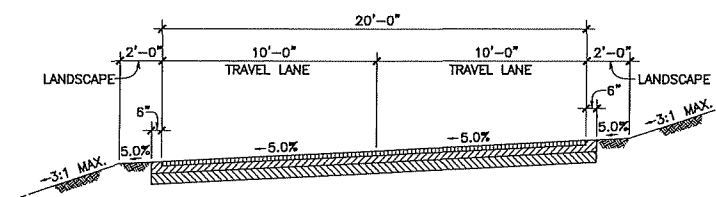
6
C-7
ROAD SECTION
STA. 4+02.50 TO STA. 4+58.59
SCALE: 1/4" = 1'-0"



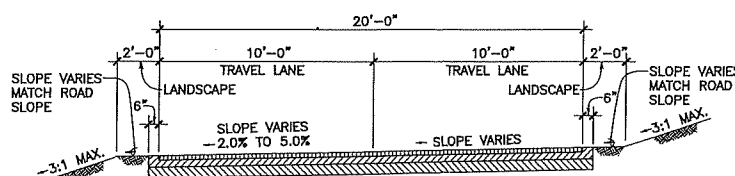
7
C-7
ROAD SECTION
STA. 4+58.59 TO STA. 4+75
SCALE: 1/4" = 1'-0"



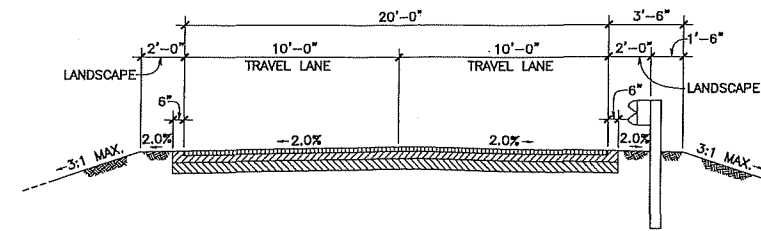
8
C-7
ROAD SECTION
STA. 4+75 TO STA. 5+00
SCALE: 1/4" = 1'-0"



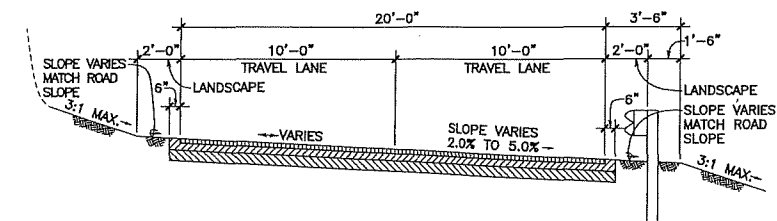
9
C-7
ROAD SECTION
STA. 5+00 TO STA. 6+25
SCALE: 1/4" = 1'-0"



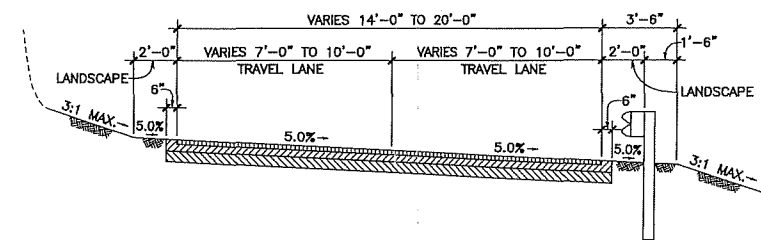
10
C-7
ROAD SECTION
STA. 6+25 TO STA. 6+46
SCALE: 1/4" = 1'-0"



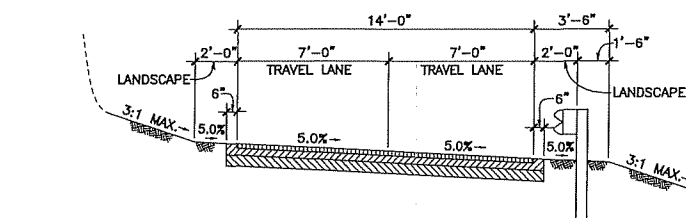
11
C-7
ROAD SECTION
STA. 6+46 TO STA. 6+75
SCALE: 1/4" = 1'-0"



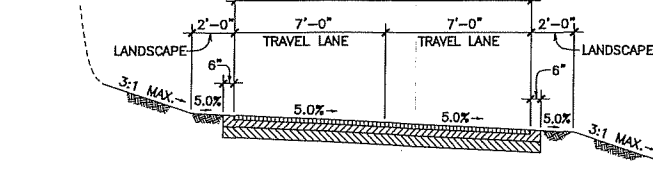
12
C-7
ROAD SECTION
STA. 6+75 TO STA. 7+15.91
SCALE: 1/4" = 1'-0"



13
C-7
ROAD SECTION
STA. 7+15.91 TO STA. 8+13.42
SCALE: 1/4" = 1'-0"



14
C-7
ROAD SECTION
STA. 8+13.42 TO STA. 9+25
SCALE: 1/4" = 1'-0"



15
C-7
ROAD SECTION
STA. 9+25 TO STA. 9+85
SCALE: 1/4" = 1'-0"

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KEANAE ROAD SAFETY IMPROVEMENTS

JOB NO. 16-21
TAX MAP KEY: (2) 1-1-002005, 009 AND 010 AND (2) 1-1-003041
KEANAE, MAUI, HAWAII

ROAD SECTIONS

MICHAEL E. SILVA
LICENSED PROFESSIONAL ENGINEER
No. 11185-C
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION,
AND CONSTRUCTION OF THIS PROJECT
WILL BE UNDER MY OBSERVATION AS
DEFINED IN HAWAII J.E.-115-2.
M Silva
LICENSE EXPIRES: 04/30/2018

DESIGNED BY: M.K.S.
DRAWN BY: N.M., M.K.S.
CHECKED BY: M.S.
DATE: FEBRUARY 12, 2018
FILE NO: COM88

SHEET
C-7

9 OF 16



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KEANAE, MAUI, HAWAII

END TREATMENT TYPE FLEAT 350 DETAILS



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION,
AND CONSTRUCTION OF THIS PROJECT
WILL BE UNDER MY OBSERVATION AS
DEFINED IN HAWAIIAN LAWS.
M. Silva
LICENSE EXPIRES: 04/30/2018

DESIGNED BY: M.K.S.
DRAWN BY: N.M., M.K.S.
CHECKED BY: M.S.
DATE: FEBRUARY 12, 2018
FILE NO: C068

SHEET
C-8

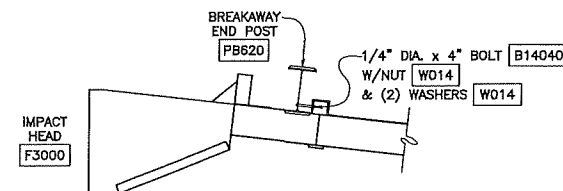
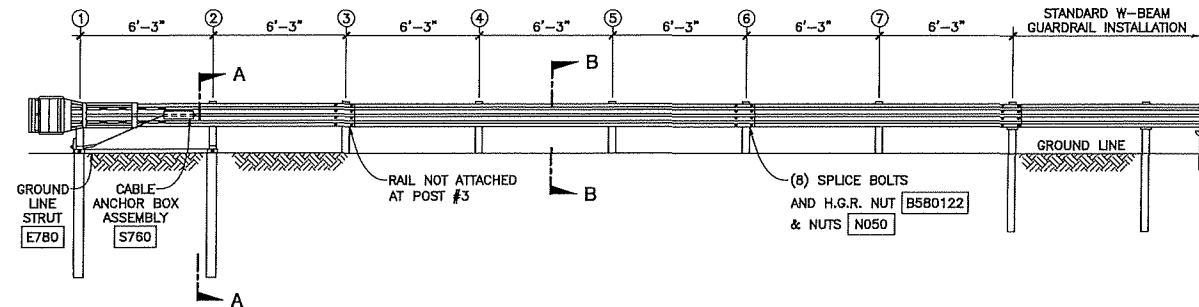
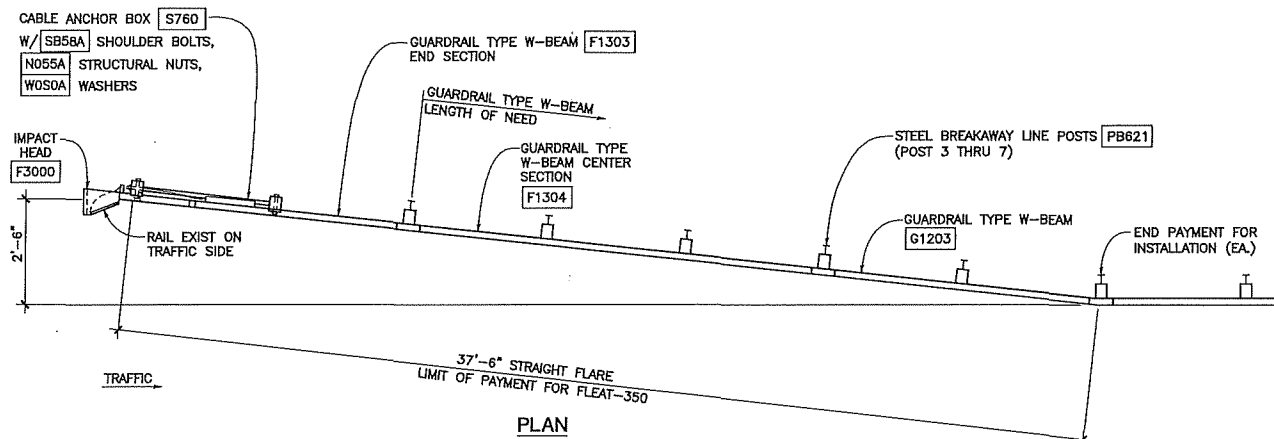
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GENERAL NOTES:

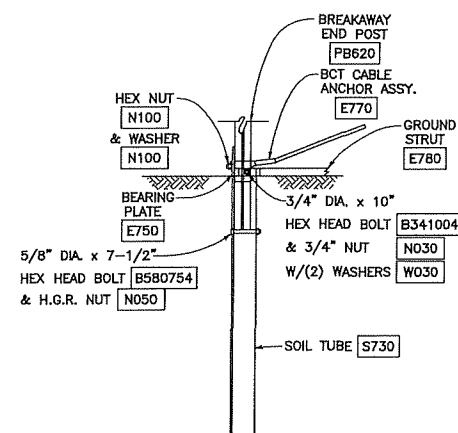
- BREAKAWAY POSTS ARE REQUIRED WITH THE FLEAT TERMINAL.
- ALL BOLTS, NUTS, CABLE ASSEMBLIES, CABLE ANCHORS AND BEARING PLATES SHALL BE GALVANIZED.
- THE SOIL TUBES SHALL NOT PROTRUDE MORE THAN 4" ABOVE GROUND (MEASURED ALONG A 5' CORD). SITE GRADING MAY BE NECESSARY TO MEET THIS REQUIREMENT.
- THE SOIL TUBES MAY BE DRIVEN WITH AN APPROVED DRIVING HEAD. SOIL TUBES SHALL NOT BE DRIVEN WITH THE POST IN THE TUBE. IF THE TUBES ARE PLACED IN DRILLED HOLES, THE BACKFILL MATERIAL MUST BE SATISFACTORILY COMPACTED TO PREVENT SETTLEMENT.
- WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12" DIA. POST HOLE, 20" DEEP MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL WILL BE PLACED IN THE BOTTOM OF THE HOLE APPROX. 2-1/2" DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES WILL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.
- THE BREAKAWAY CABLE ASSEMBLY MUST BE TAUT. A LOCKING DEVICE, (VICE GRIPS OR CHANNEL LOCK PLIERS) SHOULD BE USED TO PREVENT THE CABLE FROM TWISTING WHEN TIGHTENING NUTS.
- (R) OR (L) INDICATES RIGHT OR LEFT IMPACT HEAD REFLECTOR MARKER (IHRM).
- THE STRIPES FOR IHRM SHALL SLOPE DOWNWARD AT AN ANGLE OF 45° TOWARDS THE SIDE OF THE END TREATMENT THAT TRAFFIC IS TO PASS.

ITEM NO.	QTY.	END TREATMENT TYPE FLEAT 350 SCHEDULE
F3000	1	IMPACT HEAD
F1303	1	W-BEAM GUARDRAIL END SECTION, 12 GA.
F1304	1	W-BEAM GUARDRAIL CENTER SECTION, 12 GA.
G1203	1	W-BEAM GUARDRAIL, 12 GA.
S730	2	*FOUNDATION SOIL TUBE, 6"x8"x72"
E750	1	BEARING PLATE
S760	1	CABLE ANCHOR BOX
E770	1	BCT CABLE ANCHOR ASSEMBLY
E780	1	GROUND STRUT
PB620	2	STEEL BREAKAWAY END POST
PB621	5	STEEL BREAKAWAY LINE POST
	5	RECYCLED PLASTIC BLOCKOUT OR OFFSET BLOCK
	1	IMPACT HEAD REFLECTOR MARKER - IHRM(R) OR (L)
ITEM NO.	QTY.	HARDWARE SCHEDULE
B580122	25	5/8" DIA. x 1-1/4" SPLICE BOLT, POST #2
B580754	2	5/8" DIA. x 7-1/2" HEX BOLT
B341004	2	3/4" DIA. x 10" HEX BOLT
B581002	5	5/8" DIA. x 10" H.G.R. BOLT (POST 3 THRU 7)
N050	32	5/8" DIA. H.G.R. NUT (SPLICE 24, SOIL TUBES 2, POST 2 THRU 7, 4)
N030	2	3/4" DIA. HEX NUT
W050	6	H.G.R. WASHER
W030	4	3/4" ID WASHER
N100	2	1" ANCHOR CABLE HEX NUT
W100	2	1" ANCHOR CABLE WASHER
B140404	2	1/4" x 4" HEX BOLT
N014	2	1/4" HEX NUT
W014	4	1/4" WASHER
S858A	8	CABLE ANCHOR BOX SHOULDER BOLT
N055A	8	1/2" A325 STRUCTURAL NUT
W050A	16	1-1/16" OD x 9/16" ID A325 STR. WASHER

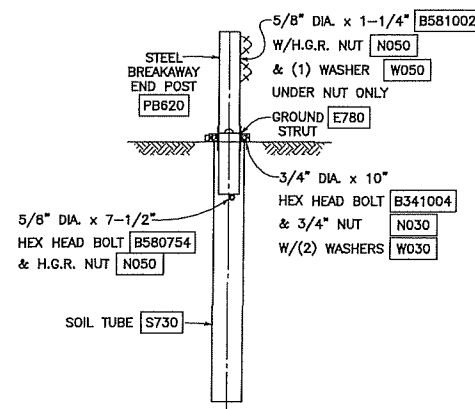
FOUNDATION TUBE OPTIONS FOR POSTS 1 & 2	
*6'-0" SPLIT FOUNDATION TUBES	S730
*6'-0" SOLID FOUNDATION TUBES	E731
*5'-0" FOUNDATION TUBES	S735 W/SOIL PLATES SP600
*4'-6" FOUNDATION TUBES	E735 W/SOIL PLATES SP600



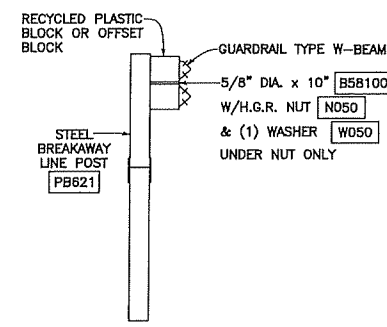
IMPACT HEAD CONNECTING DETAIL
NOT TO SCALE



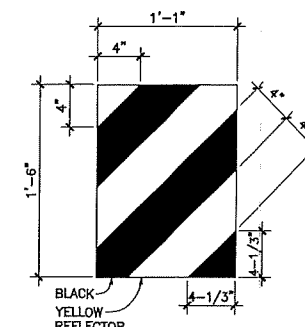
PARTIAL VIEW OF POST 1



SECTION A-A
(TYPICAL @ POST 3 - 7)



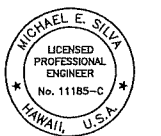
SECTION B-B
(TYPICAL @ POST 3 - 7)
NOTE: RAIL NOT BOLTED @ POST #3



IHRM (R)
IMPACT HEAD REFLECTOR
MARKER INSERT DETAIL
SCALE: 1-1/2" = 1'-0"

1
C-8
END TREATMENT TYPE FLEAT-350 DETAILS
SCALE: AS SHOWN

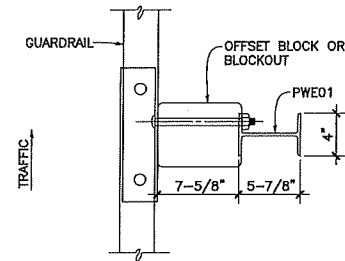
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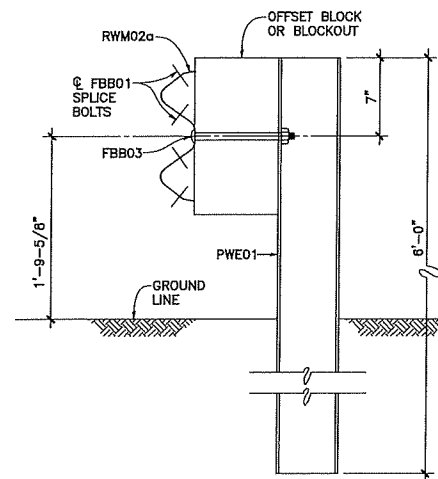
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MICHAEL E. SILVA
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SHEET **C-9**
10 OF 16



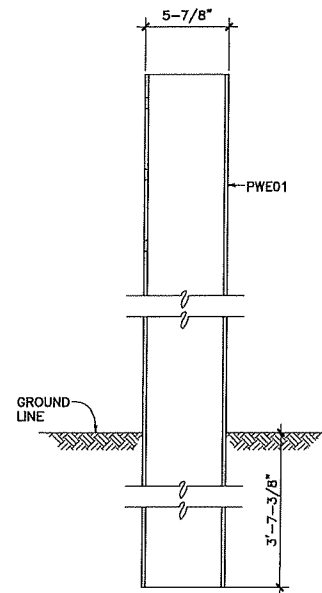
PLAN



ELEVATION

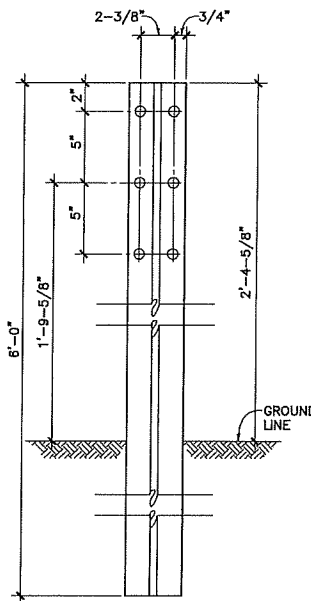
1 STRONG POST GUARDRAIL TYPE W-BEAM (SGR04a)
C-9 NOT TO SCALE

NOTE:
ALL HOLES ARE
3/4\"/>

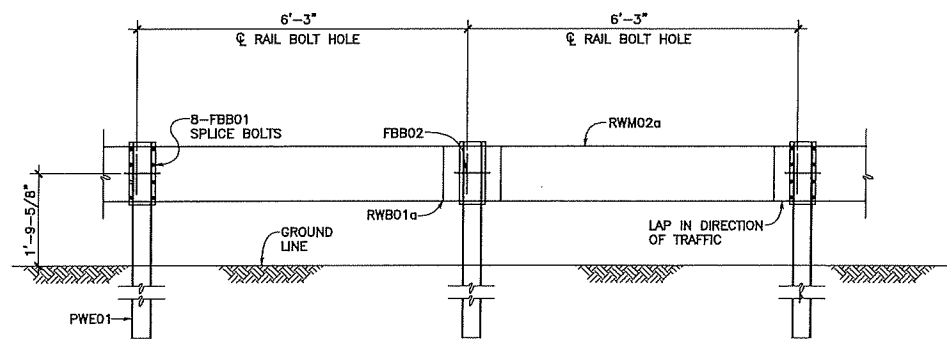


SIDE

2 GUARDRAIL TYPE W-BEAM STRONG POST (PWE01)
C-9 NOT TO SCALE

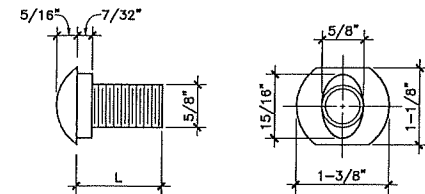
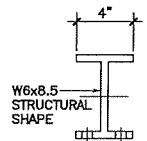


FRONT

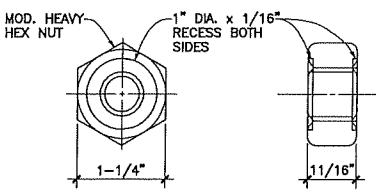


ELEVATION

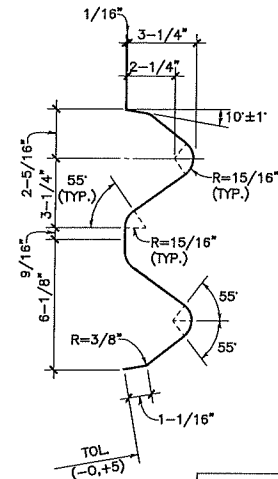
5 STRONG POST GUARDRAIL TYPE W-BEAM WITH RECYCLED OFFSET BLOCK OR PLASTIC BLOCKOUT
C-9 NOT TO SCALE



DESIGNATOR	L
FBB01	1-3/8"
FBB02	2"
FBB03	10"

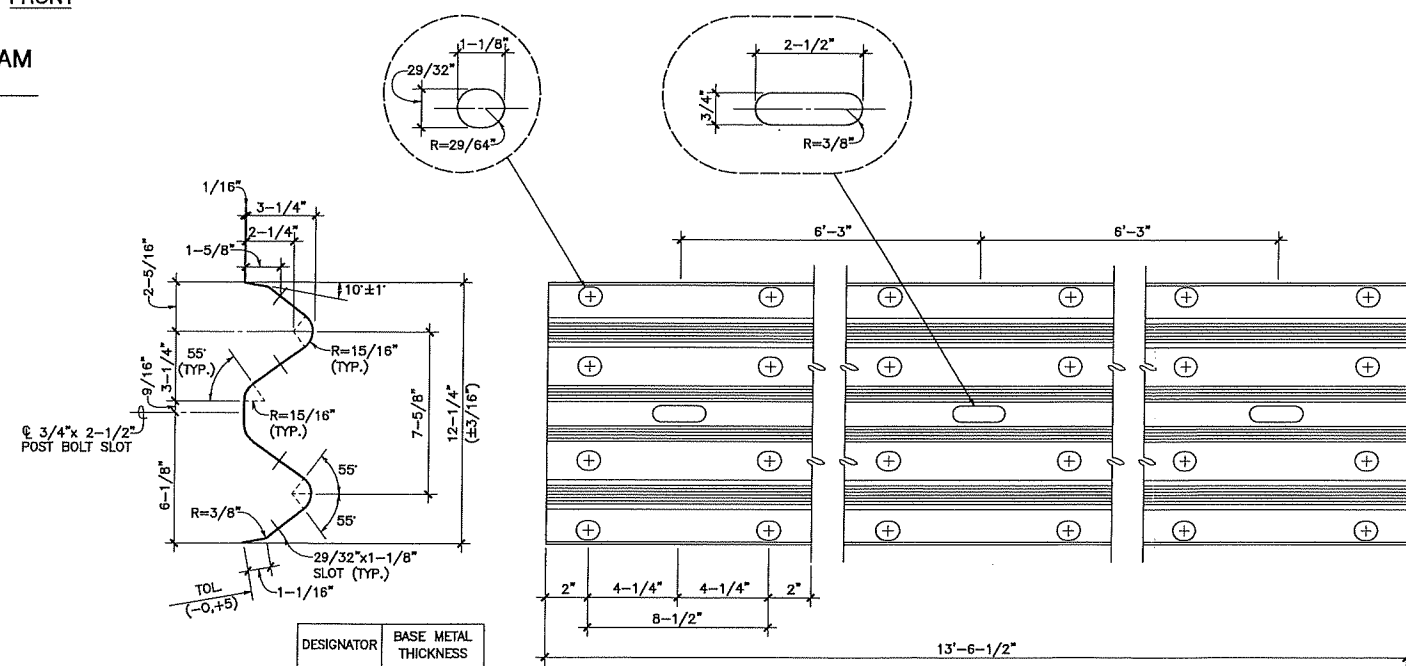
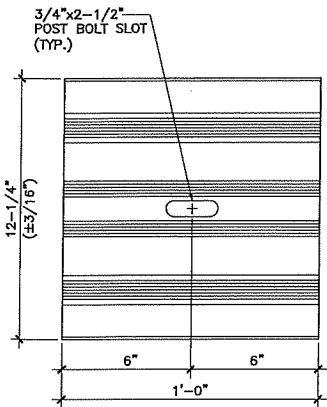


3 GUARDRAIL BOLTS AND RECESSED NUT
C-9 NOT TO SCALE



DESIGNATOR	BASE METAL THICKNESS
RWB01a	12 GAUGE

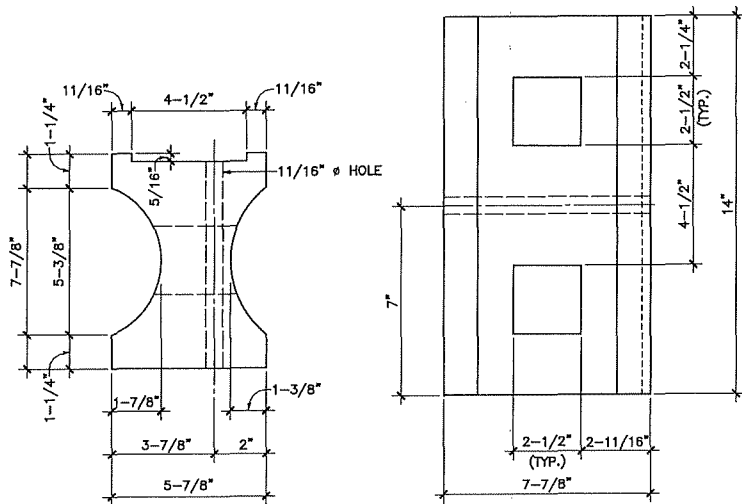
4 GUARDRAIL TYPE W-BEAM BACK-UP-PLATE (RWB01a)
C-9 NOT TO SCALE



DESIGNATOR	BASE METAL THICKNESS
RWB02a	12 GAUGE

6 2 SPACE GUARDRAIL TYPE W-BEAM (RWM02a)
C-9 NOT TO SCALE

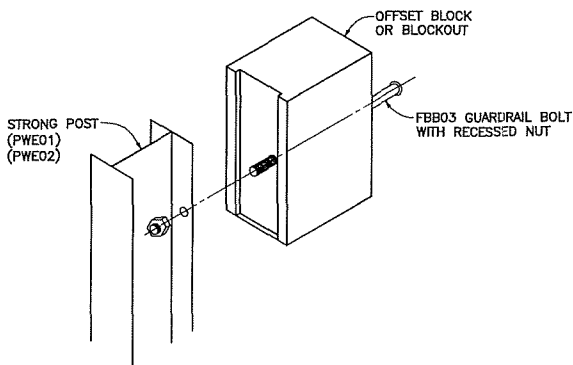
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TOP

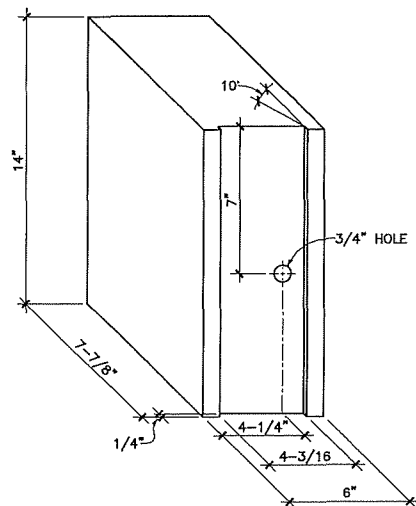
SIDE

RECYCLED PLASTIC BLOCKOUT (TYPE I)



EXPLODED VIEW
(RAIL AND WASHER NOT SHOWN)

STEEL POST AND BLOCK DETAIL



NOTE:
ALL EXTERIOR CORNERS
ARE 1/2" RADIUS.

RECYCLED POLYETHYLENE OFFSET BLOCK (TYPE II)

1
C-10
GUARDRAIL TYPE W-BEAM DETAILS
NOT TO SCALE

GENERAL NOTES

- ALL HARDWARE, POSTS, AND FASTENERS SHALL BE HOT-DIP ZINC COATED GALVANIZED AFTER FABRICATION. NO PUNCHING, DRILLING, OR CUTTING WILL BE PERMITTED AFTER GALVANIZING.
- WHERE CONDITIONS REQUIRE, SPECIAL POST LENGTHS IN INCREMENTS OF 6 INCHES MAY BE SPECIFIED.
- ALL FASTENERS, POSTS, AND RAIL ELEMENTS (I.E. FBB03, PWE01, RWM02b, ETC.) SHALL CONFORM TO THE LATEST EDITION AND AMENDMENTS OF "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE", A REPORT PREPARED AND APPROVED BY AASHTO-ASC-ARTBA JOINT COOPERATIVE COMMITTEE, SUBCOMMITTEE ON NEW HIGHWAY MATERIALS, TASK FORCE 13 REPORT. DIMENSIONS OF FASTENERS, POSTS, AND RAIL ELEMENTS HAVE BEEN CONVERTED FROM METRIC UNITS INTO THEIR PRESENT FORM.
- THE RECYCLED PLASTIC BLOCK OR OFFSET BLOCK SHALL BE APPROVED BY THE STATE.
- ALL NEW GUARDRAIL SYSTEMS (SYSTEM CONSISTS OF TOTAL LENGTH OF GUARDRAIL INCLUDING BOTH END TREATMENTS) SHALL INCLUDE THE ADDITIONAL PAVED AREA.
- AFTER THE GUARDRAIL POSTS ARE INSTALLED IN THE PAVED AREA, THE CONTRACTOR SHALL FILL/SEAL AROUND EACH GUARDRAIL POST AND ALL CRACKS IN THE PAVED AREA CAUSED DURING THE GUARDRAIL POST INSTALLATION. IF REQUIRED BY THE INSPECTOR/ENGINEER, THE CONTRACTOR SHALL TAMPER THE PAVED AREA AROUND THE GUARDRAIL POST PRIOR TO FILLING/SEALING. ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS GUARDRAIL ITEMS.
- WHEN STANDARDS FOR THE FILL SLOPE AREA CANNOT BE MET, A SITE SPECIFIC, ENGINEER APPROVED DESIGN MAY BE USED.
- NEW A.C. PAVEMENT AT GUARDRAILS SHALL EXTEND 6 FEET LONGITUDINALLY BEYOND TERMINAL ENDS.
- REFLECTOR MARKERS (RM-5) MOUNTED ON GUARDRAILS SHALL BE SPACED EVERY 25 FEET. RM-5'S SHALL NOT BE INSTALLED ON TERMINAL SECTIONS. FURNISHING AND INSTALLING OF EACH RM-5 SHALL BE CONSIDERED INCIDENTAL TO THE ADJACENT GUARDRAIL SYSTEM.

GUARDRAIL TYPE	DIMENSIONS	
	H	A
STRONG POST W-BEAM	1'-9-5/8"	1'-6"
STRONG POST RUBRAIL (W-BEAM)	2'-0"	1'-6"



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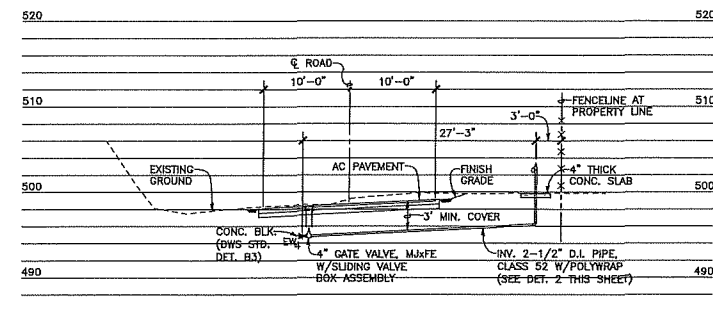
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FILE NO: COM68

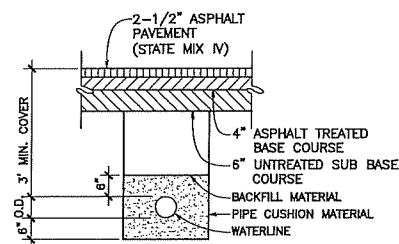
SHEET C-10

11 of 16

80% SUBMITTAL

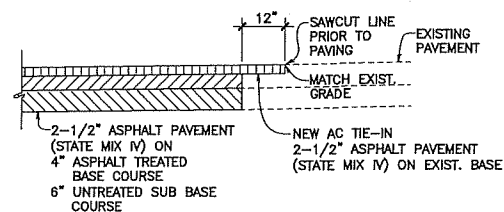


1
C-11 PROFILE-STANDPIPE ASSEMBLY #2 REPLACEMENT
SCALE: 1" = 10'



- NOTES:
1. CONTRACTOR SHALL PROVIDE A TEMPORARY OLD MIX PATCH IF PERMANENT RESTORATION CANNOT BE MADE WITHIN 24 HOURS OF BACKFILL.
 2. ALL EXPOSED AREAS TO BE GRASSED.

