

DRAFT ENVIRONMENTAL ASSESSMENT

**HANA HIGHWAY IMPROVEMENTS,
UAKEA ROAD TO KEAWA PLACE**

PROJECT NO. 360B-01-03

HANA, ISLAND OF MAUI, HAWAII

Prepared for:
State of Hawaii
Department of Transportation
Highways Division

Prepared by:
M&E Pacific, Inc.
841 Bishop Street, Suite 1900 Davies Pacific Center
Honolulu, HI 96813

February 2009

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SECTION 1**PROJECT SUMMARY**

Project Name: Hana Highway Improvements
Uakea Road to Keawa Place
Project No. 360B-01-03

Applicant: State of Hawaii
Department of Transportation – Highways Division
650 Palapala Drive
Kahului, HI 96732
Contact: Ms. Charlene Shibuya, P.E., Project Engineer
Phone: (808) 873-3535, Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

Approving Agency: State of Hawaii
Department of Transportation – Highways Division
650 Palapala Drive
Kahului, HI 96732
Contact: Ms. Charlene Shibuya, P.E., Project Engineer
Phone: (808) 873-3535, Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

Applicant Agent: M&E Pacific, Inc.
1001 Bishop Street
Pauahi Tower, Suite 500
Honolulu, HI 96813
Contact: Ms. Diane Kodama, P.E.
Phone: (808) 521-3051 Fax: (808) 524-0246

Location: Hana Highway
Uakea Road (MP 33.88)

TMK Designation: Within Right-of-Way, fronting parcels
2nd Div 1-4-003: 009
2nd Div 1-4-006:003

Properties Owner: State of Hawaii
State Land Use Classification: Agricultural
County Zoning: Not Zoned
Special Designation: SMA

Proposed Action: This project proposes to widen the roadway at the bridge/box culvert adjacent to the County Baseyard on Route 360 Hana Highway near the intersection with Uakea Road (MP 33.88). These improvements will provide a safer and more effective facility for public use.

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SECTION 2

CONSULTATION LIST

2.1 FEDERAL

U.S. Army Corps of Engineers
U.S. Department of the Interior, U.S. Fish and Wildlife Service (FWS)

2.2 STATE OF HAWAII

Department of Business, Economic Development and Tourism, (DBEDT)
Department of Health, Environmental Planning Office
Department of Land and Natural Resources, Historic Preservation Division
Department of Land and Natural Resources, Land Division
Department of Transportation, Highways Division
Office of Hawaiian Affairs (OHA)
University of Hawaii, Hawaii Natural Heritage Program

2.3 COUNTY OF MAUI

Councilmember Bill Kauakea Medeiros
Department of Environmental Management
Department of Fire Control
Department of Public Works, Highways Division
Office of the Mayor, Environmental Coordinator
Planning Department
Planning Department, Cultural Resources Commission
Police Department

2.4 COMMUNITY ORGANIZATIONS

Alliance for the Heritage of East Maui
Hana Community Association
Historic Hawaii Foundation
Maui County Cultural Resource Commission
Maui Visitors Bureau
Native Hawaiian Legal Corporation
Sierra Club, Maui Group
UHM Environmental Center

2.5 CONTACT INFORMATION AND SUMMARY

| U.S. Army Corps of Engineers | |
|-------------------------------------|--|
| Contact: | George Young, Chief |
| Address: | Regulatory Branch CEPOH-EC-R US Army District of Honolulu Building 230 Fort Shafter, HI 96858 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. |
| June 17, 2008 | U.S. Army COE letter response received. |
| Summary: | The draft EA should address whether any US waters are in, adjacent to, or flow through the project area. The EA should also disclose whether any streams or other aquatic resources that may occur within the land parcel have an existing direct or indirect surface water connection to the Pacific Ocean. |
| February 10, 2009 | Response letter to comments and copy of the DEA sent. |

| U.S. Department of the Interior, U.S. Fish and Wildlife Service (FWS) | |
|--|--|
| Contact: | Mr. Patrick Leonard, Field Supervisor |
| Address: | 300 Ala Moana Boulevard, #3-122 Honolulu, HI 96850 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. |
| June 16, 2008 | U.S. DOI, FWS letter response received. |
| Summary: | The federally threatened Newell's shearwater and federally endangered Hawaiian petrel are known to occur within the vicinity of the proposed project site. The U.S. FWS is concerned that construction equipment and other structures associated with the project that protrude above the vegetation line could pose a flight obstacle to night-flying birds. The U.S. FWS is also concerned that night-time lighting, could result in seabird disorientation or injury. The U.S. FWS suggests that lighting associated with the improvements be shielded so the bulb can be seen only from below. Use of lights at night during the peak fallout period of September 15 through December 15 should be avoided. Additionally, because the proposed project is road widening at a bridge/box culvert area, the U.S. FWS recommends that Standard Best Management Practices for aquatic resources be incorporated into the project's plan in order to minimize erosion, sedimentation, and other adverse impacts to aquatic resources and nearby coral reef ecosystems. |
| February 10, 2009 | Response letter to comments and copy of the DEA sent. |

| UHM Environmental Center | |
|---------------------------------|---|
| Contact: | Dr. John T. Harrison, Ph.D., Environmental Coordinator |
| Address: | 2500 Dole Street, Krauss Annex 19 Honolulu, HI 96822 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. Response not received by the 30-day deadline. |
| February 10, 2009 | Letter informing agency of the DEA publication and copy of the DEA sent. |

Office of Hawaiian Affairs (OHA)

| | |
|-------------------|--|
| Contact: | Mr. Clyde Namuo, Administrator |
| Address: | Office of Hawaiian Affairs 711 Kapiolani Boulevard, Suite 500 Honolulu, HI 96813 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. |
| June 18, 2008 | State of Hawaii, Office of Hawaiian Affairs letter response received. The Draft EA should include a Cultural Impact Assessment (CIA) which includes information relating to the practices and beliefs of the Native Hawaiians who once inhabited this area. The community should be involved in this assessment. The proposed project is in close proximity to known historic sites located within TMK (2) 1-4-006:001, owned by Hana Ranch, Inc. The applicant assurances are requested that should historical artifacts be found during the construction of the project, work will cease, and the appropriate agencies will be contacted. |
| Summary: | |
| February 10, 2009 | Response letter to comments and copy of the DEA sent. |

Department of Business, Economic Development and Tourism (DBEDT), Office of Planning

| | |
|-------------------|---|
| Contact: | Mr. Theodore Liu, Director |
| Address: | P.O. Box 2359 Honolulu, HI 96804 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. Response not received by the 30-day deadline. |
| February 10, 2009 | Letter informing agency of the DEA publication and copy of the DEA sent. |

Department of Health, Environmental Planning Office

| | |
|-------------------|---|
| Contact: | Director |
| Address: | 919 Ala Moana Boulevard, Room 312 Honolulu, HI 96814 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. Response not received by the 30-day deadline. |
| February 10, 2009 | Letter informing agency of the DEA publication and copy of the DEA sent. |

Department of Land and Natural Resources (DLNR), Land Division

| | |
|-------------------|---|
| Address: | 54 High Street, Room 101 Wailuku, HI 96793 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. Response not received by the 30-day deadline. |
| February 10, 2009 | Letter informing agency of the DEA publication and copy of the DEA sent. |

| Department of Land and Natural Resources (DLNR), Historic Preservation Division (SHPD) | |
|---|--|
| Address: | Kakuhihewa Building, Room 555 601 Kamokila Boulevard Kapolei, HI 96707 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. |
| July 21, 2008 | SHPD letter response received. |
| Summary: | SHPD believes that historic archaeological properties and/or previously disturbed historic archaeological properties may be present in the subject area. In order to determine the effect of the proposed project on historic sites, SHPD recommends that no construction activities occur until an AIS has been conducted of the subject area to determine whether significant historic properties are present. |
| February 10, 2009 | Response letter to comments and copy of the DEA sent. |

| Department of Transportation, Highways Division (State DOT-Highways) Planning Office | |
|---|--|
| Contact: | Mr. Glenn M. Yasui |
| Address: | Hale Awa Ku Moku Building 869 Punchbowl Street, Room 513 Honolulu, HI 96813 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. |
| | Response not received by the 30-day deadline. |
| February 10, 2009 | Letter informing agency of the DEA publication and copy of the DEA sent. |

| UH Manoa Center for Conservation Research and Training Hawaii Natural Heritage Program | |
|---|--|
| Contact: | Mr. Roy Kam, Database Manager |
| Address: | Hawaii Biodiversity and Mapping Program 3050 Maile Way, Gilmore Hall #406 Honolulu, HI 96822 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. |
| May 23, 2008 | HBMP letter response received. |
| Summary: | There have no recordings of rare species in the vicinity of your site. |
| February 10, 2009 | Letter informing agency of the DEA publication and copy of the DEA sent. |

| County Council, County of Maui | |
|---------------------------------------|---|
| Contact: | Councilmember Bill Kauakea Medeiros |
| Address: | Kalana O Maui Building, 8 th Floor 200 South High Street Wailuku, HI 96793 |
| May 14, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. Response not received by the 30-day deadline. |
| February 10, 2009 | Letter informing agency of the DEA publication sent. |

| County of Maui Department of Environmental Management (DEM) | |
|--|---|
| Contact: | Ms. Cheryl K. Okuma |
| Address: | One Main Plaza 2200 Main Street, Suite 175 Wailuku, HI 96793 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. |
| May 28, 2008 | COM DEM letter response received. |
| Summary: | The project was reviewed as a pre-application consultation. There are no comments from either Wastewater Reclamation Division or Solid Waste Division |
| February 10, 2009 | Response letter to comments and copy of the DEA sent. |

| County of Maui Department of Fire and Public Safety, Fire Prevention Bureau | |
|--|--|
| Contact: | Valeriano F. Martin, Captain |
| Address: | 780 Alua Street Wailuku, HI 96793 |
| May 14, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. |
| May 22, 2008 | COM Dept of Fire and Public Safety – Fire Prevention Bureau letter response received |
| Summary: | The bridge widening is much appreciated, however the intermittent closure of the roadway fronting the police and fire station will impact the timely response of emergency vehicles heading north. Communication between the construction company and emergency personnel must be consistent and frequent. The contractor should notify the fire department personnel whenever the decision to close the road is made. |
| February 10, 2009 | Response letter to comments and copy of the DEA sent. |

| County of Maui Planning Department | |
|---|--|
| Contact: | Mr. Jeffrey S. Hunt |
| Address: | 250 South High Street Wailuku, HI 96793 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. |
| May 22, 2008 | COM Dept of Fire and Public Safety – Fire Prevention Bureau letter response received |
| July 3, 2008 | The land use designations for the project area are: State Land Use - Agricultural, Community Plan - Agricultural, County Zoning - Not Zoned, Other - Located within the Special Management area. The Special Management Area (SMA) for this portion of Hana Highway is located on the <i>mauka</i> side of the existing highway right-of-way. A SMA Permit may be required for the proposed project. This portion of Hana Highway is listed on both the National and State Register of Historic Places. The Maui County Cultural Resources Commission should be consulted on the proposed project. The proposed improvements should retain the rural character of the roadway. |
| February 10, 2009 | Response letter to comments and copy of the DEA sent. |

| County of Maui Planning Department, Cultural Resources Commission | |
|--|---|
| Contact: | Mr. Perry Artates |
| Address: | 250 South High Street Wailuku, HI 96793 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. Response not received by the 30-day deadline. |
| February 10, 2009 | Letter informing agency of the DEA publication and copy of the DEA sent. |

| County of Maui Police Department | |
|---|---|
| Contact: | Mr. Thomas Phillips, Police Chief |
| Address: | 55 Mahalani Street Wailuku, HI 96793 |
| May 14, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. Response not received by the 30-day deadline. |
| February 10, 2009 | Letter informing agency of the DEA publication and copy of the DEA sent. |

| County of Maui Public Works, Highways Division | |
|---|---|
| Contact: | Mr. James Perry, District Supervisor |
| Address: | 200 South High Street Wailuku, HI 96793 |
| May 14, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. |
| June 5, 2008 | COM Dept of Public Works letter response received |
| Summary: | This project is located next to the county garage and equipment baseyard. In the last 40 years, the project area has overflowed and flooded the interior of the garage and equipment parking lot a number of times. I would like to request that it be built a little wider and deeper than the existing grade. Hopefully that solves the overflow problem. Another concern is that the bridge is part of the Historic road and it has the date it was built, 1915, inscribed on the side. Will that be saved? |
| February 10, 2009 | Response letter to comments and copy of the DEA sent. |

| Office of the Mayor, Environmental Coordinator | |
|---|---|
| Contact: | Kuheia Paracuelles, Environmental Coordinator |
| Address: | 200 South High Street, 9 th Floor Wailuku, HI 96793 |
| July 1, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. Response not received by the 30-day deadline. |
| February 10, 2009 | Letter informing agency of the DEA publication sent. |

| Alliance for the Heritage of East Maui | |
|---|---|
| Address: | PO Box 455 Hana, HI 96713 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. Response not received by the 30-day deadline. |
| February 10, 2009 | Letter informing agency of the DEA publication sent. |

| Hana Community Association | |
|-----------------------------------|---|
| Address: | PO Box 202 Hana, HI 96713 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. Response not received by the 30-day deadline. |
| February 10, 2009 | Letter informing agency of the DEA publication sent. |

| Historic Hawaii Foundation | |
|-----------------------------------|--|
| Contact: | Ms. Kiersten Faulkner, Executive Director |
| Address: | 680 Iwilei Road, Suite 690 Honolulu, HI 96817 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. |
| May 27, 2008 | Historic Hawaii Foundation letter response received |
| Summary: | What, if any, of the character-defining features of the historic road would be impacted by the widening at the bridge/box culvert? Does the project include demolition or replacement of the existing bridge and culvert? Will the widening impact other resources? Will the alignment of the road change? Will view sheds be impacted? Is the design of the proposed project consistent with context-sensitive design principles? In order to review and comment on the proposal, HHF requests that additional information be provided, including: 1. A description of the undertaking, including drawings or photographs, as necessary to describe it; 2. A description of the historic property and area of potential effect; 3. A description of the potential effect on historic properties; and 4. Proposed avoidance or mitigation of the potential effect, if any. |
| February 10, 2009 | Response letter to comments and copy of the DEA sent. |

| Maui Visitors Bureau | |
|-----------------------------|---|
| Contact: | Ms. Marsha Weinert |
| Address: | 1727 Wili Pa Loop Wailuku, HI 96793 |
| May 13, 2008 | Consultation Request Letter sent, refer to Appendix A for all correspondence. Response not received by the 30-day deadline. |
| February 10, 2009 | Letter informing agency of the DEA publication sent. |

Native Hawaiian Legal Corporation

Contact: Ms. Mahealani Wendt, Executive Director
Address: 1164 Bishop Street, Suite 1205
Honolulu, HI 96813

May 13, 2008 Consultation Request Letter sent, refer to **Appendix A** for all correspondence.
Response not received by the 30-day deadline.

February 10,
2009 Letter informing agency of the DEA publication sent.

Sierra Club, Maui Group

Contact: Mr. Daniel Grantham
Address: PO Box 791180
Paia, HI 96779

May 13, 2008 Consultation Request Letter sent, refer to **Appendix A** for all correspondence.
Response not received by the 30-day deadline.

February 10,
2009 Letter informing agency of the DEA publication sent.

SECTION 3

PROJECT DESCRIPTION

3.1 PROJECT NEED AND OBJECTIVE

Hana Highway winds through mountainous regions of the island of Maui in relatively narrow cuts with steep slopes on either side of the roadway. The road is typically 16 feet wide, consisting of two 8-foot opposing travel lanes. The bridge/box culvert within the project limits is one-lane, with an 11-foot wide travelway.

This Environmental Assessment (EA) discusses planned strategies to widen the existing bridge/box culvert located on Hana Highway near Milepost (MP) 33.88 (Figure 1).

3.2 PROJECT OVERVIEW AND DESCRIPTION

Hana Highway is a major collector road. This highway is the only developed roadway providing service between Hana and Kahului on the island of Maui. It is constructed of asphaltic concrete (AC) pavement and is of varying width along its length. The highway is predominantly a two-lane highway that provides for one lane of vehicular travel in each direction. The roadway reduces to a single lane at each of its numerous bridges and at locations where the existing pavement width is not adequate for two lanes of traffic.

Within the project limits, the single-lane bridge/box culvert is approximately 11 feet in width. There is insufficient room for two lanes, so all traffic in one direction must yield to let cars going in the other direction pass (Figure 3).

This project proposes to widen the travelway of a one-lane bridge/box culvert on Route 360 Hana Highway, near the intersection of Uakea Road and Hana Highway. Design features will include restriping and relocation of existing safety features and widening of the existing bridge to increase the travelway width. Implementation of these design features will increase the safety of the highway users.

3.3 PROJECT COST AND DURATION

The State DOT budgeted \$1.47 million to provide for highway improvements at the project site. Costs will be funded from State monies. Project start date is anticipated to occur in Fall 2009, during fiscal year 2010 (July 2009 to June 2010) with an estimated construction period of six to eight months.

3.4 PURPOSE OF ENVIRONMENTAL ASSESSMENT

This EA results from the use of State land and monies. No federal funding or permitting is involved. In accordance with Chapter 343, Hawaii Revised Statutes and the Department of Health's Hawaii Administrative Rules Title 11-200, this EA provides a written evaluation of technical, environmental, social and economic aspects of the proposed Hana Highway Improvement project located near the intersection of the highway with Uakea Road (MP 33.88). It identifies potential project impacts and their significance and develops strategies to mitigate those impacts. This EA then compares all aspects and impacts against 13 significance criteria listed in §11-200-12 to provide a determination as to whether an Environmental Impact Statement is required or not.

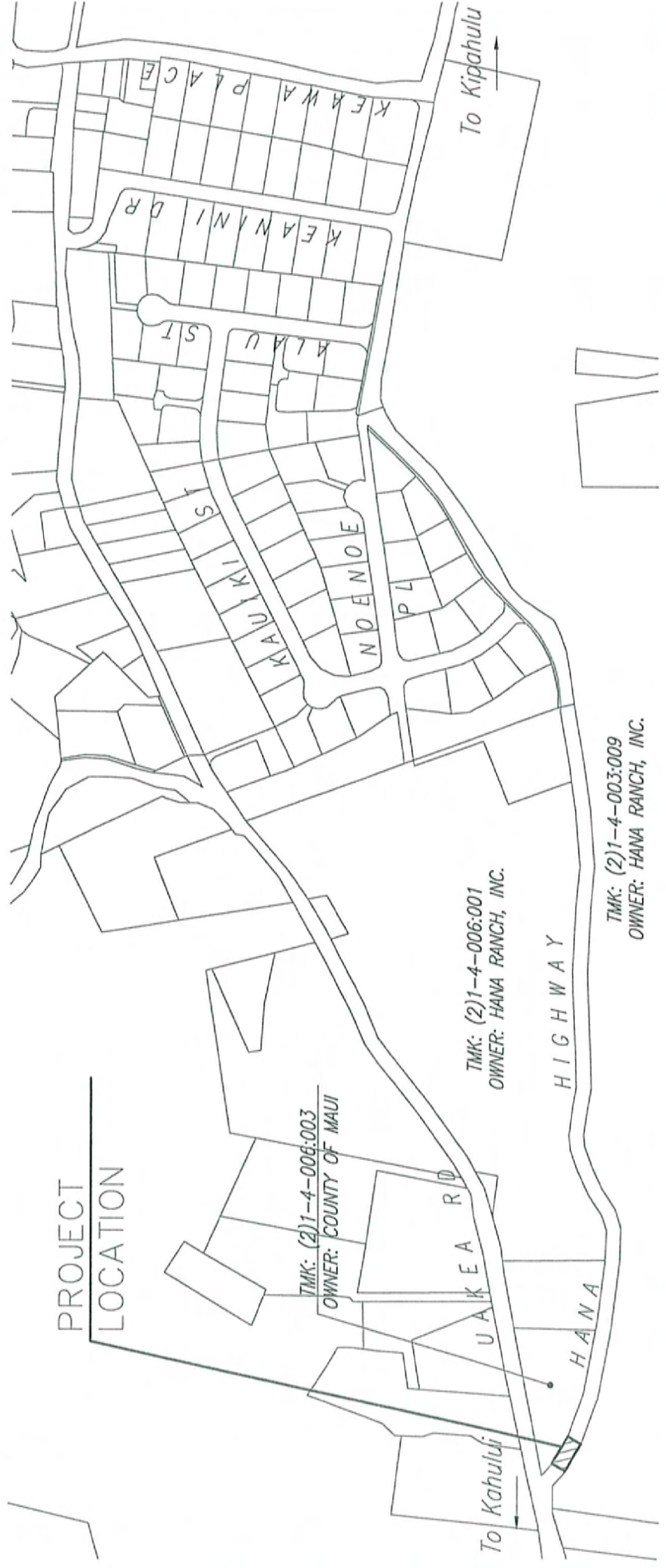
STATE OF HAWAII

PROJECT LOCATION



VICINITY MAP

NOT TO SCALE



PROJECT LOCATION

TMK: (2)1-4-006:003
OWNER: COUNTY OF MAUI

TMK: (2)1-4-006:001
OWNER: HANA RANCH, INC.

TMK: (2)1-4-003:009
OWNER: HANA RANCH, INC.

M&E Pacific, Inc.

METCALF & EDDY | AECOM

DAVIES PACIFIC CTR, STE 1500 • 841 BISHOP ST, HONOLULU, HAWAII 96813

FIGURE 1
LOCATION MAP
HANA HIGHWAY IMPROVEMENTS - UAKEA ROAD TO KEAWA PLACE
STATE DOT - HIGHWAYS DIVISION
PROJECT NO. 360B-01-03
Hana, Island of Maui, Hawaii
February 2009



M&E Pacific, Inc.

METCALF&EDDY | AECOM

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FIGURE 2
 VIEWS OF BRIDGE/BOX CULVERT
 HANA HIGHWAY IMPROVEMENTS - UAKEA ROAD TO KEAWA PLACE
 STATE DOT - HIGHWAYS DIVISION
 PROJECT NO. 360B-01-03
 Hana, Island of Maui, Hawaii
 February 2009



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 LAST UPDATE: July 09, 2008 @ 03:58:11 pm
 P:\01\BMC February 09, 2009 @ 02:44:42 pm

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METCALF & EDDY | AECOM

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FIGURE 3
 VIEWS OF BRIDGE/BOX CULVERT
 HANA HIGHWAY IMPROVEMENTS - UAKEA ROAD TO KEAWA PLACE
 STATE DOT - HIGHWAYS DIVISION
 PROJECT NO. 360B-01-03
 Hana, Island of Maui, Hawaii
 February 2009

SECTION 4

DESCRIPTION OF ACTION'S TECHNICAL, ECONOMIC, SOCIAL AND ENVIRONMENTAL CHARACTERISTICS

4.1 TECHNICAL

The project scope of work includes widening of the existing one-span bridge to allow for two lanes of traffic. One criterion for the design of the new (downstream) bridge is that it has to visually and structurally match the existing (upstream) bridge as much as possible. To accomplish this, the concrete railing for the new bridge will be constructed to be identical to the existing bridge railing (Figure 4). The date "1915," and form lines of the existing concrete parapet will be duplicated on the new bridge parapet (Figure 5).

The clear span for the new bridge is 23'-0"; 9'-0" longer than the existing bridge (Figure 6). The new bridge requires a longer span because the stream channel embankment flares outward at the downstream end of the existing bridge, forcing the new abutments to be further apart. The two distinctly different span lengths present challenges to the design. The most significant challenge is that with two dissimilar span lengths, the stiffness of the new bridge will be different than that of the existing bridge. This difference means that there will be a slightly different deflection in the two bridge decks with respect to each other as vehicles pass across. Because of this differential in the vertical movement, the two bridge decks must be separate and independent from each other. There must be a slight gap between the new bridge deck slab and the existing bridge deck slab.

In order to expedite the construction of the new bridge, precast concrete deck planks will be used. This will allow the deck to be installed significantly faster than if the new deck were completely cast-in-place.

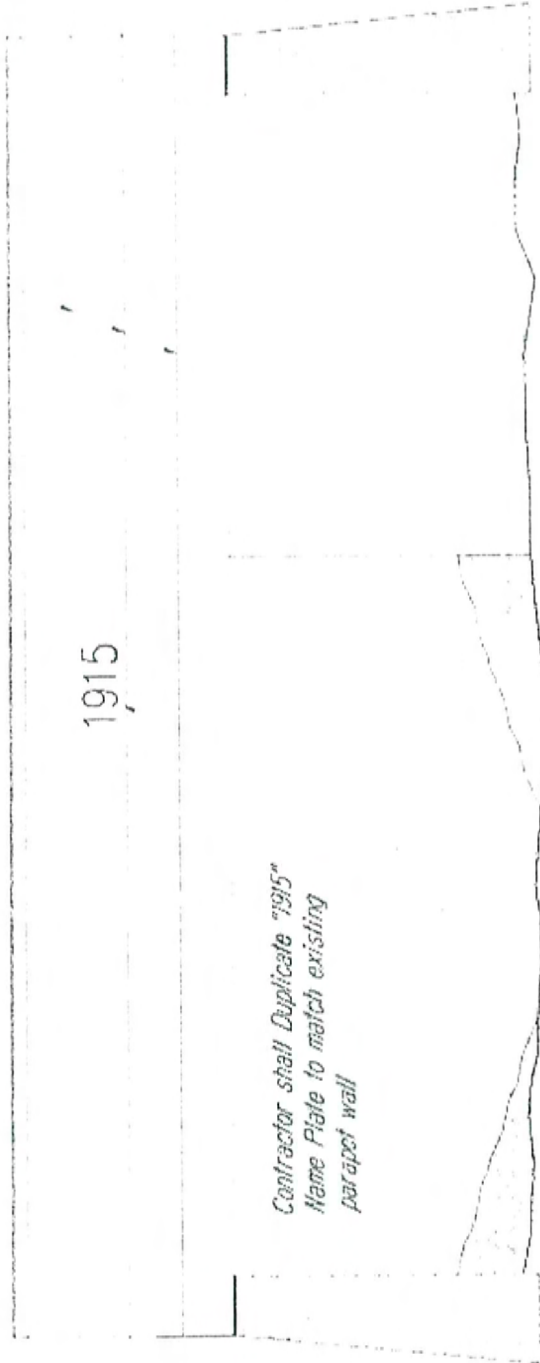
Because the new abutment wall will be located 9' behind the existing abutment wall, an end wall is necessary to connect the two abutments. This end wall serves as a retaining wall to keep the structural fill from escaping from beneath the roadway.

Continued traffic flow is a concern to the State DOT-Hwy. The design of the new bridge allows for the existing bridge to remain open at times during construction with a minimum 10'-wide traffic lane. Portable jersey barriers will be needed to serve as a temporary bridge railing along one side of the bridge.

The existing bridge has an AC wear surface that is in poor condition. The new bridge will have a concrete wear surface that will be poured to match the existing top of bridge deck elevation. The existing AC wear surface will be cold planed down and overlaid with a new AC wear surface that matches the new concrete bridge deck.

The roadway striping will be changed to accommodate the widening of the bridge/box culvert from one-lane to two-lanes. The existing stop bars and yield signs on either side of the bridge will be removed, and the center line will be realigned and painted to connect the two sides of the bridge/box culvert.

*Contractor shall Duplicate
form lines to match existing
parapet wall*



Top of Roadway

*Contractor shall Duplicate "1915"
Name Plate to match existing
parapet wall*

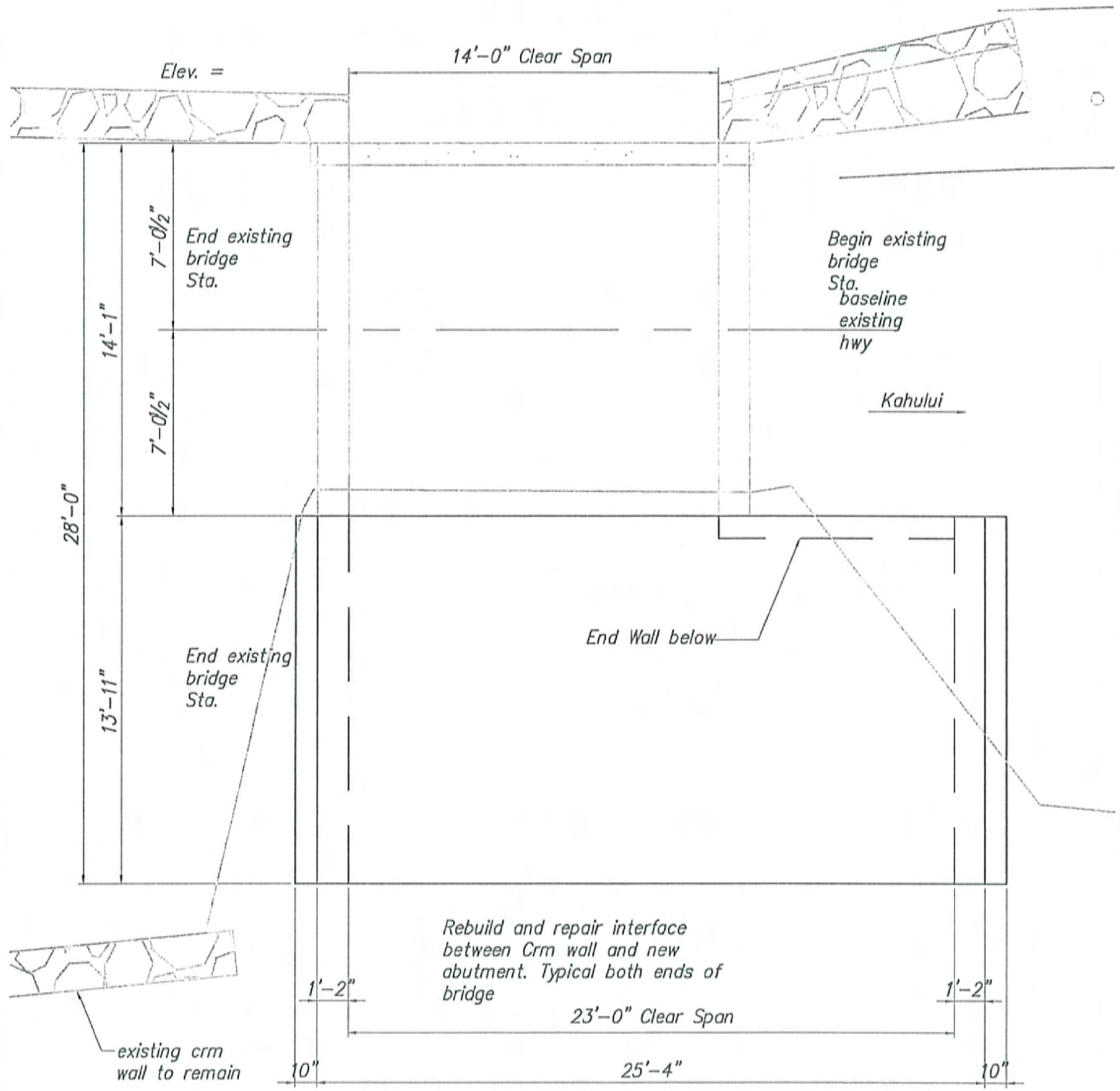
M&E Pacific, Inc.

METCALF & EDDY | AECOM

DAVIES PACIFIC CTR, STE. 1800 • 841 BISHOP ST., HONOLULU, HAWAII 96813

FIGURE 5
LONGITUDINAL BRIDGE ELEVATION
 HANA HIGHWAY IMPROVEMENTS - UAKEA ROAD TO KEAWA PLACE
 STATE DOT - HIGHWAYS DIVISION
 PROJECT NO. 360B-01-03
 Hana, Island of Maui, Hawaii
 February 2009

PLOT DATE: February 05, 2009 @ 02:53:17 pm
 LAST UPDATE: July 04, 2009 @ 03:52:31 pm
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M&E Pacific, Inc.
 METCALF & EDDY | AECOM

FIGURE 6
BRIDGE DECK PLAN
 HANA HIGHWAY IMPROVEMENTS - UAKEA ROAD TO KEAWA PLACE
 STATE DOT - HIGHWAYS DIVISION
 PROJECT NO. 360B-01-03
 Hana, Island of Maui, Hawaii
 February 2009

4.2 ECONOMIC

Project funding will be 100% by the State DOT-Hwy. Federal funding will not be used for the project.

4.3 SOCIAL

Hana Highway is the only developed roadway and main thoroughfare leading between Kahului and Hana. It is used primarily by residents commuting to jobs in Makawao, Kahului and Wailuku and by visitors traveling to and from Hana.

Highway improvement measures will improve road safety. Increasing the bridge and travelway widths, restriping and relocation of existing guardrails will increase the safety of the motorists and roadway usability.

Road closures will be necessary for certain construction phases during bridge construction, restriping and travelway widening. A traffic detour will be required to minimize the impact on resident and tourist travel around the project area. Closures are discussed further in Section 6 of this EA.

4.4 ENVIRONMENTAL

Short-term construction related impacts are expected from this project. These impacts and procedures to mitigate their effects are discussed in Section 6 of this EA.

Few long-term impacts due to bridge construction and travelway widening are expected. All proposed structures shall be contained in the existing right-of-way. Acquisition of private lands or granting of an easement across private lands in favor of the State DOT for maintenance purposes will not be required.

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SECTION 5

DESCRIPTION OF AFFECTED ENVIRONMENT

5.1 PHYSICAL

5.1.1 LOCATION

The island of Maui is comprised of two major volcanoes, the older West Maui and the newer East Maui, also known as Haleakala. A narrow isthmus connects these two mountains. The proposed project site is located in the Hana District of the island of Maui along the Hana Highway (Route 360). Hana Highway lies along the northern flank of Haleakala and runs between the towns of Kahului and Hana.