2
C-11 TYPICAL WATERLINE TRENCH SECTION
NOT TO SCALE



3
C-11 ASPHALT PAVING TIE-IN DETAIL
SCALE: 1/2" = 1'-0"



FUKUMOTO
ENGINEERING, INC.

Civil Engineering &
Land Surveying Consultants

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Website: www.femaul.com

Prepared for:
Department of Public Works
County of Maui
200 S. High Street
Wailuku, Hawaii 96793

KEANAE ROAD SAFETY IMPROVEMENTS

JOB NO. 16-21

TAX MAP KEY: (2) 1-1-002005, 009 AND 010 AND (2) 1-1-003041

KEANAE, MAUI, HAWAII

MISCELLANEOUS DETAILS



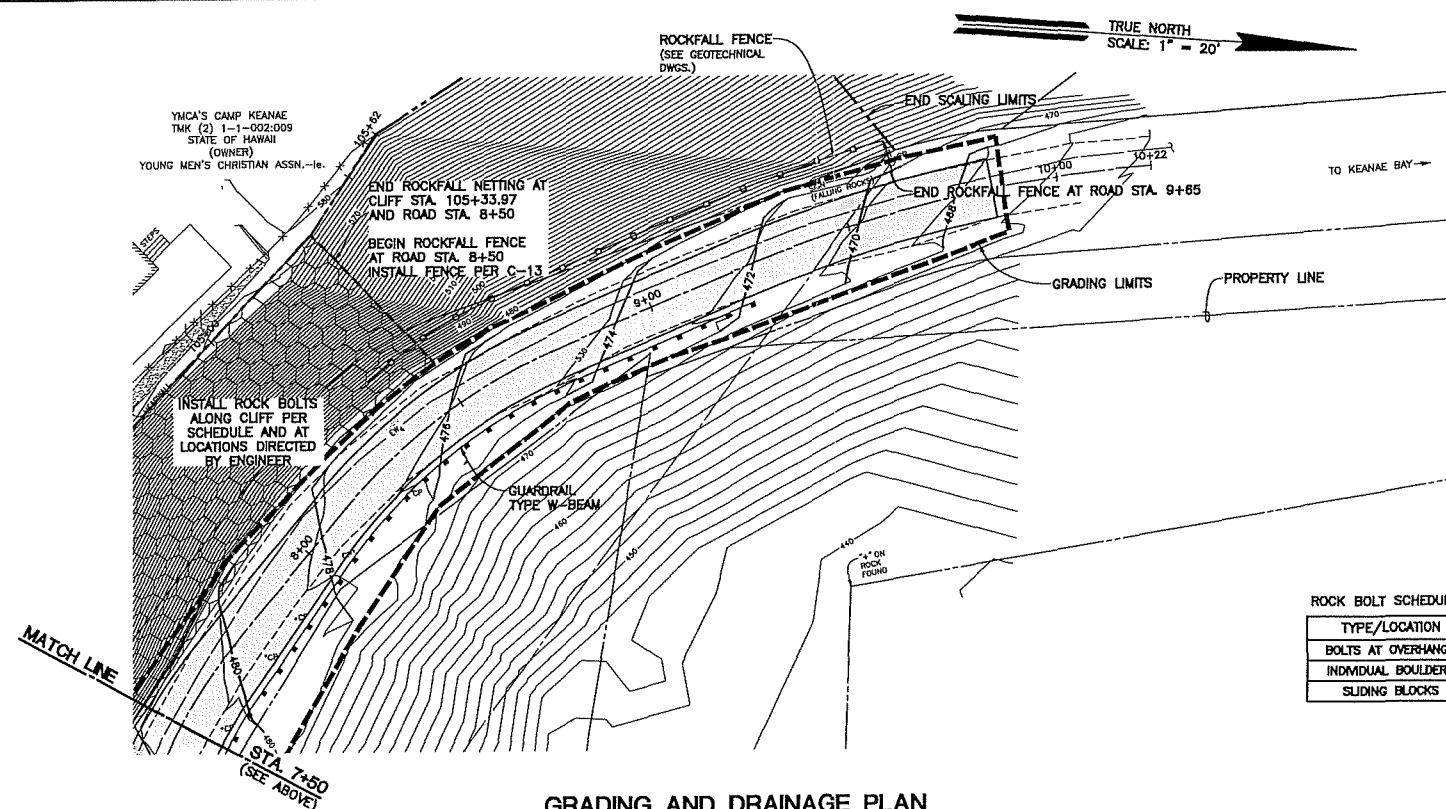
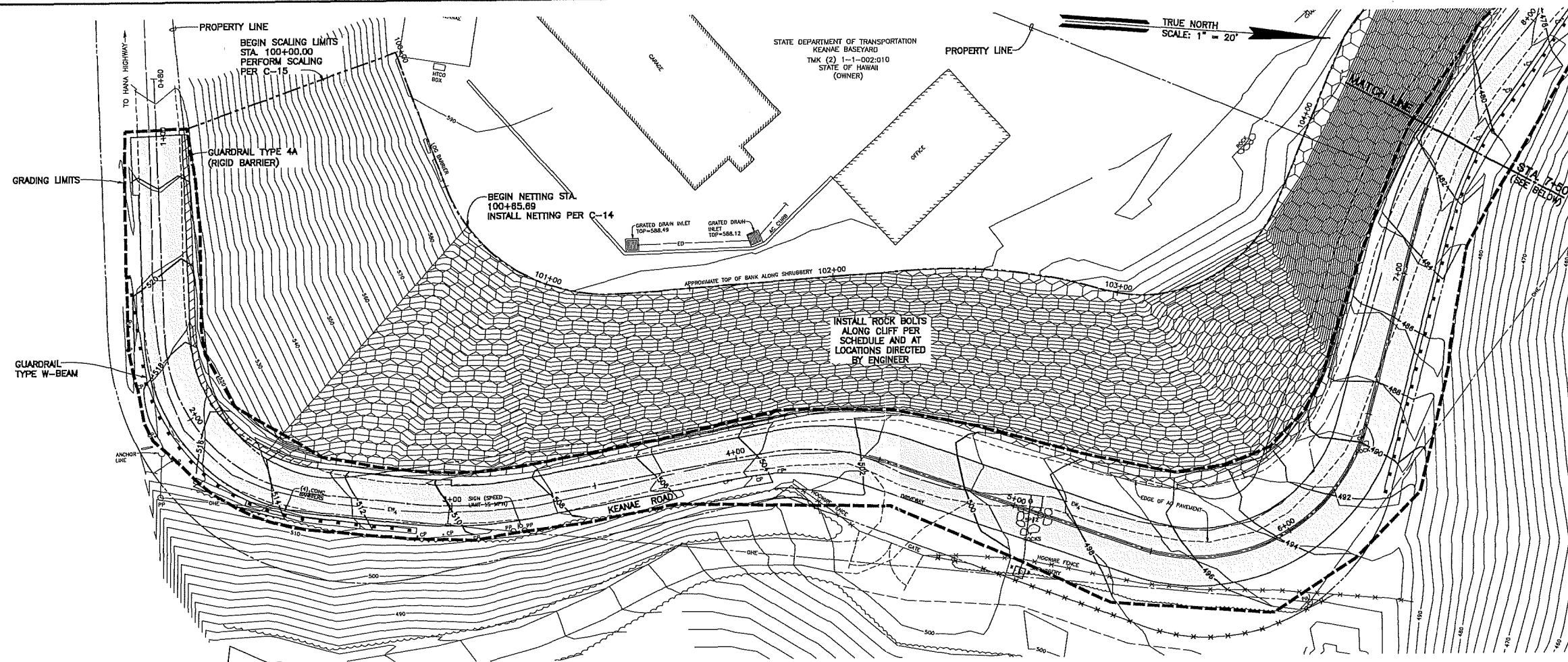
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SHEET
C-11
12 OF 16

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HARTCROWSER

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Phone: 808.587.7747
Website:
www.hartcrowser.com

Prepared for:
Department of Public Works
County of Maui
200 S. High Street
Wailuku, Hawaii 96793

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KEANAE, MAUI, HAWAII

ROCKFALL MITIGATION PLAN



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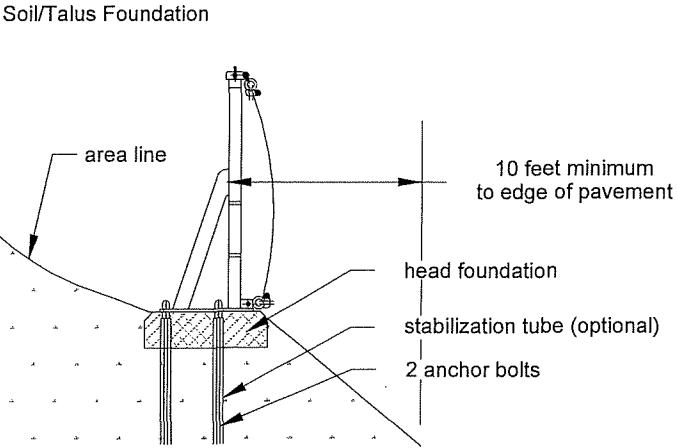
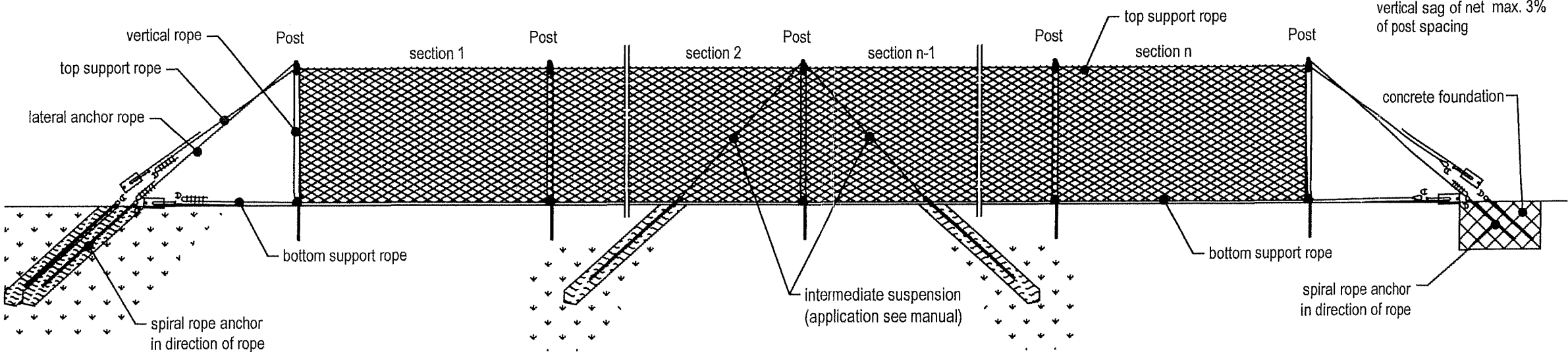
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DESIGNED BY:	T.W.B.
DRAWN BY:	M.A.S.
CHECKED BY:	M.S.
DATE:	JULY 7, 2017
FILE NO:	3140-004-001

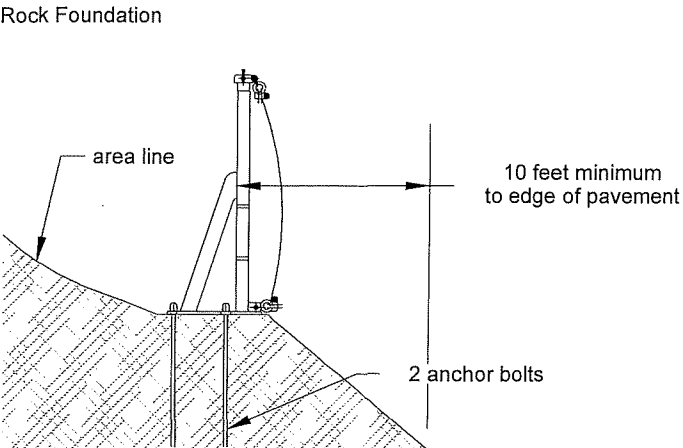
SHEET C-12

80% DRAWINGS

Installation of GBE-1000 A-R Rockfall Fence to be completed per GBE-1000 A-R product manual and these drawings.



Foundation Details 1
C-13



Anchor Forces GBE-1000 A-R
Energy Class EOTA 3A (1000 kJ)

Rope Anchorage			
(OPTION)			
No.	Anchorage Type	Anchor Type	Characteristic Force
1	Lateral Anchors (Support Ropes, Lateral Ropes)	Typ II	14.5 mm
(2)		(Typ III)	18.5mm
C	Shear Force, parallel to base plate	[]	160 kN

Anchor Details 2
C-13

Foundations shall be designed by rockfall fence contractor per project specifications, Sheet C-5.

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Department of Public Works
County of Maui
200 S. High Street
Wailuku, Hawaii 96793

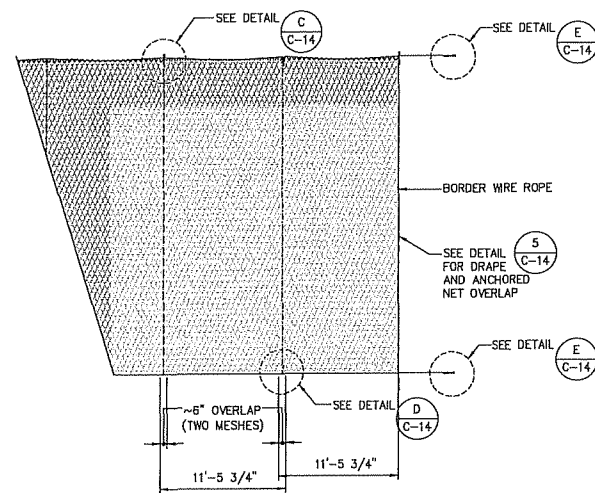
KEANAE ROAD SAFETY IMPROVEMENTS
JOB NO. 16-21
TAX MAP KEY: (2) 1-1-002009 AND 010
KEANAE, MAUI, HAWAII
FENCE DETAILS

THOMAS W. BLACKWOOD
LICENSED PROFESSIONAL ENGINEER
No. 11592-C
HAWAII, U.S.A.
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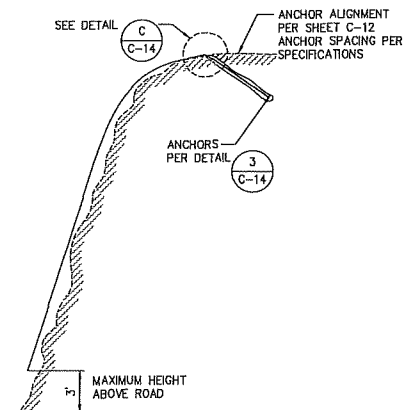
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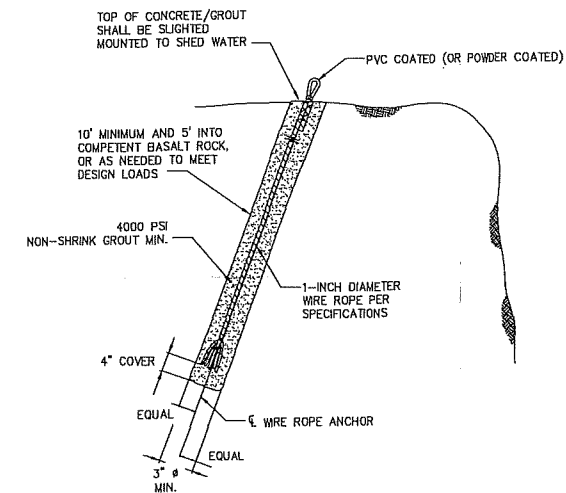
SHEET
C-13
14 OF 16



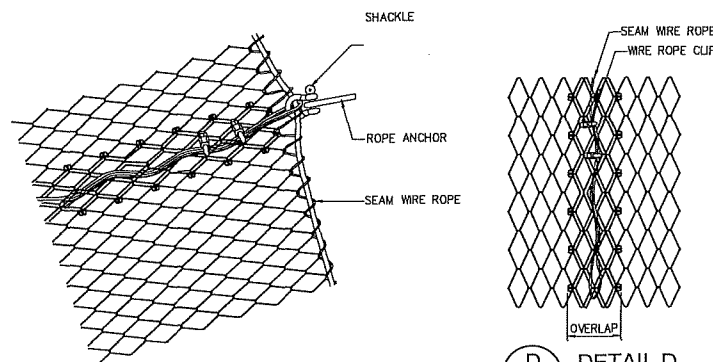
A PLAN
C-14 NOT TO SCALE



B SECTION
C-14 NOT TO SCALE

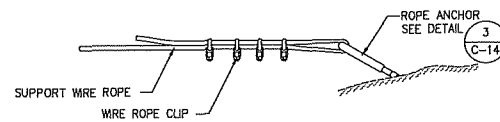


2 WIRE ROPE ANCHOR DETAIL (SIDE VIEW)
C-14 SCALE: NTS



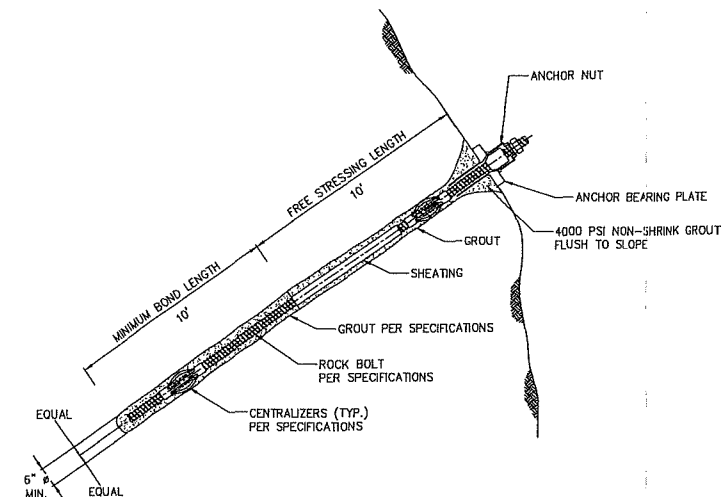
C DETAIL C
C-14 NOT TO SCALE

D DETAIL D
C-14 NOT TO SCALE



E DETAIL E
C-14 NOT TO SCALE

1 TYPICAL ROCKFALL DRAPE DETAILS
C-14 SCALE: AS SHOWN



3 ROCK BOLT DETAIL (SIDE VIEW)
C-14 SCALE: NTS

SLOPE SCALING NOTES:

1. SLOPE SCALING ACTIVITIES, INCLUDING REMOVING DEBRIS FROM THE SITE AT THE END OF THE SLOPE SCALING SHIFT, SHALL BE CONDUCTED WITHIN THE TIMES AND DURATION SPECIFIED IN THE CONTRACT DOCUMENTS.
2. THE CONTRACTOR SHALL SUBMIT A WORK PLAN FOR APPROVAL BY THE ENGINEER.
3. EACH SLOPE SCALING CREW SHALL CONSIST OF ONE SCALING SUPERVISOR AND TWO (2) EXPERIENCED SLOPE SCALERS.
4. THE CONTRACTOR SHALL DETERMINE THE NUMBER OF SLOPE SCALING CREWS TO EMPLOYED ON THIS PROJECT BASED ON THE EXTENT OF THE SLOPE SCALING TO PERFORMED AND THE DURATION AVAILABLE FOR PERFORMANCE OF THE WORK.
5. SLOPE SCALING WORK SHALL BEGIN ONLY AFTER PUBLIC PROTECTION MEASURES ARE PUT IN PLACE AT THE BEGINNING OF EACH SLOPE SCALING SHIFT. THE CONTRACTOR SHALL PROTECT THE PUBLIC FROM ANY ROCKFALL HAZARDS AT ALL TIMES DURING THE CONTRACTOR'S ACTIVITIES BY INSTALLING TEMPORARY IMPACT FENCES, BARRICADES, OR INTERMITTENT ROAD CLOSURES. TEMPORARY PROTECTION MEASURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
6. START SLOPE SCALING AT THE TOP OF THE SLOPE AND PROCEED DOWN SLOPE, REMOVING LOOSE ROCK AND OTHER DEBRIS AS THE WORK PROGRESSES. ALL MATERIAL ON THE SLOPE FACE THAT IS LOOSE, HANGING OR CREATES A SAFETY HAZARD TO THE PUBLIC MUST BE REMOVED OR STABILIZED, TO THE ENGINEER'S SATISFACTION, DURING OR ON COMPLETION OF THE SECTION OF SLOPE.
7. UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER, THE CONTRACTOR SHALL EXERCISE EXTRA CARE IN THE SLOPE SCALING WORK AND SHALL AVOID OVER-STEEPENING THE SLOPE FACE THAT MAY CAUSE INSTABILITY OF THE SLOPE FACE. IF DURING THE SLOPE SCALING WORK, THE CONTRACTOR ENCOUNTERS UNSAFE SLOPE CONDITIONS THAT MAY CONSTITUTE A POTENTIAL SLIDE, IMMEDIATELY NOTIFY THE ENGINEER.
8. BLOCKS OF ROCKS OR DEBRIS THAT HANG UP ON THE SLOPE DURING SCALING OPERATION SHALL BE REMOVED UPON COMPLETION OF THE FIRST PASS OF THE SLOPE SCALING. THE CONTRACTOR SHALL CONTINUE SCALING OF THE SLOPES UNTIL THE SLOPE SCALING HAS BEEN COMPLETED TO THE SATISFACTION OF THE ENGINEER.
9. THE CONTRACTOR SHALL CLEAR THE AREA OF ROCKS AND DEBRIS AT THE END OF EACH SLOPE SCALING SHIFT.
10. REMOVED ROCKS AND DEBRIS SHALL BE DISPOSED OF IN AN OFF-SITE DISPOSAL LOCATION IN COMPLIANCE WITH LOCAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AN ACCEPTABLE WASTE SITE, SECURE ANY PERMITS AND COMPLY WITH ALL LAWS AND REQUIREMENTS.



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County of Maui
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KEANAE ROAD SAFETY IMPROVEMENTS

JOB NO. 16-21
TAX MAP KEY: (2) 1-1-002-009 AND 010
KEANAE, MAUI, HAWAII

GENERAL NOTES



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FILE NO: 3140-004-001

SHEET
C-15
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**PRELIMINARY ENGINEERING
ASSESSMENT**

APPENDIX

B



FUKUMOTO ENGINEERING, INC.
Civil Engineering & Land Surveying Consultants

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Michael E. Silva, PE, LS, LEED AP

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Email: office@femaui.com
Website: www.femaui.com

August 29, 2017

**PRELIMINARY ENGINEERING ASSESSMENT FOR
KEANAE ROAD SAFETY IMPROVEMENTS
Tax Map Key (2) 1-1-002:009 and 010
Keanae, Maui, Hawaii**

PURPOSE

The purpose of this assessment is to evaluate the effects of the project on existing infrastructure.

PROJECT DESCRIPTION AND COMPONENTS

The project involves the installation of safety improvements for Keanae Road in Keanae, Maui. Safety improvements include rock fall mitigation for approximately 900 feet of cliff face along Keanae Road, realignment and widening portions of the roadway, repaving approximately 1,570 feet of roadway, and related site improvements. Site improvements include the relocation of an existing standpipe, minor grading, removal and installation of fencing, and the installation guardrails. No other utilities are anticipated to be affected.

Approximately 1.60 acres of land will be cleared and grubbed. The grading work involves about 110 cubic yards of cut and about 180 cubic yards of fill. The maximum cut and fill are 3.5 feet and 1.7 feet, respectively.

DRAINAGE REVIEW

The site is located on the makai side of Hana Highway along the upper portion of Keanae Road. The project begins at the intersection of Hana Highway and Keanae Road and continues approximately 1,570 feet down towards the shoreline. The rock fall mitigation improvements extend along the cliff face above the road. Elevations of the cliff face range from about 18 feet to 140 feet with slope heights ranging from 70 to 110 feet. The roadway elevations range from 7 to 110 feet. The site generally slopes down from south to north with roadway slopes of about 7 to 9 percent. There are no drainage improvements in the area.

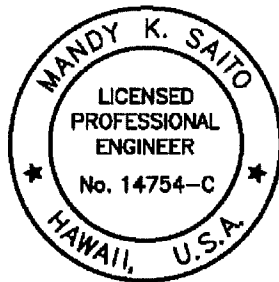
The proposed project will maintain existing drainage patterns. Existing berms and swales contain runoff within the roadway that eventually sheet flows down the cliff.

GRADING REVIEW

The proposed cut and fill do not alter the general drainage patterns with respect to abutting properties.

CONCLUSION

There will be no adverse effects on the adjacent or downstream properties due to this project.



This work was prepared by
me or under my supervision.

Mandy K. Saito

License Expires: 04/30/2018

**BIOLOGICAL RESOURCES
SURVEY**

APPENDIX

C

BIOLOGICAL RESOURCES SURVEY
for the
KE'ANAE ROAD SAFETY IMPROVEMENTS PROJECTS
HĀNA, MAUI

by
ROBERT W. HOB DY
ENVIRONMENTAL CONSULTANT
Kokomo, Maui
February 2017

Prepared for:
Department of Public Works
County of Maui

BIOLOGICAL RESOURCES SURVEY
KE'ANAE ROAD SAFETY IMPROVEMENTS PROJECT
HĀNA, MAUI

INTRODUCTION

The Ke'anae Road Safety Improvements Project is located along a 900 foot section of the upper Ke'anae Road as it descends from Hāna Highway to the Ke'anae Peninsula, and involves the installation of stabilization devices on a cliff face above the road. TMKs 7-1-02:09 por. 010 por. (see Figure 1). This biological resources survey was initiated by the County of Maui, Department of Public Works in fulfillment of environmental requirements of the planning process.

SITE DESCRIPTION

The project corridor is a steep rocky cliff face that ranges in height between 70 feet and 110 feet. It lies directly above a 900 foot section of the road. It is densely vegetated with tropical trees, shrubs, vines, grasses and ferns (see Figures 2 & 3). Rainfall averages 150 inches per year. The project area is situated at elevations between 20 feet and 150 feet above sea level.

SURVEY OBJECTIVES

This report summarizes the findings of a botanical and fauna survey of the proposed Ke'anae Road Safety Improvements Project which was conducted in February 2017.

The objectives of the survey were to:

1. Document what plant and animal species may occur on the property or may likely occur in the existing habitat.
2. Determine 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 flora and fauna in this part of the island.

BOTANICAL SURVEY REPORT

SURVEY METHODS

The project area was surveyed on foot along both the top and bottom of the cliff. Notes were made on plant species, distribution and abundance as well as on terrain and substrate. A good view of the cliff face was visible from the road at the bottom and binoculars were used to scan the details of the vegetation. A special effort was made to identify any native Hawaiian species and any that might be federally Endangered or Threatened plants requiring special consideration.

DESCRIPTION OF THE VEGETATION

The entire cliff face was covered by a dense growth of vegetation despite having little soil. Abundant rainfall has enabled a wide variety of plant species to establish themselves on the rocky substrate. A total of 104 plant species were recorded during the survey. Four non-native species were of common occurrence: African tulip tree (*Spathodea campanulata*), avocado (*Persea americana*), maunaloa vine (*Canavalia cathartica*) and honohono (*Commelina diffusa*).

Seven native plant species were recorded, the endemic pohole fern (*Diplazium sandwichianum*), and six indigenous species: (Cyperus polystachyos) no common name, hala (*Pandanus tectorius*), koali awahia (*Ipomoea indica*), kā'e'e (*Mucuna gigantea*), popolo (*Solanum americanum*) and pala'ā (*Sphenomeris chinensis*).

Six Polynesian introduced plant species were recorded: kalo (*Colocasia esculenta*), niu (*Cocos nucifera*), hoi (*Dioscorea bulbifera*), 'ōhi'a 'ai (*Syzigium malaccanense*), 'ihi'ai (*Oxalis corniculata*) and kī (*Cordyline fruitcosa*).

The remaining eighty seven species were all non-native species that were uncommon or rare in occurrence (see the plant inventory).

DISCUSSION AND RECOMMENDATIONS

The vegetation in the project area is made up primarily of non-native plant species. The seven native plant species are all of common occurrence on multiple islands and are of no special conservation concern. Likewise, the six Polynesian introduced species are all common throughout Hawaii.

No federally Endangered or Threatened plant species (USFWS 2017) were found in the project area, nor were any found that are candidates for such status. No special plant habitats were found here either. No Wetlands as defined by the U.S. Army Corps of Engineers occur on or near the project area.

Because of the above existing conditions there is little of botanical concern with regard to the property, and the proposed project is not expected to have a significant negative impact on the botanical resources in this part of Maui. No recommendations regarding the flora on this property are deemed necessary or appropriate.

PLANT SPECIES LIST

Following is a checklist of all those vascular plant species inventoried during the field studies. Plant families are arranged alphabetically within three groups: Ferns, Monocots and Dicots. Taxonomy and nomenclature of the Ferns are in accordance with Palmer (2003). Taxonomy and nomenclature of the flowering plants (Monocots and Dicots) are in accordance with Wagner et al. (1999) and Staples & Herbst (2005).

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).

Polynesian = all those plants brought to Hawaii by the Polynesians during the course of their migrations.