The project site is located near MP 33.88 in the town of Hana. It lies to the southeast of Hana Airport near Hana Bay. The project area is a bridge/box culvert on Hana Highway and lies adjacent to portions of TMKs: (2)1-4-003:009 and (2)1-4-006: 003. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc.

The general characteristics of the areas adjacent to the project site range from heavily to moderately vegetated, and from undeveloped to rural (Figures 2 and 3).

5.1.2 CLIMATE

Equable temperatures, moderate humidity and persistent breezes characterize Hawaii's climate. These climatic conditions occur at the project site. According to the Soil Conservation Service (USDA, 1972), the average temperature in nearby Kailua, Maui is 71°F with average minimum and maximum monthly temperatures ranging from 64°F and 77°F, respectively.

Northeasterly trade winds prevail much of the time throughout the state of Hawaii. These trade winds vary in frequency in frequency and duration, lasting for weeks on occasions while being virtually absent at other times. This is the general result of the location of the North Pacific high- pressure system. During the summer months, this system is larger, stronger and shifts farther to the north and produces stronger, more persistent trade winds. In the winter months, this high-pressure system declines and shifts to the southeast. This results in generally weaker and more variable wind patterns.

The project site is located on the windward-facing, lower slopes of Haleakala mountain. Rainfall on these windward slopes is orographic and results from the cooling of moisture-laden trade winds as they rise up the mountain slopes. Annual rainfall at the site approaches 80 inches (Atlas of Hawaii, 1998).

5.1.3 AIR QUALITY

Ambient air quality refers to the state of purity of the general outdoor atmosphere. Ambient air quality is regulated under the Clean Air Act. The U.S. Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants as a measure of ambient air quality. These six criteria pollutants include carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, ozone and particulate matter less than or equal to 10 micrometers (PM₁₀). In addition, the State of Hawaii established standards for carbon monoxide and nitrogen dioxide that are more stringent than federal standards as well as an additional ambient air standard for hydrogen sulfide (HIAAQS). Table 5.1 below summarizes the federal and state air quality standards.

**TABLE 5.1
NATIONAL AND STATE AMBIENT AIR QUALITY STANDARDS**

| Pollutant | Averaging Time | NAAQS | HI AAQS |
|-------------------------|----------------------------|--|---|
| Carbon Monoxide | 1-hour 8-hour | 35 ppm 9 ppm | 9 ppm 4.4 ppm |
| Nitrogen Dioxide | Annual | 0.053 ppm | 0.04 ppm |
| Sulfur Dioxide | 3-hour 8-hour Annual | No Standard 0.14 ppm 0.03 ppm | 0.5 ppm 0.14 ppm 0.03 ppm |
| Lead | Quarterly | 1.5 ($\mu\text{g}/\text{m}^3$) | 1.5 ($\mu\text{g}/\text{m}^3$) |
| Ozone | 8-hour | 0.075 ppm (effective 5/27/08) | 0.08 ppm |
| PM₁₀ | 24-hour Annual | 150 ($\mu\text{g}/\text{m}^3$) Revoked 12/17/06 | 150 ($\mu\text{g}/\text{m}^3$) 50 ($\mu\text{g}/\text{m}^3$) |
| PM_{2.5} | 24-hour Annual | 35 ($\mu\text{g}/\text{m}^3$) 15 ($\mu\text{g}/\text{m}^3$) | No Standard No Standard |
| Hydrogen Sulfide | 1-hour | No Standard | 0.025 ppm |

Source: Hawaii Department of Health, April 2008

Of the fourteen air monitoring sites located in the state of Hawaii, most are found on the Big Island, with one station located on Maui in Kihei (south west of the project site). No monitoring stations are located in the vicinity of the project site. The Kihei air monitoring station monitors only atmospheric PM₁₀ and PM_{2.5} concentrations resulting from nearby agricultural and sugar mill operations.

In general, the air quality at the project site is good. The general area around the project site is rural in character and absent of heavy industry. The monitoring station at Kihei, although located on the opposite side of the island in a suburban area, reported no exceedances of state or federal PM₁₀ standards during the year 2006. Also, the DOH's 2006 Annual Summary of Hawaii Air Quality Data reports that the state is in attainment for all federal ambient air quality standards.

5.1.4 TOPOLOGY AND GEOLOGY

The elevation at the project site is approximately 120 feet above Mean Sea Level (MSL) (Figure 7). Slopes in this area average about 15H:1V.

Geotechnical explorations were conducted at the culvert near MP 33.88 by Geolabs, Inc. in September of 2008 in order to obtain an overview of the subsurface conditions so that geotechnical recommendations for the bridge/box culvert design could be made. The soils report described the underlying soil matrix as about one foot of very stiff clayey silt with gravel over approximately 6 feet of medium density silty sands and cobbles with gravel. Moderately fractured, very hard basalt formations were encountered at depths ranging from 7 to 19.5 feet. Clinker, with medium density basaltic gravel and cobbles, was encountered at depths from 19.5 to 22 feet. The exploratory borings extended to a maximum depth of approximately 22 feet below ground surface. Groundwater was not encountered in the boring at the time of the exploration (Geolabs, 2008).

5.1.5 SOILS

The Soil Conservation Service of the U.S. Department of Agriculture (USDA, 1972) classifies soils at the project site as Hana extremely stony silty clay loam (HKOC) (Figure 8). Hana extremely stony silty clay loam (HKOC), 3 to 15 percent slopes, is moderately deep with stones covering 3 to 15 percent of the surface. Runoff is slow to medium, and the erosion hazard is slight to moderate. This soil is used for pasture and homesites.

5.1.6 WATER RESOURCES AND HYDROLOGY

The bridge/box culvert at the project site spans a natural, unlined rock bottom which is normally dry (Figure 3). A perennial stream flowing through Kawaipapa Gulch exists near the project site (Figure 7). The project site is located approximately 1000' south and west of the perennial Kawaipapa Stream at its nearest point.

This inland freshwater stream is classified by the Department of Health as a Class 2 stream. The State DOH Water Quality Maps indicates that Kawaipapa Gulch leads to Class AA marine waters surrounding the island.

5.1.7 NATURAL HAZARDS

LANDSLIDES

The stretch of Hana Highway included in the project site has not been designated by the State DOT as being in a high hazard area for landslides.

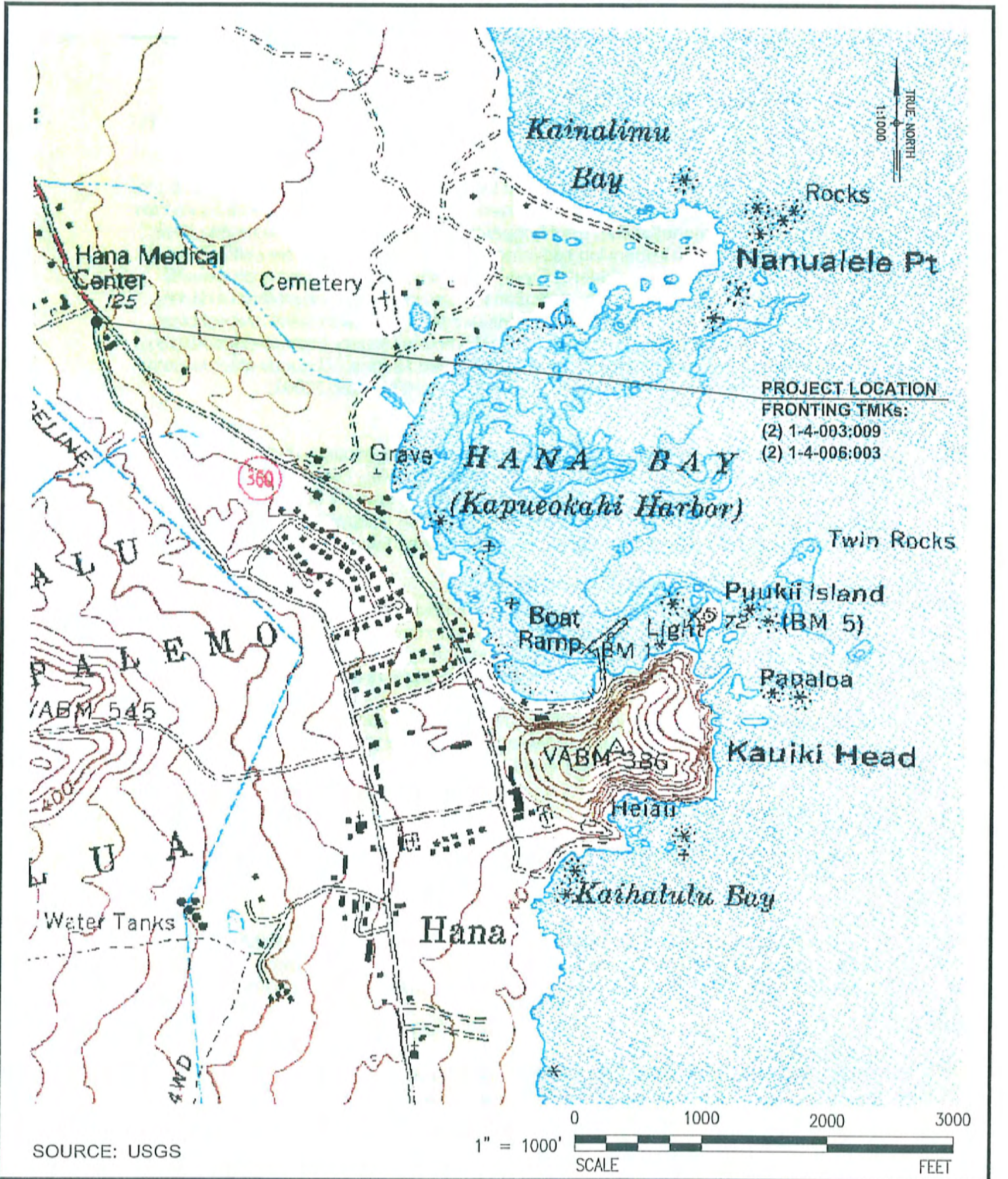
FLOODS

The US FEMA Flood Insurance Rate Map (FIRM) (Community Panel 150003 0320B) designates the project site as being in Zone C - areas of minimal flooding. A designation of Zone C means that the project area is subject to minimal threat from flooding (Figure 9).

HURRICANES

The first hurricane officially recorded in Hawaii (Hiki) occurred in 1950. Newspaper accounts and meteorological data collection indicate that storm systems occur more frequently in Hawaiian waters than previously thought (Atlas of Hawaii, 1998). More recently, Hurricanes Iwa (1982) and Iniki (1992) struck the Hawaiian Islands.

Hawaii remains vulnerable to hurricanes, although hurricanes are rare events. These storms bring very heavy rains that may contribute to soil and slope instability.



PROJECT LOCATION
FRONTING TMKs:
(2) 1-4-003:009
(2) 1-4-006:003

SOURCE: USGS

1" = 1000'
SCALE 0 1000 2000 3000 FEET

M&E Pacific, Inc.

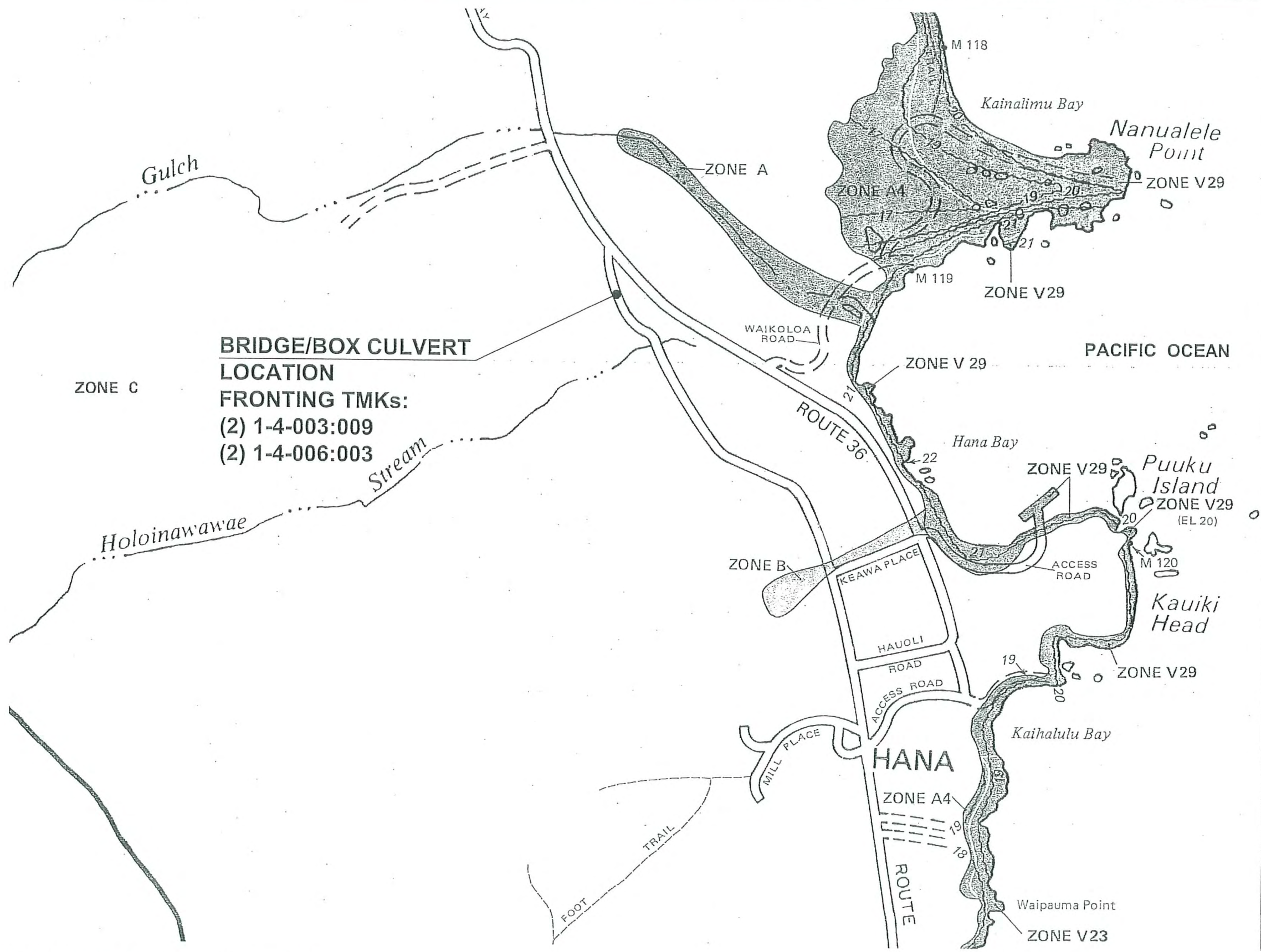
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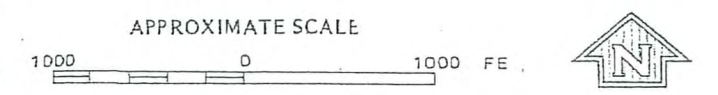
FIGURE 7
USGS MAP
HANA HIGHWAY IMPROVEMENTS - UAKEA ROAD TO KEAWA PLACE
STATE DOT - HIGHWAYS DIVISION
PROJECT NO. 360B-01-03
Hana, Island of Maui, Hawaii
February 2009

DOI: ORIGINAL: FEBRUARY 06, 2009 @ 10:23:28 AM
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**BRIDGE/BOX CULVERT
LOCATION
FRONTING TMKs:
(2) 1-4-003:009
(2) 1-4-006:003**



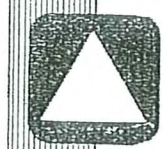
NATIONAL FLOOD INSURANCE PROGRAM

**FIRM
FLOOD INSURANCE RATE MAP**

MAUI COUNTY, HAWAII

PANEL 320 OF 400
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
150003 0320 B
EFFECTIVE DATE:
JUNE 1, 1981



federal emergency management agency
federal insurance administration

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

SOURCE: Federal Emergency Management Agency

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**FIGURE 9
FIRM MAP**
HANA HIGHWAY IMPROVEMENTS - UAKEA ROAD TO KEAWA PLACE
STATE DOT - HIGHWAYS DIVISION
PROJECT NO. 360B-01-03
Hana, Island of Maui, Hawaii
February 2009

P:\PROJECTS\HAWAII\MAUI\HANA\FIGURE 9\FIGURE 9_1.MXD
 LAST UPDATE: February 09, 2009 @ 02:25:48 pm
 PLOT DATE: February 09, 2009 @ 02:26:16 pm

EARTHQUAKES

Earthquakes in Hawaii typically result from magmatic migration underground. Haleakala is a dormant volcano that is believed to have erupted last in the 1700's. As this volcano is not extinct, it could erupt again in the future and therefore earthquakes associated with underground lava movements are possible. The entire island of Maui is designated as Seismic Zone 2B based upon the United Building Code's (UBC) seismic zone criteria that range from 0 to 4.

5.1.8 FLORA AND FAUNA

The gently sloping to moderately steep land described in Section 5.1.5 supports varied types of vegetation such as California grass, guava, kaimi clover, koa and sedges (USDA, 1972).

The Hawaii Biodiversity and Mapping Program (HBMP) was consulted, and a review of their database records determined that no threatened or endangered species have been recorded within the site (Refer to HBMP response email dated May 23, 2008, Appendix B).

Consultation with the United States Department of the Interior Fish and Wildlife Service (FWS) revealed that the federally threatened Newell's shearwater (*Puffinus auricularis newelli*) and federally endangered Hawaiian petrel (*Pterodroma phaeopygia sandwichensis*), collectively referred to as seabirds, are known to occur within the vicinity of the proposed project. The FWS raised concerns that construction equipment, poles, and other structures associated with the project that protrude above the vegetation line could pose a flight obstacle to the night-flying seabirds during the breeding season. Additionally, the FWS is concerned that an increase in the use of night-time lighting could result in seabird disorientation, fallout, injury, or mortality.

5.1.9 VISUAL

The project site is generally rural. The project site is adjacent to a County-owned property which contains a baseyard, fire station and police station. Heavily vegetated slopes are located *mauka* of the project site, while the *makai* side was developed (Figures 2 and 3). Both sides have a moderate slope.

5.2 SOCIAL

5.2.1 SECTION 106 AND CULTURAL RESOURCES

Formal consultation for Section 106 of the National Historic Preservation Act (NHPA) is a requirement for projects that receive federal funding. As no federal monies will be utilized for this project, no formal consultation was undertaken to comply with Section 106 of the NHPA.

Consultation was initiated with the State Department of Land and Natural Resources' Historic Preservation Division (SHPD) to determine the presence, if any, of cultural resources. The letter requesting determination was sent to SHPD on May 13, 2008 (Appendix A). An Archaeological Inventory Survey (AIS) was performed by Scientific Consultant Services, Inc. on January 13, 2009 and has been submitted to SHPD for review (Appendix C).

The AIS states that all of the features of Hana Belt Road, including the bridge and box culvert at the project site, are historic features. The bridge and box culvert are listed as site number 50-50-06-1636 in the State Inventory of Historic Places. One shovel test unit was performed on the southwestern side of the bridge to a depth of 68 cm below

surface. No cultural layers or traditional Hawaiian materials were encountered and it is likely that this layer represents previously disturbed natural sediments (SCS, 2009).

5.2.2 PUBLIC SERVICES/INFRASTRUCTURE

The project site is a bridge/box culvert. A county baseyard, police station and fire station are located on the property adjacent to the project site. No utilities will be disrupted as a result of the project activities. Drainage is the only utility located in the project area. Temporary Best Management Practices (BMPs) may alter drainage flow in the localized project area for the short-term, but drainage flow will remain unchanged in the long-term.

5.2.3 NOISE

The project site is located in a rural area. No industrial or commercial activities occur near the project site. Ambient noise levels are derived primarily from passing traffic or other natural sources.

5.2.4 TRAFFIC

Hana Highway is the sole paved link between Hana District and the rest of the island. This roadway is utilized by residents and visitors alike. However, the results of a survey described in the following paragraph indicate that the majority of users are Hana District residents traveling to and from work in Wailuku during normal business hours.

The State DOT conducted a one-day traffic survey in the vicinity of Kailua Bridge along the Hana Highway on April 24-25, 2001. Travel in both directions during the 24-hour period totaled 1,517 vehicles. During the peak A.M. hour, 200 vehicles were counted and 90% of these vehicles were traveling in the Wailuku direction. During the peak P.M. hour, 162 vehicles were counted and over 80% were traveling in the Hana direction.

5.2.5 RECREATIONAL FACILITIES

No recreational facilities exist immediately adjacent to the proposed project site. Hana Community Center, District Center, Ball Park, Hana Bay Beach Park, Kapueokahi Beach and Kaihalulu Beach all lie within one mile of the project site. Waiapanapa State Park and Campgrounds are located 2.5 miles from the project site. Access to these recreational facilities will be maintained throughout the project duration. The project site can be bypassed by using Uakea Road, which runs roughly parallel to Hana Highway. The use of Uakea Road will provide access to the recreation facilities to people traveling from the north or south along Hana Highway, and from within Hana Town.

5.3 SOCIO-ECONOMIC

5.3.1 DEMOGRAPHICS

The district of Hana is located on the northeast section of the island of Maui. It encompasses 180 square miles. Within this district lies the much smaller Hana Census Designated Place (CDP) or Hana town. While the entire district encompasses 180 square miles, the CDP covers only 2.2 square miles.

Hana district is very sparsely populated. The 2000 Census lists 1,855 people as living in the district. District density is 10.3 people per square mile. This same census notes that 709 people reside in the Hana CDP resulting in a population density of 326. In contrast, the population density of the town of Wailuku is 2,411 (where 12,296 people reside on 5.1 square miles) while that of the entire island of Maui is 152 (as 117,644 people residing on 772 square miles).

In general, the population density of Hana district is much lower than that of either Wailuku or the island of Maui. However, a large portion of the district's population resides in the relatively compact Hana CDP. If the population of Hana CDP and its land area are excluded from density calculations, the population density in the Hana district is reduced to 6.4 people per square mile. The project site lies in Hana town.

5.3.2 SOCIO-ECONOMIC ENVIRONMENT

Tourism is the primary business of Maui County. Agriculture is another prime business. Historically, suitable lands in the Hana district have been utilized for agricultural purposes. No heavy industry exists near the project site or within the district.

The 2000 Census provided a profile of the general demographic and socio-economic environment of the Hana CDP. While this may not apply to the entire district, it does provide a glimpse of the social environment in the vicinity of the project site. The median age of the Hana district resident is 30.7 years old. Of the population 16 years and over, two-thirds are employed while one-third is either unemployed or not in the labor force (retired, disabled, etc.) Typical occupations include management, service, sales and construction. Median household annual income is \$50,833. Most households earn between \$25,000 and \$99,999 annually.

5.3.3 ENVIRONMENTAL JUSTICE

Executive Order (EO) 12898 regarding Environmental Justice requires that federal agencies take appropriate steps to identify and avoid disproportionately high and adverse effects of federal projects on the health and welfare of minority and low-income populations. As there is no federal participation by way of funding or sponsorship for this project, compliance with EO 12898 is not required for this EA.

However, highway improvement strategies proposed for the project site will not affect either low-income or minority populations. Strategies, discussed in Section 6 of this EA, will alleviate both short-term and long-term impacts of the projects.

5.4 LAND USES AND OWNERSHIP

5.4.1 LAND USE DESIGNATIONS

The land use designations for the project site are as follows:

| | |
|------------------|--|
| State Land Use – | Agricultural |
| Community Plan – | Agricultural |
| County Zoning – | Not Zoned |
| Other – | Located within the Special Management Area |

5.4.2 HAWAII STATE PLAN

Long-range planning for the State is provided by Chapter 226, HRS, also known as the Hawaii State Plan. This plan is a policy statement for an array of economic, physical and social development issues. The specific portion of the Hawaii State Plan related to proposed improvement at the project site is as follows:

Section 226-12 Objectives and policies for the physical environment – scenic, natural beauty, and historic resources.

(b)(1): “Promote the preservation and restoration of significant natural and historical resources.”

5.4.3 STATE LAND USE LAW

The State Land Use Law, Chapter 205 of the HRS, classifies all state lands in one of four categories: urban, rural, agricultural and conservational. Permitted uses for each category are defined in statute. The state assumes sole management responsibility in the conservation district; county governments assume sole responsibility in the urban district, and both share responsibilities in the rural and agricultural districts.

Specifically, the Land Use Law relates to the proposed project site as follows:

Section 205-4.5 Permissible uses within the agricultural districts.

(a)(7): "Public, private, and quasi-public utility lines and roadways, transformer stations, communications equipment buildings, solid waste transfer stations, major water storage tanks, and appurtenant small buildings such as booster pumping stations, but not including offices or yards for equipment, material, vehicle storage, repair or maintenance, or treatment plants, or corporation yards, or other like structures."

Section 205-5 Permissible uses within rural districts.

(c)(4): "Public, private, and quasi-public utility facilities."

5.4.4 COUNTY OF MAUI

Maui County's General Plan incorporates five major themes: 1) protection of Maui County's agricultural, land and rural identity, 2) preparation of a directed and managed growth plan, 3) protection of Maui County's shoreline and limitation of visitor industry growth, 4) maintenance of a viable economy offering diverse employment opportunities for residents and 5) provision for needed resident housing.

Specific land use objectives incorporated in the first theme include the effective use of land in accordance with the character of various communities, use of the land for the social and economic benefit of all County residents, and preservation of land for agricultural pursuits.

The Hana Community Plan advances planning goals, objectives, policies and implementation considerations for the Hana district through the year 2010. Two stated objectives of the Hana Community Plan with regard to land use include the preservation of *mauka* open space vistas and the discouragement of Special Use Permits outside of Hana Town except to allow those activities which are essential to the region's economic well-being and provide for the domestic needs of remote areas.

5.4.5 PROPERTY OWNERSHIP

Two properties lie adjacent to the project site. They are identified as TMK: 1-4-003: parcel 009, owned by the County of Maui, and TMK 1-4-006: parcel 003, owned by Hana Ranch, Inc.

SECTION 6

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

6.1 INTRODUCTION

Chapter 343, HRS requires EAs to present a summary of the potential project impacts and mitigation measures. These impacts, both detrimental and beneficial, include primary, secondary and cumulative effects. Primary effects are those directly caused by undertaking the proposed action and occur at the same time and place. Secondary effects are those that directly result from the proposed action but occur at a later date and time, or are further removed in distance but still are foreseeable. Cumulative impacts result from the direct incremental impacts of the proposed project that add to impacts of other past present and reasonable foreseeable future projects.

6.2 PHYSICAL

6.2.1 CLIMATE

No short-term or long-term adverse impacts to the climate are anticipated in the project area. Therefore no mitigative measures are required.

6.2.2 AIR QUALITY

The principal sources of air pollution associated with this project will be fugitive dust emissions resulting from excavation and drilling and vehicular emissions resulting from the operation of construction equipment and vehicles. These effects are short-term in nature and will cease upon completion of the proposed projects. No long-term effects on air quality due to the operation of construction equipment or vehicles are anticipated as their presence and use will be temporary. While future highway projects may occur in the vicinity, no cumulative effects on air quality are anticipated due to the temporary nature of the construction activity.

Bridge widening at the project site is not expected to generate increased emissions due to domestic vehicular traffic. The Hana Highway is an existing roadway. The proposed projects will alter travelway widths at one location only and will not open a new travel corridor.

Construction activities will incorporate dust control measures and BMPs such as a regular dust-watering program and covering of trucks during the transport and storage of soils. Areas graded and cleared of vegetation will be paved or revegetated as soon as possible to reduce dust emissions as well.

6.2.3 TOPOLOGY AND GEOLOGY

No short-term or long-term effects on topology are anticipated. The existing road grade will continue to be used. Therefore no mitigative measures are required.

6.2.4 SOILS

No short-term or long-term adverse impacts to the climate are anticipated in the project area. Therefore, no mitigative measures are required.

6.2.5 WATER RESOURCES

The Hawaii Administrative Rules (HAR), Title 11 Chapter 54 – Water Quality Standards defines Class 2 streams as those whose uses are to be protected for recreational purposes, propagation of fish and aquatic life, promotion of agricultural and industrial water supplies, shipping navigation and propagation of shellfish. These waters are not to

receive any discharges that have not received the best degree of treatment of control compatible with criteria established for this class of waters. HAR §11-54 establishes an objective for Class AA waters such that they remain in their natural pristine state as nearly as possible with a minimum of pollution or alteration of water quality due to human caused source or actions.

Construction activities at the project site may temporarily affect these two water resources. Stormwater runoff from the construction site or any groundwater that must be discharged during drilling and excavation have the potential to carry silt into the nearby streams. Environmental effects are expected to be short-term and last only for the life of the project. No long-term effects are anticipated.

It is not anticipated that a National Pollution Discharge Elimination System (NPDES) General Permit, regarding stormwater associated with construction activities, will be required. Temporary water pollution control measures to eliminate siltation of the adjacent drainage ditch will be implemented during construction. Potential controls include (but are not limited to) construction berms, sedimentation traps, detention ponds and the use of mulching or regressing exposed areas.

6.2.6 NATURAL HAZARDS

ROCKSLIDES

The area surrounding the project site is slightly sloping, but is not located in a rockslide hazard area. There is no anticipated effect on rockslide-prone areas. No adverse impacts are anticipated for the long-term. Therefore no mitigation measures are required.

FLOODS

The project site is not located in a flood zone. Drainage occurs in a sheet-flow manner. Bridge widening will not alter this sheet-flow drainage. Temporary BMPs may alter drainage flow in the localized project area for the short-term. BMPs are not expected to exert an adverse impact on the overall drainage area during the construction period. For the long-term, there is no anticipated effect on overall area drainage flow patterns. No adverse impacts are anticipated for the long-term. Therefore no mitigation measures are required.

HURRICANES

Implementation of highway improvement measures will not affect the climate in the vicinity of the project areas. Nor will these projects impart any short-term or long-term adverse effects on the local environment. Therefore, no mitigative measures are required.

EARTHQUAKES

Earthquakes are an ever-present threat, for both the short-term and the long-term. Roadway failure due to earthquakes could impact public safety in both the short-term and the long-term. In order to mitigate the threat of roadway failure due to seismic activity, recommendations from a qualified structural engineer and a qualified geotechnical engineer will be incorporated into the design of the bridge and its appurtenances.

6.2.7 FLORA AND FAUNA

Widening of the Hana Highway to accommodate two lanes of opposing traffic on the bridge near MP 33.88 will result in short-term adverse impacts on local vegetation. Various areas will be disturbed during construction activities such as wing wall demolition, excavation, and grading. Nearly all of the excavation work for the bridge /box culvert at the project site will be done within the existing pavement limits of the roadway. The anticipated project durations are short and are not expected to impose long-term negative effects. Unpaved disturbed areas will be revegetated upon completion of construction activities to mitigate the short-term effects.

As no endangered wildlife habitats have been noted by either the Hawaii Biodiversity and Mapping Program or the U.S. Fish and Wildlife Service, no endangered wildlife habitats are anticipated to exist in the vicinity of the proposed project site. However, the US FWS has raised concerns that equipment that protrudes above the vegetation line could pose a flight obstacle to night-flying seabirds, especially the federally threatened and federally endangered Newell's shearwater and Hawaiian petrel, respectively, during breeding season. Additionally, the FWS is concerned that the use of night-time lighting could result in seabird disorientation, fallout, and injury or mortality. To minimize the potential effect on the birds, the lights and equipment are not to protrude above the vegetation line, and outdoor lights associated with the project will be shielded downward so that the bulb can be seen only from below. Hana Highway is not a lit roadway, so lighting of the project area will only be necessary for the length of the project.

Construction activities are expected to be localized and of short-term duration. Long-term effects of the highway widening are not anticipated, and therefore no mitigative measures are required.

6.2.8 VISUAL

Construction activities will disrupt aesthetic qualities temporarily. Disruptions will be minor and short-term and primarily will result from activities such as grading, pouring of concrete and paving. No significant short-term impacts are anticipated and therefore no mitigation measures are required.

Erection of a wider bridge structure will exert long-term adverse impacts on the visual resources in the vicinity of the project area. The new bridge will be permanent. To minimize the impact of this new structure and to preserve the visual nature of the site, specifications within the contract documents will require that the new bridge be similar in appearance to the existing one. The bridge will be flat, and will not alter the visual planes for motorists, pedestrians, or residents.

Attempts will be made to maintain the original character of the highway. As the original bridge utilized concrete rails, new concrete rails will be constructed. If existing rockwalls are present, new rock walls or concrete walls with a textured and stained finish will be installed to match the area.

6.3 SOCIAL

6.3.1 CHAPTER 6E-42 HISTORIC PRESERVATION AND CULTURAL RESOURCES

Construction activities have the potential to exert short-term, long-term and cumulative impacts on cultural resources existing at the proposed project sites. The Hana area is designated a National Historic Preservation Area, and the existing bridge at the project site is an historic property. The Office of Hawaiian Affairs has stated that historic sites are located in very close proximity to the project site, within TMK (2) 1-4-006:001, owned by Hana Ranch, Inc (Figure 1). Based on a review of the SHPD's Inventory of Historic Properties website, Kaiapuni Koa, a site on the National and State Register of Historic Places, is within a one-half mile radius of the project location. It is unlikely that significant historic sites exist within the Hana Highway right-of-way due to prior road construction activities. However, work outside of the existing right-of-way potentially could uncover historic resources.

In order to mitigate the impact of construction activities on the existing bridge and any additional potential resources, a letter was sent to SHPD requesting review of the proposed work area. The area has been previously altered and disturbed and the proposed undertaking will be located primarily within the previously disturbed areas of the existing right-of-way.