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

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
FERNS			
ATHYRIACEAE (Lady Fern Family)			
<i>Diplazium sandwichianum</i> (C.Presl) Diels	pohole	endemic	rare
BLECHNACEAE (Chain Fern Family)			
<i>Blechnum appendiculatum</i> Willd.	palm fern	non-native	rare
DENNSTAEDTIACEAE (Bracken Family)			
<i>Nephrolepis brownii</i> (Desv.) Hovenc. & Miyam.	Asian sword fern	non-native	uncommon
LINDSAEACEAE (Lindsaea Fern Family)			
<i>Sphenomeris chinensis</i> (L.) Maxon	pala'ā	indigenous	rare
POLYPODIACEAE (Polypody Family)			
<i>Phlebodium aureum</i> (L.) J.Sm.	rabbits foot fern	non-native	rare
<i>Phymatosorus grossus</i> (Langsd. & Fisch.) Brownlie	laua'e	non-native	uncommon
THELYPTERIDACEAE (Marsh Fern Family)			
<i>Cyclosorus parasiticus</i> (L.) Farw.	-----	non-native	uncommon
<i>Macrothelypteris torresiana</i> (Gaud.) Ching	-----	non-native	rare
MONOCOTS			
AMARYLLIDACEAE (Amaryllis Family)			
<i>Crinum augustum</i> Roxb.	Queen Emma lily	non-native	rare
ARACEAE (Aroid Family)			
<i>Colocasia esculenta</i> (L.) Schott	kalo	Polynesian	rare
<i>Dieffenbachia seguine</i> (Jacq.) Schott	dumb cane	non-native	uncommon
<i>Epipremnum pinnatum</i> (L.) Engler	taro vine	non-native	uncommon
<i>Philodendron pinnatifidum</i> (Jacq.) Schott	comb-leaf philodendron	non-native	rare
<i>Philodendron scandens</i> K. Koch & Sello	heart-leaf philodendron	non-native	common
<i>Syngonium podophyllum</i> Schott	five fingers	non-native	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
ARECACEAE (Palm Family)			
<i>Cocos nucifera</i> L.	niu, coconut	Polynesian	uncommon
<i>Dypsis lutescens</i> (H. Wendl.) Beentje & Dransfield	areca palm	non-native	rare
<i>Roystonea regia</i> (Kunth) O.F Cook	Cuban royal palm	non-native	rare
ASPARAGACEAE (Asparagus Family)			
<i>Cordyline fruticosa</i> (L.) A. Chev.	kī, ti	Polynesian	uncommon
COMMELINACEAE (Dayflower Family)			
<i>Commelina diffusa</i> N.L. Burm.	honohono	non-native	common
CYPERACEAE (Sedge Family)			
<i>Cyperus polystachyos</i> Rottb.	-----	indigenous	rare
<i>Kyllinga nemoralis</i> (Forster & Forster) Dandy	kili'o'opu	non-native	uncommon
DIOSCOREACEAE (Yam Family)			
<i>Dioscorea bulbifera</i> L.	hoi, bitter yam	Polynesian	uncommon
HELICONIACEAE (Heliconia Family)			
<i>Heliconia bihai</i> (L.) L.	lobster claw	non-native	rare
MUSACEAE (Banana Family)			
<i>Musa balbisiana x acuminata</i> Colla	banana	non-native	rare
ORCHIDACEAE (Orchid Family)			
<i>Spathoglottis plicata</i> Blume	Philippine ground orchid	non-native	rare
PANDANACEAE (Screwpine Family)			
<i>Pandanus tectorius</i> Z.	hala	indigenous	rare
POACEAE (Grass Family)			
<i>Axonopus compressus</i> (Sw.) P. Beauv.	broad-leaved carpetgrass	non-native	uncommon
<i>Axonopus fissifolius</i> (Raddi) Kuhl.	narrow-leaved carpetgrass	non-native	rare
<i>Cenchrus purpureus</i> (Schumach.) Morrone	Napier grass	non-native	uncommon
<i>Coix Lachryma-jobi</i> L.	Job's tears	non-native	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
<i>Digitaria fuscescens</i> (K. Presl) Henr.	creeping crabgrass	non-native	rare
<i>Digitaria setigera</i> Roth	itchy crabgrass	non-native	rare
<i>Digitaria violascens</i> Link	smooth crabgrass	non-native	rare
<i>Megathyrsus maximus</i> (Jacq.) Simon & Jacobs	Guinea grass	non-native	uncommon
<i>Oplismenus hirtellus</i> (L.) P. Beauv.	basketgrass	non-native	rare
<i>Paspalum conjugatum</i> Bergius	Hilo grass	non-native	uncommon
<i>Paspalum urvillei</i> Steud.	Vasey grass	non-native	rare
<i>Sacciolepis indica</i> (L.) Chase	Glenwood grass	non-native	rare
<i>Setaria palmifolia</i> (J. Konig) Stapf	palm grass	non-native	rare
<i>Sporobolus pyramidalis</i> P. Beauv.	-----	non-native	rare
<i>Urochloa mutica</i> (Forssk.) T.Q. Nguyen	California grass	non-native	uncommon

DICOTS

ADOXACEAE (Moschatel Family)

<i>Sambucus mexicana</i> A.P. de Candolle	Mexican elderberry	non-native	rare
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ANACARDIACEAE (Mango Family)

<i>Mangifera indica</i> L.	mango	non-native	uncommon
<i>Schinus terebinthifolius</i> Raddi	Christmas berry	non-native	uncommon

ANNONACEAE (Custard-apple Family)

<i>Annona muricata</i> L.	soursop	non-native	rare
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APOCYNACEAE (Dogbane Family)

<i>Allamanda cathartica</i> L.	allamanda	non-native	rare
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ARALIACEAE (Ginseng Family)

<i>Polyscias guilfoylei</i> (W. Bull) L.H. Bailey	panax	non-native	rare
<i>Schefflera actinophylla</i> (Endl.) Harms	octopus tree	non-native	rare

ASTERACEAE (Sunflower Family)

<i>Ageratum conyzoides</i> L.	maile hohono	non-native	rare
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SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
<i>Crassocephalum crepidioides</i> (Benth) S. Moore	redflower ragleaf	non-native	rare
<i>Emilia sonchifolia</i> (L.) DC.	flora's paintbrush	non-native	rare
<i>Galinsoga parviflora</i> Cav.	-----	non-native	rare
<i>Pluchea carolinensis</i> (Jacq.) G. Don	sourbush	non-native	rare
<i>Sigesbeckia orientalis</i> L.	small yellow crown-beard	non-native	rare
<i>Sphagneticola trilobata</i> (L.) Pruski	wedelia	non-native	uncommon
<i>Synedrella nodiflora</i> (L.) Gaertn.	nodeweed	non-native	rare
<i>Youngia japonica</i> (L.) DC.	Oriental hawksbeard	non-native	rare
BALSAMINACEAE (Touch-me-not Family)			
<i>Impatiens wallerana</i> J.D. Hook.	impatiens	non-native	rare
BEGONIACEAE (Begonia Family)			
<i>Begonia hirtella</i> Link	-----	non-native	rare
BIGNONIACEAE (Bignonia Family)			
<i>Spathodea campanulata</i> P. Beauv.	African tulip tree	non-native	common
BIXACEAE (Annatto Family)			
<i>Bixa orellana</i> L.	achiote	non-native	rare
BRASSICACEAE (Mustard Family)			
<i>Lepidium virginicum</i> L.	pepperwort	non-native	rare
CARICACEAE (Papaya Family)			
<i>Carica papaya</i> L.	papaya	non-native	rare
CARYOPHYLLACEAE (Pink Family)			
<i>Drymaria cordata</i> (L.) Willd.	pipili	non-native	rare
CASUARINACEAE (She-oak Family)			
<i>Casuarina equisetifolia</i> L.	common ironwood	non-native	rare
CONVOLVULACEAE (Morning Glory Family)			
<i>Ipomoea indica</i> (J. Burm.) Merr.	koali awahia	indigenous	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
<i>Ipomoea triloba</i> L.	little bell	non-native	rare
CRASSULACEAE (Orpine Family)			
<i>Kalanchoe pinnata</i> (Lam.) Pers.	air plant	non-native	rare
CUCURBITACEAE (Gourd Family)			
<i>Momordica charantia</i> L.	bitter melon	non-native	uncommon
EUPHORBIACEAE (Spurge Family)			
<i>Euphorbia hirta</i> L.	hairy spurge	non-native	rare
<i>Euphorbia hypericifolia</i> L.	graceful spurge	non-native	rare
FABACEAE (Pea Family)			
<i>Canavalia cathartica</i> Thouars	maunaloa	non-native	common
<i>Chamaecrista nictitans</i> (L.) Moench	partidge pea	non-native	rare
<i>Desmodium heterophyllum</i> (Willd.) DC	-----	non-native	rare
<i>Desmodium tortuosum</i> (Sw.) DC.	Florida beggarweed	non-native	uncommon
<i>Indigofera spicata</i> Forssk.	creeping indigo	non-native	rare
<i>Leucaena leucocephala</i> (Lam.) de Wit	koa haole	non-native	rare
<i>Macroptilium lathyroides</i> (L.) Urb.	wild bean	non-native	rare
<i>Mimosa pudica</i> L.	sensitive plant	non-native	rare
<i>Mucuna gigantea</i> (Willd.) DC	kā'e'e	indigenous	uncommon
LAURACEAE (Laurel Family)			
<i>Persea americana</i> Mill.	avocado	non-native	common
LYTHRACEAE (Loosestrife Family)			
<i>Cuphea carthaginensis</i> (Jacq.) Macbr.	tarweed	non-native	rare
MELASTOMATACEAE (Melastoma Family)			
<i>Clidemia hirta</i> (L.) D.Don	Koster's curse	non-native	rare
<i>Dissotis rotundifolia</i> (Sm.) Triana	-----	non-native	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
MELIACEAE (Mahogany Family)			
<i>Cedrela odorata</i> L.	Spanish cedar	non-native	rare
MORACEAE (Mulberry Family)			
<i>Ficus microcarpa</i> L. filius	Chinese banyan	non-native	rare
MYRTACEAE (Myrtle Family)			
<i>Psidium cattleianum</i> Sabine	strawberry guava	non-native	uncommon
<i>Psidium guajava</i> L.	common guava	non-native	uncommon
<i>Syzygium cumini</i> (L.) Skeels	Java plum	non-native	rare
<i>Syzygium malaccense</i> (L.) Merr. & Perry	ōhi'a 'ai	Polynesian	rare
OXALIDACEAE (Wood Sorrel Family)			
<i>Oxalis corniculata</i> L.	ihi'ai	Polynesian	uncommon
<i>Oxalis debilis</i> Kunth	pink wood sorrel	non-native	rare
PASSIFLORACEAE (Passion Flower Family)			
<i>Passiflora edulis</i> Sims	passion fruit	non-native	rare
PHYLLANTHACEAE (Phyllanthus Family)			
<i>Phyllanthus debilis</i> klein ex Willd.	niruri	non-native	uncommon
PLANTAGINACEAE (Plantain Family)			
<i>Plantago major</i> L.	broad-leaved plantain	non-native	rare
POLYGALACEAE (Milkwort Family)			
<i>Polygala paniculata</i> L.	fragrant milkwort	non-native	rare
PRIMULACAE (Primrose Family)			
<i>Ardisia elliptica</i> Thunberg	shoe-button ardisia	non-native	uncommon
ROSACEAE (Rose Family)			
<i>Rubus rosifolius</i> Sm.	thimbleberry	non-native	uncommon
SAPOTACEAE (Sapodilla Family)			
<i>Chrysophyllum oliviforme</i> L.	satinleaf	non-native	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
SOLANACEAE (Nightshade Family)			
<i>Solandra maxima</i> (Sesse & Mocino) P.S. Green	cup-of-gold	non-native	uncommon
<i>Solanum americanum</i> P. Miller	pōpolo	indigenous	rare
VERBENACEAE (Verbena Family)			
<i>Clerodendrum chinense</i> (Osbeck) Mabb.	pikake hohono	non-native	uncommon
<i>Lantana camara</i> L.	lantana	non-native	rare

FAUNA SURVEY REPORT

SURVEY METHODS

A walk-through fauna survey method was conducted in conjunction with the botanical survey. All parts of the project area within the corridor were covered. Field observations were made with the aid of binoculars and by listening to vocalizations. Notes were made on species, abundance, activities and location as well as observations of trails, tracks, scat and signs of feeding. In addition an evening visit was made to the area to record crepuscular activities and vocalizations and to see if there was any evidence of occurrence of the Endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) in the area.

RESULTS

MAMMALS

Just two mammal species were observed in the project area during two site visits: a mongoose (*Herpestes auropunctatus*) and a roof rat (*Rattus rattus*). Taxonomy and nomenclature follow Tomich (1986).

A special effort was made to detect any occurrence of the 'ōpe'ape'a or Hawaiian hoary bat (*Lasiurus cinereus semotus*). An evening survey was conducted at two locations with the use of a bat detector (Batbox IIID) set to the frequency of 27,000 Hertz that these bats are known to use when echolocating for flying nocturnal insects. No bats were detected at either location with the use of this device.

Other mammals that would be expected to occur in this habitat include mice (*Mus domesticus*) and domestic dogs (*Canis familiaris*) and cats (*Felis catus*).

BIRDS

Birdlife was rather sparse in this small project area. Just six species were recorded during two site visits. Just one species was common, the myna (*Acridotheres tristis*), while three others were uncommon, the zebra dove (*Geopelia striata*), the spotted dove (*Streptopelia chinensis*) and the kōlea or Pacific golden-plover (*Pluvialis fulva*). The nutmeg mannikin (*Lonchura punctulata*) and the red-crested cardinal (*Paroaria coronata*) were rare. Taxonomy and nomenclature follow American Ornithologists' Union (2017).

A few other non-native birds such as the Japanese white-eye (*Zosterops japonicus*) the hwamei (*Leucodioptron canorum*) and the northern cardinal (*Cardinalis cardinalis*) might occasionally show up here, but the habitat is unsuitable for Hawaii's native forest birds which are presently restricted to middle and upper elevation native forests beyond the elevational range of mosquitoes and the avian diseases they carry and transmit.

INSECTS

Insect life was modest in species diversity in this small forested project corridor. Ten species were recorded representing five insect Orders during two site visits. Taxonomy and nomenclature follow Nishida et al (1992).

One species was common throughout the project area, the Asian spiny-backed spider (*Gasteracantha mammosa*). Two other species were uncommon, the Southern house mosquito (*Culex quinquefasciatus*) and the globe skimmer dragonfly (*Pantala flavescens*). Seven species were rare.

Two native dragonflies were recorded during the survey, the indigenous globe skimmer and the indigenous green darner (*Anax junius*) both of which are widespread and common.

REPTILES

Two non-native reptiles were recorded during the survey, the garden skink (*Lampropholis delicata*) which was uncommon, and the green anole lizard (*Anolis carolinensis porcatus*) which was rare.

DISCUSSION AND RECOMMENDATIONS

The fauna within the project area is mostly non-native in character. Out of 20 mammals, birds, insects and reptiles just three species were native in Hawaii, the kōlea, the globe skimmer and the green darner. All three are common in Hawaii as well as in other parts of the world and are species of "least concern". All the other fauna species are non-natives in Hawaii and are of no conservation concern.

The kōlea is a migratory bird that breeds and raises its young in the arctic during the summer months and then flies to several Pacific islands during the winter months. Thousands of kōlea come to Hawaii and can be found in most habitats from shorelines to mountain tops. They are quite common here.

The globe skimmer dragonfly has a nearly worldwide distribution within the tropics and subtropics and is the most common dragonfly in Hawaii. The green darner dragonfly has a range that includes much of the United States and Mexico and is common in Hawai'i. No recommendations are offered regarding these dragonflies.

While the ōpe'ape'a was not detected during the survey, this bat has been recorded at a number of sites across windward East Maui. It may occur in or around the project area from time to time and its Endangered status requires attention and consideration. The U.S. Fish and Wildlife Service should be consulted for guidance, especially if tree removal is anticipated. These bats raise their newborn pups in large trees during their breeding season which occurs between April and mid-September each year.

There are also two species of protected seabirds, the Endangered 'ua'u or Hawaiian petrel (*Pterodroma sandwichensis*) and the Threatened 'a'o or Newell's shearwater (*Puffinus newelli*) that nest in burrows high in the mountains. They would not physically land in the project area but do fly over the coastal lowlands to and from their burrows at dusk and at dawn respectively. Young fledglings in particular can be drawn to and confused by bright lights and crash into or around light structures with fatal results. It is recommended that any significant outdoor lighting that may be associated with this project be hooded to direct the light downward to mitigate this threat.

No other recommendations are offered regarding fauna species. This project is not expected to have a significant negative impact on native fauna species in this part of Maui.

ANIMAL SPECIES LIST

Following is a checklist of the animal species inventoried during the field work. Animal species are arranged in descending abundance within four groups: Mammals, Birds, Insects and Reptiles. 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).

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

migratory = spending a portion of the year in Hawaii and a portion elsewhere. In Hawaii the migratory birds are usually in the overwintering/non- breeding phase of their life cycle.

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.

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
BIRDS			
<i>Acridotheres tristis</i> L.	common myna	non-native	common
<i>Geopelia striata</i> L.	zebra dove	non-native	uncommon
<i>Streptopelia chinensis</i> Scopoli	spotted dove	non-native	uncommon
<i>Pluvialis fulva</i> Gmelin	Pacific golden-plover	migratory	uncommon
<i>Lonchura punctulata</i> L.	nutmeg mannikin	non-native	rare
<i>Paroaria coronata</i> Miller	red-crested cardinal	non-native	rare
MAMMALS			
<i>Herpestes auropunctatus</i> Hodgson	small Indian mongoose	non-native	rare
<i>Rattus rattus</i> L.	roof rat	non-native	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
INSECTS			
Order ARANAE - true spiders			
ARANEIDAE (Orb Weaver Family)			
<i>Gasteracantha mammosa</i> Koch	Asian spiny-backed spider	non-native	common
<i>Argiope appensa</i> Walkenaer	common garden spider	non-native	rare
Order DIPTERA - flies			
CULICIDAE (Mosquito Family)			
<i>Culex quinquefasciatus</i> Say	southern house mosquito	non-native	uncommon
MUSCIDAE (House Fly Family)			
<i>Musca domestica</i> L.	house fly	non-native	rare
<i>Musca sorbens</i> Wiedemann	dung fly	non-native	rare
SYRPHIDAE (Hoverfly Family)			
<i>Simosyrphus grandicornis</i> Maquart	Australian hoverfly	non-native	rare
Order HYMENOPTERA - bees, wasps, ants			
FORMICIDAE (Ant Family)			
<i>Pheidole megacephala</i> Fabricius	big-headed ant	non-native	rare
Order LEPIDOPTERA - butterflies, moths			
LYCAENIDAE (Gossamer-winged Butterfly Family)			
<i>Lampides boeticus</i> L.	long-tailed blue butterfly	non-native	rare
Order ODONATA - dragonflies, damselflies			
AESHNIDAE (Hawker Dragonfly Family)			
<i>Anax junius</i> Drury	green darner dragonfly	indigenous	rare
LIBELLULIDAE (Skimmer Dragonfly Family)			
<i>Pantala flavescens</i> Fabricius	globe skimmer dragonfly	indigenous	uncommon
REPTILES			
<i>Anolis carolinensis porcatus</i> Gray	green anole lizard	non-native	rare
<i>Lampropholis delicata</i> de Vis	garden skink	non-native	uncommon

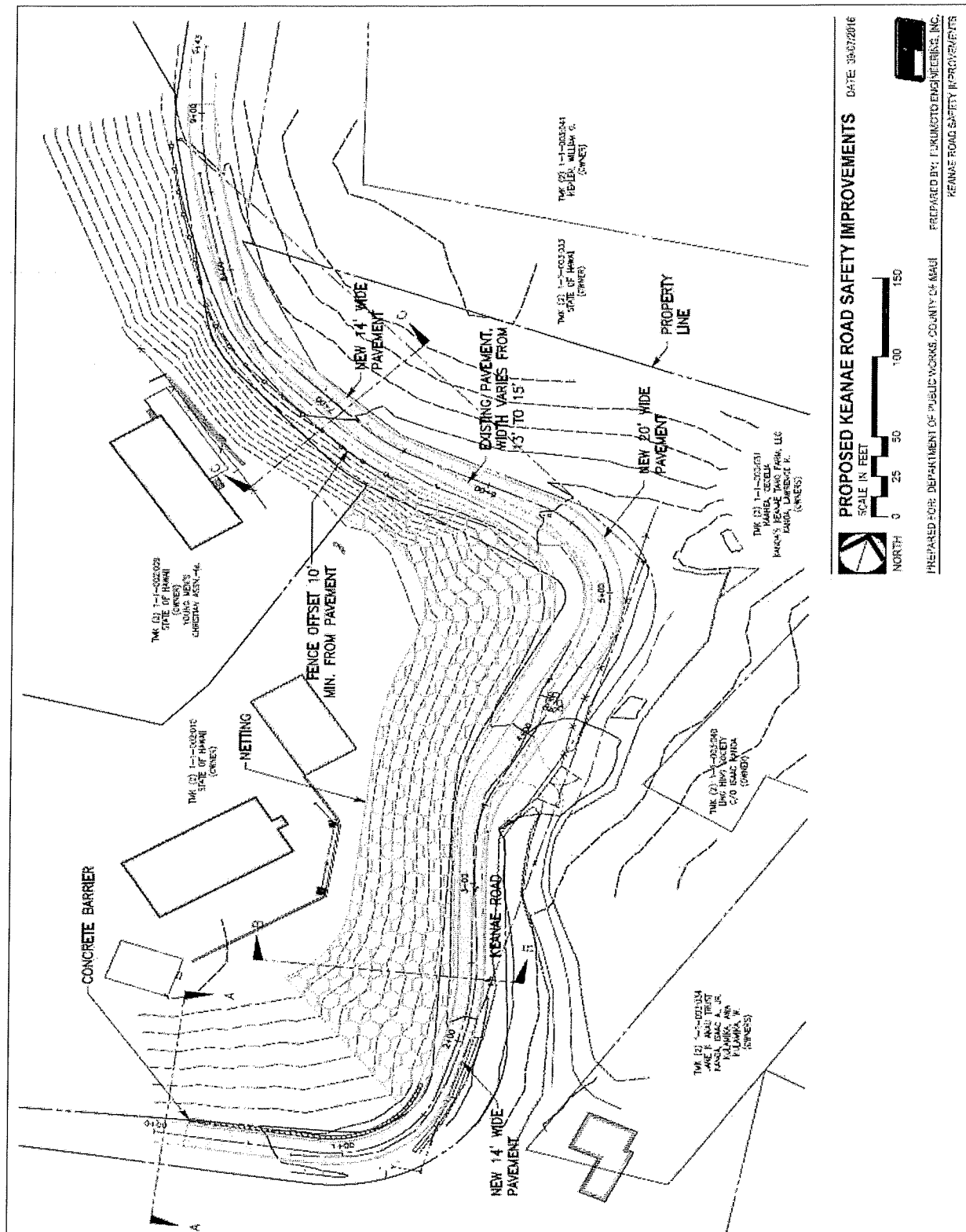




Figure 2. View from Ke'anae Road of a portion of the subject cliff.



Figure 3. View of a lower portion of the subject cliff from Ke'anae Road.

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ARCHAEOLOGICAL ASSESSMENT

APPENDIX

D

ARCHAEOLOGICAL ASSESSMENT FOR THE KE'ANAE ROAD SAFETY IMPROVEMENTS

**KE'ANAE AHUPUA'A, HANA DISTRICT
ISLAND OF MAUI
HAWAII**

**TMK (2) 1-1-002:999, 009, 010 (por)
(2) 1-1-003:031 and 999 (por)**

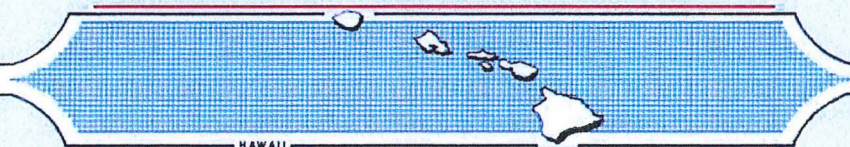
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**October 2017
DRAFT**

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INTRODUCTION

At the request of Fukumoto Engineering, Inc., on behalf of the Engineering Division, Department of Public Works, County of Maui, Scientific Consultant Services, Inc. (SCS) conducted Archaeological Inventory Survey (AIS) level investigations on a 2-acre parcel located within portions of TMK (2) 1-1-002:999, 009, 010 and (2) 1-1-003:031 and 999 (por) in Ke'ānae, Ke'ānae Ahupua'a, Hana District, Island of Maui, Hawai'i (Figures 1 through 3). The proposed project consists of safety improvements to the Ke'ānae roadway. Construction will include grading and the installation of new guardrails and rockfall mitigation measures above the roadway (Appendix).

AIS-level investigations through full pedestrian survey and representative testing were conducted by SCS archaeologist Ian Bassford, B.A. in April 2017, under the direction of Michael Dega, Ph.D., Principal Investigator. The AIS was conducted in order to identify and document historic properties, to gather sufficient information on these properties, to evaluate the significance of any identified historic properties, to determine the project effect on these properties, and to make mitigation recommendations to address possible adverse impacts to identified historic properties, pursuant to HAR §13-284 and HAR §13-276. This report is prepared as an Archaeological Assessment (AA), pursuant to HAR §13-276-5(a)/13-284-5(b)(5)(A) as no historic properties were recorded during fieldwork or noted during the course of background research within the direct project area.

TOPOGRAPHY, HYDROLOGY, AND CLIMATE

The project area follows a section of Ke'ānae Road from the intersection with the Hana Highway approximately 1,600 ft. to the Ke'ānae Peninsula at the bottom of the hill. The direct project area includes the width of the roadway plus the portion of the cliff and slope above. Elevation ranges from 100 ft. at the intersection to a few feet above sea level at the peninsula. Mean annual rainfall in the Ke'ānae area is approximately 2000 mm (Giambelluca et al. 2017).

GEOLOGY AND SOILS

The natural soils in the area are classified as stony alluvial land (rSM). A typical profile would consist of extremely stony clay loam from the surface to ten inches and boulder silty clay loam to 60 inches.

VEGETATION

In traditional times the project area was probably covered with indigenous grasses. Today, vegetation in the project area consists of various introduced and native plants and trees such as california grass, african tulip, pandanas, ti, octopus tree, flowering wedelia, and various ferns and grasses.

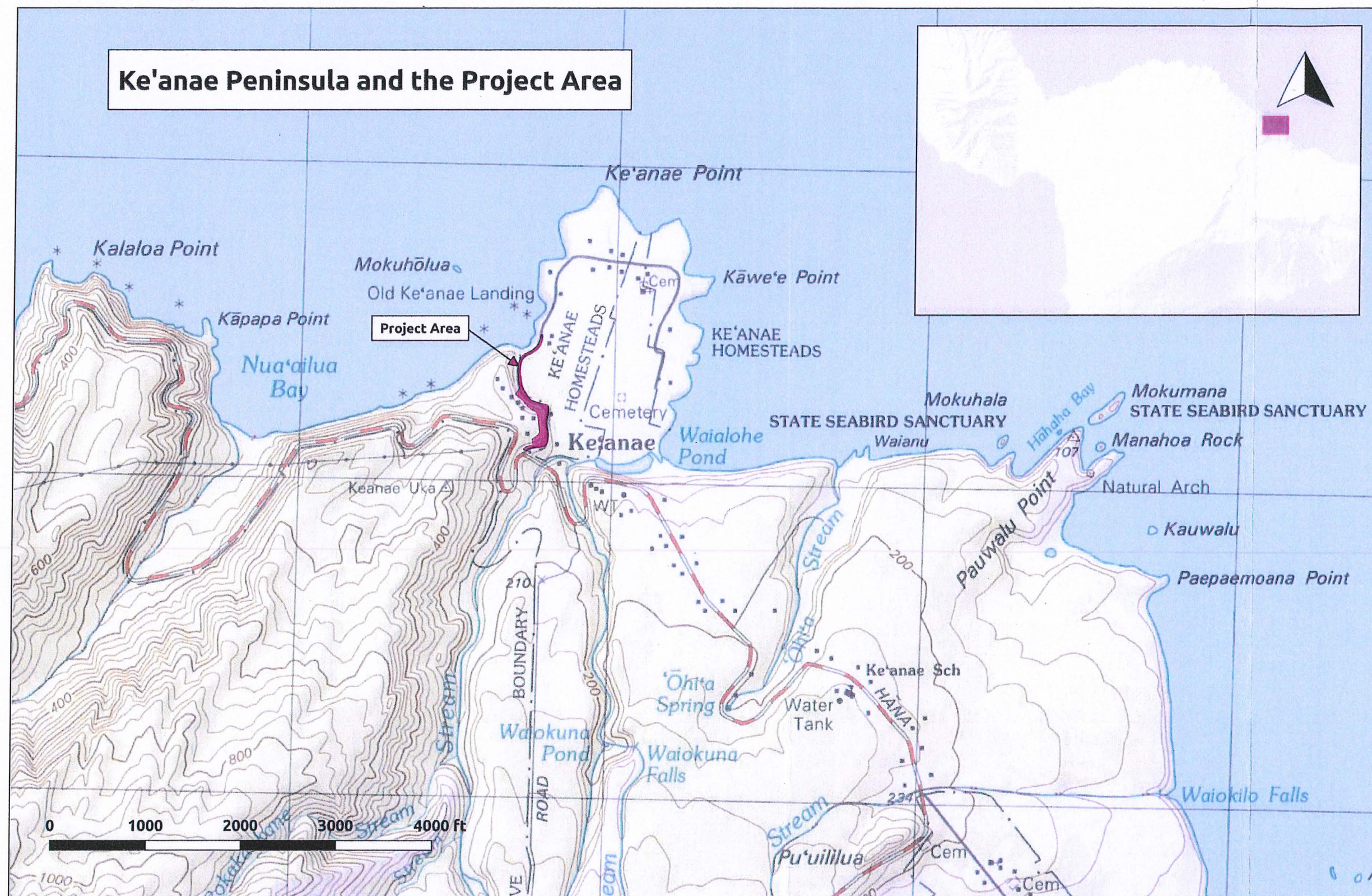


Figure 1. Portion of USGS quad (Ke'anae 1992) showing project area.

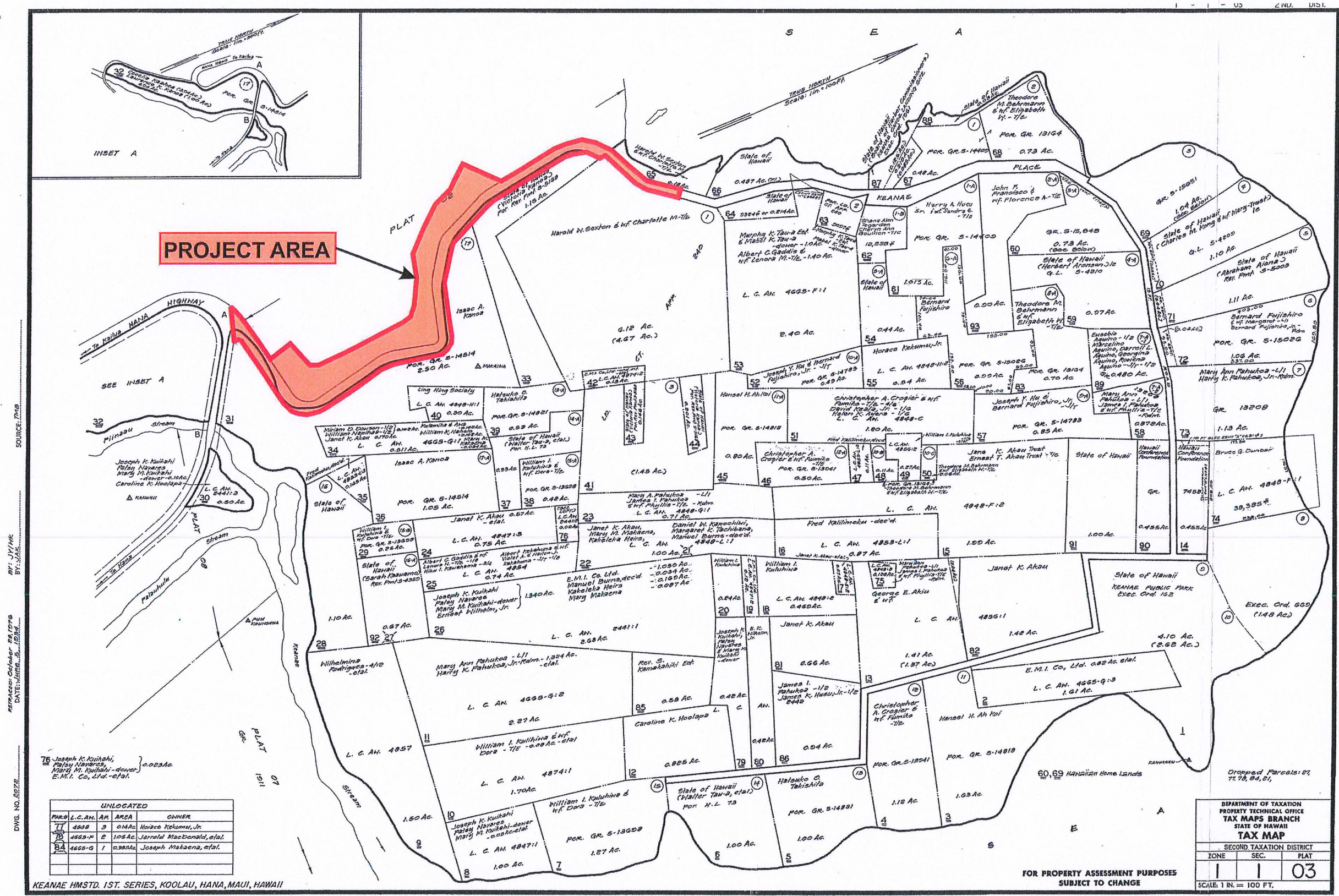


Figure 2. Project area (portions of TMK (2) 1-1-002:999, 009, 010 and (2) 1-1-003:031 and 999 [por]).

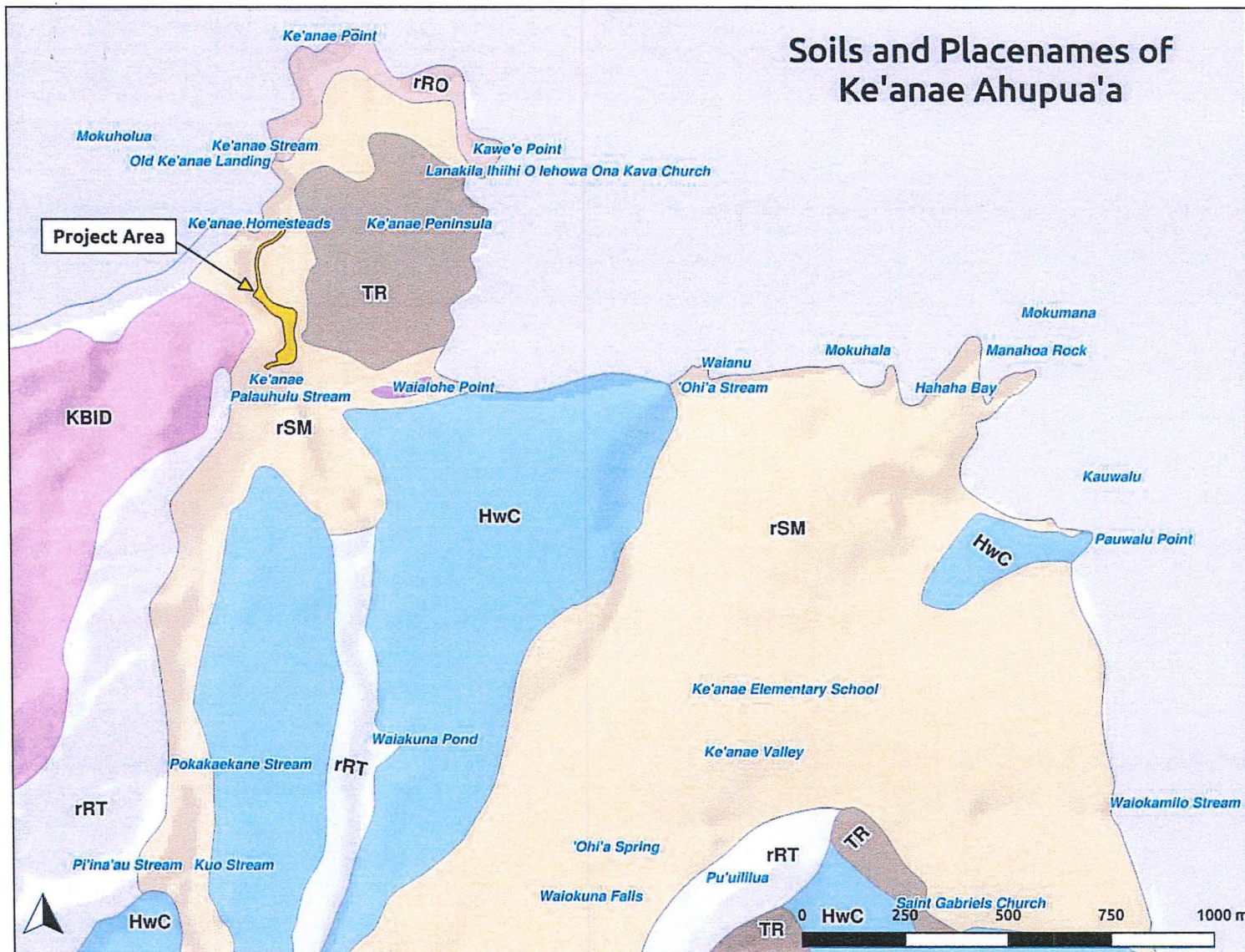


Figure 3. Soils near the project area (USDA 2017).

HISTORIC BACKGROUND AND FORMER LAND USE

According to Pukui (1992:103), Keʻanae is a geographic place name that refers to the ahupuaʻa, village, valley, stream, landing, and peninsula (Figure 4). The god Kāne is said to have brought the waters that feed this region. Kanaloa, who accompanied Kāne, thrust his kauila staff into solid rock to bring forth the waters of Keʻanae (Beckwith 1970: 64).

TARO PRODUCTION

Land use history indicate that the lands of Keʻanae were intensively and continuously used for wetland taro cultivation or loʻi agriculture from the pre-contact to the present day ("Cultural Landscape Study," 1995; Handy and Handy 1972).

According to Handy (1940:109), the barren peninsula of Keʻanae was converted into lands suitable for wetland agriculture at the orders of an early chief:

...a chief, whose name is not remembered, was constantly at war with the people of Wailua and determined that he must have more good land under cultivation, more food, and more people. So he set all his people to work (they were then living down to the lava point. The soil and the banks enclosing the patches were thus, in the course of many years, all transplanted and packed into place. Thus did the watered flats of Keʻanae originate. A small loʻi near the western side of the land formerly belonged to the chief of Keʻanae and has the name Ke-anae (the big mullet); it is said that the entire locality took its name from this small sacred loʻi. Here, as at Kahakuloa, the taro that grew in the sacred patch of the alii was reputed to be of great size.

GREAT MĀHELE

The shift to a market-based economy during the Great Māhele (1848) caused a migration from the rural communities to the towns and ports of the island. However, the communities of Keʻanae and Wailua became more concentrated rather than dispersed. Land was acquired by Hawaiian owners or hui (co-op) from Keʻanae, primarily for kula, or pasture lands (Linnekin 1983, 1985; Hill et al. 2008). According to Linnekin (1985), of the twenty-one Royal Patent Grants issued in the Keʻanae region (769.35 acres), all but one went to Hawaiians. The drive for the formation of hui ventures was to regain traditional access to upland resources, effectively gaining greater retention of acreage by Hawaiians from Keʻanae than was normally the case during the Māhele (Levy 1975). This effectively prevented the development of sugar plantations or cattle ranches along the mauka portions of the region (Linnekin 1983; Hill et al. 2008).

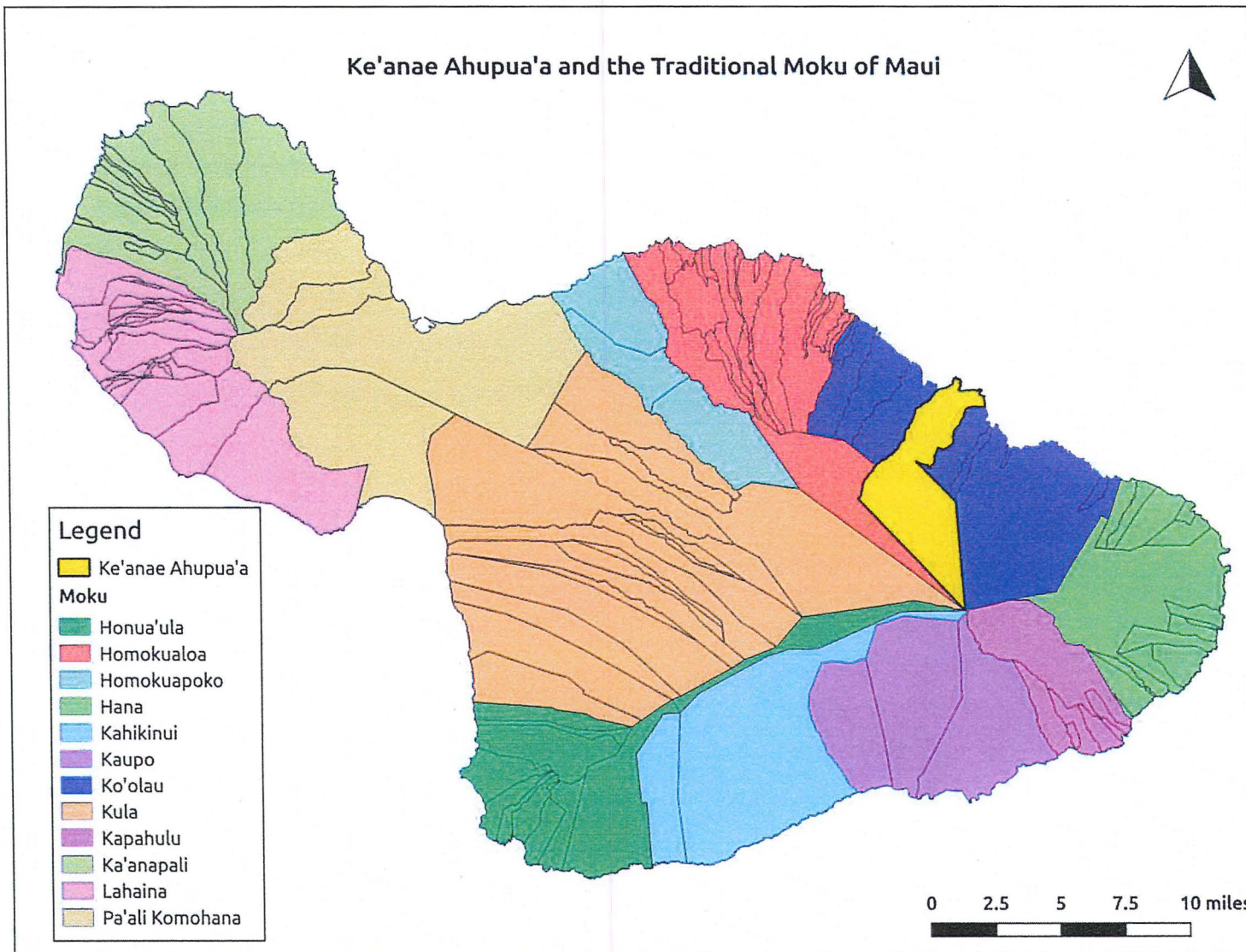


Figure 4. Ke'anae Ahupua'a and the traditional moku of Maui.

RICE PRODUCTION

Although rice production had been first cultivated in 1838 on Oahu, it was only in 1860 after the collapse of the whaling industry and a surplus of agricultural land that rice became a viable crop. As Morgan states in his economic history of 19th C. Hawaii (1948:165):

The whaling fleet had vanished; interest in the new crop grew intense. There ensued a speculative fever that compares with stock market booms and the Holland tulip fever. Rice cultivation spread like an epidemic. Since taro patches which could be flooded were peculiarly adapted to rice growing, they were made use of generally as rice paddies. Many people- among them a Judge Montgomery who distinguished himself by his total loss of Judicial calm- pulled up growing taro to replant with rice. A taro famine resulted; and since taro remained the mainstay of native diet, not easily substituted for by other foods, its price rose astronomically until it was worth nearly its weight in money. The natives suffered. During the next year, with many people repenting of the first year's excitement, and finding returns from rice once disappointing and taro dear, there was a shift back to taro production. Taro became cheap, and rice again offered the best return.

In 1857, the first Chinese laborers were released from their contracts at the plantations. Many started their own rice farms. They found the taro patches and swampy lands near the sea that were not well suited for cane to be ideal for rice production. By 1867, over a million pounds of rice grown in Hawaii was consumed locally, an additional millions of rice and paddy exported to California to feed that state's Chinese, since as Morgan notes, the Civil War had interrupted traditional rice production in the American South. By 1880, Oahu supplied two-thirds of the rice crop, Kaua'i nearly the other third, and the difference from Hawaii and Maui (166).

By 1890, lands that were formerly under the cultivation of taro were now leased or sold to the Chinese for rice. Tax records from 1890 indicate that within Ke'anae and Wailuanui, 67.84 acres were utilized for rice cultivation (Figure 5). Rice farming declined in the early 1900s due to cheaper and higher quality product available from California (1948:167).

BELT ROAD

The Ke'anae peninsula was considered too remote and dangerous for normal coastal traffic, and when the Chinese turned the area into a center of rice production, they had to outfit their own sampan to get the crop to Maliko and from there in carts to the market (Honolulu Republican 1901:9). This vessel was wrecked at Huelo in 1902 (Maui News 1922:6). By 1908, a landing and derrick operated by a steam donkey engine was in operation at Ke'anae

Landing (SIHP 50-50-07-2957; Maui News 1908:5). The landing did not greatly improve access to the region:

Twenty-five miles west of Hana, without road connection from either direction, is the tremendous gash running from the top of Haleakala to the place known as the Ke'anae valley. This valley is broad and fertile. It is the home of probably 200 native Hawaiian and a few Chinese. For weeks at a time, Ke'anae is frequently cut off from the rest of the world through inability of the inter-island steamers to land passengers or freight at the rough landing.

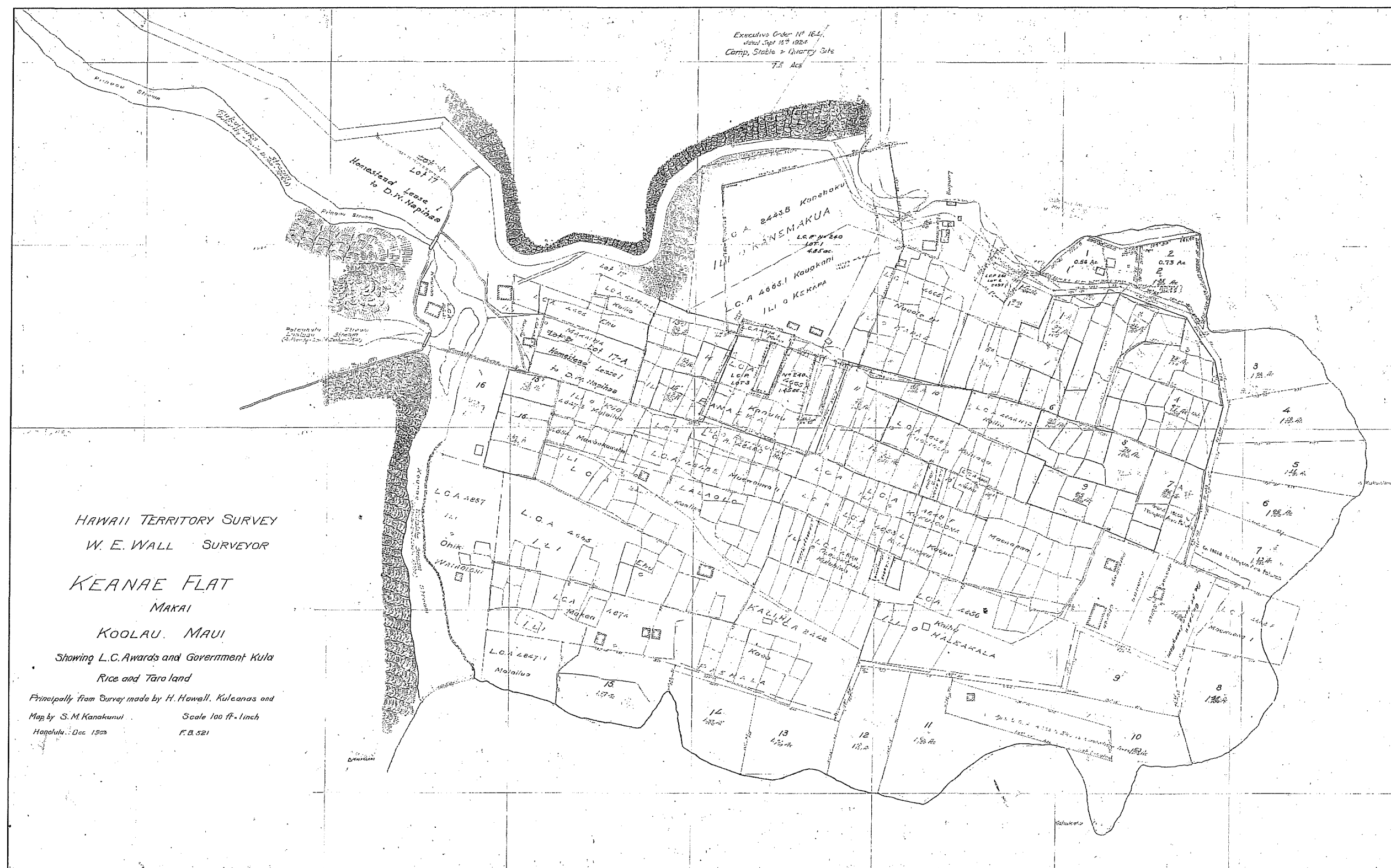
Editorials argued for a road that would connect to the rest of Maui. It was thought that a road running from the port at Kahului to a landing at Hana could divert the sizeable tourist traffic already enroute from Oahu to Hawaii Island to see the volcanoes (Honolulu Star Bulletin 1914:4). This belt road was constructed between 1905 and 1928. The road from the Hana Highway down to Ke'anae was constructed in the 1920s. Prisoner work gangs for the highway construction were billeted at the Ke'anae Camp located on the bluff above the roadway ("Cultural Landscape Study," 1995:84). The camp was built originally in the early 1900s and repurposed for the Civilian Conservation Corps in the 1930s (89).

PREVIOUS ARCHAEOLOGY

Only a few studies have been conducted in the Ke'anae region (Figure 6; Table 1), although numerous sites have been documented (Figure 7; Table 2).

Stokes (1916) conducted an island wide search for heiau structures. He identified seven heiau in the Ke'anae region. Walker (1931) conducted an island wide archaeological survey with a primary focus on monumental and/or ceremonial archaeology. He noted Pakanaloa heiau near the project area. Pakanaloa heiau was reported on the upper slopes of Ke'anae peninsula. It is said to have been a war heiau to Kanehikili.

In 1995, Maui County conducted a cultural landscape study of Ke'anae Ahupua'a. The study incorporated ethnographic interviews and a limited archaeological field inspection. Site 50-50-07-3933, a large complex of taro lo'i covering the majority of the peninsula, was mapped as part of the project.



Haun and Henry (2003) conducted an archaeological inventory survey of four acres at Pauwalu in Wailuanui ahupua'a (SHPD Library # M-01115). One site, consisting of an overhang and a trail (SIHP 50-50-07-5237) was documented. The overhang was determined to be a pre-contact temporary habitation feature. The trail was a historic-era transportation feature.

In 2003, Frederickson et al. conducted archaeological monitoring for the Ke'anae Park Restroom Improvements Project (M-01169). The AMR and AMP could not be located at the SHPD library during research for this report.

In 2008, Hill et al. (M-02051) performed archaeological monitoring during the construction of a cesspool at Ke'anae school in nearby Kali'i ahupua'a.

Table 1. Previous archaeological studies in the region.

Author/Date	Location	Project Type	Results
Stokes 1916	Island-wide	Ceremonial archaeology	7 heiau identified
Walker 1931	Island-wide	Ceremonial archaeology	16 heiau identified, 10 destroyed
Group 70 et al. 1995	Ke'anae and Wailuanui	Cultural landscape study	3 taro field systems, nominated culture landscape
Huan and Henry 2003	Wailuanui ahupua'a	Inventory survey	1 site

Table 2. State sites within or near Ke'anae Ahupua'a.

SIHP Number	Name	Description
50-50-07-3933	Ke'anae Taro Complex	
50-50-07-3934	Wailuanui Taro Complex	
50-50-07-539	Wailuanui Complex	
50-50-07-83	Lalaloa Heiau	Recorded by Walker 1931; "...[o]n point of Ke'anae peninsula..." [Walker 1931].
50-50-07-82	Kukuilono Heiau	Recorded by Walker 1931; "...[o]n point of Ke'anae peninsula..." [Walker 1931].

SIHP Number	Name	Description
50-50-07-2957	Ke'anae Landing	c.1903. Derrick and steam donkey. Recorded by SHPD in 1992; "Landing Sites of Maui" by T. Donham for 5th Annual Symposium on Maritime Archaeology and History of Hawaii and the Pacific, Honolulu, n.d. Concrete piers and other structural remnants of the former Ke'anae Landing.
50-50-07-3943	Ke'anae Quarry	Site -3943 consists of a historic quarry, with the rock crusher and winch still in place. A stone platform within the quarry boundaries is said to be the grave of a worker killed in a quarry accident.
50-50-07-1510	Lin Hing Society Building	Site -1510 has been disassembled, and the materials stored at Keokea (Kwock Hing Society). Placed on Hawaii Register in 1974.
50-50-07-1511	Lanakila Church	Site -1511 first built in 1856, restored in 1969. Congregational church.
50-50-07-84	Pakanaloe Heiau	Recorded by Walker 1931; located on "...upper slopes of Ke'anae peninsula..." [Walker 1931]. Not located by Stokes 1916, Walker 1931, Soehren 1963.
50-50-07-3932	Ke'anae Arboretum Taro Complex	Site -3932 comprises 14 lo'i and a main 'auwai.
50-50-07-3938	Waianu Taro Complex	Site -3938 comprises at least 70 to 80 lo'i and 1 'auwai and was in use to the early 1980s.
50-50-07-3940	Kilo Residential Complex	Site -3940 comprises low terraces and an enclosure.
50-50-07-94	Heiau of Ohia	Recorded by Walker; "...[a]t Ohia in the valley [3/4 mile] from the sea...[s]tones removed to build pig pen, and outlines thus lost..." [Stokes in Walker 1931]. Not relocated by Walker.
50-50-07-96	Kukuiaupuni Heiau	Originally recorded by Walker; consists of "...[a] terraced platform...with a height of 12 feet...[l]ength 50 feet width 42 feet...other platform 200 feet away...measures 47 x 51 x 5 feet [Walker 1931].
50-50-07-1630	Ke'anae School	Site -1630 was built in 1912, and is still in use; placed on the Hawaii Register in 1992.
50-50-07-90	Kawalimukala Heiau	Recorded by Walker 1931; "...at Pauwalu...destroyed or not found" [Walker 1931]. Not located by Soehren

SIHP Number	Name	Description
		1963.
50-50-07-1514	Wailua Mormon Church	Site -1514 was built in 1934 and is now in use as a residence. Placed on the Hawaii Register in 1974.
50-50-07-0538	Pu'u Olu Complex	Site consists of 2 features: Pu'u Polu fishpond (43x29m) and a habitation terrace/platform (12x7m). The brackish pond is bordered on the N and W by a deteriorated wall, and the terrace/platform is to the S.
50-50-07-3941	Nua'ailua Taro Complex	Site -3941 appeared to be an old, unmodified complex of lo'i sitting above and below Hana Highway. No size estimate given by CSH (1994 survey).
50-50-07-88	Kamokukupeu Heiau	Recorded by Walker 1931; "...destroyed?..." [Walker 1931].
50-50-07-3937	Kupa'u Taro Complex	Site -3937 comprises lo'i which formerly covered an area estimated at 30 - 50 acres. Judging from aerials, lo'i were in use until ca 1950.
50-50-07-1512	St. Gabriel's Shrine	Site -1512 was first built in 1860. Catholic chapel. Placed on Hawaii Register in 1974.
50-50-07-1515	Ramos House	Site -1515 was constructed ca 1900 – 1910, still occupied as a residence. Placed on Hawaii Register in 1974.
50-50-07-1513	Wailua Stone Church Ruins	Site -1513, a Protestant church, was begun in 1860. Placed on the Hawaii Register in 1973.
50-50-07-97	Makehau Heiau	Recorded by Walker; "...two platforms...72 x 43 feet...5 feet high..."; [Walker 1931]; Measures 24 X 12m; consists of probably a platform and an enclosure.

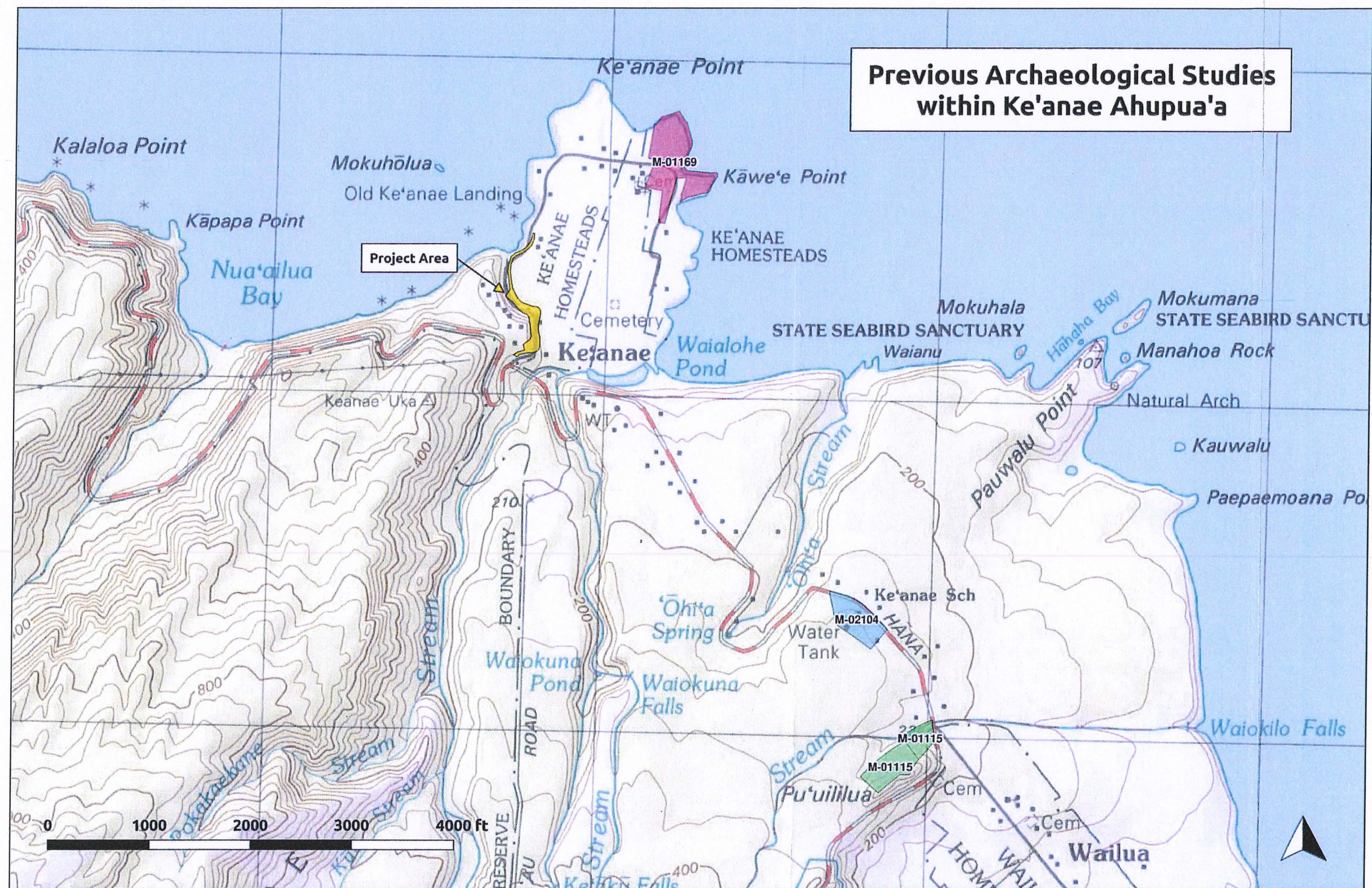
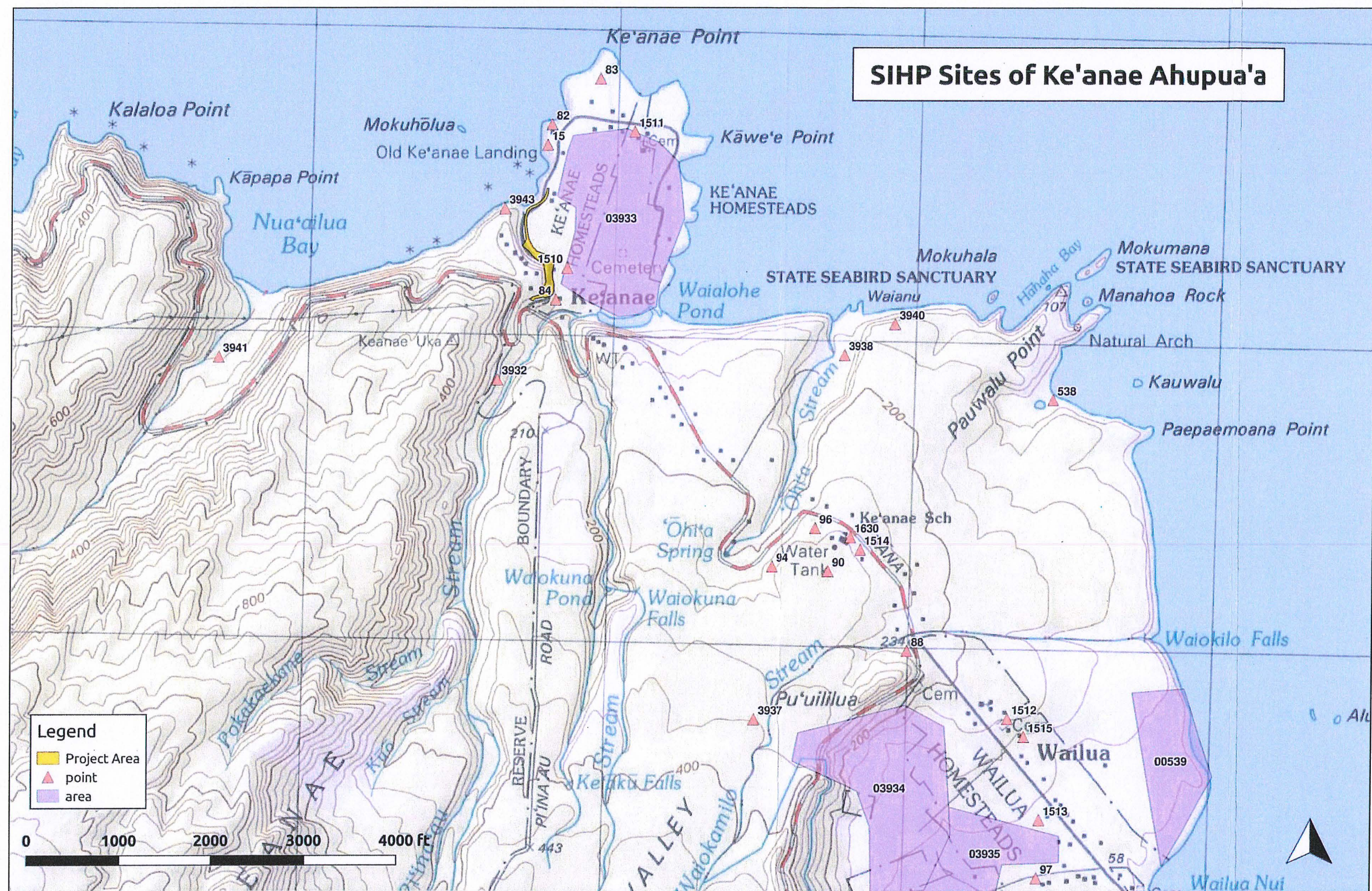


Figure 6. Previous archaeological studies (labeled by SHPD library #) within or near Ke'anae ahupua'a.



SETTLEMENT PATTERNS

Pre-Contact *ahupua`a* settlement in Ke`anae could be considered as the archetype for general patterns of land use on the island. Ceremonial activities, permanent and temporary habitation loci, and marine exploitation were common. Agricultural activities would be undertaken on the plateau lands upland of the peninsula and within the valleys where permanent streams allowed for extensive *lo`i* construction. This *ahupua`a* settlement pattern is supported by the many documented *heiau*, house lots, agricultural architecture and soils, and archival/historic references.

EXPECTED FINDINGS

Although the Ke`anae region has been intensively used for pre-Contact agricultural purposes, both permanent and temporary habitation, traditional economy, and Historic-era agriculture of taro and rice cultivation, the direct project area itself has a very low expectation of finding historic properties. This is due to the fact that the roadway was excavated out of the hillside in the 1920s. It is assumed that most cliff faces abutting the roadway are a result of this construction, however, there is the possibility of encountering previously disturbed traditional-era sites during the course of this project. Additionally, the cliff faces are reported by local residents to contain traditional-era burials in caves.

FIELD METHODS

AIS-level fieldwork of the parcel was conducted by SCS archaeologists Ian Bassford, B.A. in April 2017, under the direction of Michael Dega, Ph.D. Accessible portions of the project area were subject to a 100% pedestrian survey at 5 m transects paralleling the roadway. A survey of the cliff faces was not undertaken due to the steepness of the terrain and extensive vegetation. The property was documented with photographs and the topography and vegetation noted.

No stratigraphic trenches were excavated. This was due to the lack of accessible space alongside the roadway and the prevalence of rocky, stony soil (see Figure 3).

LABORATORY METHODS

Photographs and maps were digitized for archival purposes. All field notes, maps and photographs for this project are curated at the SCS office in Honolulu.

RESULTS OF FIELDWORK

No historic properties were identified during the survey.

CONCLUSIONS AND RECOMMENDATIONS

No historic properties were identified during this study. Based on the presence of extensive known sites in the immediate area, and the possibility of unknown sites in the cliffs above the roadway, archaeological monitoring is recommend during any ground-altering work as there remains the possibility that cultural materials may be identified in subsurface contexts.