Although no significant historic sites are anticipated to be encountered, the State DOT is cognizant that Route 360 Hana Highway is listed on the Hawaii State Register of Historic Places and that it has been designated as a Millennium Legacy Trail, and agrees that efforts must be made to preserve the original character of the highway. The new bridge has been designed to be similar in appearance to the existing structure to preserve the visual nature of the existing conditions.

6.3.2 PUBLIC SERVICES/INFRASTRUCTURE

A police station, fire station and DPW Highways Division baseyard are located immediately adjacent to the project site. Short term adverse impacts will involve the temporary closure of the bridge area and the highway in the immediate vicinity of the bridge. These temporary impacts will be mitigated by the detouring of traffic around the project site during construction. Bridge construction will be expedited to minimize the duration of time that the bridge will be closed. A long-term impact of the bridge widening measure will be that emergency vehicles from the adjacent property will be able to cross the bridge at any time, without causing oncoming traffic to yield, and without endangering drivers coming from the opposite direction. The widened bridge will also allow for a smoother flow of traffic into the Hana Town Area, and improve the safety of the roadway by increasing the width of the travelway. No long-term adverse impacts are anticipated, therefore no long-term mitigative measures are required.

6.3.3 NOISE

Construction activities will result in elevated noise levels. Typical heavy construction equipment will include but may not be limited to bulldozers, backhoes, drilling rigs, front loaders, concrete trucks, asphalt spreaders, pavers, rollers, flat bed trucks, cranes, etc. Typical noise levels generated by this equipment will range from 80-90 decibels (dBA). These will be short-term and minor. Noise generated by construction activities will comply with noise provisions established by the State Department of Health and no further measures are required to mitigate short-term impacts. Construction activities are short-term and localized in nature, therefore no long-term or cumulative impacts are anticipated due to the proposed projects and no other mitigative measures are required.

Widening of the existing bridge will expand an existing roadway. It will not open up a new highway and will not increase existing traffic loads on the Hana Highway. As traffic counts are not expected to increase as a result of the proposed improvements, noise levels due to traffic are not expected to increase relative to that of preconstruction conditions. Therefore, no traffic study or noise study is required and no short-term, long-term or cumulative adverse impacts are anticipated that would require mitigative measures.

6.3.4 TRAFFIC

There will be impacts to traffic during construction. Due to the extremely constricted work area, for construction and public safety reasons, it is not feasible to keep the roadway partially open at all times. Certain work activities will require complete road closures so that the work can be done in a safe manner. Such activities would include: demolition and removal of the existing guardrail and CRM wing wall, and construction of the new bridge. To reduce traffic impacts, complete road closures will be allowed to these activities:

1. Demolition of downstream bridge railing (4 days).
2. Excavation of abutments (15 days).
3. Pouring of new bridge deck slab (10 days).

Incentive and disincentive clauses in the construction contract to minimize closures are being considered by the State DOT. The construction contractor would be paid a sum of money for every day he can shorten the daytime road closure. Conversely, a disincentive clause would penalize the construction contractor an amount for every day he lengthens the daytime closure. By including these provisions, the construction contractor will make attempts to keep the daytime road closures as short as possible and thus reducing construction impact on the affected communities and traveling public.

Once construction work for the bridge is completed, complete road closures will not be allowed and this requirement will be stated in the construction contract.

Traffic control and construction hour limitations will be accompanied by signs, public notices, 24-hour telephone information line, and media releases.

The State DOT will attempt to schedule construction of this project to avoid the peak summer tourist season between the months of June to September. Since complete closures may be required for other County of Maui bridge replacement projects, The State DOT will also attempt to schedule construction of this project to avoid concurrent complete road closures with the other County bridge projects.

6.3.5 RECREATIONAL FACILITIES

No recreational facilities exist in the immediate vicinity of the proposed project area. Hana Community Center, District Center, Ball Park, Hana Bay Beach Park, Kapueokahi Beach and Kaihalulu Beach all lie within one mile of the project site. Waianapanapa State Park and Campgrounds are located 2.5 miles from the project site. Access to these recreational facilities will be maintained throughout the project duration by detouring traffic to Uakea Road, which runs roughly parallel to Hana Highway. The use of Uakea Road will provide access to the recreation facilities to people traveling from the north or south along Hana Highway, and from within Hana Town. Therefore, no short-term, long-term or cumulative adverse impacts are anticipated.

Road closures are the only mitigation measures anticipated for the short-term. No mitigation measures are necessary for the long-term.

6.4 SOCIO-ECONOMIC

6.4.1 DEMOGRAPHICS

Implementation of the bridge widening measures will widen the existing bridge. It is not anticipated that it will induce or reduce population in the Hana district in the short-term, long-term or cumulatively in conjunction with any other projects. Therefore, no mitigation measures are required.

6.4.2 SOCIO-ECONOMIC ENVIRONMENT

The project's bridge widening and its associated safety measures will replace an existing portion of the Hana Highway. The project may lead to short-term economic growth and lifestyle changes for Hana area residents in the form of construction jobs. It is not likely to induce or reduce economic growth in the Hana District in the long-term or cumulatively. Existing lifestyles in the area will not be altered for the long-term or cumulatively. A detour due to the necessary road and bridge closure will be planned to allow for vehicular traffic so that residents may travel to and from work and tourists may visit the area.

Road closures are the only mitigation measures anticipated for the short-term. No mitigation measures are necessary for the long-term.

6.4.3 ENVIRONMENTAL JUSTICE

The proposed project is funded entirely by state monies and is not federally funded. Therefore the State DOT is not required to identify and avoid disproportionate adverse effects on minority or low-income populations.

In spite of the lack of requirement to determine if the proposed project is environmentally just, this EA identifies one potential impact on minority or low-income populations. That is a temporary road closure along the Hana Highway. This impact will be of short-term duration and will last only for the life of the project. A detour due to the necessary road and bridge closure will be planned to allow for vehicular traffic so that residents may travel to and from work and tourists may visit the area.

No other negative impacts, long-term or cumulative, are anticipated.

6.5 LAND USE

6.5.1 HAWAII STATE PLAN

An objective of the Hawaii State Plan is the preservation of scenic views. The proposed actions are consistent with this objective.

The highway improvements will widen the existing bridge and adjacent roadway and will not alter scenic viewplanes along Hana Highway. Railings, abutments or other bridge adjuncts will be similar in appearance to existing structures in order to minimize the visual impact after construction and will not alter scenic vistas.

6.5.2 STATE LAND USE LAW

Proposed actions to widen the existing bridge are consistent with the Hawaii State Land Use Law. Public roadways are a permissible use of agricultural and rural lands.

6.5.3 COUNTY OF MAUI

The proposed project is consistent with County of Maui's General Plan. Specific land use objectives contained in this plan include the use of land for the social and economic benefit of County residents and the preservation of agricultural lands. Roadway improvement strategies will provide social and economic benefits to County residents through increased roadway safety and utility. Agricultural lands will be preserved because public roadways are permissible uses of agricultural lands and will not require rezoning of these lands.

6.5.4 PROPERTY OWNERSHIP

Hana Highway lies in a right-of-way owned by the State DOT. Land parcels adjacent to the project site are owned by the County of Maui on the *makai* side and Hana Ranch, Inc. on the *mauka* side. The proposed highway improvements will most likely not require the State DOT to acquire that land or obtain an easement in favor of the State DOT for maintenance purposes. Therefore no adverse impacts are foreseen on property ownership for the short-term, long-term or cumulatively. No mitigation measures are required.

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SECTION 7**ALTERNATIVES CONSIDERED****7.1 NO ACTION**

Narrow road widths along the Hana Highway create unsafe conditions. The one-lane bridges interfere with the flow of traffic, as traffic coming from one direction must yield to allow passage over the bridge from the opposite direction. Selection of a "no-action" option would not be consistent with improvements to Hana Highway now underway and therefore this option is not considered to be reasonable by the State DOT-Hwy.

7.2 ALTERNATIVES

No alternatives have been considered.

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SECTION 8**DETERMINATION**

In accordance with Chapter 343, Hawaii Revised Statutes, this draft Environmental Assessment characterizes the technical, social and environmental issues related to Improvements along Hana Highway from Uakea Road to Keawa Place. It identifies potential project impacts to the environment and their significance. It is anticipated that the proposed projects will not exert any significant impacts to the environment. Therefore, a Finding of No Significant Impact" (FONSI) is anticipated and an Environmental Impact Statement is not required.

This determination of an anticipated FONSI is based upon significance criteria listed in HRS §11-200-12 of the Environmental Impact Statement Rules. The specific criteria used in making this determination are addressed in Section 9 of this EA.

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SECTION 9**FINDINGS AND REASONS SUPPORTING PRELIMINARY DETERMINATION OF
FINDING OF NO SIGNIFICANT IMPACT**

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

Implementation of highway improvement strategies involve demolishing the railing and wing walls of an existing bridge, which meets the requirements to be an "historic property." Most of the original bridge deck and supporting structure will remain. The overall aesthetic of the bridge will be preserved in the construction of the new bridge section, which will duplicate the existing bridge's parapet walls by adding a "1915" name plate and form lines.

The project site is located near known historic sites; however, the proposed improvements will be confined to the immediate project area and are not anticipated to affect the use of or access to the historic site. The SHPD has been asked to identify any other resources it may be aware of. If previously unknown resources are uncovered during the course of construction, the Contractor will stop work immediately and notify the SHPD, who will determine the appropriate treatment.

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

The proposed actions will not curtail the range of beneficial uses of the environment. Proposed actions consist of widening of an existing bridge within the existing right-of-way. As the proposed activities are consistent with the State Land Use Law, rezoning of agricultural lands will not be required.

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

The proposed highway improvement strategies are consistent with the State's goals and objectives as described in Section 6.5.

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

The proposed actions will not substantially affect the economic or social welfare of the community in a negative manner. Road closures during the construction periods will result in some inconvenience. These closures will be temporary and last only for the duration of construction activities. Detours around the project site will permit residents and tourists to continue to travel through the area during the construction periods. The proposed actions will improve the economic welfare of the community by providing design and construction jobs for the duration of the project, and will improve the social welfare of the affected communities by improving traffic flow and allowing uninterrupted travel in both directions, which facilitates response by the emergency vehicles stationed in the adjacent parcels.

5. *Substantially affects public health:*

The proposed activities will not substantially affect public health in a negative manner. Highway improvement measures will improve safety and ease of passage to the motoring public through the addition of a travel lane on the bridge, and facilitate response by emergency vehicles.

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

Highway improvements in the form of bridge widening will not lead to secondary impacts such as population changes and effects on public facilities. The proposed actions will widen a bridge on an existing road.

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

Improvements proposed at the project site will not degrade environmental quality of the project site. The existing rural and agricultural quality of Hana District will remain. The proposed improvements will widen a portion of an existing bridge/box culvert. New structures such as the bridge and guard rails will be designed to be similar in appearance to the existing structures.

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

The proposed bridge widening will not have a cumulative effect on the environment. The facilities constructed with this project will not require commitment for larger action.

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

The proposed project will not substantially affect any rare, threatened, or endangered species or its habitat. The project site is not a known critical or nesting habitat for rare, threatened, or endangered species.

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

Highway improvements in the form of bridge widening will not substantially degrade environmental quality. Any notable adverse effects on air and water quality and ambient noise levels will be short-term and construction-related only. BMPs will be utilized to prevent project site runoff from affecting nearby stream water qualities. Air quality and noise levels will not exceed State DOH standards. The project will not result in long-term adverse effects. Upon completion of construction activities, air and water qualities and ambient noise levels will revert to prior levels.

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

The proposed project is not located in an environmentally sensitive zone. The proposed action will not detrimentally affect the area in or near the project area. The proposed project area is not located in a flood plain, tsunami zone, beach, geologically hazardous land, estuary, fresh water or coastal water. Widening of the bridge and relocation of the retaining structures will not affect the existing drainage.

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

The proposed improvements will not substantially affect any scenic vistas. Construction of an additional lane will expand the existing one-lane bridge to a two-lane bridge. The addition will have low concrete rails, similar in appearance to the existing rails, on the sides of the roadway.

13. *Requires substantial energy consumption:*

Bridge widening strategies are passive in nature and will not require any energy consumption. Energy expended in relation to these projects will be temporary, construction-related and are not required upon completion of project activities.

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SECTION 10

PERMITS AND APPROVALS REQUIRED

FEDERAL

None

STATE

- Department of Transportation: Work Within State Highway Right-of-Way

COUNTY OF MAUI

- Planning Department: Special Management Area Permit

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SECTION 11**REFERENCES**

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APPENDIX A

PRE-ASSESSMENT CORRESPONDENCE AND COMMENTS RECEIVED

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M&E Pacific, Inc.
841 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 13, 2008

Commander
U.S. Army Corps of Engineers
Building 230
Fort Shafter, HI 96858-5440

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Commander:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking your consultation to identify potential impacts or comments you may have on this project. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
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May 13, 2008

Mr. Patrick Leonard
Field Supervisor
United States Department of the Interior
Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Blvd., Room 3-122
Honolulu, HI 96850

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03
Species List

Mr. Leonard:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking any information your department may have regarding the presence of any and all federally listed or proposed species, or proposed or designated critical habitat that may be found within the vicinity of this project site. In addition to the US Fish and Wildlife Service, we will also consult with the Hawaii Natural Heritage Program for information on threatened, rare, or endangered species in or near the project area.

We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

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441 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
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May 13, 2008

Dr. John T. Harrison, PhD.
Environmental Coordinator
UH Manoa Environmental Center
2500 Dole Street, Krauss Annex 19
Honolulu, HI 96822

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Dr. Harrison:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking your consultation to identify potential impacts or comments you may have on this project. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

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May 13, 2008

Mr. Clyde W. Namu'o
Administrator
Office of Hawaiian Affairs
711 Kapiolani Blvd., Suite 500
Honolulu, HI 96813

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Mr. Namu'o:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking your consultation to identify any potential impacts this project may have. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

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541 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
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May 13, 2008

Mr. Theodore Liu, Director
Department of Business, Economic Development and Tourism
P.O. Box 2359
Honolulu, HI 96804

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

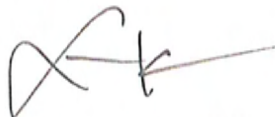
Mr. Liu:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking your consultation to identify any potential impacts this project may have. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

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May 13, 2008

Director
Department of Health
Environmental Planning Office
919 Ala Moana Blvd., Room 312
Honolulu, HI 96814

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

To Whom It May Concern:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located at the intersection of Hana Highway and Uakea Road, at approximately Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking your consultation to identify potential concerns the Department of Health may have for this project. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

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May 13, 2008

State of Hawaii
Department of Land and Natural Resources
Land Division
54 High Street, Room 101
Wailuku, HI 96793

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

To Whom It May Concern:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking your consultation to identify any potential impacts this project may have. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

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May 13, 2008

State of Hawaii
Department of Land and Natural Resources
Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, HI 96707

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03
Cultural Resources Survey

To Whom It May Concern:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

The project will be funded entirely by State monies without federal assistance. Therefore, the State DOT does not intend to conduct formal consultation in accordance with Section 106 of the National Historic Preservation Act. However, in compliance with the requirements of the Hawaii Revised Statutes, Chapter 343, we are seeking any information your department may have regarding the presence of any and all cultural resources that may be found within the vicinity of this project site.

We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
841 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 13, 2008

Mr. Glenn M. Yasui
Department of Transportation
Highways Division
869 Punchbowl Street, Room 513
Honolulu, Hi 96813

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Mr. Yasui:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located at the intersection of Hana Highway and Uakea Road, at approximately Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking your consultation to identify potential impacts or comments you may have on this project. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
341 Bishop Street, Suite 1906, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0248 www.m-e.aecom.com

May 13, 2008

Mr. Roy Kam, Database Manager
University of Hawaii at Manoa
Center for Conservation Research and Training
Hawaii Natural Heritage Program
3050 Maile Way, Gilmore Hall #406
Honolulu, Hawaii 96822

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03
Species List

Mr. Kam:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are consulting various State and Local Agencies, as well as various public organizations to determine if there are any potential impacts this project may have. In addition to the Hawaii Natural Heritage Program, we will also consult with the US Fish and Wildlife Service for information on threatened, rare, or endangered species in or near the project area.

We are requesting a list of any threatened, rare, or endangered species in or near the project area and any comments regarding concerns towards the proposed project. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
541 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 14, 2008

Councilmember Bill Kauakea Medeiros
County Council, County of Maui
Kalana O Maui Building, 8th Floor
200 South High Street
Wailuku, HI 96793

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

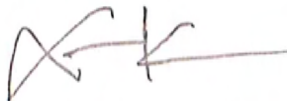
Councilmember Medeiros:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking your consultation to identify any potential impacts this project may have. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
841 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 14, 2008

Mr. James Perry
District Supervisor
County of Maui Public Works
Highways Division
35 Hana Highway
PO Box 204
Hana, HI 96713

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Mr. Perry:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

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Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
541 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 14, 2008

Mr. Thomas Phillips
Police Chief
County of Maui Police Department
55 Mahalani Street
Wailuku, HI 96793

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Chief Phillips:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

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Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
841 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 14, 2008

Fire Chief
County of Maui Fire Control
200 Dairy Road
Kahului, HI 96732

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Fire Chief:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking your consultation to identify any potential impacts this project may have. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
841 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 13, 2008

Ms. Cheryl K. Okuma
County of Maui
Department of Environmental Management
One Main Plaza
2200 Main Street, Suite 175
Wailuku, HI 96793

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Ms. Okuma:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking your consultation to identify potential impacts or comments you may have on this project. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
241 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 13, 2008

Mr. Jeffrey S. Hunt
County of Maui
Planning Department
250 South High Street
Wailuku, HI 96793

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Mr. Hunt:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking your consultation to identify potential impacts or comments you may have on this project. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
841 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 13, 2008

Alliance for the Heritage of East Maui
PO Box 455
Hana, HI 96713

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

To Whom It May Concern:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

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Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
841 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 13, 2008

Hana Community Association
PO Box 202
Hana, HI 96713

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

To Whom It May Concern:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

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Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
841 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 13, 2008

Ms. Kiersten Faulkner
Executive Director
Historic Hawaii Foundation
680 Iwilei Road, Suite 690
Honolulu, HI 96817

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Ms. Faulkner:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking your consultation to identify potential impacts or comments you may have on this project. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
841 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 13, 2008

Ms. Marsha Wienert
Maui Visitors Bureau
1727 Wili Pa Loop
Wailuku, HI 96793

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Ms. Wienert:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located at the intersection of Hana Highway and Uakea Road, at approximately Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

This project will consist of roadway widening at the bridge/box culvert. All proposed structures shall be contained in the existing right-of-way.

We are seeking your consultation to identify potential impacts or comments you may have on this project. We look forward to your prompt response to our inquiry. If you have any questions, you may call me at 529-7226 or email me at diane.kodama@m-e.aecom.com, or contact Ms. Charlene Shibuya of the DOT at 873-3535.

Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
841 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 13, 2008

Ms. Mahealani Wendt
Executive Director
Native Hawaiian Legal Corporation
1164 Bishop Street, Suite 1205
Honolulu, Hawaii 96813

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Ms. Wendt:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

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Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M&E Pacific, Inc.
841 Bishop Street, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

May 13, 2008

Mr. Daniel Grantham
President
Sierra Club, Maui Group
PO Box 791180
Paia, HI 96779

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Mr. Grantham:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

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Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

M & E Pacific, Inc.

Davies Pacific Center, Suite 1900, 841 Bishop Street, Honolulu, Hawaii 96813

T 808.521.3051 ext 226 (D. Kodama), ext 245 (S. Silva)

F 808.524.0246 www.m-e.aecom.com

July 1, 2008

Kuheia Paracuelles
Environmental Coordinator
Office of the Mayor
County of Maui
200 South High Street, 9th Floor
Wailuku, HI 96793

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Dear Kuheia:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

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Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

AECOM

841 Bishop Street, Suite 1900, Honolulu, HI 96813
T 808 521-3051 F 808 524-0247 www.aecom.com

January 7, 2009

Mr. Perry Artates
Maui County Cultural Resources Commission
Department of Planning
250 S. High Street
Kalana Pakui Bldg, Suite 200
Wailuku, HI 96793

Subject: Hana Highway Improvements – Uakea Road to Keawa Place
Project 360-B-01-03

Dear Mr. Artates:

We are preparing a Draft Environmental Assessment for the State DOT for a project site along Hana Highway, located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88. The project site is a bridge/box culvert fronting properties identified as TMKs: (2)1-4-006:003, and (2)1-4-003:009. The (2)1-4-006:003 property is owned by the County of Maui and contains a baseyard, Fire Station and Police Station. The (2)1-4-003:009 property is owned by Hana Ranch, Inc. Attached is a map indicating the approximate location of the project site and the TMKs fronting it.

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Sincerely,



Diane Kodama, P.E.
Senior Project Manager

Attachment

CHARMAINE TAVARES
MAYOR



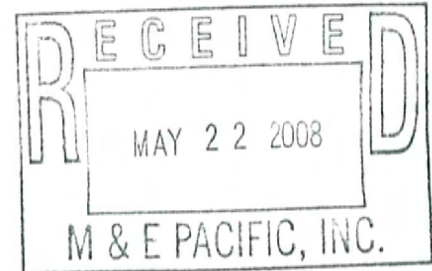
JEFFREY A. MURRAY
CHIEF

ROBERT M. SHIMADA
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE AND PUBLIC SAFETY
FIRE PREVENTION BUREAU

780 ALUA STREET
WAILUKU, HAWAII 96793
(808) 244-9161
FAX (808) 244-1363

May 20, 2008



Ms. Diane Kodama, P.E.
Senior Project Manager
M & E Pacific, Inc.
841 Bishop Street, Suite 1900
Honolulu, Hawaii 96813

SUBJECT: HANA HIGHWAY IMPROVEMENTS-UAKEA ROAD TO KEAWA PLACE
PROJECT 360-B-01-03

Dear Ms. Kodama,

I have had the opportunity to review the project proposal. The bridge widening is much appreciated and we look forward to its completion. It is understood that the roadway fronting the police and fire station may be intermittently closed during the construction phase. This closure will impact the timely response of emergency vehicles heading north. We do recognize that the work is very important.

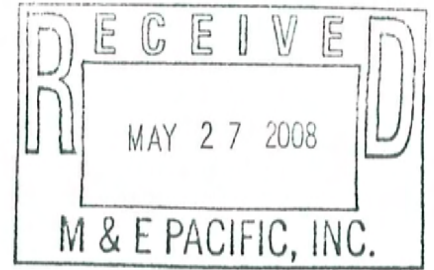
It is imperative that communication amongst the construction company and emergency personnel be consistent and frequent. Please have the contractor notify the fire department personnel at 808 248-7525 whenever the decision to close the roadway is made. We look forward to working with you on this important issue.

Sincerely,

A handwritten signature in black ink, appearing to read "Valeriano F. Martin".

Valeriano F. Martin
Captain
Fire Prevention Bureau

HISTORIC HAWAII FOUNDATION



May 23, 2008

Diane Kodama, PE
Senior Project Manager
M&E Pacific, Inc.
841 Bishop Street, Suite 1900
Honolulu, HI 96813

RE: Hāna Highway Improvements, Uakea Road to Keawa Place, Project 360-B-01-03

Dear Ms. Kodama,

Thank you for referring the proposed Hāna Highway Improvements from Uakea Road to Keawa Place to Historic Hawai'i Foundation for consultation on potential impacts to historic resources.

The Hāna Highway is listed on the Hawai'i State Register of Historic Places and is an important historic resource for Maui County. The initial request for comment is unclear about what, if any, of the character-defining features of the historic road would be impacted by the widening at the bridge/box culvert. Does the project include demolition or replacement of the existing bridge and culvert? Will the widening impact other resources? Will the alignment of the road change? Will view sheds be impacted? Is the design of the proposed project consistent with context-sensitive design principles?

In order to review and comment on the proposal, Historic Hawai'i Foundation requests that additional information be provided, including:

1. A description of the undertaking, including drawings or photographs, as necessary to describe it;
2. A description of the historic property and area of potential effect;
3. A description of the potential effect on historic properties; and
4. Proposed avoidance or mitigation of the potential effect, if any.

Thank you for the opportunity to comment. I look forward to continued consultation as the project moves forward.

Very truly yours,

A handwritten signature in cursive script that reads "Kiersten Faulkner".

Kiersten Faulkner, AICP
Executive Director

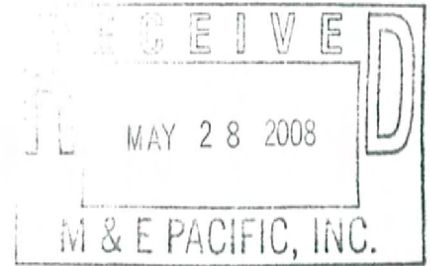


CHARMAINE TAVARES
Mayor
CHERYL K. OKUMA, Esq.
Director
GREGG KRESGE
Deputy Director



TRACY TAKAMINE, P.E.
Solid Waste Division
DAVID TAYLOR, P.E.
Wastewater Reclamation
Division

**COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT**
2200 MAIN STREET, SUITE 175
WAILUKU, MAUI, HAWAII 96793



May 23, 2008

Ms. Diane Kodama, P.E.
Senior Project Manager
M & E Pacific, Inc.
841 Bishop Street, Suite 1900
Honolulu, Hawaii 96813

**SUBJECT: HANA HIGHWAY IMPROVEMENTS PROJECT 360-B-01-03
EARLY CONSULTATION REQUEST
TMK (2) 1-4-006:003 and (2) 1-4-003:009**

Dear Ms. Kodama,

We reviewed the subject project as a pre-application consultation and have the following comments:

1. Wastewater Reclamation Division comments:
 - a. None. There are not any County sewer lines in this area.
2. Solid Waste Division comments:
 - a. None.

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

Sincerely,

A handwritten signature in cursive script that reads "Cheryl K. Okuma".

Cheryl Okuma, Director

CHARMAINE TAVARES
Mayor



RALPH NAGAMINE, L.S., P.E.
Development Services Administration

MILTON M. ARAKAWA, A.I.C.P.
Director

CARY YAMASHITA, P.E.
Engineering Division

MICHAEL M. MIYAMOTO
Deputy Director

BRIAN HASHIRO, P.E.
Highways Division

Telephone: (808) 270-7845
Fax: (808) 270-7955

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

June 3, 2008



Diane Kodama
M & E Pacific, Inc.
841 Bishop Street, Suite 1900
Honolulu, HI 96813

Subject: Hana Highway Improvements - Uakea Road to Keawa Place
Project 360-B-01-03

Ms Diane Kodama

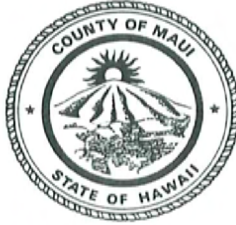
Thank you for allowing me to comment on this project. This project is located next to our county garage and equipment baseyard. In my 40 years with the department, I have seen it overflow and flood the whole interior of the garage and equipment parking lot a number of times. I would like to suggest that it be built a little wider and deeper than the existing grade. Hopefully that solves the overflow problem. Another concern is that this bridge is part of the Historic road and it has a date it was built on the side inscribed 1915. Will that be saved? Any questions you can contact me at Hana Baseyard 248-8254.

Sincerely,

A handwritten signature in cursive script that reads "James P. Perry".

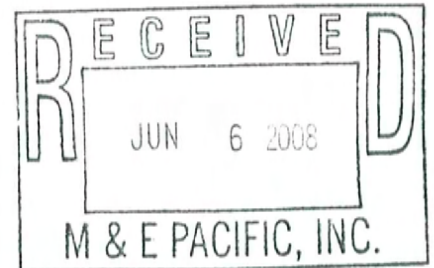
James P. Perry
District Supervisor

CHARMAINE TAVARES
Mayor
CHERYL K. OKUMA, Esq.
Director
GREGG KRESGE
Deputy Director



TRACY TAKAMINE, P.E.
Solid Waste Division
DAVID TAYLOR, P.E.
Wastewater Reclamation
Division

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2200 MAIN STREET, SUITE 175
WAILUKU, MAUI, HAWAII 96793



June 4, 2008

Ms. Diane Kodama, P.E.
Senior Project Manager
M & E Pacific, Inc.
841 Bishop Street, Suite 1900
Honolulu, Hawaii 96813

**SUBJECT: HANA HIGHWAY IMPROVEMENTS PROJECT 360-B-01-03
EARLY CONSULTATION REQUEST
TMK (2) 1-4-006:003 and (2) 1-4-003:009**

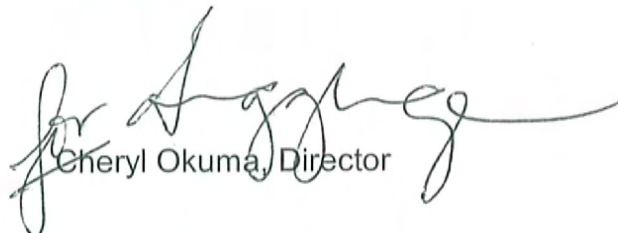
Dear Ms. Kodama,

We reviewed the subject project as a pre-application consultation and have the following comments:

1. Wastewater Reclamation Division comments:
 - a. None. There are not any County sewer lines in this area.
2. Solid Waste Division comments:
 - a. None.

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

Sincerely,

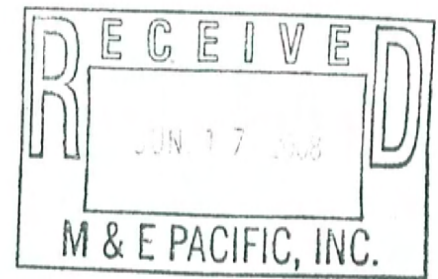

Cheryl Okuma, Director



REPLY TO
ATTENTION OF:

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

June 12, 2008



Regulatory Branch

File Number POH-2008-138

Ms. Diane Kodama
M&E Pacific, Inc.
841 Bishop Street, Suite 1900
Honolulu, Hawaii 96813

Dear Ms. Kodama:

We have received your May 13, 2008, request for comments in preparation of a Draft Environment Assessment (EA) for the proposed Hana Highway Improvements, Project 360-B-01-03. The proposed project site is located near the intersection of Hana Highway and Uakea Road, near Milepost (MP) 33.88, at Latitude 20.762° N. and Longitude 155.993° W., near Hana, Maui. The file has been assigned file number POH-2008-138, which should be referred to in all future correspondence with us.

We recommend the draft EA address whether any potential waters of the U.S., as represented by the presence of perennial, intermittent or ephemeral streams or wetlands, are in, adjacent to or flow through, the land parcels subject to development. The EA should also disclose whether any streams or other aquatic resources that may occur within the land parcel have an existing direct or indirect surface water connection to the Pacific Ocean.

Section 404 of the Clean Water Act requires that a Department of the Army (DA) permit be obtained for the discharge of dredged and/or fill material into waters of the U.S., including jurisdictional wetlands (33 U.S.C. 1344). The Corps defines wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Section 10 of the Rivers and Harbors Act of 1899 requires that a DA permit be obtained for structures or work in or affecting navigable waters of the U.S. (33 U.S.C. 403). Section 10 waters are those waters subject to the ebb and flow of the tide shoreward to the mean high water mark.

We appreciate the opportunity to provide comments on the proposed development project and associated EA. Should you have any questions, please contact Mr. Benjamin Soiseth of my staff at (808) 438-2039 or at Benjamin.N.Soiseth@usace.army.mil. For additional information about our Regulatory Program, visit our web site at <http://www.poh.usace.army.mil/EC-R/EC-R.htm>.

Sincerely,

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

PHONE (808) 594-1888

FAX (808) 594-1865

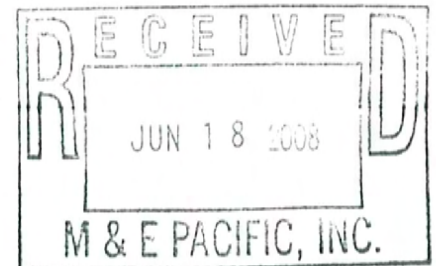


STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

HRD08/3689

June 10, 2008

Diane Kodama, P.E.
Senior Project Manger
M&E Pacific, Inc.
841 Bishop Street, Suite 1900
Honolulu, Hawai'i 96813



**RE: Hana Highway Improvements – Uakea Road to Keawa Place, Project 360-B-01-03,
District of Hāna, Island of Maui**

Aloha e Diane Kodama,

The Office of Hawaiian Affairs (OHA) is in receipt of the above-mentioned letter dated May 13, 2008. A preparation notice for a Draft Environmental Assessment (DEA) for the State Department of Transportation (DOT) for a project site along Hana Highway has been sent to our office. OHA looks forward to reviewing the DEA upon completion and offers the following comments at this time.

OHA has substantive obligations to protect the cultural and natural resources of Hawai'i for its beneficiaries, the people of this land. The Hawaii Revised Statutes mandate that OHA "[s]erve as the principal public agency in the State of Hawaii responsible for the performance, development, and coordination of programs and activities relating to native Hawaiians and Hawaiians; . . . and [t]o assess the policies and practices of other agencies impacting on native Hawaiians and Hawaiians, and conducting advocacy efforts for native Hawaiians and Hawaiians." (HRS § 10-3)

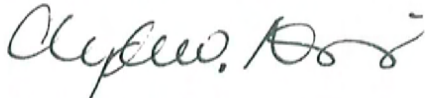
The DEA, in accordance with Chapter 343 of the Hawaii Revised Statutes (HRS), should include a Cultural Impact Assessment (CIA). In accordance with the requirement of Act 50, Session Laws of Hawaii 2000, a CIA shall include information relating to the practices and beliefs of the Native Hawaiians who once inhabited this area, and it is recommended that the community be involved in this assessment.