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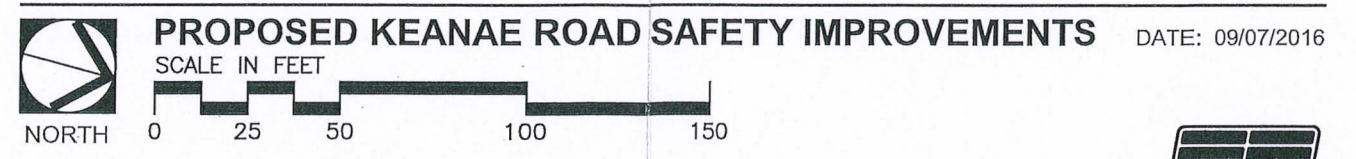
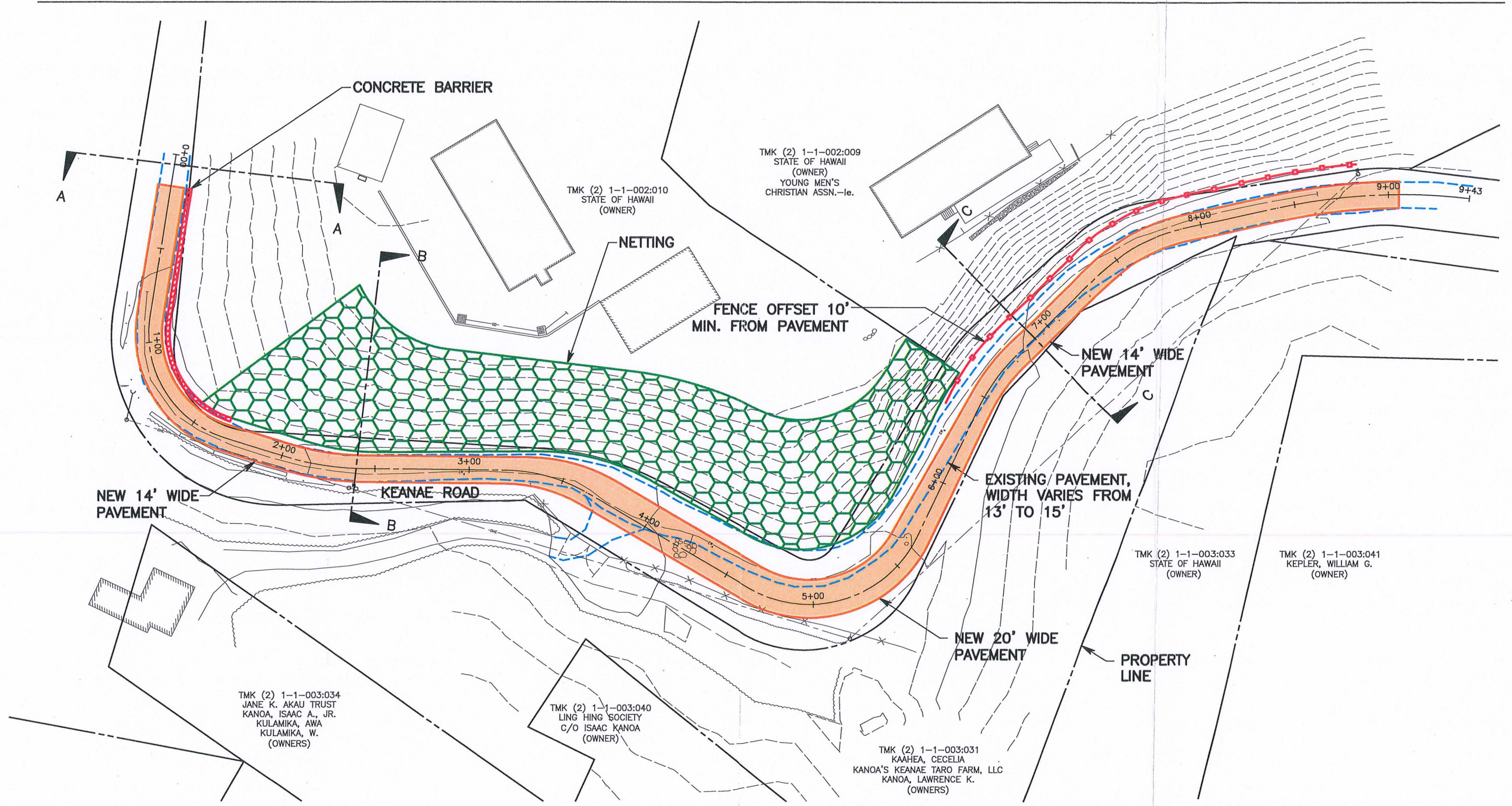
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APPENDIX: CONSTRUCTION PLANS



**CULTURAL IMPACT
ASSESSMENT**

APPENDIX

E

**A CULTURAL IMPACT ASSESSMENT
FOR THE KE'ANAE ROAD SAFETY IMPROVEMENTS PROJECT**

**KE'ANAE AHUPUA'A, HĀNA (FORMERLY KO'OLAU) DISTRICT
MAUI ISLAND, HAWAI'I**

**[TMK: (2) 1-1-002: 005 por., 009 por., 010 por., and 999 (por.),
(2) 1-1-003: 041 por., 065 por., and 999 por.]**

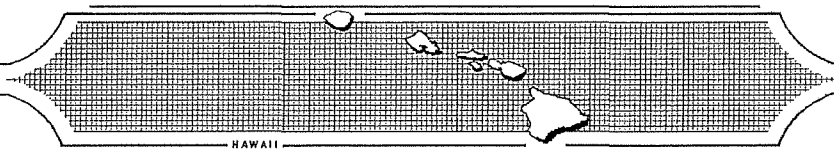
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INTRODUCTION

At the request of Fukumoto Engineering, Inc., on behalf of the Engineering Division, Department of Public Works, County of Maui, Scientific Consultant Services, Inc. (SCS) has prepared a Cultural Impact Assessment (CIA) in advance of the proposed Ke'anae Road Safety Improvements Project. The job site will be located at the HDOT Keanae Base Yard just above Ke'anae Peninsula, in Ke'anae Ahupua'a, Hāna (formerly Ko'olau) District, Maui Island, Hawai'i [TMK: (2) 1-1-002: 005 por., 009 por., 010 por., and 999 (por.) and (2) 1-1-003: 041 por., 065 por., and 999 por.] (Figures 1 through Figure 3).

The Young Men's Christian Youth Association (YMCA) leases TMK: (2) 1-1-002:009, which is owned by the State of Hawai'i. TMK: (2) 1-1-002:005 is owned by the State of Hawai'i. TMK: (2) 1-1-002: 010 is owned by the Hawaii State Department of Transportation (HDOT). TMK: (2) 1-1-002:999 and (2) 1-1-003:999 are owned by the County of Maui. TMK: (2) 1-1-003: 041 and 065 are owned by Dr. William Kepler.

Please note that the current TMK parcels (listed above) are different from those mentioned in the consultation letters and newspaper notices. Initially, the Department of Public Works (DPW) anticipated that TMK: (2) 1-1-002: 009 por., 010 por., and 099 por., and TMK: (2) 1-1-003: 031 por. and 999 por. would be affected by the proposed road safety improvements, so those TMKs were identified in the consultation materials. However, over the past year, DPW has further assessed the condition of Ke'anae Road and has extended the road repaving approximately from its intersection with Hāna Highway to the north border of TMK: (2) 1-1-003: 041. Additionally, the initial project scope involved relocation of existing hog wire fencing belonging to the owners of TMK: (2) 1-1-003: 031 from the right-of-way to Parcel 31. However, TMK: (2) 1-1-003: 031 has been removed from the project scope and is no longer affected by the proposed project. Furthermore, upon completion of survey work for the project, it was determined that portions of the existing road runs through portions of Parcels TMK: (2) 1-1-002:005 and (2) 1-1-003: 041 and 065. Therefore, these parcels have been added to the list of affected properties.

The proposed action will include:

1. Installation of rock fall netting above the road and below the State DOT baseyard and YMCA Camp Keanae.
2. Installation of rock fall fencing.
3. Installation of rock fall concrete barrier.

4. Road improvements including road realignment away from rock fall slope when possible, road widening, and vehicle barricade.
5. Relocation of fire protection standpipe.

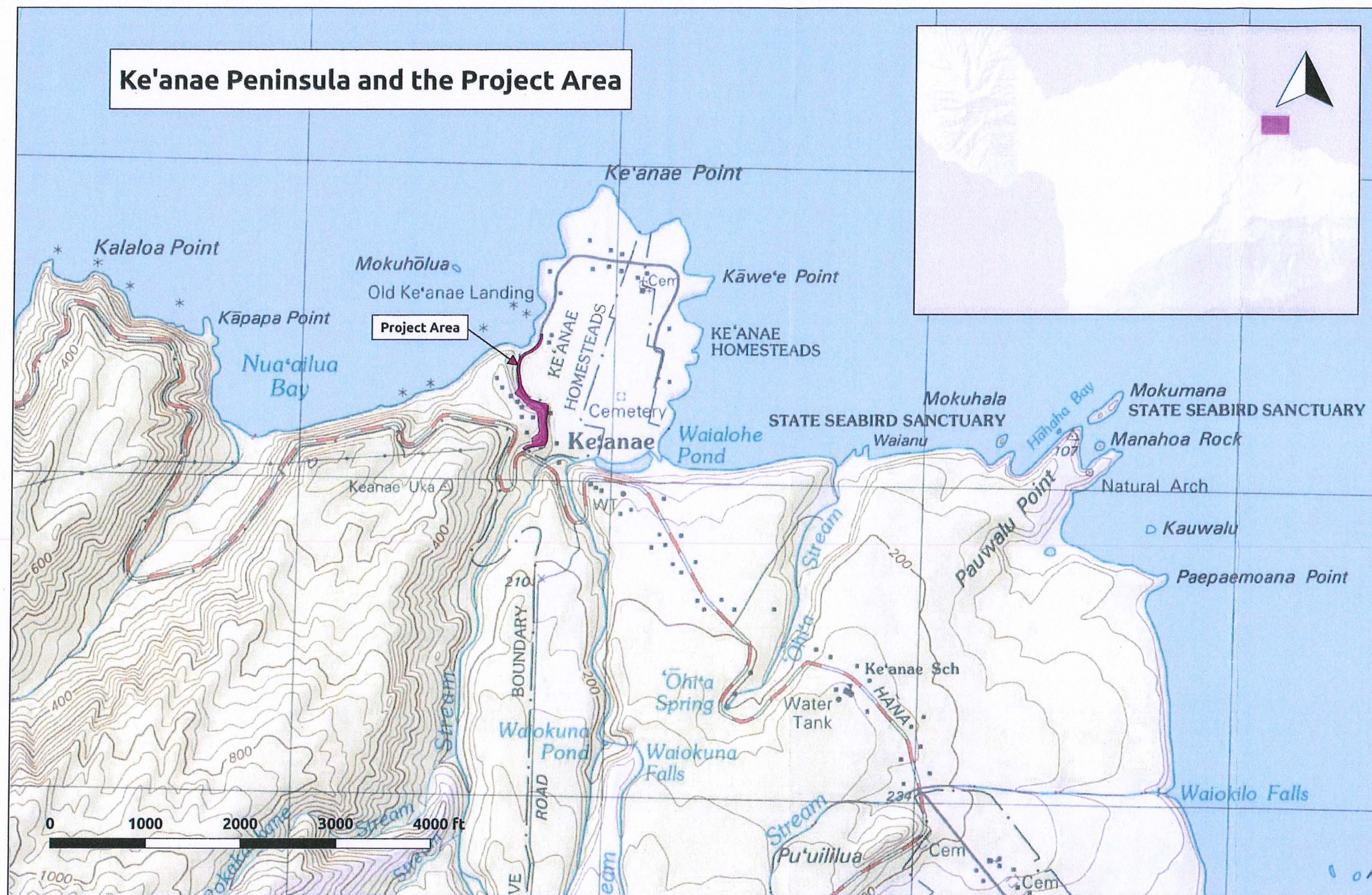
The Hawaii State Office of Environmental Quality Control (OEQC 1997:11) states that “an environmental assessment of cultural impacts” gathers information about cultural practices and cultural features that may be affected by significant environmental effects:

Cultural impacts differ from other types of impacts assessed in environmental assessments or environmental impact statements. A cultural impact assessment includes information relating to the practices and beliefs of a particular cultural or ethnic group or groups.

The purpose of a Cultural Impact Assessment is to identify the possibility of previous and/or currently conducted traditional cultural practices and traditional resources procured within a project area and the greater ahupua’a, and then to assess the potential for impacts to these cultural resources.

PROJECT DESCRIPTION

The job site is located at the HDOT Ke’anae Baseyard and YMCA’s Camp Keanae, just above Ke’anae Peninsula, on the *makai* (north) side of Hāna Highway and along the upper portion of Ke’anae Road. The project begins at the intersection of Hāna Highway and Ke’anae Road and continues approximately 1,570 feet down towards the shoreline. The rock fall mitigation improvements will extend along the cliff face above the road and will involve the installation of safety improvements for Ke’anae Road in Ke’anae, Maui. Safety improvements include rock fall mitigation for approximately 900 feet of cliff face along Ke’anae Road, realignment and widening portions of the roadway, repaving approximately 1,570 feet of roadway, and related site improvements. Site improvements include the relocation of an existing standpipe, minor grading, removal and installation of fencing, and the installation guardrails. No other utilities are anticipated to be affected. In addition, the proposed project involves approximately 2.6 acres of land.



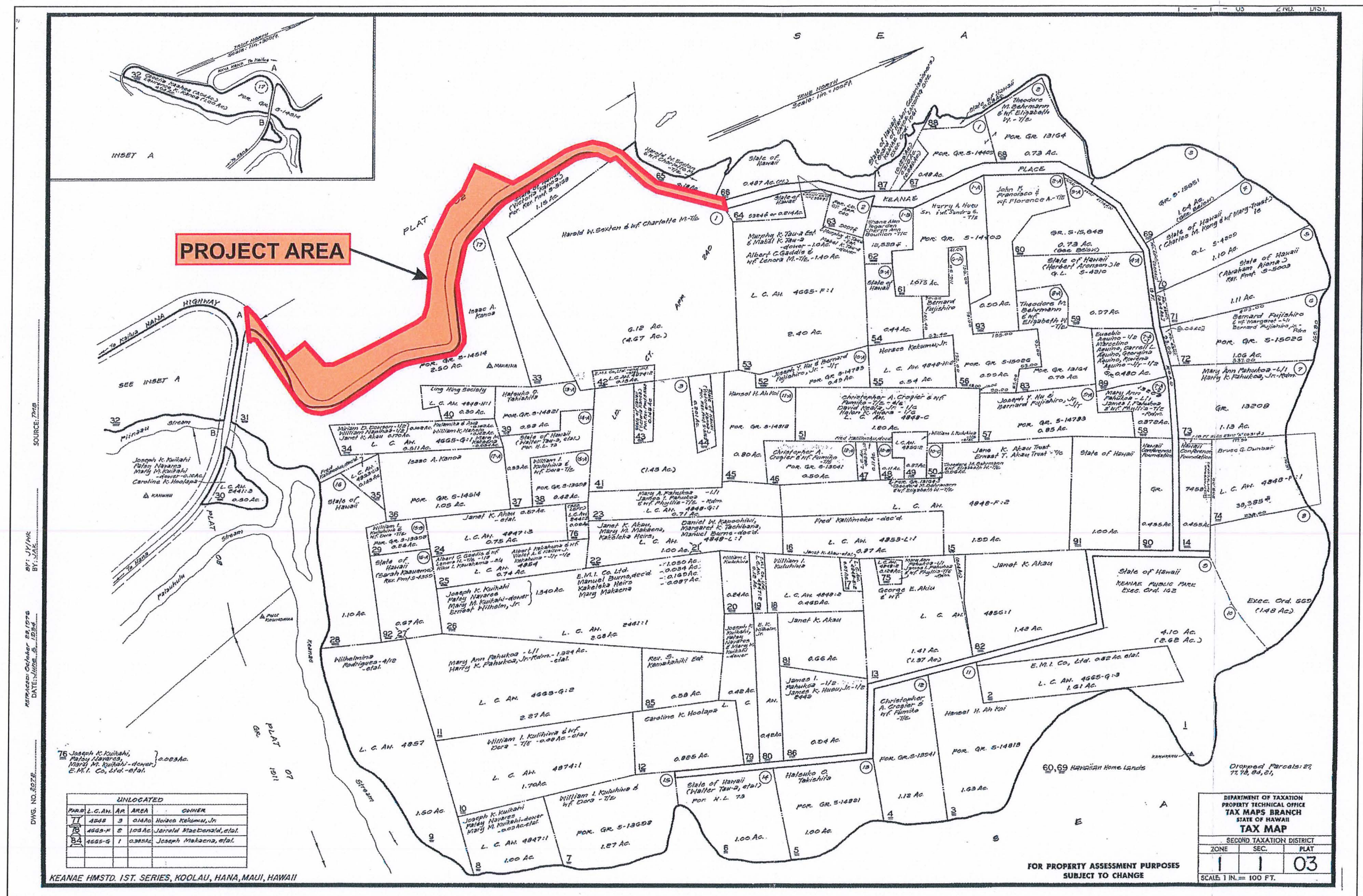


Figure 2: Tax Map Key [TMK: (2) 1-1-002: and 1-1-003] Showing Project Area Location.



Figure 3: Satellite Photograph (Google Earth Image 2017; Imagery Date 1/13/2013) Showing Project Area Location.

CULTURAL IMPACT ASSESSMENT METHODOLOGY

The Constitution of the State of Hawai'i clearly states the duty of the State and its agencies is to preserve, protect, and prevent interference with the traditional and customary rights of native Hawaiians. Article XII, Section 7 (2000) requires the State to "protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by *ahupua'a* tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778." Additionally, Article IX and XII, of the state constitution, other state laws, and the courts of the State, impose on government agencies a duty to promote and protect cultural beliefs and practices, and resources of native Hawaiians as well as other ethnic groups.

Kamehameha III (Kauikeaouli) preserved the peoples traditional right to subsistence. As a result, in 1850, the Hawaiian Government confirmed the traditional access rights to native Hawaiian *ahupua'a* tenants to gather specific natural resources for customary uses from undeveloped private property and waterways under the Hawaiian Revised Statutes (HRS) 7-1. In 1992, the State of Hawai'i Supreme Court, reaffirmed HRS 7-1 and expanded it to include, "native Hawaiian rights...may extend beyond the *ahupua'a* in which a native Hawaiian resides where such rights have been customarily and traditionally exercised in this manner" [Pele Defense Fund v. Paty, 73 Haw.578, 620, 837 P.2d 1247, 1272 (1992)].

Act 50, enacted by the Legislature of the State of Hawai'i (2000) with House Bill (HB) 2895, relating to Environmental Impact Statements, proposes that:

...there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawaii's culture, and traditional and customary rights...
[H.B. NO. 2895].

Act 50 also requires state agencies and other developers to assess the effects of proposed land use or shoreline developments on the "cultural practices of the community and State" as part of the HRS Chapter 343 (2001) environmental review process. It also re-defined the definition of "significant effect" to include "the sum of effects on the quality of the environment including actions that impact a natural resource, limit the range of beneficial uses of the environment, that are contrary to the State's environmental policies, or adversely affect the economic welfare, social welfare or cultural practices of the community and State." Cultural resources can include a broad range of often overlapping categories, including places, behaviors, values, beliefs, objects, records, stories, etc. (H.B. 2895, Act 50, 2000).

The purpose of a CIA is to identify the possibility of on-going cultural activities and resources within a project area, or its vicinity, and then assessing the potential for impacts on these cultural resources. The CIA is not intended to be a document of in depth archival-historical land research, or a record of oral family histories, unless these records contain information about specific cultural resources that might be impacted by a proposed project.

GEOGRAPHICAL EXTENT

As defined by the Hawaii State Office of Environmental Quality Control (OEQC 1997:11), the geographical extent should be greater than the area over which the proposed project will take place in order to ensure that cultural practices that occur outside of the project area, but which may still be affected, are included in the assessment. For example, a project that may not itself physically impact traditional gathering practices, but may block access to those locations would be included within the assessment. The concept of geographical expansion is recognized by using, as an example, "the broad geographical area, e.g. district or *ahupua'a*." In some cases, the geographical extent could extend beyond the *ahupua'a* if cultural practices do so as well.

OEQC GUIDELINES FOR ASSESSING CULTURAL IMPACTS

According to the Guidelines for Assessing Cultural Impacts established by the Hawaii State Office of Environmental Quality Control (OEQC 1997:12):

The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religions and spiritual customs. The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural, which support such cultural beliefs.

The meaning of "traditional" was explained by in *National Register Bulletin*:

"Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations', usually orally or through practice. The traditional cultural significance of a historic property then is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. . . [Parker and King 1998:1]

This CIA was prepared as much as possible in accordance with the suggested methodology and content protocol in the Guidelines for Assessing Cultural Impacts (OEQC 1997:11-13). In outlining the "Cultural Impact Assessment Methodology," the OEQC (1997:11) states that:

“...information may be obtained through scoping community meetings, ethnographic interviews and oral histories...”

This Cultural Impact Assessment was prepared in accordance with the Guidelines for Assessing Cultural Impacts (OEQC 1997:11-13). The Guidelines recommend that preparers of assessments analyzing cultural impacts adopt the following protocol:

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

CULTURAL IMPACT ASSESSMENT CONTENTS

The Guidelines state that an assessment of cultural impacts should address, but not be limited to:

- A. Discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints or limitations which might have affected the quality of the information obtained.
- B. Description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken.
- C. Ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained.

- D. Biographical information concerning the individuals and organizations consulted their particular expertise and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area.
- E. Discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken. This discussion should include, if appropriate, the particular perspective of the authors, any opposing views, and any other relevant constraints, limitations or biases.
- F. Discussion concerning the cultural resources, practices and beliefs identified, and, for resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the project site.
- G. Discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area affected directly or indirectly by the proposed project.
- H. Explanation of confidential information that has been withheld from public disclosure in the assessment.
- I. Discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs.
- J. Analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.
- K. A bibliography of references, and attached records of interviews which were allowed to be disclosed.

If on-going cultural activities and/or resources are identified within the project area, assessments of the potential effects on the cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

PROJECT METHODOLOGY

This report contains archival and documentary research, as well as communication with organizations and individuals having knowledge of the project area, its cultural resources, and its practices and beliefs. An example of the initial letter of inquiry is presented in Appendix A, copies of the posted newspaper notice and affidavit are presented in Appendix B, and an example of the follow up letter is presented in Appendix C. Signed information release forms

are presented in Appendix D. This Cultural Impact Assessment was prepared in accordance with the suggested methodology and content protocol provided in the Guidelines for Assessing Cultural Impacts (OEQC 1997:13), whenever possible. The assessment concerning cultural impacts may include, but not be limited to:

ARCHIVAL RESEARCH

Archival research focused on a historical documentary study involving both published and unpublished sources. These included legendary accounts of native and early foreign writers; early historical journals and narratives; historic maps, land records, such as Land Commission Awards, Royal Patent Grants, and Boundary Commission records; historic accounts, and previous archaeological reports.

Historical and cultural source materials were extensively used and can be found listed in the References Cited portion of this report. Such scholars as Samuel Kamakau, Martha Beckwith, Jon J. Chinen, Lilikalā Kame'eleihiwa, R. S. Kuykendall, Marion Kelly, E. S. C. Handy and E.G. Handy, John Papa 'Ūi, Gavin Daws, A. Grove Day, and Elspeth P. Sterling, and Mary Kawena Puku'i and Samuel H. Elbert continue to contribute to our knowledge and understanding of Hawai'i, past and present. The works of these and other authors were consulted and incorporated in this report where appropriate. Land use document research was supplied by the Waihona 'Aina (2017) Database and the County of Maui's Real Property Assessment and Tax Billing Information website.

INTERVIEWS

In general, interviews are conducted in accordance with Federal and State laws and guidelines when knowledgeable individuals are able to identify traditional cultural practices and/or resources procured in the project area or in the environs. If they have knowledge of traditional stories, practices and beliefs, and resources associated with a project area or if they know of historical properties within the project area, they are sought out for additional consultation and interviews. Individuals who have particular knowledge of traditions passed down from preceding generations and a personal familiarity with the project area are invited to share their relevant information concerning particular cultural resources. Often people are recommended for their expertise, and indeed, organizations, such as Hawaiian Civic Clubs, the Island Branch of Office of Hawaiian Affairs (OHA), historical societies, Island Trail clubs, and Planning Commissions are depended upon for their recommendations of suitable informants. These groups are invited to contribute their input and suggest further avenues of inquiry, as well as specific individuals to interview. It should be stressed again that this process does not include formal or in-depth ethnographic interviews or oral histories as described in the OEQC's *Guidelines for Assessing Cultural Impacts* (1997). The assessments are intended to identify potential impacts to ongoing cultural practices, or resources, within a project area or in its close vicinity.

If knowledgeable individuals are identified, personal interviews are sometimes taped and then summarized. These draft summaries are returned to each of the participants for their review and comments. After corrections are made, each individual is to sign an information release form, making the interview available for this study. When telephone interviews occur, a summary of the information is also sent for correction and approval, or dictated by the informant and then incorporated into the document. If no cultural resource information is forthcoming and no knowledgeable informants are suggested for further inquiry, interviews are not conducted.

KA PA'A KAI O KA'AINA V. LAND USE COMM'N, STATE OF HAWAI'I

The Land Use Commission (LUC) is also required to apply the analytical framework set forth by the Hawaii Supreme Court in Ka Pa'akai O Ka'Aina v. Land Use Comm'n, State of Hawai'i, 94 Hawai'i 31, 7 P.3d 1068 (2000) (hereinafter, "Ka Pa'akai"). In this case, a coalition of native Hawaiian community organizations challenged an administrative decision by the Land Use Commission (the "LUC") to reclassify nearly 1,010 acres of land from conservation to urban use, to allow for the development of a luxury project including upscale homes, a golf course, and other amenities. The native Hawaiian community organizations appealed, arguing that their native Hawaiian members would be adversely affected by the LUC's decision because the proposed development would infringe upon the exercise of their traditional and customary rights. Noting that "[a]rticle XII, section 7 of the Hawaii Constitution obligates the LUC to protect the reasonable exercise of customarily and traditionally exercised rights of native Hawaiians to the extent feasible when granting a petition for reclassification of district boundaries," the Hawai'i Supreme Court held that the LUC did not provide a sufficient basis to determine "whether [the agency] fulfilled its obligation to preserve and protect customary and traditional rights of native Hawaiians" and, therefore, the LUC "failed to satisfy its statutory and constitutional obligations." Ka Pa'akai, 94 Hawai'i at 46, 53, 7 P.3d at 1083, 1090.

The Hawai'i Supreme Court in Ka Pa'akai provided an analytical framework in an effort to effectuate the State's obligation to protect native Hawaiian customary and traditional practices while reasonably accommodating competing private interests. In order to fulfill its duty to preserve and protect customary and traditional native Hawaiian rights to the extent feasible, the LUC must—at a minimum—make specific findings and conclusions as to the following:

- (1) the identity and scope of "valued cultural, historical, or natural resources" in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area;

- (2) the extent to which those resources--including traditional and customary native Hawaiian rights--will be affected or impaired by the proposed action; and
- (3) the feasible action, if any, to be taken by the LUC to reasonably protect native Hawaiian rights if they are found to exist.

See Ka Pa'akai, 94 Hawai'i at 47, 7 P.3d at 1084.

To fulfill these purposes outlined by Ka Pa'akai, the Cultural Impact Assessment has reviewed historical research and suggestions from contacts knowledgeable about traditional cultural practices which were conducted within the project area corridor and in the surrounding environs. The potential effect of the proposed project on cultural resources, practices or beliefs, its potential to isolate cultural resources, practices or beliefs from their setting, and the potential of the project to introduce elements which may alter the setting in which cultural practices take place has been analyzed, as required by the OEQC (1997).

ENVIRONMENTAL SETTINGS

The island of Maui ranks second in size of the eight main islands in the Hawaiian Archipelago. The Island was formed by two volcanoes, Mount Kukui in the west and Haleakalā in the east. The younger of the two volcanoes, Haleakalā, soars 2,727 m (10,023 feet) above sea level and embodies the largest section of the island. Unlike the amphitheater valleys of West Maui, the flanks of Haleakalā are distinguished by gentle slopes. Although it receives more rain than its counterpart in the east, the permeable lavas of the Honomanū and Kula Volcanic Series prevent the formation of rain-fed perennial streams. The few perennial streams found on the windward side of Haleakalā originate from springs located at low elevations. Valleys and gulches were formed by intermittent water run-off.

The steep coastline of the northern portion of East Maui was formed by the trade winds relentlessly sweeping the ocean waves against the shoreline eroding it away. During the Pleistocene, the eruptions of Haleakalā sent lava flows, which partially filled Ke'ānae Valley as they moved down towards the coast and eventually created the broad, flat Ke'ānae Peninsula. The lower portion of Ke'ānae Valley, just above the peninsula, was perennially wet, as a "great stream ran through it" (Handy et al. 1972: 500). This area soon became a forested marshland.

PROJECT AREA

The current project area is located in Ke'ānae Ahupua'a, Hāna District (formerly Ko'olau District), Island of Maui. The project area follows a section of Ke'ānae Road from the intersection with the Hana Highway approximately 1,600 ft. to the Ke'ānae Peninsula at the bottom of the hill. The direct project area includes the width of the roadway plus the portion of

the cliff and slope above. Elevation ranges from 100 ft. at the intersection to a few feet above sea level at the peninsula (Giambelluca et al. 2017).

CLIMATE

Mean annual rainfall in the Ke‘anae area is approximately 2846.4 mm/112.06 inches (Giambelluca et al. 2013). According to Armstrong (1983: 62) Hāna temperatures range from the low 60s to the low 90s (degrees Fahrenheit) in the summer months. Winter temperatures range from the low 50s to the to the low 90s (degrees Fahrenheit).

VEGETATION

In during the pre- and early post-Contact Periods, project area was most likely covered with indigenous grasses. Today, vegetation in the project area consists of various introduced and native plants and trees such as califonia grass (*Brachiaria mutica*), african tulip tree (*Spathodea Campanulata*), pandanus, (*Pandanus tectorius*) ti (*Cordyline minalis*), octopus tree (*Schefflera actinophylla*), flowering wedelia (*Sphagneticola trilobata*), and various ferns and grasses.

PROJECT AREA SOILS

As shown in Figure 4, the natural soils within the project area are classified as stony alluvial land (rSM). A typical profile would consist of extremely stony clay loam from the surface to ten inches and boulder silty clay loam to 60 inches. This type of soil type occurs between sea level and 1,000 feet above mean sea level (amsl) in areas receiving 15 to 200 inches of annual rainfall. Stony alluvial lands are typically used as ranchlands and as woodlands (Foote et al. 1972:120).

TRADITIONAL AND HISTORIC SETTING

Archaeological settlement pattern data suggests that initial colonization and occupation of the Hawaiian Islands first occurred on the windward shoreline areas of the main islands between A. D. 850 and 1100, with populations eventually settling in drier leeward areas during later periods (Kirch 2011). Although coastal settlement was dominant, native Hawaiians began cultivating and living in the upland *kula* (plains) zones. Greater population expansion to inland areas began around the 14th century and continued through the 16th century. Large scale or intensive agriculture was implemented in association with habitation, religious, and ceremonial activities.

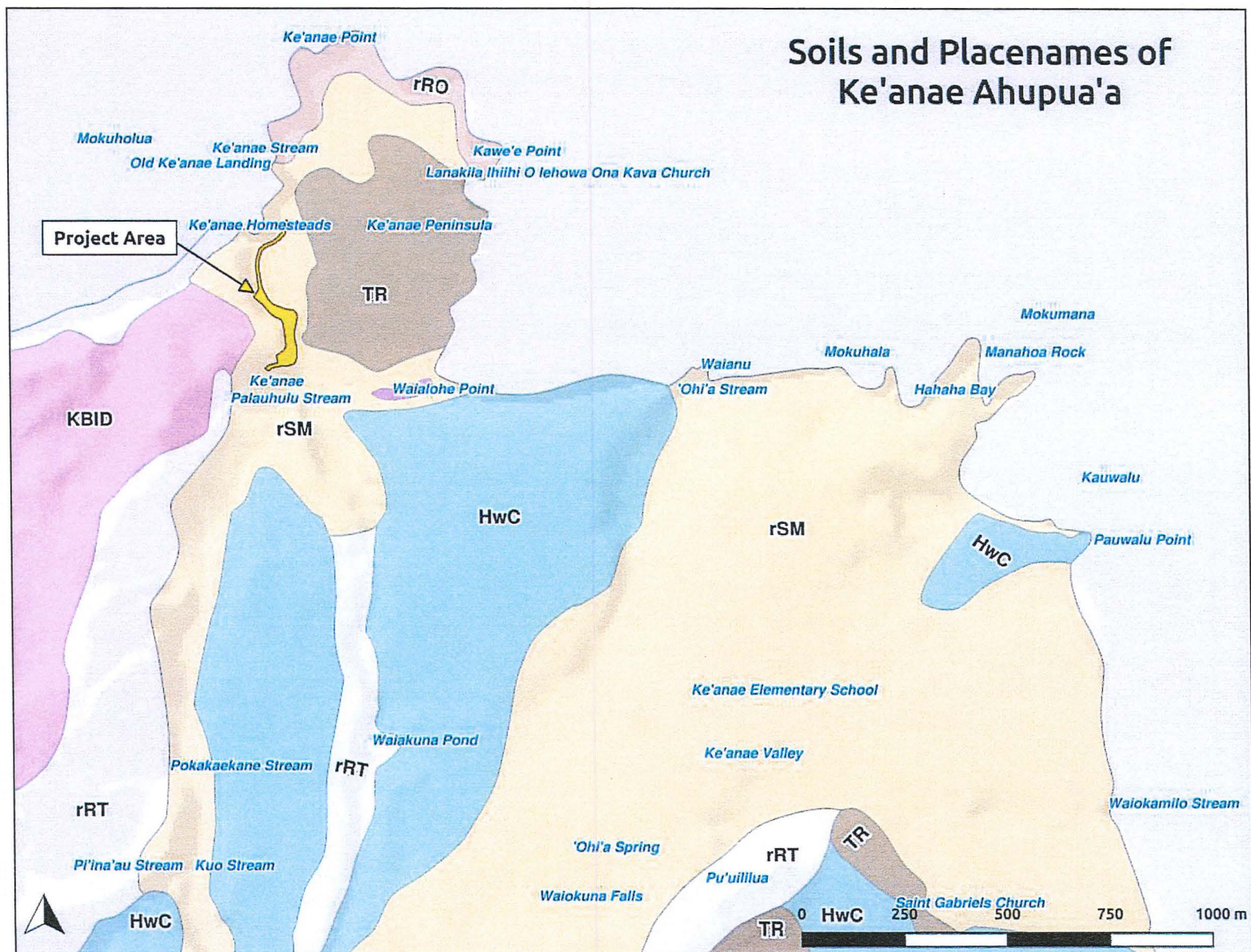


Figure 4: USDA Map (2017) Showing Soil Type Within the Project Area.

Pre-Contact *ahupua`a* settlement in Ke`anae could be considered as the archetype for general patterns of land use on the island. Ceremonial activities, permanent and temporary habitation loci, and marine exploitation were common. Agricultural activities would be undertaken on the plateau lands upland of the peninsula and within the valleys where permanent streams allowed for extensive *lo`i* construction. This *ahupua`a* settlement pattern is supported by the many documented *heiau*, house lots, agricultural architecture and soils, and archival/historic references.

TRADITIONAL AND HISTORICAL CULTURAL CONTEXT

Traditionally, the Hawaiian economy was based on agricultural production and marine exploitation, as well as raising livestock and collecting wild plants and birds. Extended household groups settled in various *ahupua`a*. During pre-Contact times, there were primarily two types of agriculture, wetland and dry land, both of which were dependent upon geography and physiography. River valleys provided ideal conditions for wetland *kalo* (*Colocasia esculenta*) agriculture that incorporated pond fields and irrigation canals. Other cultigens, such as *kō* (sugar cane, *Saccharum officinarum*) and *mai`a* (banana, *Musa* sp.), were also grown and, where appropriate, such crops as *uala* (sweet potato, *Ipomoea batatas*) were produced. This was the typical agricultural pattern seen during traditional times on all the Hawaiian Islands (Kirch and Sahlins 1992, Vol. 1:5, 119; Kirch 1985). Along the coastal stretch of Ke`anae “remnants of ancient [coconut] groves were still standing and noted by Handy et al. (1972:173) during their exploration of the area in the early 1900s.

In Hawai`i, much of the coastal lands were preferred for chiefly residence. Easily accessible resources such as offshore and onshore fishponds, the sea with its fishing and surfing—known as the sports of kings, and some of the most extensive and fertile wet taro lands were located in the coastal areas (Kirch and Sahlins, 1992 Vol. 1:19). Inland resources necessary for subsistence could easily be brought to the *ali`i* residences on the coast from nearby inland plantations. The majority of farming was situated in the lower portions of stream valleys where there were broader alluvial flat lands or on bends in the streams where alluvial terraces could be modified to take advantage of the stream flow. Dry land cultivation occurred in colluvial areas at the base of gulch walls or on flat slopes (Kirch 1985; Kirch and Sahlins 1992, Vol. 2:59).

In the early 1930s, Winslow W. Walker¹ conducted an island-wide archaeological study of the Island of Maui. Walker's (cited in Sterling 1998:13), observations during this study indicate that the villages on Maui were most likely located at the "mouths of larger gulches or at least within sight of the sea" and that "[n]o villages were seen in the higher forested parts of the island although a few scattered house sites were observed." William W. Walker (cited in Sterling 1998:13), also surmised that the modern village of Ke'anae is likely to have been built on the site a much earlier settlement.

PAST POLITICAL BOUNDARIES

The division of Maui's lands into districts (*moku*) and sub-districts was performed by a *kahuna* (priest, expert) named Kalaiha'ōhia, during the time of the *ali'i* Kaka'alaneo (Beckwith 1970:383; Fornander places Kaka'alaneo at the end of the 15th century or the beginning of the 16th century [Fornander 1969, Vol. 6:248]). Maui, traditionally, consisted of twelve political districts: Wailuku, Ka'anapali, Lāhainā, Honua'ula, Kula, Hāmākuapoko, Hāmākualoa, Kahikinui, Kaupō, Kapahulu, Ko'olau, and Hāna. Between A.D. 1400 and 1500, two polities had consolidated in East and West Maui. Hāna was the ruling center of East Maui, which included the districts of Ko'olau, Kapahulu, and Kaupō. The chiefs of East Maui traced their lineage from a Hawai'i Island conquering chief named Kalahuimoku (Fornander 1969, vol. 2:78–79). It was not until the marriage of a daughter of the ruling chief of Hāna to the son of the West Maui chief in the 1500s, that unification of the island under West Maui was realized (Fornander 1969, vol. 283–87). It should be noted that during the pre-Contact Period, Ke'anae was located in the Ko'olau District (Sterling 1998:108).

In general, several terms, such as *moku*, *ahupua'a*, *'ili* or *'ili' āina* were used to delineate various land sections. A district (*moku*) contained smaller land divisions (*ahupua'a*) that customarily continued inland from the ocean and upland into the mountains. Extended household groups living within the *ahupua'a* were therefore able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua'a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The *'ili' āina* or *'ili* were smaller land divisions next in importance to the *ahupua'a* and were administered by the chief who controlled the *ahupua'a* in which it was located (Lyons 1875:33; Lucas 1995:40). The *mo'o āina* were narrow strips of land within an *'ili*. The land holding of a tenant or *hoa āina* residing in a *ahupua'a* was called a *kuleana* (Lucas 1995:61). The current project area is located

in the ahupa'a of Ke'anae, within the traditional district (moku) of Ko'olau (which is currently within the modern district of Hāna) (Figure 5).

PRE-CONTACT PERIOD (PRE-1778)

Contact with the western world occurred on January 18, 1778, with the arrival of Captain James Cook in the Hawaiian Islands during his third voyage into the Pacific Ocean (Daws 1968:1). This section discusses traditional life prior to Cook's arrival. During the pre-Contact Period, "...the two adjacent areas of Ke'anae and Wailua-nui comprise[d] the fourth of the main Maui centers and the chief center on this rugged eastern coast. It supported intensive and extensive wet-taro cultivation" (Handy et al. 1972:272). The other centers of population on the Island of Maui was the area known as *Nā Wai 'Ehā* (which was comprised of Waihe'e, Wai'ehu, Wailuku and Waikapū Ahupua'a), in Central Maui; the area extending from 'Olowalu to Honokōhau on West Maui; and Hāna, on East Maui.

Maly and Maly (2001:8) assert:

Based upon early historical observations (ca. A.D. 1778-1850), settlement in the watered valley environments of Hāmukua-Ko'olau, consisted of permanent residences which centered near the shore and spread along the valley floors. Residences also extended inland along near-shore *kula* (flat land or plateaus), and in fewer instances into the upper valleys. Temporary houses from which mountain resources (such as *olonā*, *koa*, and birds) were collected, extended into the upper valley areas, among fields on stream flats and on adjacent slopes. Two primary forms of agricultural sites occur in these watered valley contexts, they are the *lo'i kalo* (irrigated and drainage taro farming field systems) on the valley floors and slopes; and the *kula* and *kīhāpai* dry land farming plots where crops such as *'uala* (sweet potatoes), *kō* (sugar canes), *kalo* (taro), *mai'a* (bananas and plantains), and *wauke* (paper mulberry) were cultivated.

The marshland which formed in lower Ke'anae Valley was the area that was inhabited by the early occupants of the region. These early inhabitants planted "upland rain-watered taro" far into the forested lands in the upper reaches of the valley and planted irrigated taro in the eastern side of the lower valley. While a larger, similar planting area could have been created in the central portion of the valley, Handy et al. (1972:500) saw no evidence of agricultural terraces during their explorations of the area in the early 1900s. "This is probably due to the fact that the energies of the people were diverted to create the *lo'i* complex which now covers the peninsula (Handy et al. 1972:500).

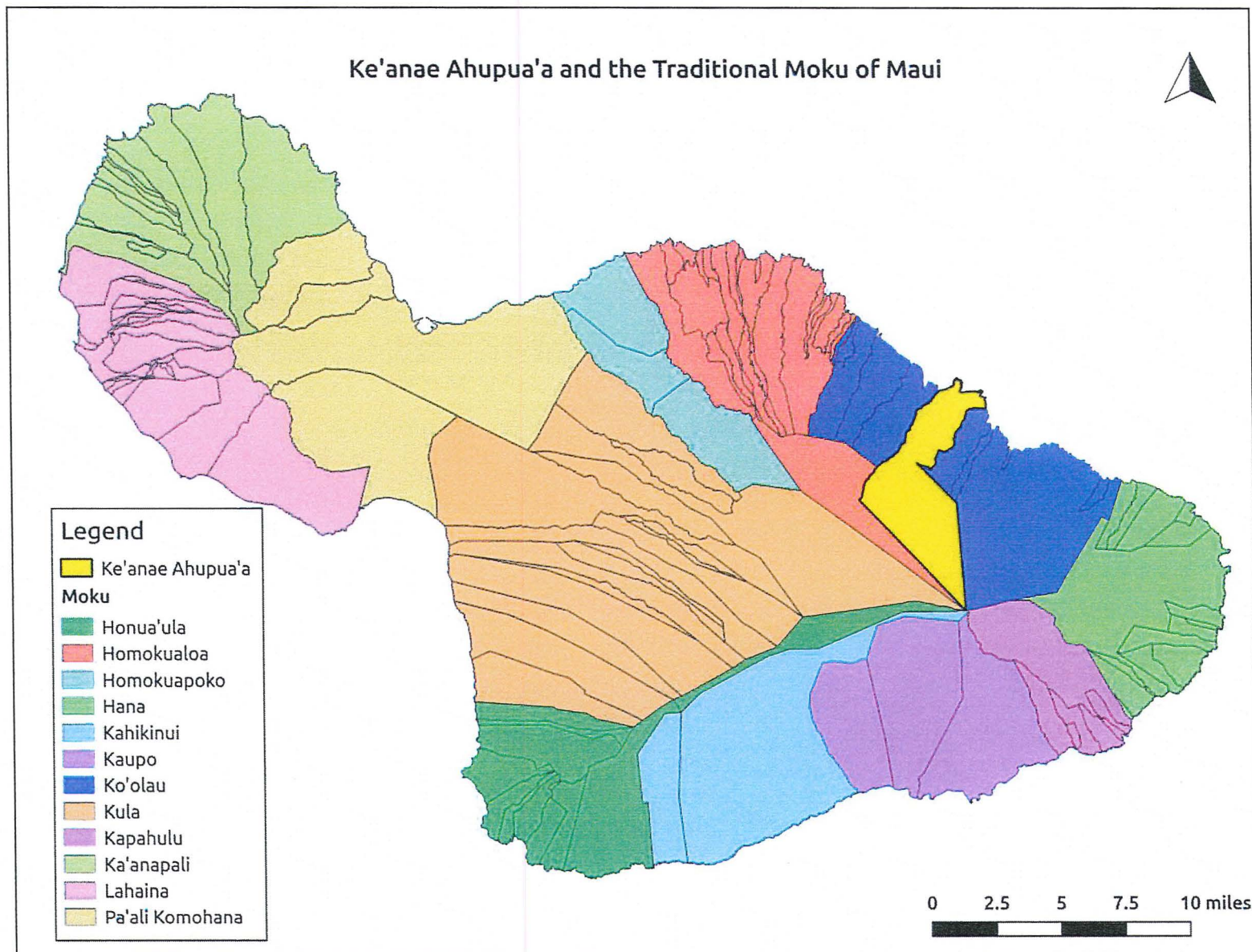


Figure 5: Map of the Island of Maui Highlighting Ke'anae Ahupua'a and the Traditional Districts (Moku).

Handy (1940: 109-110) described the Ke'anae Peninsula as a "broad flat peninsula comprised of lava that extends for nearly a mile into the sea from the western line of the valley." As "the greater part of the valley was, until recent times, [a] boggy forest," dry-land taro was primarily planted within Ke'anae Valley, while wet-land taro lo'i was farmed in the lower eastern portion of the valley (Handy 1940:109-110).

Handy (1940: 109-110) stated the peninsula of Ke'anae became renowned for the cultivation of wet-land taro once the area was converted into lands suitable for wetland agriculture at the orders of an early chief. According Handy et al. (1972: 500-501):

...a chief, whose name is not remembered, was constantly at war with the people of neighboring Wailua and was determined that he must have more good land under cultivation, more food, and more people. So he set all his people to work (they were the living within the valley and going down to the peninsula only for fishing), carrying soil in baskets from the valley down the lava point. The soil and the banks enclosing the patches were thus, in the course of many years, all transplanted and packed into place. Thus did the watered flats of Ke'anae originate.

According to Handy et al. (1972:500), water for Ke'anae Ahupua'a is provided Polaukulu Stream "which breaks through the gap at the northwestern corner of the valley." Polaukulu Stream also provided water to the taro fields on the Ke'anae Peninsula via a flume, which "carried the water across the narrow channel below the pali." Although the date of construction cannot be ascertained from the literature, inferences suggest the flume was constructed prior to 1778 (see Maly and Maly 2001:36).

WAHI PANA (LEGENDARY PLACES)

"Wahi Pana" can be defined as celebrated or noted places or locations (Pukui and Elbert 1986:313, 376), and refers to legendary places or landmarks of historical significance. These places of note have distinctive features (*i.e.*, mountain peaks, streams, wind, rain, etc.) that are given specific names through which the history of an area is passed down from generation to generation through chants, legends, and songs. The god Kāne is said to have brought the waters that feed this region. Kanaloa, who accompanied Kāne, thrust his kauila staff into solid rock to bring forth the waters of Ke'anae (Beckwith 1970: 64). Numerous legends are associated with the lands of Ke'anae. Several of these legends are presented below.

In Hawaiian, the word "anae" refers to the full-grown mullet fish. Mullet was known for its sweet flavor and for being easily accessible at the mouths of fresh water streams. Thus, this

fish was a favorite food throughout the Hawaiian Islands. Located along the western side of the Ke'anae Peninsula, near the coastline, there once was a small lo'i, known as Ke'anae, which belonged to the ali'i of the ahupua'a. In addition to functioning as a lo'i, it was also used as a fishpond for raising the young mullet (Handy et al. 1972:262). According to legend, "the entire locality took its name from this small sacred lo'i. Here, as at Kahakuloa, the taro that grew in the sacred patch of the alii was reputed to be of great size" (Handy et al. 1972:500-501). However, some cultural informants, including Harry Kuuili Mitchell, "believed the name derived from nae 'out of breath' from the crosspiece ko'a needed to carry the dirt down to the peninsula" (Cultural Landscape Study 1995: D-6).

There is a pond on the east side of the Ke'anae Peninsula, known as Waialohe (hearing waters) Pond, that is associated with legends. It is said that Ke'anae was named for the numerous mullet that were caught in this pond (Native Hawaiian Study Commission 1984). It is also said that there is a cave beneath Waialohe Pond that is associated with sharks (Cultural Landscape Study 1995: 118 - 119).

One of the *heiau* located in Ke'anae was mentioned by Kamakau (1961 cited in Maly and Maly 2001:23) as associated with "an ancient defied, resident-priest" [kahuna] from Pāpa'a'ea in Hāmākualoa. This kahuna is said to have built *heiau*, prior to the 1500s, that "stood above Ke'anae." According to Maly and Maly (2001:23-24), Kamakau (1961:69) also reports that throughout history chiefs of the Hekili line were dedicated at Pāpa'a'ea:

Kanehekili, Kanewawahilani, Kaho'ali'i, Kauilani, makehaikalani, and the many other gods who belong to the upper and lower strata of the firmament (*ka lewalani, ka lewanuru*), are called "gods of the heavens," *na akua o ka lani*. Kanenuiakea's place was elsewhere. The first *kahu* who observed the kapus of these gods was named Hekili (Thunder). He lived at Papa'aea in Hamakualoa, Maui. The land of Papa'aea where this man was born is a place where thunder claps very loudly, with double claps, and there come flashes of lightning that smash to pieces the forest of 'O'opulua.

Everyone knew Hekili as a man who had *mana*, so that everything he said was fulfilled. He had but to speak to the thunder and lightning, and they avenged him instantly upon his enemies; those persons who cursed him and abused him were all killed suddenly by thunder and lightning. His enemies therefore plotted in their hearts to kill him and whispered about it in secret. While they whispered, thunder struck. His enemies ceased to plot and to think evil thoughts.

People feared Hekili as a man of great *mana*, and they all called him Kanehekili. They believed him to be a man with the *mana* of a god, and they relied on him as a man of *mana* and as a *kahu* for the "gods of the

heavens.” His *heiau* for the gods of the heavens stood above Ke’anae in the Ko’olau district. There Hekili died, beneath the *kuapala* offering stand. When the brother-in-law of this man of the thunder spirit (*kanaka akua hekili*) entered the *heiau* and found him dead, he cut off his head and took it to Lanai, and thus it came into the possession of Lanai. The men of Hamakualoa missed him, and searched, and found his body in the *heiau* ... above Ke’anae. When they found that this *kahu* of great *mana* was dead, they took the body and divided it into small pieces and distributed the pieces to various places around Maui. These became their *kuleana* to worship thunder. Those persons who had the head worshiped through the head and eyes of Kanehekili. They were called “the eyeball of the god” (*ka ’onohi o ke akua*), and “the mouth of the god” (*ka wahao ke akua*). [They were the seers and prophets of the god in thunder.]

According to Beckwith (1970:48), Kahekili, the last ruling ali’i of Maui, was tattooed on one side of his body to show that he belonged to the family of the thunder god. Kahekili was renowned as a remarkable athlete. His favorite sport and method of displaying his and his warriors’ fearlessness was leaping from high cliffs into the ocean below. Ashdown stated (1968 cited in Sterling 1998:45), Kahekili performed these death defying leaps to prove to the people that he could be trusted as a god and as a ruler. One of Kahekili’s “most noted Death Leaps” took place at Ke’anae.

Traditionally, the root of the ti plant was used for medicinal purposes and as a food source in times of famine (Handy et al. 1972: 224). During times of famine, large amounts of ti root were obtained from the forests and prepared in great ovens prior to being drunk. According to legend (Handy et al. 1972: 224), there was a “great imu ki” [ti oven] pit that was used for this purpose. The pit, which was filled in by the time of Handy’s (1940s) visit, was located in the lava on the west side of Ke’anae Peninsula, in the vicinity of where the road extends past the old boat landing.

There are numerous fishing legends associated with Ke’anae Ahupua’a. According to William Kinney (cited in Sterling 1998:10) there was a shark god known as Kelii hue waa, who resided in Ke’anae noho in Ke’anae.

The account below was told to Martha Beckwith (1970:134) by Mrs. Hardy, a resident of Ke’anae, about a legendary site near her home:

A man and his wife live near the sea at Keanae; his sister and her husband live in the woodland at Kau-palahalaha. Every day the man goes out fishing, bidding his wife give fish to his sister when

she comes from her upland garden with vegetable food for the family. The man's wife is stingy and gives her sister-in-law only the tail end of a fish. This the woman in disgust drops into a calabash. One night both husband and wife have a dream and, rising they find a live shark in the calabash. For many years they keep it in a pool [which may be seen today at this place] and make food offerings to it. Once, during high water, it is washed down to the sea. It now lives in the hole called Lua-hi'u (Hole of the tail) which may be seen near Mrs. Hardy's house and which extends underground half a mile and comes out near the Keanae wharf.

According to Maly and Maly (2001:36), there was:

“...a pond mauka of Puhipinao where Hi'u, the profit shark (manō kāula) of Ko'olau was born. From the cave that Makanikeoe first saw at Wai'ōlohe, there is a pali that rises above the muliwai, that is Pu'ukanohua the place where Kahekili and his steward would leap. This place was made famous in the lines of this mele — “I mahu'i aku au e 'ike lihi. I ka wai kau mai o Ke'anae.” (I have caught a glimpse of the water perched above Ke'anae.)

THE MĀHELE (1848-1851)

During the late Historic Period, extreme modification to traditional land tenure occurred throughout all of the Hawaiian Islands. Kame'eleihiwa (1992: 209), states that the Makawao District was the first area in Hawai'i to experiment with land sales. In January 1846, land was made available for eventual ownership to *maka'āinana* (commoners). According to Chinen (1961), land was sold for \$1.00 per acre; this would mark the beginning of land grants. Experimental lots purchased by Hawaiians ranged from five to ten acres and if applicants met all of the requirements (and were notified of the procedures); they eventually received the title to their land.

The transition from traditional Hawaiian communal land use to private ownership and division was commonly referred to as the Māhele (division). The Māhele of 1848 set the stage for vast changes to land holdings within the islands as it introduced the foreign (western) concept of land ownership to the Islands. Although it remains a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kamehameha III was forced to establish laws changing the traditional Hawaiian economy to that of a market economy (Kuykendall Vol. I, 1938:145 footnote 47, 152, 165–166, 170; Daws 1968:111; Kelly 1983:45; Kame'eleihiwa 1992:169–170, 176).

For natives that had been cultivating and living on the lands, lengthy and costly procedures enabled them to (possibly) claim some of the plots. The first Land Commission was formed in 1845, during which time all individuals holding land were required to submit their claims or forfeit their lands. Once lands were made available and private ownership was instituted the *makaʻāinana* were able to claim the plots on which they had been cultivating and living, if they had been made aware of the foreign procedures (*kuleana* lands, Land Commission Awards, LCA). These claims could not include any previously cultivated or presently fallow land, *ʻokipū* (on Oʻahu), stream fisheries or many other resources necessary for traditional survival (Kelly 1983; Kameʻeleihiwa 1992:295; Kirch and Sahlins 1992). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed Land Commission Award (LCA), issued a Royal Patent number (RP), and could then take possession of the property (Chinen 1961:16).

The land that *makaʻāinana* received was less than one percent of total lands, all of which needed to be surveyed. A total of 88,000 people submitted 14,195 requests for land and of these only 8,421 were awarded (Kameʻeleihiwa 1992:295). In 1850, it became legal for foreigners to purchase land and they received large portions for diminutive prices. At this time, many Native Hawaiians lost access to their lands due to mortgage default.

The Māhele statute paved the way for the private ownership of land [awarded claims were called Land Commission Awards]. A search of the Waihona Aina Database (2017) indicated thirty-nine LCAs were claimed in Keʻanae Ahupuaʻa. Land use history indicate that the lands of Keʻanae were intensively and continuously used for wetland taro cultivation or loʻi agriculture from the pre-contact to the present day (“Cultural Landscape Study,” 1995; Handy and Handy 1972). As shown in Figure 6, a portion of the project area extends into LCA 2443B (Royal Patent 3380), which was claimed by and awarded to I. Kanehaku in 1856 (Appendix E; Waihona Aina 2017). Although I. Kanehaku claimed two loʻi and two (pieces of land) ʻāpana, he was awarded one ʻāpana, 3.15 acres in size.

HISTORIC PERIOD (POST-1778)

The shift to a market-based economy during the Māhele (1848) caused a migration from the rural communities to the towns and ports of the island. However, the communities of Keʻanae and Wailua became more concentrated rather than dispersed. Land was acquired by Hawaiian owners or hui (co-op) from Keʻanae, primarily for kula, or pasture lands (Linnekin 1983, 1985; Hill et al. 2008). According to Linnekin (1985), of the twenty-one Royal Patent Grants issued in the Keʻanae region (769.35 acres), all but one went to Hawaiians. The drive for

the formation of hui ventures was to regain traditional access to upland resources, effectively gaining greater retention of acreage by Hawaiians from Keʻanae than was normally the case during the Māhele (Levy 1975). This effectively prevented the development of sugar plantations or cattle ranches along the mauka portions of the region (Linnekin 1983; Hill et al. 2008).

RICE PRODUCTION

Although rice production had been first cultivated in 1838 on Oahu, it was only in 1860 after the collapse of the whaling industry and a surplus of agricultural land that rice became a viable crop. As Morgan (1948:165) states in his economic history of 19th C. Hawaii:

The whaling fleet had vanished; interest in the new crop grew intense. There ensued a speculative fever that compares with stock market booms and the Holland tulip fever. Rice cultivation spread like an epidemic. Since taro patches which could be flooded were peculiarly adapted to rice growing, they were made use of generally as rice

paddies. Many people- among them a Judge Montgomery who distinguished himself by his total loss of Judicial calm- pulled up growing taro to replant with rice. A taro famine resulted; and since taro remained the mainstay of native diet, not easily substituted for by other foods, its price rose astronomically until it was worth nearly its weight in money. The natives suffered. During the next year, with many people repenting of the first year's excitement, and finding returns from rice once disappointing and taro dear, there was a shift back to taro production. Taro became cheap, and rice again offered the best return.

In 1857, the first Chinese laborers were released from their contracts at the plantations. Many started their own rice farms. They found the taro patches and swampy lands near the sea that were not well suited for cane to be ideal for rice production. By 1867, over a million pounds of rice grown in Hawaii was consumed locally, an additional millions of rice and paddy exported to California to feed that state's Chinese, since as Morgan notes, the Civil War had interrupted traditional rice production in the American South. By 1880, Oahu supplied two-thirds of the rice crop, Kauaʻi nearly the other third, and the difference from Hawaii and Maui (Morgan 1948:166).

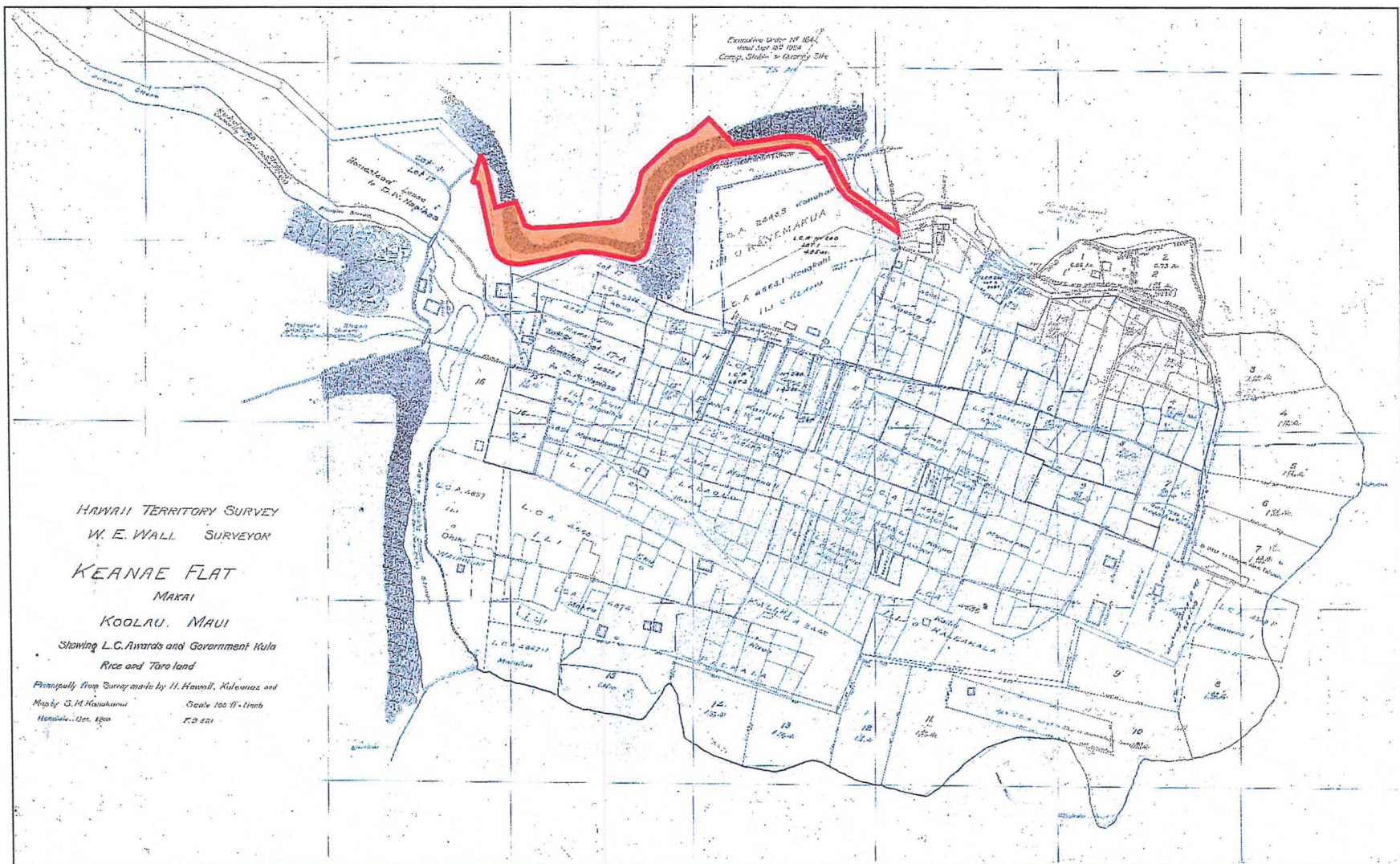


Figure 6: Registered Survey map 2238 showing LCAs utilized for rice and taro on the peninsula.

By 1890, lands that were formerly under the cultivation of taro were now leased or sold to the Chinese for rice. Tax records from 1890 indicate that within Ke'anae and Wailuanui, 67.84 acres were utilized for rice cultivation (see Figure 6). Rice farming declined in the early 1900s due to cheaper and higher quality product available from California (Morgan 1948:167).

THE HANA BELT ROAD

The Ke'anae Peninsula was considered too remote and dangerous for normal coastal traffic, and when the Chinese turned the area into a center of rice production, they had to outfit their own sampan to get the crop to Maliko and from there in carts to the market (Honolulu Republican 1901:9). This vessel was wrecked at Huelo in 1902 (Maui News 1922:6). By 1908, a landing and derrick operated by a steam donkey engine was in operation at Ke'anae Landing (State Site 50-50-07-2957; Maui News 1908:5). The landing did not greatly improve access to the region:

Twenty-five miles west of Hana, without road connection from either direction, is the tremendous gash running from the top of Haleakala to the place known as the Ke'anae valley. This valley is broad and fertile. It is the home of probably 200 native Hawaiian and a few Chinese. For weeks at a time, Ke'anae is frequently cut off from the rest of the world through inability of the inter-island steamers to land passengers or freight at the rough landing.

Editorials argued for a road that would connect to the rest of Maui. It was thought that a road running from the port at Kahului to a landing at Hana could divert the sizeable tourist traffic already enroute from Oahu to Hawaii Island to see the volcanoes (Honolulu Star Bulletin 1914:4). This belt road was constructed between 1905 and 1928. The road from the Hana Highway down to Ke'anae was constructed in the 1920s. Prisoner work gangs for the highway construction were billeted at the Ke'anae Camp located on the bluff above the roadway ("Cultural Landscape Study," 1995:84). The camp was built originally in the early 1900s and repurposed for the Civilian Conservation Corps in the 1930s ("Cultural Landscape Study," 1995:89). The Hana Belt Road has been designated as State Site 50-50-06, 07, 12, 13, 16, 17 - 1638. The Hana Belt Road is listed on the State of Hawai'i Register of Historic Places and has been listed on the National Register of Historic Places since June 15, 2001.

PREVIOUS ARCHAEOLOGY

Only a few archaeological studies have been conducted in the Keʻanae region (Table 1; Figure 7), although numerous archaeological sites have been documented (Figure 8; Table 2).

Table 1: Previous Archaeological Studies Previously Conducted in the Region.