Diane Kodama, P.E.
June 10, 2008
Page 2

The proposed project is in close proximity of known historic sites. These historic sites are located within TMK (2) 1-4-006: 001 owned by Hana Ranch, Inc. Due to the close proximity of known historic sites we encourage the applicant to take certain precautions while proceeding with the proposed project. We request the applicant's assurances that should iwi kūpuna or Native Hawaiian cultural or traditional deposits be found during the construction of the project, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment. If you have further questions, please contact Jason Jeremiah (808) 594-1816 or e-mail him at jasonj@oha.org.

'O wau iho nō me ka 'oia'i'o,



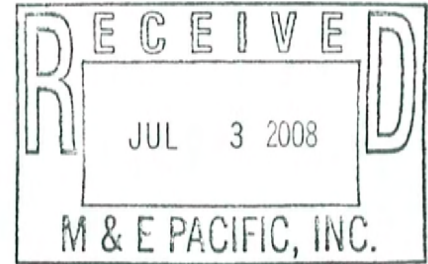
Clyde W. Nāmu'o
Administrator

C: OHA Maui CRC Office

CHARMAINE TAVARES
Mayor
JEFFREY S. HUNT
Director
COLLEEN M. SUYAMA
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING



June 30, 2008

Ms. Diane Kodama
M&E Pacific, Inc.
841 Bishop Street, Suite 1900
Honolulu, Hawaii 96813

Dear Ms. Kodama:

SUBJECT: PRE CONSULTATION IN PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR THE PROPOSED HANA HIGHWAY IMPROVEMENTS FOR UAKEA ROAD TO KEAWA PLACE, MILEPOST 33.88, MAUI, HAWAII, TMK: 1-4-003:009 and 1-4-006:003 (RFC 2008/0050) (PROJECT 360-B-01-03)

The Department of Planning (Department) is in receipt of the above-referenced document for the proposed Hana Highway Improvements – Uakea Road to Keawa Place. The Department understands the proposed action includes the following:

1. The State Department of Transportation proposes to widen a portion of Hana Highway, located near Milepost 33.88 that will encompass an existing bridge/box culvert.

Based on the foregoing, the Department provides the following comments in preparation of the Draft EA:

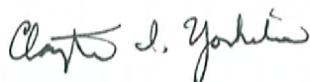
1. The land use designations for the project area are as follows:
 - a. State Land Use – Agricultural
 - b. Community Plan – Agricultural
 - c. County Zoning – Not Zoned
 - d. Other – Located within the Special Management Area

Ms. Diane Kodama
June 30, 2008
Page 2

2. The Special Management Area (SMA) for this portion of Hana Highway is located on the mauka side of the existing highway right-of-way. A SMA Permit may be required for the proposed project;
3. This portion of Hana Highway is listed on both the National and State Register of Historic Places;
4. The Maui County Cultural Resources Commission should be consulted on the proposed project; and
5. The proposed improvements should retain the rural character of the roadway.

Thank you for the opportunity to comment. Please include the Department on the distribution list for the Draft. Should you require further clarification, please contact Staff Planner Robyn Loudermilk via email at robyn.loudermilk@mauicounty.gov or by phone at 270-7180.

Sincerely,



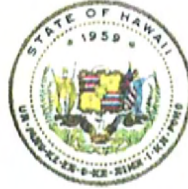
CLAYTON I. YOSHIDA, AICP
Planning Program Administrator

For: JEFFREY S. HUNT, AICP
Planning Director

xc: Robyn L. Loudermilk, Staff Planner
Charlene Shibuya, DOT-Highways, Maui District
RFC File
General File

JSH:CIY:RLL:vb
K:\WP_DOCS\PLANNING\RFC\2008\0050_HanaHwyUakeaRoad.Comments.Doc

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

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

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
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

July 10, 2008

Ms. Diane Kodama
Metcalf & Eddy
841 Bishop Street
Honolulu, Hawai'i 96813

Dear Ms. Kodama:



LOG NO: 2008.1783
DOC NO: 0807JP08
Archaeology

**SUBJECT: Chapter 6E-42 Historic Preservation Review [County/State] –
Information Request for the Proposed Hana Highway Improvements Project
Uakea Road to Keawa Place (Project Number 360-B-01-03)
Niumalu/Kawaipapa Ahupua'a, Hana District, Island of Maui
TMK (2) 1-4-006:003 and 1-4-003:009 (Portions)**

Thank you for the opportunity to review and comment on the information request, which was received by our staff on May 15, 2008. Our review is based on reports, maps, and aerial photographs maintained at the State Historic Preservation Division (SHPD); no field inspection was conducted on the subject parcel. We sincerely appreciate your correspondence and apologize for the delay of this review.

The proposed subject action consists of roadway widening at the bridge/box culvert. All proposed structures will be contained in the existing right-of-way (near Mile Post 33.88). Our records indicate that an Archaeological Inventory Survey has not been conducted of the subject area. This area was once the location of pre-Contact traditional Hawaiian agricultural and habitation sites with scattered burial and ceremonial sites.

Previously documented archaeological sites in the general vicinity consist of pre-Contact temporary and permanent habitation sites, *heiau*, rock terraces, enclosures, rock mounds, modified rock outcrops, rock alignments, rock overhangs, petroglyphs, walled cave shelters, and post-Contact historic properties. Sites listed on the Statewide Inventory of Historic Places (SIHP) include the Hana Belt Road (50-50-13-1638), rock terrace (SIHP 50-50-13-6361), a traditional Hawaiian habitation complex with fishponds, *heiau*, caves and various agricultural components (SIHP 50-50-13-1485) etc.

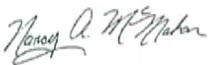
We believe historic archaeological properties and/or previously disturbed historic archaeological properties may be present in the subject area. Therefore, in order to determine the effect of the proposed undertaking on historic sites, we recommend that no construction activities occur until an Archaeological Inventory Survey (or Assessment) has been conducted of the subject area to determine whether significant historic properties are present. Following the survey, an acceptable report documenting the findings will need to be submitted to this office for review. To review the current list of qualified archaeological firms, please refer to the following SHPD website: www.state.hi.us/dlnr/hpd.

Ms. Diane Kodama

Page 2

In the event that historic properties are identified, proposed mitigation in consultation with this office will be submitted for review and approval. Please direct any questions or concerns to the Maui Office Annex of the SHPD at (808) 243-4640, (808) 243-1285, or (808) 243-4641.

Aloha,



Digitally signed by Nancy A.
McMahon
Date: 2008.07.12 11:39:10
-10'00'

Nancy McMahon
Historic Preservation Manager
State Historic Preservation Division

JP:

c: Dept of Planning, FAX 270-7634
Maui Cultural Resources Commission, Dept. of Planning, 250 S. High Street, Wailuku, HI 96793

APPENDIX B

RECORD OF FLORAL AND FAUNAL INVESTIGATION

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United States Department of the Interior

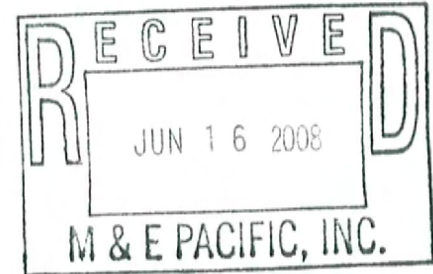


FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

In Reply Refer To:
2008-SL-0198
2008-FA-0126

Ms. Diane Kodama, P.E.
Senior Project Manager
M & E Pacific, Inc.
841 Bishop Street, Suite 1900
Honolulu, Hawaii 96813

JUN 13 2008



Subject: Species List for Proposed Hana Highway Bridge Widening, Uakea Road to Keawa Place, Project 360-B-01-03, Maui, Hawaii

Dear Ms. Kodama:

Thank you for your May 13, 2008, letter requesting a list of endangered and threatened species that may occur in the vicinity the of proposed bridge widening on Hana Highway, Maui, for the development of an environmental assessment. We received your request on May 15, 2008. Based on the project information you provided and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Program, the threatened Newell's shearwater (*Puffinus auricularis newelli*) and endangered Hawaiian petrel (*Pterodroma phaeopygia sandwichensis*) (collectively referred to as seabirds) are known to occur within the vicinity of the proposed project. In addition, because your proposed project is road widening at a bridge/box culvert area, siltation and/or erosion issues may need to be addressed during construction. To help you address potential project impacts to these listed species and to coral reef ecosystems in your environmental assessment, we provide the following recommendations:

- Construction equipment, poles, and other structures associated with the project that protrude above the vegetation line could pose a flight obstacle to the night-flying seabirds during the breeding season. Any increase in the use of night-time lighting, particularly during each year's peak fallout period, could result in seabird disorientation, fallout, and injury or mortality. Potential impacts to seabirds could be minimized by shielding outdoor lights associated with the project, avoiding night-time construction, and providing all project staff and residents with information about seabird fallout. All lights, including street lights, should be shielded so the bulb can be seen only from below. Use of lights at night during the peak fallout period of September 15 through December 15 should be avoided.
- To minimize erosion, sedimentation, and other adverse impacts to aquatic resources and nearby coral reef ecosystems, we recommend that applicable measures identified in the

enclosed list of Standard Best Management Practices for aquatic resources be incorporated into the project's plan.

If you determine the proposed project may adversely impact federally listed species, please contact our office for further assistance. If you have questions or would like additional information, please contact Consultation and Technical Assistance Program Fish and Wildlife Biologist, Dawn Greenlee (phone: 808-792-9400; fax: 808-792-9581).

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick Leonard", with a long horizontal flourish extending to the right.

for Patrick Leonard
Field Supervisor

Enclosure

U.S. Fish and Wildlife Service
Recommended Standard Best Management Practices

The Fish and Wildlife Service recommends that the following measures be incorporated into projects to minimize the degradation of water quality and impacts to aquatic fish and wildlife resources:

- a. Turbidity and siltation from project-related work will be minimized and contained to within the vicinity of the site through the appropriate use of effective silt containment devices and the curtailment of work during adverse weather conditions;
- b. Dredging and filling in the aquatic environment will be designed to avoid or minimize the loss special aquatic site habitat (pool/riffle areas, wetlands, etc.) and the unavoidable loss of such habitat will be compensated for;
- c. All project-related materials and equipment (dredges, barges, backhoes, etc.) to be placed in the water will be cleaned of pollutants prior to use;
- d. No project-related materials (fill, revetment rock, pipe, etc.) will be stockpiled in the water (stream channels, wetlands, etc.);
- e. All debris removed from the aquatic environment will be disposed of at an approved upland or ocean dumping site;
- f. No contamination (trash or debris disposal, alien species introductions, etc.) of adjacent aquatic environments (stream channels, wetlands, etc.) will result from project-related activities;
- g. Fueling of project-related vehicles and equipment should take place away from the water and a contingency plan to control petroleum products accidentally spilled during the project will be developed. Absorbent pads and containment booms will be stored on-site, if appropriate, to facilitate the clean-up of accidental petroleum releases;
- h. Any under-layer fills used in the project will be protected from erosion with (rock, core-loc units, etc.) as soon after placement as practicable; and
- i. Any soil exposed near water as part of the project will be protected from erosion (with plastic sheeting, filter fabric, etc.) after exposure and stabilized as soon as practicable (with vegetation matting, hydroseeding, etc.).

Silva, Shelle

From: Kodama, Diane
Sent: Friday, May 23, 2008 9:48 AM
To: Charlene.Shibuya@hawaii.gov
Cc: Silva, Shelle; Tiedemann, Alexander
Subject: FW: Hana Highway
Follow Up Flag: Follow up
Flag Status: Red
Attachments: m&e_hanahighway.jpg

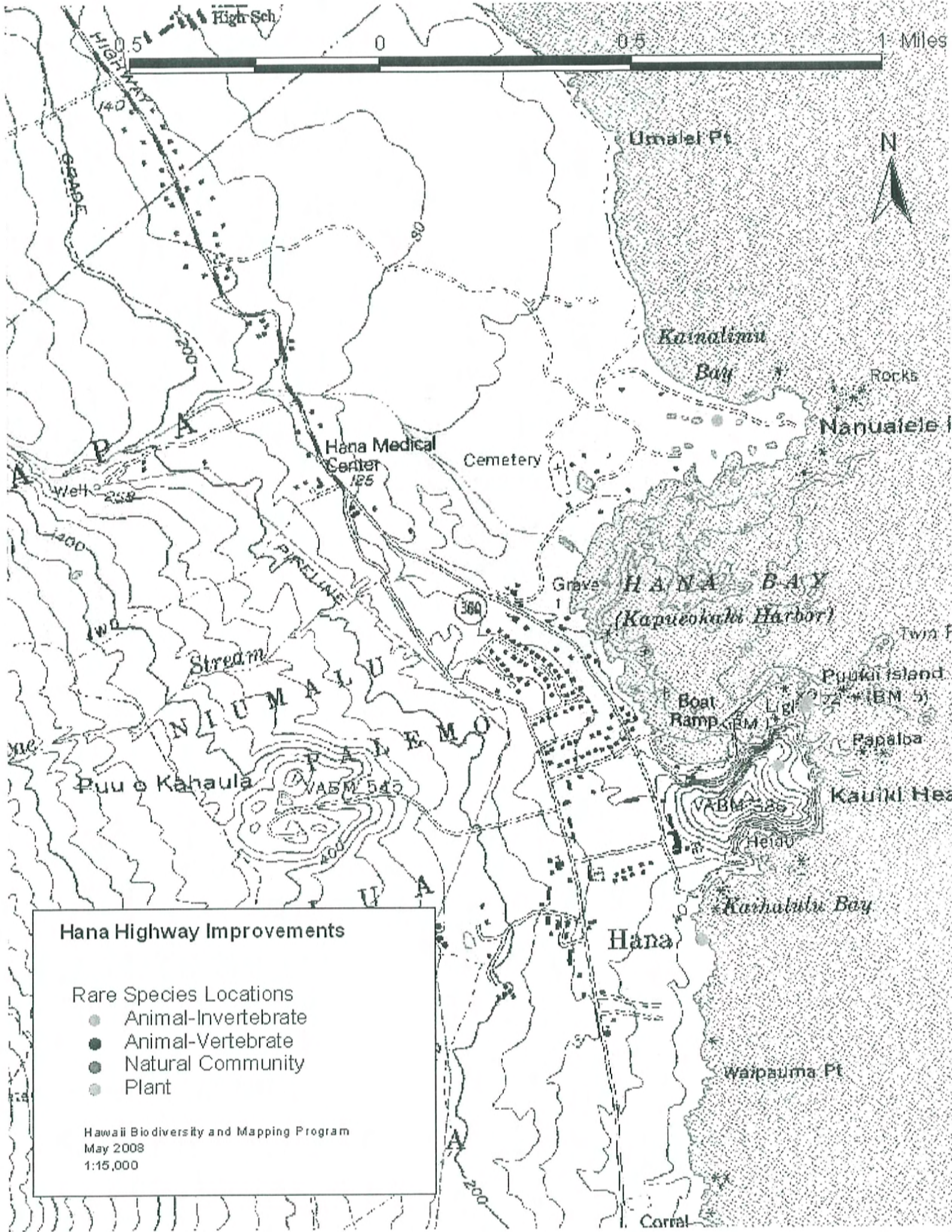
From: Roy Y s Kam [mailto:rkam@hawaii.edu]
Sent: Friday, May 23, 2008 9:42 AM
To: Kodama, Diane
Subject: Hana Highway

Diane,

Per your request for the Hana Highway Improvement projet. There have been no recordings of rare species in the vicinity of your site. Attached is a jpeg map for your reference.

Roy Kam
Database Manager
Hawaii Biodiversity and Mapping Program
University of Hawaii at Manoa
Center for Conservation Research and Training
Ph: 956-8094
Fax: 956-8493

Mailing Address:
3050 Maile Way Gilmore Hall #406
Honolulu, Hawaii 96822
Office Address:
Biomedical and Sciences Building
Court B, Room #203



Hana Highway Improvements

- Rare Species Locations
- Animal-Invertebrate
 - Animal-Vertebrate
 - Natural Community
 - Plant

Hawaii Biodiversity and Mapping Program
 May 2008
 1:15,000

APPENDIX C
ARCHAEOLOGICAL INVENTORY SURVEY

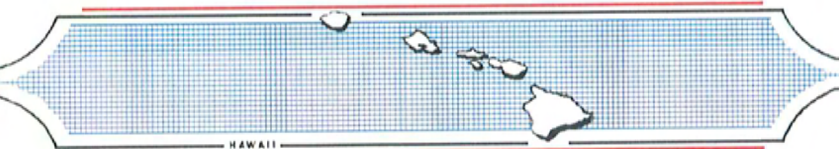
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**AN ARCHAEOLOGICAL INVENTORY SURVEY OF
A HANA HIGHWAY WIDENING AREA
AT MILE MARKER 33.88,
HĀNA, KAWAIPAPA AHUPUA`A, HĀNA DISTRICT,
MAUI ISLAND, HAWAI`I
[TMK: 1-4-006:001]**

Prepared by:
David Perzinski, B.A.
and
Michael F. Dega, Ph.D.
February 2008

Prepared For:
AECOM
Davis Pacific Center
841 Bishop Street, Ste. 1900
Honolulu, HI 96813

SCIENTIFIC CONSULTANT SERVICES Inc.