Author/Date	Location	Project Type	Results
Stokes 1916	Island-wide	Ceremonial archaeology	7 heiau identified
Walker 1931	Island-wide	Ceremonial archaeology	16 heiau identified, 10 destroyed
Group 70 et al. 1995	Keʻanae and Wailuanui	Cultural landscape study	3 taro field systems, nominated culture landscape
Haun and Henry 2003	Wailuanui Ahupuaʻa	Inventory survey	1 site

Stokes (1916) conducted an island wide search for heiau structures. He identified seven heiau in the Keʻanae region. Stokes (cited in Sterling 1998:111) was shown the sites of several ceremonial sites on the Keʻanae Peninsula by Mrs. Lono Kaholokahiki. These included the site of Kukuialono Heiau was located “at the point 150 feet from sea on land of the same name,” the site of Lalaola Heiau, located on the east side of the peninsula. However, during this visit, Stokes did not have time to visit the site of Pa Kanaloa Heiau, which was reported to be located on the upper slopes of Keʻanae Peninsula. It is said to have been a war heiau to Kanehikili.

Under the auspices of the Bishop Museum, Winslow W. Walker (1931) conducted an island-wide archaeological survey with a primary focus on monumental and/or ceremonial archaeology. During Walker’s (1931) study, he noted Pa Kanaloa Heiau near the area of the current project area. In 1995, Maui County conducted a cultural landscape study of Keʻanae Ahupuaʻa. The study incorporated ethnographic interviews and a limited archaeological field inspection. State Site 50-50-07-3933, a large complex of taro loʻi covering the majority of the peninsula, was mapped as part of the project.

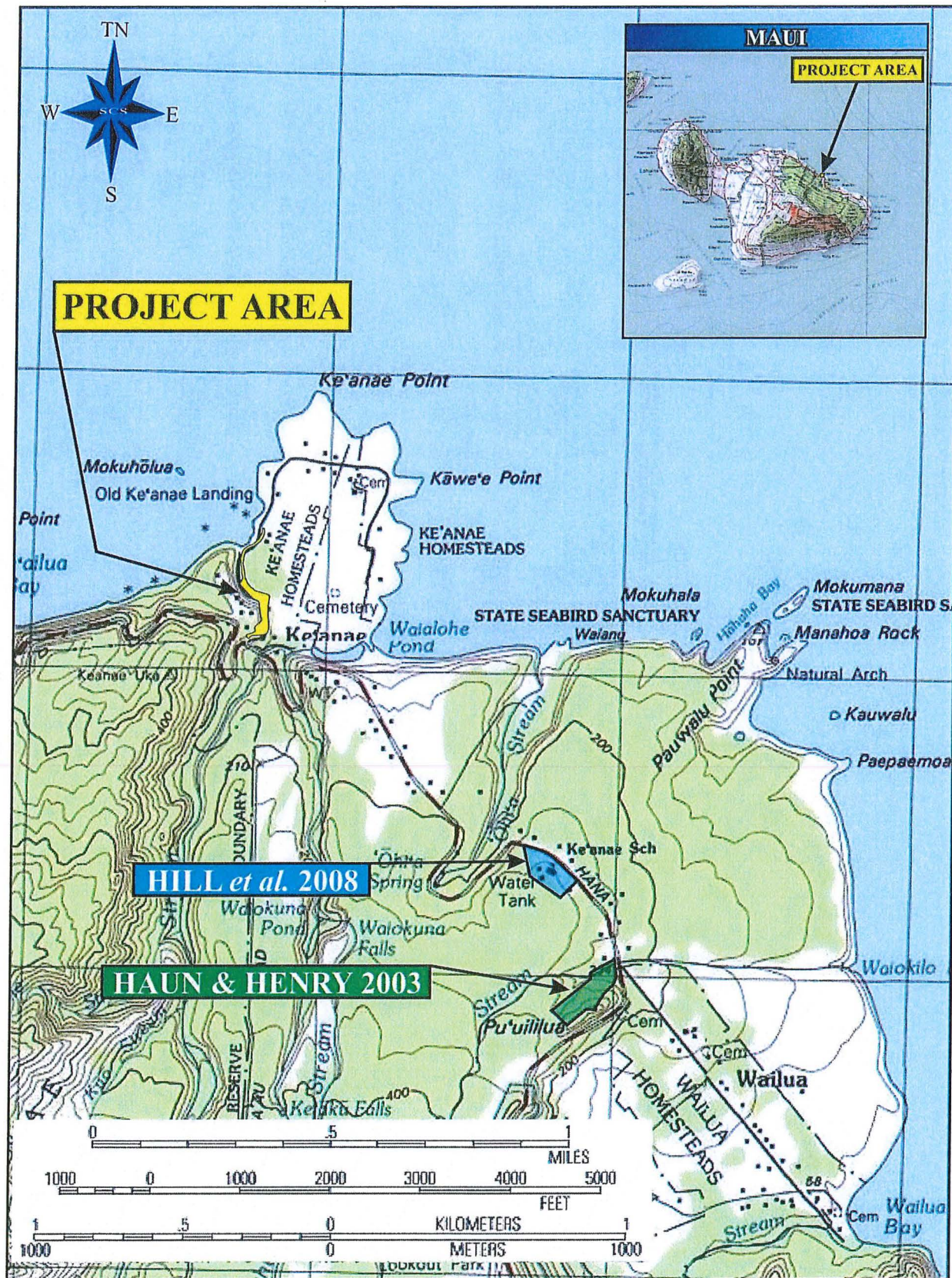


Figure 7: Previous archaeological studies within or near Ke'anae Ahupua'a.

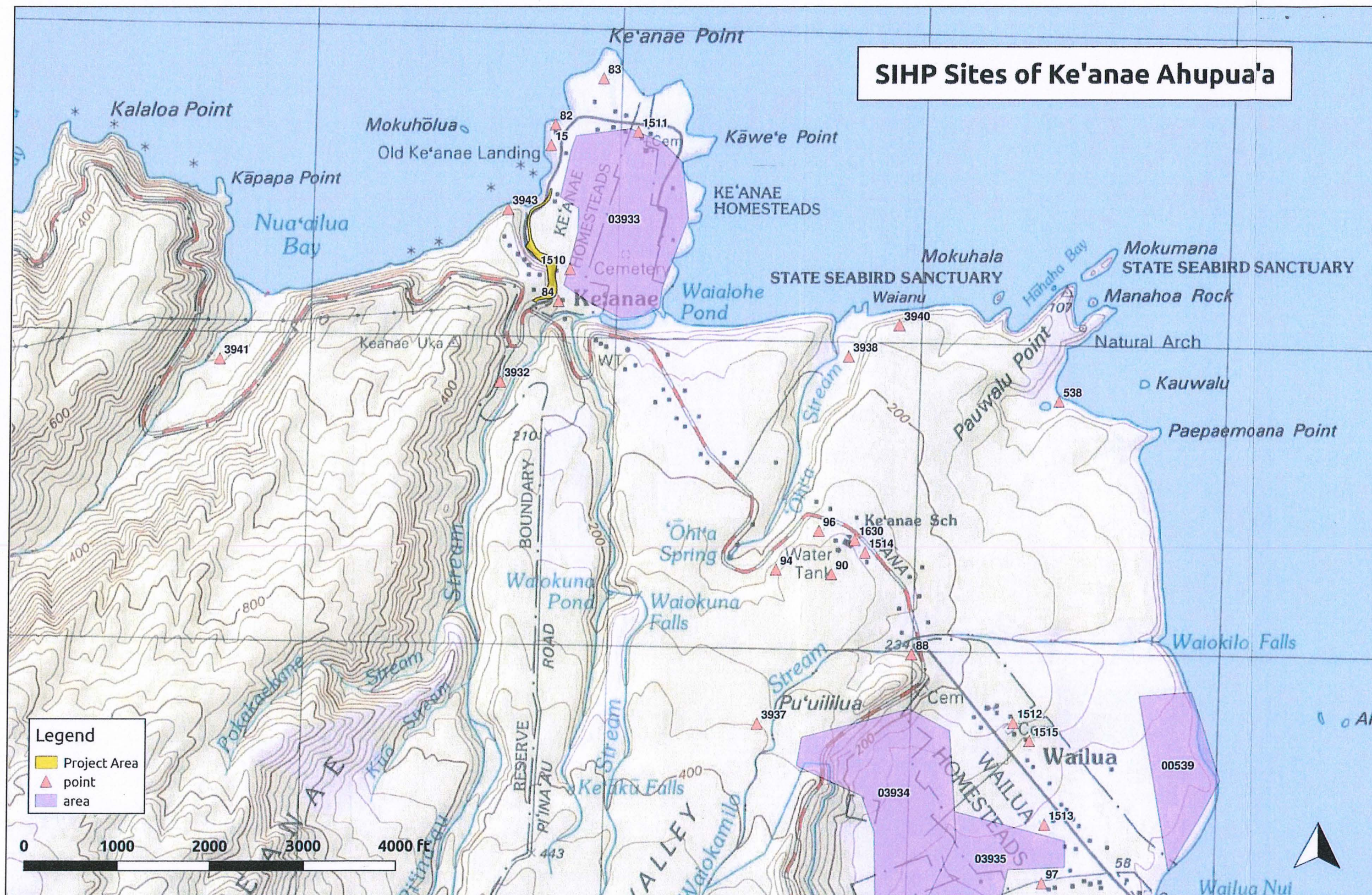


Figure 8: Previously Identified Archaeological Site (All Site Designations Are Prefixed: State Site 50-50-07-) in and near Ke'anae Ahupua'a (see Table 2 for names and descriptions).

Table 2: State Sites Previously Identified within or near Ke'anae Ahupua'a.

State Site Number	Name	Description
50-50-07-3933	Ke'anae Taro Complex	
50-50-07-3934	Wailuanui Taro Complex	
50-50-07-539	Wailuanui Complex	
50-50-07-83	Lalaloa Heiau	Recorded by Walker 1931; "...[o]n point of Ke'anae peninsula..." [Walker 1931].
50-50-07-82	Kukuilono Heiau	Recorded by Walker 1931; "...[o]n point of Ke'anae peninsula..." [Walker 1931].
50-50-07-2957	Ke'anae Landing	c.1903. Derrick and steam donkey. Recorded by SHPD in 1992; "Landing Sites of Maui" by T. Donham for 5th Annual Symposium on Maritime Archaeology and History of Hawaii and the Pacific, Honolulu, n.d. Concrete piers and other structural remnants of the former Ke'anae Landing.
50-50-07-3943	Ke'anae Quarry	Site -3943 consists of a historic quarry, with the rock crusher and winch still in place. A stone platform within the quarry boundaries is said to be the grave of a worker killed in a quarry accident.
50-50-07-1510	Lin Hing Society Building	Site -1510 has been disassembled, and the materials stored at Keokea (Kwock Hing Society). Placed on Hawaii Register in 1974.
50-50-07-1511	Lanakila Church	Site -1511 first built in 1856, restored in 1969. Congregational church.
50-50-07-84	Pakanaloa Heiau	Recorded by Walker 1931; located on "...upper slopes of Ke'anae peninsula..." [Walker 1931]. Not located by Stokes 1916, Walker 1931, Soehren 1963.
50-50-07-3932	Ke'anae Arboretum Taro Complex	Site -3932 comprises 14 lo'i and a main 'auwai.
50-50-07-3938	Waianu Taro Complex	Site -3938 comprises at least 70 to 80 lo'i and 1 'auwai and was in use to the early 1980s.
50-50-07-3940	Kilo Residential Complex	Site -3940 comprises low terraces and an enclosure.
50-50-07-94	Heiau of Ohia	Recorded by Walker; "... [a]t Ohia in the valley [3/4 mile] from the sea...[s]tones removed to build pig pen, and outlines thus lost..." [Stokes in Walker 1931]. Not relocated by Walker.
50-50-07-96	Kukuiaupuni Heiau	Originally recorded by Walker; consists of "...[a] terraced platform...with a height of 12 feet...[l]ength 50 feet width 42 feet...other platform 200 feet away...measures 47 x 51 x 5 feet [Walker 1931].

State Site Number	Name	Description
50-50-07-1630	Ke'ānae School	Site -1630 was built in 1912, and is still in use; placed on the Hawaii Register in 1992.
50-50-07-90	Kawalimukala Heiau	Recorded by Walker 1931; "...at Pauwalu...destroyed or not found" [Walker 1931]. Not located by Soehren 1963.
50-50-07-1514	Wailua Mormon Church	Site -1514 was built in 1934 and is now in use as a residence. Placed on the Hawaii Register in 1974.
50-50-07-0538	Pu'u Olu Complex	Site consists of 2 features: Pu'u Polu fishpond (43x29m) and a habitation terrace/platform (12x7m). The brackish pond is bordered on the N and W by a deteriorated wall, and the terrace/platform is to the S.
50-50-07-3941	Nua'ailua Taro Complex	Site -3941 appeared to be an old, unmodified complex of lo'i sitting above and below Hana Highway. No size estimate given by CSH (1994 survey).
50-50-07-88	Kamokukupeu Heiau	Recorded by Walker 1931; "...destroyed?..." [Walker 1931].
50-50-07-3937	Kupa'u Taro Complex	Site -3937 comprises lo'i which formerly covered an area estimated at 30 - 50 acres. Judging from aerials, lo'i were in use until ca 1950.
50-50-07-1512	St. Gabriel's Shrine	Site -1512 was first built in 1860. Catholic chapel. Placed on Hawaii Register in 1974.
50-50-07-1515	Ramos House	Site -1515 was constructed ca 1900 – 1910, still occupied as a residence. Placed on Hawaii Register in 1974.
50-50-07-1513	Wailua Stone Church Ruins	Site -1513, a Protestant church, was begun in 1860. Placed on the Hawaii Register in 1973.
50-50-07-97	Makehau Heiau	Recorded by Walker; "...two platforms...72 x 43 feet...5 feet high..."; [Walker 1931]; Measures 24 X 12m; consists of probably a platform and an enclosure.

Haun and Henry (2003) conducted an Archaeological Inventory Survey of four acres at Pauwalu in Wailuanui Ahupua'a. One site, consisting of an overhang and a trail (State Site 50-50-07-5237) was newly identified. The overhang was interpreted as a pre-Contact temporary habitation feature. The trail was interpreted as an Historic-Era transportation route.

In 2008, Hill et al. (2008) conducted a program of Archaeological Monitoring during the cesspool conversion project at Ke'anae School in nearby Kali'i Ahupua'a, Hāna District, Maui Island [TMK: (2) 1-1-008:020]. No historic properties were identified.

Scientific Consultant Services, Inc. (Lyman and Dega 2017) conducted an Archaeological Inventory Survey-level investigation of the proposed project area. No historic properties were identified.

CONSULTATION

Consultation was conducted via telephone, e-mail, and the U.S. Postal Service. Consultation was conducted between September 12 and December 19, 2017. Scientific Consultant Services, Inc. reached out to the following twenty-seven individuals and organizations:

1. Dr. Kamana'opono M. Crabbe, Office of Hawaiian Affairs;
2. Leimana DaMate, Executive Director, Aha Moku Advisory Committee;
3. P. Kaanohi Kaleikini, President, Hui Malama I Na Kupuna o Hawaii Nei;
4. Mr. William Ho'ohuli, community member;
5. Chris (Ikaika) Nakahashi, Cultural Historian, State Historic Preservation Division;
6. Andrew (Kealana) Phillips, Burial Sites Specialist, State Historic Preservation Division;
7. Thelma Shimaoka, Community Outreach Coordinator III, Office of Hawaiian Affairs;
8. Roy Newton, Office of Hawaiian Affairs;
9. Albert Perez, Executive Director, Maui Tomorrow Foundation;
10. Lucienne de Naie, President, Maui Tomorrow Foundation;
11. Terry Poaipuni, Hui o Ke Ola Pono, Hana Community Center;
12. Patricia Cockett, Kukulu Kumu Hāna;
13. Maui Sierra Club;

14. Shane Sinenci, Hāna Moku Representative, Aha Moku o Maui;
15. Kuuipo Naone, community member;
16. Ke'eaumoku Kapu, CEO, Aha Moku O Maui, Inc.;
17. Penny Levin, Taro Task Force, long-time community member, and cultural practitioner;
18. Ed Wendt, President, Na Moku Aupuni O Koolalu;
19. Mahealani Wendt, community member;
20. Dr. Scott Fisher, Associate Executive Director of Conservation, Hawaiian Islands Land Trust;
21. Dr. William Kepler, community member;
22. Dan Clark, part-time Ke'anae resident;
23. Gladys Kanoa, cultural practitioner;
24. Isaac Kanoa, cultural practitioner;
25. Sommer Kehau Kimokeo, community member;
26. Jerome Kekiwi Jr., Na Moku Aupuni O Koolau Hui
27. Sandra Hueu, Long-time resident and Business Owner

The initial letters of inquiry (see Appendix A) were mailed between September 12 and November 30, 2017. The follow-up letters of inquiry (see Appendix B) were mailed via e-mail and United States Postal Service between October 5 and November 17, 2017. Follow-up letters were not sent to those whom SCS had received responses or had agreed to be interviewed. In addition, a Cultural Impact Assessment Notice was published on September 17, 20, and 21, 2017, in *The Honolulu Star-Advertiser* and *The Maui News*.

The consultation materials (i.e., letters of inquiry, follow-up letters, and newspaper notices) stated that SCS was seeking information of cultural resources or activities conducted in vicinity of the proposed project area, stated the Tax Map Key number, and where to respond with pertinent information. Based on the responses, an assessment of the potential effects on cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

As noted elsewhere in this document, the current TMK parcels (see Introduction) are different from those mentioned in the consultation letters and newspaper notices. Initially, the Department of Public Works (DPW) anticipated that TMK: (2) 1-1-002: 009 por., 010 por., and 099 por., and TMK: (2) 1-1-003: 031 por. and 999 por. would be affected by the proposed road safety improvements, so those TMKs were identified in the consultation materials. However,

over the past year, DPW has further assessed the condition of Keʻanae Road and has extended the road repaving approximately from its intersection with Hāna Highway to the north border of TMK: (2) 1-1-003: 041. Additionally, the initial project scope involved relocation of existing hog wire fencing belonging to the owners of TMK: (2) 1-1-003: 031 from the right-of-way to Parcel 31. However, TMK: (2) 1-1-003: 031 has been removed from the project scope and is no longer affected by the proposed project. Furthermore, upon completion of survey work for the project, it was determined that portions of the existing road runs through portions of Parcels TMK: (2) 1-1-002:005 and (2) 1-1-003: 041 and 065. Therefore, these parcels have been added to the list of affected properties.

RESPONSES

Analysis of the potential effect of the project on cultural resources, practices or beliefs, the potential to isolate cultural resources, maintain practices or beliefs in their original setting, and the potential of the project to introduce elements that may alter the setting in which cultural practices take place is a requirement of the OEQC (1997). As stated earlier, this includes the cultural resources of the different groups comprising the multi-ethnic community of Hawaiʻi.

During the consultation process, SCS sought consultation from twenty-seven individuals and organizations. This process resulted in SCS receiving six written responses to the inquiries seeking any information that individuals or organizations may have which might contribute to the knowledge of traditional cultural activities that were, or are currently, conducted in the vicinity of the proposed Keʻanae Road Safety Improvements Project. A total of five interviews were conducted. Three of these were conducted via telephone and one interview was conducted in-person.

WRITTEN RESPONSES

Chris (Ikaika) Nakahashi, Cultural Historian, State Historic Preservation Division

Chris (Ikaika) Nakahashi, Cultural Historian, State Historic Preservation Division, responded via an e-mail dated September 14, 2017:

Aloha Cathy,

Mahalo for contacting me regarding the CIA for the proposed Keʻanae Road Safety Improvements Project.

The people listed at the bottom of your September 12, 2017, letter are appropriate to contact regarding the traditional cultural practices in the ahupua'a of Ke'anae, on the island of Maui.

I recommend SCS to utilize the media (e.x. OHA's Ka Wai Ola, Maui News, etc.) to solicit additional information for this CIA.

I recommend SCS to contact and meet with the native tenants and people that currently live or previously lived in the ahupua'a of Ke'anae on Maui for information about the cultural customs and practices for this CIA.

Please add to your contact list for this project:

Sommer Kehau Kimokeo, Ke'anae community member, (808)281-3262
Jerome Kekiwi Jr., Na Moku Aupuni O Koolau Hui, (808)264-9702

Please let me know if I can assist with anything else.
A hui hou,

Christopher "Ikaika" Nakahashi, M.S.
Cultural Historian
Department of Land & Natural Resources
State Historic Preservation Division

Concerns: None

Please note that SCS reached out to Mr. Jerome Kekiwi Jr. on November 20 and 23, 2017. According to Mr. Kekiwi's voice mail, his voice mail account has not been set up. Thus, SCS was unable to leave a message. SCS was able to reach Mrs. Kimokeo on November 30, 2017 and conducted an interview, via telephone.

During the consultation process, SCS reached out to many "native tenants and people that currently live or previously lived in the ahupua'a of Ke'anae" an effort to include information on traditional cultural practices conducted in the area and potential impacts the proposed action may have in this document.

Ed Wendt, President, Na Moku Aupuni O Koolalu

Ed Wendt, President, Na Moku Aupuni O Koolalu, responded via an e-mail dated September 14, 2014, stating:

Eh Cathy,

Mahalo for the information, I am getting it to the people now, Just viewing what I have so far, I can assure you any kind of work done on the road on the peninsula will impact cultural practices. It may not be an act of genocide, but there will be concerns. It is a large swath of land

area. Will there be a community meeting scheduled to notify people? Or is this letter serving that notice in a[n] official capacity.

Concerns: Mr. Wendt expressed concerns stating that “...any kind of work done on the road on the peninsula will impact cultural practices.”

Lucienne de Naie, President, Maui Tomorrow Foundation

Lucienne de Naie, President, Maui Tomorrow Foundation responded via an e-mail dated October 5, 2017, which stated:

Hi Kathy (sic)

The Kanoa 'Ohana lives and farms right off this road in Ke'anae. I don't thing Gladys or Isaac Kanoa have email. I'll try to get their phone number

Penny Levin of the Taro Task force and has grown Kalo in Ke'anae and may have knowledge of cultural practices of the area.

Ed Wendt is president of Na Moku Aupuni O Koolalu, a cultural group in the area. His wife Mahealani has email...

Scott Fisher of Hawaiian Islands Land Trust has some knowledge of the area.

Concerns: None

Ms. de Naie graciously provided contact information for Gladys and Isaac Kanoa in a subsequent e-mail dated, November 21, 2017.

Penny Levin, Taro Task Force and cultural practitioner

Penny Levin, Taro Task Force and cultural practitioner, provided detailed comments, via an e-mail dated October 23, 2017, which are presented in Appendix F.

Concerns: Ms. Levin provided a very detailed overview of the Ke'anae Peninsula and expressed concerns pertaining to ecological, physical, and economic resources, all of which are intertwined with traditional cultural practices, which may be impacted by the proposed project. Ms. Levin's concerns are presented in Appendix D.

Dr. William Kepler

Dr. William Kepler responded via an e-mail dated November 17, 2017, stating:

Dear Ms. Dagher,

Thanks for your letter. I do not have any cultural activities or history to add at this time....Please keep me informed of all project activities, as your project perimeter does encroach on our property.

Mahalo,

Bill Kepler

Concerns: None

Dan Clark, part-time Ke'anae resident

Dan Clark responded via an e-mail dated November 25, 2017, stating:

Aloha & Good Morning Cathy,

I apologize for not being able to talk to you at length the other day. I was in the middle of preparing taro for poi. There are several people in the community that can give you history of the Keanae Peninsula. Kiele Frame, Georgina Aquino, Darryl Taua, Walter Kuluhiwa, are some of the contacts that should give you ample insight to the districts history. I would call Kiele first, and she could navigate other contacts for you. Aloha for nowDan

Concerns: None

Please note, in an e-mail dated November 29, 2017, Mr. Clark kindly provided contact information for Kiele Frame. Mrs. Frame was interviewed, via telephone, November 30, 2017.

INTERVIEWS

Dr. Scott Fisher, Associate Executive Director of Conservation, Hawaiian Islands Land Trust

Dr. Fisher, was interviewed in-person, by Cathleen Dagher, on October 20, 2017, at the SCS Office, Honolulu. Dr. Fisher's interview is presented below, and his signed information release form is presented in Appendix D:

Dr. Scott Fisher's, Associate Executive Director of Conservation, Hawaiian Islands Land Trust, involvement with projects in Ke'anae stems from the Conservation Hawaii Island Land Trust, which has been working very slowly on a project out in Ke'anae, for the past 11 or 12 years. The Conservation Hawaii Island Land Trust has

been trying to raise funding to purchase a conservation easement from the Kepler 'ohana (family), who own the single largest TMK on the Ke'anae Peninsula. It's about a 6, or 6.02, acre project in Ke'anae. Two major things are historically relevant. One, Ke'anae, of all the ahupua'a on Maui, had the second largest number of *heiau* (Sterling 1998). Wailuku had the highest number of *heiau*, Ke'anae had the second highest number, and Waihe'e had the third. However, he does not know the location of any of those *heiau*. The second bit of information is that Chief Ke'anae was involved with galvanizing the community to transport high quality soil from the uplands out onto the peninsula. The peninsula is not an alluvial fan, which would be expected to have high quality soil. The peninsula is truly a lava tongue of land that extends out into the ocean. There probably was some alluvial deposition on the peninsula and that the local community expanded the sediment plain to make the area suitable for farming. The entire area of the peninsula is approximately 12 to 15 acres in size, of that, and 6 of those acres belong to the Kepler family. Chief Ke'anae also was responsible for the construction of the associated 'auwai [ditch], which carried water for the *lo'i*, to the peninsula. Chief Ke'anae's actual *lo'i*, which is on Dr. Kepler's property, is called Ke'anae. Dr. Fisher extrapolated that Chief Ke'anae lived and ruled during the 1400s, pre-dating Piilani (1500s), but post-dating the West Maui chiefs Kakaalaneo (c. 1350) and his father, Kaulahea. All those *lo'i kalo* [wetland taro], that you see, are mostly configured from the 1400s. There are far fewer *lo'i kalo* today than in the 1870s. During the 1870s, the peninsula appears to have been solidly covered in *lo'i kalo*, although there may have been some housesites, as well.

Cultural practices conducted in Ke'anae Ahupua'a obviously would have included farming of wet land taro (*lo'i kalo*). Although traditionally there would have been far greater diversity of crops, including 'ulu [breadfruit], *kalo*, banana [*mai'a*], arrowroot [*pia*], wauke (paper mulberry tree). They would have raised pigs, dogs, and chickens. The other thing that makes Ke'anae so special is, of course, there is always the opportunity of fishing, as well. Nua'ailua is the next gulch over, it is uninhabited right now, is solid *lo'i kalo*. Nua'ailua, Ke'anae, and Wailua are the three *ahupua'a* in the Ko'olau District.

At one time, Wailua and Ke'anae, this is probably back before the time of Chief Ke'anae, used to be at war with each other. There

used to be a history of warfare and tension between these two communities, which subsequently became *ahupua'a*.

Although Dr. Fisher is not speaking on behalf of the Ke'anae community, his work in the area has given him some insights. Rather, Dr. Fisher suggests that Dr. William Kepler, whose property is immediately adjacent to the proposed project area, would be a more appropriate source of information on the Ke'anae area. Dr. Fisher stated that Dr. Kepler, Penny Levin, and Lucienne deNaie were three critical people that should be included in the consultation process for this project because they all know a lot about the area and Dr. Kepler is a property owner.

Concerns: None

Mrs. Sandra Hueu, Ke'anae Peninsula Business Owner (Keanae Landing Fruit Stand) and Taro Farmer

Mrs. Hueu was interviewed on December 6, 2017, via telephone, by Cathleen Dagher. Mrs. Hueu is a long-time Ke'anae resident, as she has lived in the area for over 40 years. Mrs. Hueu's interview is summarized below and her signed information release form is presented in Appendix D:

There used to be a stone crusher, which was used in mining gravel for the road. The area where the stone crusher was located is at the bottom of the Peninsula. As you follow Ke'anae Road, along the Peninsula, the road turns to the right. This area is called Pōpō and it is where people go to collect 'opihi. The gravel crusher was so large, the funnel extended right across the road and people had to drive under it.

There used to be a Chinese Buddhist Temple on the top turn, right past the Kanoa's property. The temple eventually fell into disuse and was abandoned in the 1990s.

Mrs. Hueu has heard stories of traditional burials up in the cliff face, but not where they are located. She does know of a cave in the cliff face that is kind of high up on the left hand side. Every once in a while you see thousands of bats come out of it, so you know there is a cave up there somewhere.

Everything has changed over the years. The road that comes down used to go along side of the church. The main road going down the Peninsula used to go right around the church and the road would go right to the taro patches. Later on, they stopped that and they changed the road so that it goes straight past the

church and then curves around to the right. They built a ball park and now the road goes past the ball park.

There are some graves down by the taro patches. They are located on the east side of the Peninsula. Mrs. Hueu says that she never heard that there were *heiau* on the Peninsula.

People say that people carried dirt to fill up the Peninsula. That is how the Peninsula got its name – people became out of breath from the hard labor of working the land and planting the taro. She says that there are dual meanings for each word.

Mrs. Hueu does not think that the proposed project is going to damage any cultural properties. There will continue to be access to the ocean and to fishing areas on the Peninsula. The main concern of Mrs. Hueu and her daughter was the timing of the road closures, as she owns a business, the Ke'anae Landing Fruit Stand, on the Peninsula. They are hoping the road work will occur at night after the fruit stand is closed.

Concerns: None

Mrs. Kiele Frame, Ke'anae Peninsula retired taro farmer

Mrs. Frame was interviewed by Cathleen Dagher, SCS, over the telephone on November 30, 2017. Mrs. Frame's interview is summarized below, and her signed information release form is presented in Appendix D:

Mrs. Frame grew up in Ke'anae and farmed taro for 16 years on the Ke'anae Peninsula. She retired from farming about 10 years ago, when she was about 66. She said she used to collect 'opihi when she worked the farm.

There were a lot of stories about the sharks that were told by the

Old Hawaiians. They may have been stories, but then again, they may have happened to them, or they may have seen it. Mrs. Frame's mother never told stories about the sharks, but her uncle used to talk about the sharks. Coming in [to the bay on the east side of the peninsula] there is an opening down there they call Waialohe where the sharks come in. Mrs. Frame's father used to say the pond went up the mountain. She didn't know what exactly he meant by that, but understood that that was what her father believed.

Mrs. Frame's grandmother on her father's side, who lived in Wailua, used to speak about her husband who used to go down to

the beach a lot. And her grandmother always said her husband was friends with the mo'o and that he went down to the beach, sometimes he took his grandchildren with him, to visit the mo'o lady. Her grandmother used to always say of the mo'o lady, "Oh, she has the most beautiful red hair!" Her grandfather died in 1938, so Mrs. Frame didn't know him, but her grandmother spoke of him. Mrs. Frame's family wrote these things that her grandmother spoke of down in an 'ohana book. Every so often she and her family would go and look things up in this book and refresh their memories.

Mrs. Frame wasn't sure if there heiau on the Ke'anae Peninsula. But, she said there used to be a stone crusher at the place where they're going to do all the work, just before you hit the beach. The stone crusher is long gone. She said that when she was a little kid the County was quarrying for gravel. But, it was closed up years ago.

Mrs. Frame used to fish by the landing. She said a lot of people still fish. They come in when the ocean is good and collect 'opihi.

Concerns: None. Mrs. Frame thinks this project is a good thing that it needs to be done. A lot of times in the past couple of months the dirt and trees have come down and the County or the State has to come and clean up the landslide. Mrs. Frame suggested Sandy Hueu, who owns the fruit stand in Ke'anae, be included in the consultation process for the proposed Ke'anae Road Safety Improvements Project.

Sommer Kehau Kimokeo, Long-time resident and Ke'anae Peninsula Taro Farmer

Sommer Kehau Kimokeo is a long-time resident and Ke'anae Peninsula taro Farmer. She was interviewed by Cathleen Dagher, via telephone, on November 30, 2017. Mrs. Kimokeo's signed information release form is presented in Appendix D.

Mrs. Kimokeo stated that the Ke'anae Road is used to go to and from the taro fields and homes on the Ke'anae Peninsula, where the local community is currently living and conducting traditional practices. These cultural practices include cultivating taro lo'i, fishing, and collecting marine resources. There are sensitive sites on the peninsula, including an old cemetery or church site, possibly located where the old Chinese church was once stood, just below the road. There are archaeological sites on the peninsula, including traditional enclosures; very, very old taro patches; and fishponds/fishing areas located along the shore on the end of the peninsula and on the north side of the peninsula.

Mrs. Kimokeo truly believes that the road improvement is severely needed for future access for the residents and farmers of this community. It is needed for the safety of those commuting into the area. She has traveled the road when a landslide completely covered the road and we were unable to continue because it was unpassable. County and State needed to work together to clear the roadway so we could drive out of the area. As it is the only access to the area, it is important that it be made safe to travel for our families.

Concerns: Mrs. Kimokeo expressed concerns that the Ke'anae Road closures will impact access to and from the taro fields, which will affect the cultivation of the taro and her livelihood; access to the ocean, which will affect the community's ability to fish and to collect marine resources on the Peninsula. There are culturally sensitive areas on the peninsula, including a possible cemetery or sites right below Ke'anae Road, where a Chinese church once stood. Mrs. Kimokeo also expressed concerns about the environmental issues of runoff and drainage.

Gladys Kanoa, Long-time resident and Ke'anae Peninsula Taro Farmer

Gladys Kanoa is a long-time resident and Ke'anae Peninsula taro Farmer. She was interviewed by Cathleen Dagher, via telephone, on November 30, 2017.

Mrs. Kanoa did not comment on traditional practices in the area. She supports this project and is "All for getting this done." However, Mrs. Kanoa did express concerns that the construction activities associated with the installation of the proposed Ke'anae Road Safety Improvements may restrict access to and from the taro fields on the Peninsula due to the road closures. The taro farmers will have to go on someone else's schedule and that's kind of hard. In addition, the Keanae Landing Fruit Stand will be impacted the most because they employ seven or eight people and the road will be closed for long periods of time.

Concerns: Mrs. Kanoa expressed concerns that the construction activities associated with the installation of the proposed Ke'anae Road Safety Improvements may restrict access to and from the taro fields on the Peninsula and to local businesses on the Peninsula, due to the road closures.

CULTURAL IMPACT ASSESSMENT SUMMARY

This Cultural Impact Assessment was prepared in accordance with the Guidelines for Assessing Cultural Impacts (OEQC 1997:11-13). The Guidelines recommend that a CIA consult relevant individuals/organizations, conduct ethnographic interviews and archival and historical

research, identify cultural resources and practices located within the project area or in proximity, and finally, assess the impact of the proposed action and its mitigation measures on the cultural practices or resources identified.

Letters of inquiry were sent to twenty-seven individuals and organizations that may have knowledge or information pertaining to the collection of cultural resources and/or traditional cultural practices currently, or previously, conducted in the vicinity of the proposed project area. The consultation process resulted in SCS receiving six written responses and with SCS conducting five interviews, one in-person and four interviews conducted over the telephone. Seven of those contacted did not express any concerns about the proposed improvements to the proposed Ke'anae Road Safety Improvements Project. Four individuals expressed concerns regarding cultural properties.

IDENTIFIED CULTURAL PRACTICES

The Ke'anae Peninsula is unique in that its isolated location has kept the area relatively free of the effects of historic and modern development. As a result, the traditional cultural practice of taro cultivation, which began during the early pre-Contact Period, continues to be conducted on much of the land extending across the peninsula. Fishing and the gathering/collecting of marine resources for food are also on-going traditional cultural practices conducted on the Ke'anae Peninsula. Thus, access to and from the peninsula is an extremely important issue for this project, as limited access has the potential to impact these practices.

In response to the Ka Pa'akai criteria, "valued cultural, historical, or natural resources" have not been identified in the petition area, but in the lands immediately adjacent.

IMPACT ASSESSMENT

Based upon this review and analysis, sufficient information has been provided in this document to determine that traditional cultural practices were previously, and continue to be, conducted within the areas immediately adjacent to the project area. This determination has been substantiated by the cultural background, documentation in the historic record, and primarily in the concerns expressed by the cultural informants during the consultation process of the current CIA. It is also the findings of the current analysis that specific valued cultural and historical are located within the surrounding environs.

RECOMMENDATIONS

Thus, it is recommended that the Environmental Assessment will address what efforts have been taken, or are proposed, to mitigate impacts to the traditional practices of taro cultivation and the gathering/collecting of marine resources, including access to and from the peninsula, and any archaeological sites in close proximity to the proposed Ke'anae Road Safety Improvements Project.

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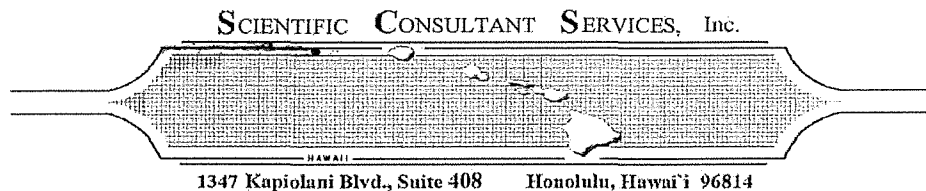
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APPENDIX A: EXAMPLE LETTER OF INQUIRY



Aloha kāua,

In compliance with the State of Hawai'i Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law, and in accordance with the State of Hawai'i Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawai'i on November 19, 1997, Scientific Consultant Services, Inc. (SCS) is in the process of preparing a Cultural Impact Assessment (CIA) in advance of the proposed Ke'anae Road Safety Improvements Project, located in Ke'anae Ahupua'a, Hāna (Ko'olau) District, Maui Island, Hawai'i [TMK: (2) 1-1-002: 009 por. , 010 por., and 999 por., and TMK: (2) 1-1-003: 031 por. and 999 por.; Figures 1 through 3]. The Young Men's Christian Youth Association (YMCA) leases TMK: (2) 1-1-002:009, which is owned by the State of Hawai'i; TMK: (2) 1-1-002: 010 is owned by the Hawaii State Department of Transportation (HDOT); and TMK: (2) 1-1-002:999 is owned by the County of Maui. TMK: (2) 1-1-003: 031 por. is owned by Kanoa's Keanae Taro Farm, LLC and TMK: (2) 1-1-003:999 is owned by the County of Maui.

The job site is located at the HDOT Ke'anae Baseyard and YMCA's Camp Keanae, just above Ke'anae Peninsula, on the *makai* (north) side of Hāna Highway and along the upper portion of Ke'anae Road. The project begins at 100 feet from the intersection of Hāna Highway and Ke'anae Road and continues approximately 1,570 feet down towards the shoreline. The rock fall mitigation improvements will extend along the cliff face above the road and will involve the installation of safety improvements for Ke'anae Road in Ke'anae, Maui. Safety improvements include rock fall mitigation for approximately 900 feet of cliff face along Ke'anae Road, realignment and widening portions of the roadway, repaving approximately 1,570 feet of roadway, and related site improvements. Site improvements include the relocation of an existing standpipe, minor grading, removal and installation of fencing, and the installation guardrails. No other utilities are anticipated to be affected. In addition, the proposed project involves approximately 2.6 acres of land.

Ph: 808-597-1182

SCS... SERVING ALL YOUR ARCHAEOLOGICAL NEEDS

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According to the *Guidelines for Assessing Cultural Impacts* (Office of Environmental Quality Control, Nov. 1997):

The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs...The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural which support such cultural beliefs...

We are seeking any information that you or other individuals have which might contribute to the knowledge of traditional cultural activities that were, or are currently, conducted in the vicinity of the proposed project area. We are also asking for any information pertaining to traditional cultural activities or traditional rights, which may be impacted by the proposed Ke'anae Road Safety Improvements Project. The results of the cultural impact assessment are dependent on the response and contributions made by individuals and organizations.

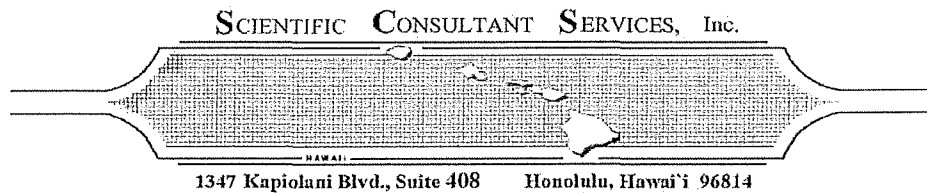
Enclosed are maps showing the proposed project area. Please contact me at the Scientific Consultant Services, Honolulu, office at (808) 597-1182 or via e-mail (cathy@scshawaii.com) with any information or recommendations concerning this Cultural Impact Assessment.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Cathleen Dagher".

Cathleen Dagher
Senior Archaeologist
Enclosures (3)

APPENDIX B: EXAMPLE FOLLOW-UP LETTER



Aloha kāua,

This is the follow-up letter to our September 12, 2017, letter which was in compliance with the statutory requirements of the State of Hawai'i Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law, and in accordance with the State of Hawai'i Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawai'i, on November 19, 1997.

Scientific Consultant Services, Inc. (SCS) is in the process of preparing a Cultural Impact Assessment (CIA) in advance of the proposed Ke'anae Road Safety Improvements Project, located in Ke'anae Ahupua'a, Hāna (Ko'olau) District, Maui Island, Hawai'i [TMK: (2) 1-1-002: 009 por. , 010 por., and 099 por., and TMK: (2) 1-1-003: 031 por. and 999 por.]. The Young Men's Christian Youth Association (YMCA) leases TMK: (2) 1-1-002:009, which is owned by the State of Hawai'i; TMK: (2) 1-1-002: 010 is owned by the Hawaii State Department of Transportation (HDOT); and TMK: (2) 1-1-002:999 is owned by the County of Maui. TMK: (2) 1-1-003: 031 por. is owned by Kanoa's Keanae Taro Farm, LLC and TMK: (2) 1-1-003:999 is owned by the County of Maui. Please note that the project area maps have been revised (Figures 1 through 3).

The job site is located at the HDOT Ke'anae Baseyard and YMCA's Camp Keanae, just above Ke'anae Peninsula, on the *makai* (north) side of Hāna Highway and along the upper portion of Ke'anae Road. The project begins at the intersection of Hāna Highway and Ke'anae Road and continues approximately 1,570 feet down towards the shoreline. The rock fall mitigation improvements will extend along the cliff face above the road and will involve the installation of safety improvements for Ke'anae Road in Ke'anae, Maui. Safety improvements include rock fall mitigation for approximately 900 feet of cliff face along Ke'anae Road, realignment and widening portions of the roadway, repaving approximately 1,570 feet of

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roadway, and related site improvements. Site improvements include the relocation of an existing standpipe, minor grading, removal and installation of fencing, and the installation guardrails. No other utilities are anticipated to be affected. In addition, the proposed project involves approximately 2.6 acres of land.

According to the *Guidelines for Assessing Cultural Impacts* (Office of Environmental Quality Control, Nov. 1997):

The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs...The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural which support such cultural beliefs...

We are seeking any information that you or other individuals have which might contribute to the knowledge of traditional cultural activities that were, or are currently, conducted in the vicinity of the proposed project area. We are also asking for any information pertaining to traditional cultural activities or traditional rights, which may be impacted by the proposed Ke'anae Road Safety Improvements Project. The results of the cultural impact assessment are dependent on the response and contributions made by individuals and organizations.

Please contact me at the Scientific Consultant Services, Honolulu, office at (808) 597-1182 or via e-mail (cathy@scshawaii.com) with any information or recommendations concerning this Cultural Impact Assessment.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Cath Dagher", written in a cursive style.

Cathleen Dagher
Senior Archaeologist

APPENDIX C: NEWSPAPER NOTICE AND AFFIDAVITS

2044

AFFIDAVIT OF PUBLICATION

STATE OF HAWAII, }
County of Maui. } ss.

Rhonda M. Kurohara being duly sworn
deposes and says, that she is in Advertising Sales of
the Maui Publishing Co., Ltd., publishers of THE MAUI NEWS, a
newspaper published in Wailuku, County of Maui, State of Hawaii;
that the ordered publication as to _____

Scientific Consultant Services, Inc. (SCS) is preparing
a Cultural Impact Assessment

of which the annexed is a true and correct printed notice, was
published 3 times in THE MAUI NEWS, aforesaid, commencing
on the 17th day of September, 2017, and ending
on the 21st day of September, 2017 (three days
inclusive), to-wit: on _____

September 17, 20, 21, 2017

and that affiant is not a party to or in any way interested in the above
entitled matter.

[Signature]

This 1 page Scientific Consultant Services, Inc., dated
September 17, 20, 21, 2017,

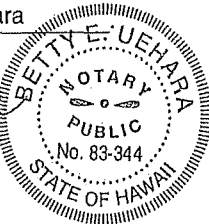
was subscribed and sworn to before me this 21st day of
September, 2017, in the Second Circuit of the State of Hawaii,

by Rhonda M. Kurohara

[Signature]
Notary Public, Second Judicial
Circuit, State of Hawaii

BETTY E. UEHARA

My Commission expires 09-26-2019



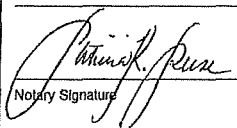
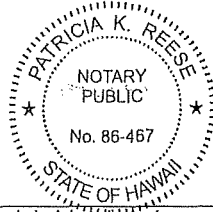
Scientific Consultant Services, Inc. (SCS) is preparing a Cultural Impact Assessment in advance of the proposed Ke'anae Road Safety Improvements Project. SCS is seeking information on cultural resources and traditional, previously conducted or on-going, cultural activities within or near the Hawaii Department of Transportation (HDOT) Ke'anae Baseyard, Ke'anae Ahupua'a, Hana (Ko'olau) District, Maui Island, Hawaii [TMK: (2) 1-1-2: 009 por, 010, and 099 and TMK: (2) 1-1-3: 031 por and 999 por.]. Please respond within 30 days to Cathleen Daglier at (808) 597-1182.
(MN: Sept. 17, 20, 21, 2017)

2044

AFFIDAVIT OF PUBLICATION

IN THE MATTER OF
CIA for Ke'anae Road Safety Improvements Project (SCS Proj 2044)

STATE OF HAWAII }
} SS.
City and County of Honolulu }

Doc. Date: SEP 21 2017 # Pages: 1
Notary Name: Patricia K. Reese First Judicial Circuit
Doc. Description: Affidavit of
Publication
 SEP 21 2017
Notary Signature Date


Scientific Consultant Services, Inc. (SCS) is preparing a Cultural Impact Assessment in advance of the proposed Ke'anae Road Safety Improvements Project. SCS is seeking information on cultural resources and traditional, previously conducted or on-going cultural activities within or near the Hawaii Department of Transportation (HDO) - Ke'anae Bypass, Ke'anae Ahupua'a, Hana (Ke'ala) District, Maui Island, Hawaii (TMK: (2) 1-1-2-009 por., 010 and 099 and TMK: (2) 1-1-3-031 por. and 999 por.). Please respond within 30 days to Catherine Daghe at (808) 597-1182. (SA1029367 9/17, 9/20, 9/21/17)

Gwyn Pang being duly sworn, deposes and says that she is a clerk, duly authorized to execute this affidavit of Oahu Publications, Inc. publisher of The Honolulu Star-Advertiser, MidWeek, The Garden Island, West Hawaii Today, and Hawaii Tribune-Herald, that said newspapers are newspapers of general circulation in the State of Hawaii, and that the attached notice is true notice as was published in the aforementioned newspapers as follows:

Honolulu Star-Advertiser 3 times on:

09/17, 09/20, 09/21/2017

MidWeek 0 times on:

The Garden Island 0 times on:

Hawaii Tribune-Herald 0 times on:

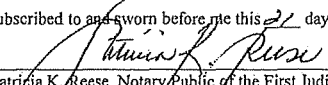
West Hawaii Today 0 times on:

Other Publications: 0 times on:

And that affiant is not a party to or in any way interested in the above entitled matter.


Gwyn Pang

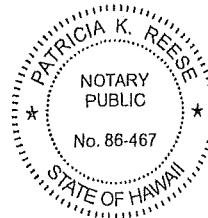
Subscribed to and sworn before me this 21 day of September, A.D. 20 17


Patricia K. Reese, Notary Public of the First Judicial Circuit, State of Hawaii

My commission expires Oct 07, 2018

Ad # 0001029367

SP.NO.: _____ L.N.



APPENDIX D: SIGNED INFORMATION RELEASE FORMS

SCIENTIFIC CONSULTANT SERVICES, Inc.



1347 Kapiolani Blvd., Suite 408 Honolulu, Hawaii 96814

INFORMATION RELEASE FORM

I, the undersigned, personally participated in an interview with, Cathleen Dagher from Scientific Consultant Services, Inc., on November 30, of the year 2017. The interview was conducted via telephone.

I understand that the information I have provided to Scientific Consultant Services, Inc., shall be submitted as part of a Cultural Impact Assessment report on the proposed Ke'anae Road Safety Improvements Project will be located on the Ke'anae Peninsula, Ke'anae Ahupua'a, Hāna (formerly Ko'olau) District, Maui Island, Hawai'i [TMK: (2) 1-1-002: 009 por., 010 por., and 1-1-003: 031 por. and 999 por.]. This information will be subject to publication, which will be submitted to the public for general review.

I have read the summary of the interview and the information is true and accurate to the best of my knowledge. By signing this release form, I am providing my approval for the release of the information to Scientific Consultant Services, Inc., for the purpose outlined above (*i.e.*, making the contents of this interview available for publication to the general public).

Print Name: Sommer Kuniokoe

Signature: 

Release Dated: 1/9/18

INFORMATION RELEASE FORM

I, the undersigned, personally participated in an interview with, Cathleen Dagher from Scientific Consultant Services, Inc., on November 30, of the year 2017. The interview was conducted via telephone.

I understand that the information I have provided to Scientific Consultant Services, Inc., shall be submitted as part of a Cultural Impact Assessment report on the proposed Ke'anae Road Safety Improvements Project will be located on the Ke'anae Peninsula, Ke'anae Ahupua'a, Hāna (formerly Ko'olau) District, Maui Island, Hawai'i [TMK: (2) 1-1-002: 009 por. , 010 por., and 1-1-003: 031 por. and 999 por.]. This information will be subject to publication, which will be submitted to the public for general review.

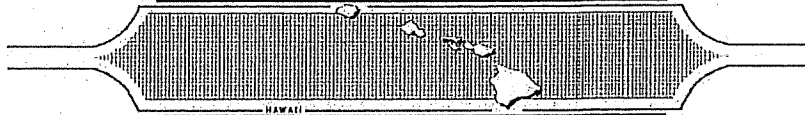
I have read the summary of the interview and the information is true and accurate to the best of my knowledge. By signing this release form, I am providing my approval for the release of the information to Scientific Consultant Services, Inc., for the purpose outlined above (*i.e.*, making the contents of this interview available for publication to the general public).

Print Name: Kielel Framel

Signature: Kielel Framel

Release Dated: December 15, 2017

SCIENTIFIC CONSULTANT SERVICES, Inc.



1347 Kapiolani Blvd., Suite 408 Honolulu, Hawai'i 96814

INFORMATION RELEASE FORM

I, the undersigned, personally participated in an interview with, Cathleen Dagher from Scientific Consultant Services, Inc., on December 6, of the year 2017. The interview was conducted via telephone.

I understand that the information I have provided to Scientific Consultant Services, Inc., shall be submitted as part of a Cultural Impact Assessment report on the proposed Ke'anae Road Safety Improvements Project will be located on the Ke'anae Peninsula, Ke'anae Ahupua'a, Hāna (formerly Ko'olau) District, Maui Island, Hawai'i [TMK: (2) 1-1-002: 009 por. , 010 por., and 1-1-003: 031 por. and 999 por.]. This information will be subject to publication, which will be submitted to the public for general review.

I have read the summary of the interview and the information is true and accurate to the best of my knowledge. By signing this release form, I am providing my approval for the release of the information to Scientific Consultant Services, Inc., for the purpose outlined above (*i.e.*, making the contents of this interview available for publication to the general public).

Print Name: Sandra G. Auen

Signature: [Handwritten Signature]

Release Dated: 12/13/17

APPENDIX E: LAND COMMISSION AWARD 2443B



[Articles](#) / [Information](#) / [Samples](#) / [Gallery](#) / [About Us](#) / [Contact Us](#)
[Mahele Database](#) / [Boundary Commission](#) / [Land Grants](#) / [Royal Patents](#) / [Review Cart & Checkout](#)

Document Delivery

Mahele Database Documents
Number: 02443B

Claim Number:	02443B		
Claimant:	Kanehaku, I		
Other claimant:			
Other name:			
Island:	Maui		
District:	Koolau		
Ahupuaa:	Keanae		
Ili:	Kanemakue		
Apana:	2	Awarded:	1
Loi:	2	FR:	
Plus:		NR:	501v3
Mala Taro:		FT:	241v8
Kula:	1	NT:	375v5
House lot:		RP:	3380
Kihapai/Pakanu:		Number of Royal Patents:	1
Salt lands:		Koele/Poolima:	No
Wauke:		Loko:	Yes
Olona:	1	Lokoia:	No
Noni:		Fishing Rights:	No
Hala:		Sea/Shore/Dunes:	Yes
Sweet Potatoes:		Auwai/Ditch:	No
Irish Potatoes:		Other Edifice:	No
Bananas:		Spring/Well:	No
Breadfruit:		Pigpen:	No
Coconut:		Road/Path:	No
Coffee:		Burial/Graveyard:	No
Oranges:		Wall/Fence:	No

Bitter	Stream/Muliwai/River:	Yes
Melon/Gourd:		
Sugar Cane:	Pali:	Yes
Tobacco:	Disease:	No
Koa/Kou Trees:	Claimant Died:	No
Other Plants:	Other Trees:	
Other Mammals: No	Miscellaneous:	

[No. 2443B], Kanehaku

N.R. 501v3

[listed as 2443!]

I have a claim for land in the `ili of Pololua consisting of 2 lo`i, 1 pond, a kula, a forested upland area, which was from Hoaai.

I have a claim for land in the `ili of Kanemakue, consisting of an olona upland, and a forested upland.

KANEHAKU

We have all set our names above.

Kearae, Maui, December 30, 1847.

F.T. 241v8

Cl. 2443B, Kanehaku I.

Kealina, sworn, I know the lands of the Claimant. An Ili Kanemakue in Kearae, Koolau. Hoaai gave it to him in the year 1844. His title has never been disputed.

Is bounded:

Mauka by Nailima's land

Hana by Kahuena's land

On other two sides by the sea.

A land of Olona in the same ili, is bounded:

Mauka by Opunui's land

Hana by a stream

Makai by Maemaekawaha's land

Hamakua by a pali.

[Award 2443B; R.P. 3380; Kanemakue Kearae Koolau; 1 ap.; 3.15 Acs]

APPENDIX F: PENNY LEVIN'S WRITTEN RESPONSE

PROJECT: Ke‘anae Road Safety Improvements Project, located in Ke‘anae Ahupua‘a, Hāna (Ko‘olau) District, Maui Island, Hawai‘i [TMK: (2) 1-1-002: 009 por. , 010 por., and 099 por., and TMK: (2) 1-1-003: 031 por. and 999 por.]

From: Penny Levin, Taro Task Force
Coordinator and Conservation Planner, E kūpaku ka ‘āina,
224 Ainahou Place, Wailuku, Maui 96793

To: Cathleen Dagher, Scientific Consultant Services

Aloha Cathleen;

Mahalo for the opportunity to comment on the CIA in advance of the proposed Ke‘anae Road Safety Improvements Project (SCS Proj 2044). As you may know, the legislatively established Taro Task Force officially sunset in June, 2015. However, its members continue to be active in taro farming issues throughout the state. I have spent some time in Ke‘anae and happy to provide comment for this project. The road improvements should be a welcome project provided it takes into consideration natural water flows and the limited economic resources of the community.

Please find the information and my recommendations below. Should you have any questions I can be reached by email or phone (285-3947)

Mahalo
Penny

Known cultural sites and traditions

The most critical things to malama will be water flows. During the winter season water flows over the road and from the YMCA side cliff are significant. There are issues of stability of the cliff, lower terrace below the YMCA and the road itself. These flows are known from ancient, historic present times.

How water will be directed and flow off the State baseyard/YMCA properties after the road improvements are made is of significant concern for cultural, ecological, safety and economic reasons and should be thoughtfully mitigated and directed.

Historic and recent cultural and natural sites and traditions

Ke‘anae is a famous taro-growing land known from ancient times and created on top of a massive lava flow that is the foundation of the peninsula. This has implications for any structural engineering projects in the area. The entire peninsula is pocked with lava holes and tubes to the ocean that are now covered by taro patch clay soils. Certain taro patches are still known to have deep holes that will drain a patch if the packed bottom of a patch is disturbed and the hole reopened. The story of how the peninsula became a rich food-producing area is recorded in Sterling (1998; pp 111).

Sterling also documents the presence of a great imu" near where the road passes the old boat landing" (Ke'anae Landing). This was possibly a lava pit formation and the location that in more recent history into the present was known by old timers as a pond. The Kanoa ohana and other older Ke'anae residents describe how prior to the road construction there was a pond where the old canoe hale was (at Kepler's property) and the water used to drain from above [the YMCA/State baseyard] into that pond. Families used to keep their fishing canoes there. This site was destroyed when the current Ke'anae road was build (possibly just filled in and surfaced over? may still be identifiable if uncovered?).

Where the YMCA is located, the ridge is called Manupāki'i. 'Iwa birds were known to fly from this place, dropping down and catching the wind under their wings. After the last lava flow (which came over the top of cliff, the 'iwa birds moved out to Moku Mana (Bird Island) where they are still found. The cliff edge and particularly the cliff face on the makai side may still be a place where seabirds nest or perch and should be surveyed for any evidence of their presence. There is a stream bed (Pi'ianau?) which was above historically but has been described as being located below the cliff now along the base of the YMCA/Kanoa property (perhaps makai side).

Before the Ke'anae road was build the road site was a mountain ridge that came down on the land of the Kanoas and overlooked their taro patches. When the road was made the ridge was cut. For about 10 years now the remainder of the ridge has been eroding. The old survey point that used to be above on the YMCA side appears to be gone now.

There is a trail (gravel pit trail) along the top of the cliff, an old box car and railroad ties on the top of YMCA property. The parcel was the site of a poi mill in the early 1900s.

Overland and underground water flows occur across the State baseyard and the YMCA property. The water used to feed the taro patches below and also likely reached the ocean by infiltrating into lava tubes near the base of the cliff. Water is the single most important component of the tradition of taro farming, and, for fishing traditions where land meets the sea and freshwater flows influence what fish, limu and coral species are located where along a coastline.

There is a tunnel under Kepler's property where a manō lived who was raised in the uplands of Kaho'okuli. The shark would swim down Pi'ianau stream to the muliwai where a tunnel would take it across to the exit at the Kepler's property. That tunnel opening is now blocked up.

There is a spring along the hillside above the YMCA (name unknown). Water came across the State baseyard and there was a red clay pipe which allowed water to come over and feed the taro patches. It was located at the flat where the Chinese cleaned rice. The pipe came down on the mauka side of Makawa ridge through Kanoas into the pond, into the patches on Kepler's property. The inlet is still there under the Hana Highway. The point where the red clay pipe came out at the top was still visible a few years ago.

There is a waterfall and spring behind the Kanoa house that is an important source of water for the family. The name of the spring is gone.

There is a gravesite above the road and below the YMCA. The exact location is not clear anymore. An archaeologist may need to be present to identify and protect any iwi there. There may be second grave marker possibly just below the cliff where a member of the community fell and died in recent history.

A fence between the Kanoa property and the State property along the road has been destroyed by initial road construction. The fence is necessary to keep tourists and others from entering private property and injuring themselves by falling over the edge into the Kanoa property. The fence needs to be replaced as part of the road project.

Cultural rights and cultural economics

Taro farming is a hard livelihood to live. Most taro growers fall within the low income spectrum of agriculture in Hawai'i. Taro farming is also a critical endeavor that perpetuates Hawaiian culture, literally, at its very roots – the tending of Hāloa, the kalo. Access to the water that feeds the taro patches are a kuleana right protected by law. Ke'ānae -Wailuanui is a major supplier of taro and lū'au leaf to the rest of Maui.

Taro farmers' income is dependent on being able to get their produce to market in a timely fashion as most growers have limited chill storage on-farm (if at all). Produce such as lū'au leaf (taro leaf) and flowers, but most especially pohole (fern shoots) have a very narrow window for delivery before they begin to wilt and lose their value (1 day). Taro farmers also need to make deliveries for produce orders on schedule in order to retain customer accounts, particularly restaurants and chefs who demand dependable sources of produce (the inability to deliver for more than a couple weeks can result in lost accounts). Town trips are also critical to pick up machine parts, supplies, medicine and food that keep their farms and their families going. The Ke'ānae Road is the only access into and out of the peninsula. Most farmers go out early in the morning and come back after dark (especially during the winter) when they go to town. Complete closure of the road during the project will have significant economic impacts to taro farmers in Ke'ānae, potentially including the loss of crops (taro is a 12 month investment of time, labor and inputs).

The view from the lookout above Ke'ānae and the drive onto the peninsula can be said to be worth millions of dollars in revenues annually for Maui, whether by attracting visitors and locals to East Maui, or through advertising revenues that promote the Ke'ānae view for Maui in magazines, social media and other outlets. Small businesses in Ke'ānae depend almost solely on tourism to support them.

By example, the Hueo family fruit stand employs seven Ke'ānae residents, all of whom depend on the stand to support their families. The fruit stand, in turn, depends on visitors to earn income. There are very few jobs in Ke'ānae if one is not a taro farmer. Similar to Kaupo Store, a project that closes the road for visitors for any length of time will essentially put the stand and its employees in economic hardship. The majority of visitors arrive in Ke'ānae by noon before heading to Hana.

The State's Ke'ānae Arboretum may also be affected by the road work. The Arboretum is a living collection of many plants of potential economic value introduced by the DLNR Forestry Department to East Maui from the 1930s to the 70s, including timber and fruit trees. It also

includes a series of ancient taro patches whose use has only recently been restored. Maui DOFAW staff are currently renewing efforts to clean up and revitalize the Arboretum. A small number of visitors stop there daily, typically parking in front of the gate or on the opposite side of the road at the curve where a few parking spaces are available. Road work may potentially eliminate those parking spaces.

In the case of any Ke‘anae family medical emergency or illness, the road is the only way out unless a medivac helicopter is called.

The Ke‘anae Landing is an important site for community and family gatherings. Many local families fish, swim, buggy board and recreate at the landing because they know the waters and the rocks there (it is a dangerous place for tourists who often get injured here). Ke‘anae families launch their boats from the landing to fish to feed their families. Any changes in the natural rock alignments at the landing will impact if and how Ke‘anae folks can launch, fish and enjoy the water there.

Recommendations

The following recommendations are made to best protect the cultural traditions, livelihoods and safety of taro farmers, fruit stand employees and local families during road work, as well as the safety of road crews. It is important to note that many Ke‘anae families have no other sources of income.

- There are strong indications from cultural and community information that there will be a number of lava tubes and holes in some portions of the road realignment project. Caution should be taken not to disturb the tubes and holes as there are fresh water to taro patch and fresh water to ocean interchanges that occur through this substrate, as well as flood mitigation action (draining away water from the surface).
- Maintain the stability of lower terrace below the cliff and protect the stream bed/cliff flow alignment at the base there from disruption (it may not be immediately visible due to vegetation or current erosion). This will protect water flows to the Ke‘anae taro fields and mitigate flood water flows. Disruption of natural water conduits mean water will find another path and will result in future damage to the road and adjacent properties during major flood events. I strongly recommend working with Mr. Isaac Kanoa on issues of where water flows occur along the cliff at the proposed site.
[NOTE: It is illegal to bulldoze or alter a streambed. If any such action is being considered it will require the proper County, OCCL and ACOE permits.]
- Road work should occur during the summer when there are more daylight hours and with less chance of heavy rain events that might cause erosion during excavation, grubbing and grading work.
- Ensure that the road remains open for taro farmers delivering to market during early morning hours (5am to 7:45am).

- Consider keeping the Ke‘anae road open in the mornings when most traffic occurs to help the community maintain economic viability with construction occurring from 1pm to 6pm, or keep half the road open for access to the peninsula during the day. This would allow farmers and the community to continue doing business.
- If the road cannot be kept open during early morning hours for farmers or during peak visitor hours (8am to noon), compensation should be provided for the duration of the project equivalent to wages and income lost. Every effort should be made to prevent the loss of income to taro growers or the waste of crops for lack of delivery options.
- Ke‘anae Arboretum should be closed to visitors and they should be prevented from parking along the road for the duration of the project as a safety precaution due to its proximity to the junction of Hana highway and Ke‘anae road. Blockage of the Hana highway will result in major traffic backup in both directions.

Engage the Maui Visitors Bureau, the Office of Economic Development, the hotel concierge network and social media in getting the word out a minimum of 3 months in advance so they can help visitors adjust their vacation itineraries to avoid both the Arboretum and the peninsula. Direct visitors to the lookout. Excess traffic at the lookout may merit the need for someone to direct parking and safe movement onto and off the road.

- Replace the fence between the road and the Kanoa property that was removed by earlier road work to prevent falls and protect private property.
- Protect the Ke‘anae Landing from any debris or rock movement that might occur during the project. Keep it open for local community access. Be mindful of the lava tubes known to be present in that area.