711 Kapiolani Blvd. Suite 975 Honolulu, Hawai'i 96813

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INTRODUCTION

Scientific Consultant Services, Inc. (SCS) conducted Archaeological Inventory Survey in advance of a road widening project in Hāna, Kawaipapa Ahupua`a, Hāna District, Maui Island, Hawai`i [TMK: 1-4-006:001] (Figures 1 and 2). The project area is located at Mile Marker 33.88 on Hāna Highway, just north of the Hāna Fire Department Building. An Archaeological Inventory Survey was conducted to mitigate any archaeological concerns associated with the Hāna Highway widening improvements from Uakea Road to Keawa Place in Hāna, Maui.

Archaeological work in the project area was conducted to determine whether historic properties were present on the surface and/or in subsurface contexts. The inventory survey included pedestrian survey and limited shovel testing. During the inventory survey, one historic property composed of two features was identified and documented. SIHP No. 50-50-06-1636 is the designation for sites pertaining to the Hāna Highway and the project area contains components which consist of two historic features. Feature A is a bridge and box culvert spanning a small gulch on Hāna Highway at mile marker 33.88 and Feature B is the basalt lined gulch located on the *makai* (east) side of the bridge.

The scope of work for the inventory survey included archival research in the vicinity of the project area, a 100% pedestrian survey and documentation of the bridge and surrounding area impacted by improvements. Fieldwork was conducted on January 13, 2009 by SCS archaeologist David Perzinski B.A., under the overall direction of Michael Dega, Ph.D.

ENVIRONMENTAL SETTING

The project area encompasses a total of approximately 300 m² and is situated just south of the Hāna Highway and Uakea Road split on the north side of Hāna Town at mile marker 33.88, some 0.5 miles from the coastline.

General soil surveys of the Hāna area show that the current project area is associated with the Hāna Series, which consists of well-drained soils on uplands (Foote *et al.* 1972: Sheet 128; 37). The soil encountered in the project area appears to consist of Hāna extremely stony, silty clay loam, though it is likely that the original soil has been disturbed.

The natural vegetation regime of the parcel has been completely altered. On the east (*makai*) side of the bridge there is a county maintenance lot and buildings and a basalt-lined culvert with no vegetation. On the west (*mauka*) side of the bridge is a small (< 3m across) dry drainage bed with only mowed grasses, guava, and *kukui*. This side has been intensively graded with berms built up on the north and south side of the dry drainage bed.

Given its windward location, the project area is relatively wet, receiving on average between 75 and 100 in. of annual rainfall (Giambelluca *et al.* 1986). Air temperatures in the Hāna area are about average with a high temperature range from 79° in the winter months to 85° in the summer months (Fahrenheit) at Hāna Airport. Average low temperatures range from 62° to 70° in the winter and summer months respectively (Fahrenheit) (Armstrong 1983).

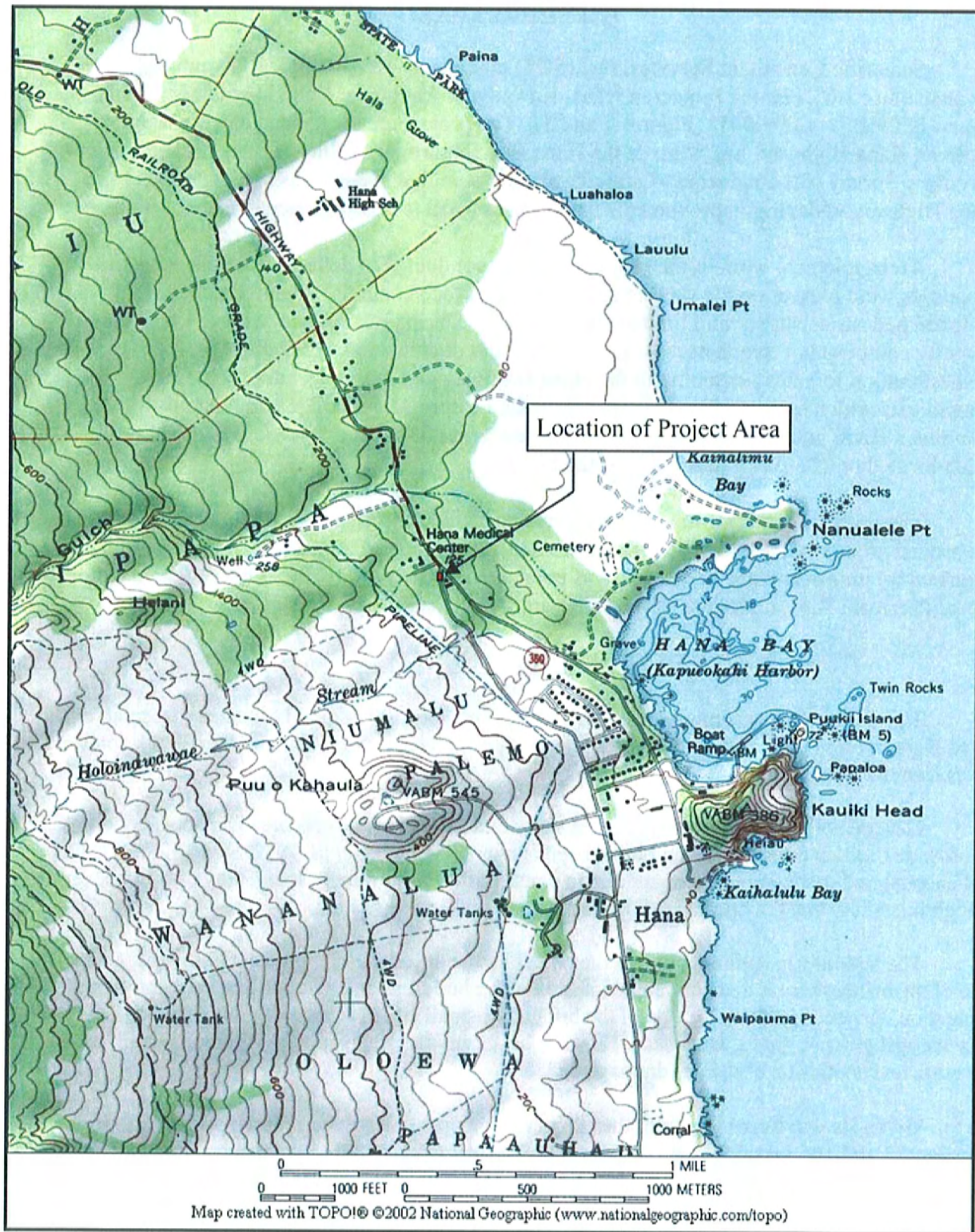


Figure 1: USGS Topographic Map Showing Project Area Location.

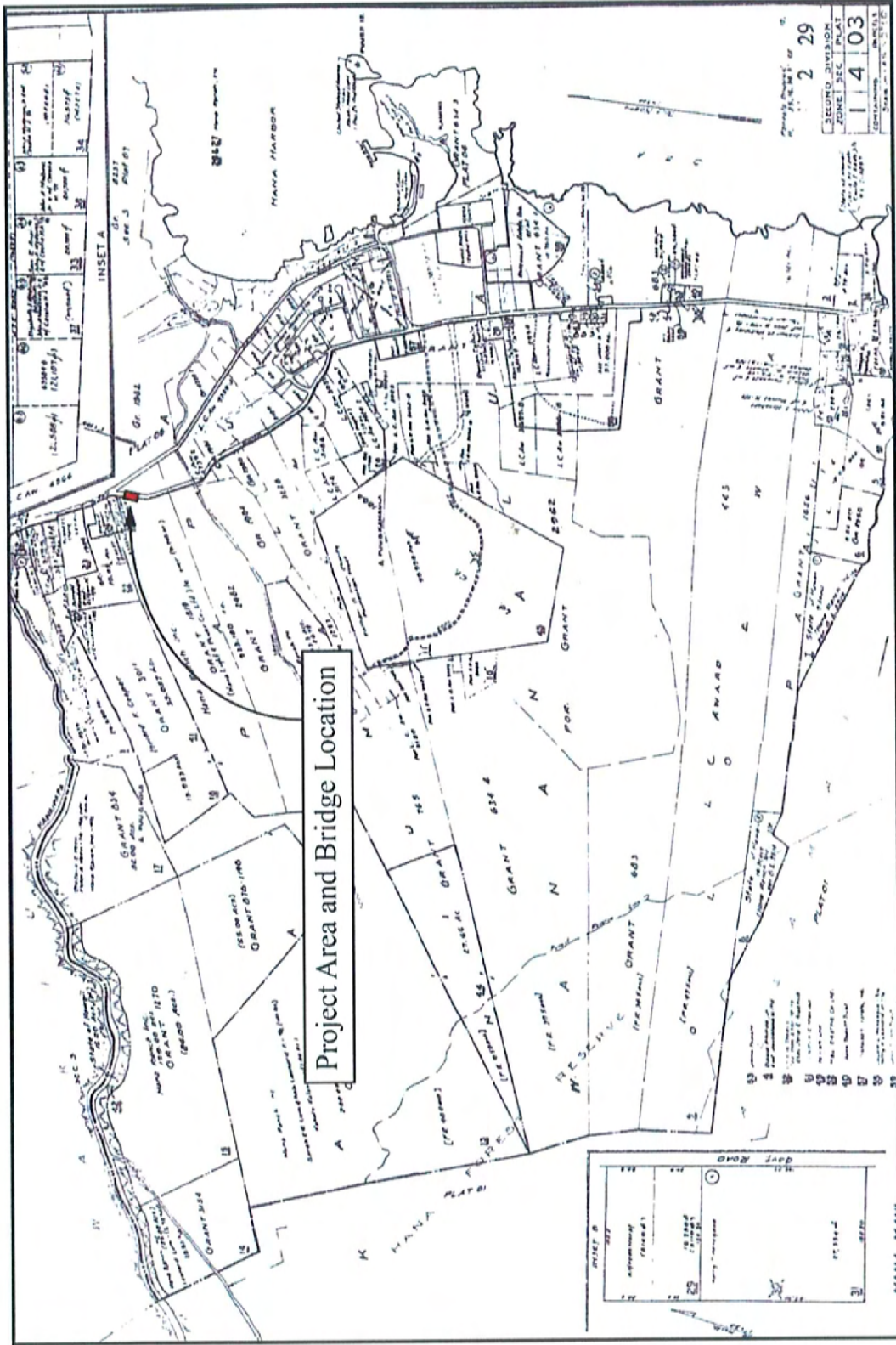


Figure 2: Tax Map Key [TMK] Showing Project Area Parcel.

HISTORICAL BACKGROUND

Traditionally, the division of Maui's lands into districts (*moku*) and subdistricts was performed by a *kahuna* (priest) named Kalaiha`ōhi`a, sometime during the 1500s (Beckwith 1940:383). Maui consisted of 12 political districts: Wailuku, Ka`anapali, Lahaina, 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 (*ibid*:83–87).

Hāna's political importance is reflected in legendary and historical accounts which include the works of David Malo (1951), Samuel Kamakau (1961), John Papa `Īī (1963) and Abraham Fornander (1919, 1969). Topographic and constructed features, such as Pu`u Ka`iwi O Pele, Pu`u Ka`uiki and Keko`ona Fish pond in Wananalua reflect its connection with the gods, as does its choice as a residence for many of Maui's *ali`i* (chief) such as Kaluanuihua, Kamalalawalu, Lonikamakahi, Pi`ilani, Kāhapi`ilani, Kahekili, Kalaniōp`u, Ke`eaumoku, Kamehameha, to name a few (in Beckwith 1970:19–22, 379). Myths and legends reaffirm Hāna's sacredness. Many stories, including those concerning Kō`ula, the fish god; Pele, the fire goddess; the origin of Kau`iki Hill; the fishing grounds of Kapukaulua; and the formation Alau Island, suggests Hāna had always been a place of favor (Sterling 1998:118–155).

The largest *heiau* (shrine, place of worship) on Maui and in Hawai`i, Pi`ilani Hale, has been the object of several archaeological projects beginning in the 1970s with an initial survey and site description and continuing with subsequent ongoing stabilization activities. Showing evidence of at least nine building episodes, this important structure was thought to have begun in the sixteenth century (Kolb 1991:155–165). First serving as a *luakini heiau* (human sacrifice) and later functioning as a chiefly residence, it was constructed by either paramount chief Pi`ilani or his descendants. Further towards the town of Hāna are other significant cultural sites. Traditional stories are associated with the Wai`ānapanapa caves and Kuakeali`i and Ohala were *heiau* situated nearby, along with a section of Kihapi`ilani's paved trail. Other sites slightly to the north include, several rock shelters, a fishpond (Cleghorn and Rogers 1987), a stacked basalt wall containing a trumpet shell (Griffin 1987), habitation sites (Bevacqua 1972; Cleghorn 1988), agricultural subsurface layers (Bordner 1981), and a burial (Griffin 1987).

Kawaipapa Ahupua`a was the place where Kihapi`ilani began the paving of the island-wide road, continuing the work of his father, Pi`ilani: "The construction of the road was begun at the stream of Kawaipapa and at Pihehe where it would start to enter the *hala* grove of Kahalaowaka..." (Manu 1884). In 1931, Walker recorded a total of seven *heiau* for Kawaipapa, including the unusual Kauleilepo-Kauleiula Heiau consisting of two raised platforms connected by a causeway (Walker 1931). Several of these religious features incorporated burials. Kanimoku and Kawaipapa were *heiau* recorded inland, the former structure referred to as a *pu`uhonua* (place of refuge) where Ka`ahumanu, child of a Hawai`i Island chief and a Maui chiefess, spent her childhood.

Situated only a short distance across the `Alenuihāhā channel from Hawai`i Island, Hāna was often chosen as the destination for invading warriors. In 1759, Kalani`ōpu`u a Hawai`i Island chief, captured Ka`uiki Hill overlooking the harbor of Wananalua (now Hāna Harbor), making it his stronghold for the next 20 years. In 1782, Maui Chief Kahekili sent two forces to win back his territory (Thrum 1923). Ka`uiki Hill, where the Hawai`i chiefs were trapped, was cut off from its water supply, causing the surrender of the foreign warriors who were sacrificed and offered at Kuawalu and Honua`ula, two *luakini* war *heiau* at the bottom of Ka`uiki hill (Fornander 1969). Ka`uiki Hill, a so called “fortress,” was associated with many famous battles and traditional stories (Walker in Sterling 1998:136) Ka`ahumanu and Kaheiheimalie, daughters of Ke`eaumoku of Hawai`i Island and Chiefess Namahana of Maui, were born here while their family lived under the protection of Mahi-hele-lima, its governor. Both were to become the wives of Kamehameha I. Un-rivaled in its esteem, it was said of Kau`iki Hill: “...the heaven is nearer the earth than elsewhere, in fact so close that it could be reached by a good strong cast of the spear” (Thrum 1919:67).

A total of six *heiau* were recorded for Wananalua Ahupua`a: Kaikaiea, Kilinui (a *luakini*), Lanakila (a *pu`uhonua*, place of refuge), Puuheewale, and Kaiapuni (Sterling 1998, Walker 1931, Thrum 1917). After the death of Kahekili in 1794, Kamehameha captured Maui, including Hāna and the fortress of Kau`iki Hill, as he progressed up the island chain.

Hāna was not only valuable for its strategic location, but for the productivity of its land and sea. The fish ponds in `Aleamai, Haneo`o, and Hāmoa were not only able to support residing *ali`i* and their entourage, but the natural fishing grounds and well-watered soils caused prosperity for its thriving community:

Hāna [the district] was a fertile land where taro, sweet potatoes, bananas, sugar cane, and wild fruits grew in abundance, and there was always much food to be had. Kawaipapa was rich in fish from the ponds and from the sea.... (Kamakau 1961:25)

It was recorded that much of the land in Hāna had been former agricultural areas (Handy 1940, Sterling 1998:133–139). Taro was grown in Wananalua and Niumalu Ahupua`a, and sweet potato crops were being cultivated near the shoreline of Ka`uiki Head. In Hāmoa, dry land taro was grown in `Ōpae-kui valley which also provided upland shrimp (Handy 1940).

THE MĀHELE

After 1795 Hāna, became an *`āina panala`au* (conquered land), under the control of Kamehameha I who gave it to Ke`eaumoku Papaiaheaha, who left it to his son, Kahekili Ke`eaumoku. At his death, the land was passed to his sister Ka`ahumanu, who, in turn passed it to her niece Elizabeth Kaho`anoku Kina`u, the daughter of Kaheiheimalie and Kamehameha. Kina`u had six children and her only daughter, Victoria Kamamalu, inherited all of her mother`s land when she was only four months old.

In the 1840s, traditional land tenure shifted drastically with the introduction of private land ownership based on western law. The Māhele of 1848 divided Hawaiian lands between the king, the chiefs, the government, and began the process of private ownership of lands. The subsequently awarded parcels were called Land Commission Awards (LCAs). Once lands were

thus made available and private ownership was instituted, the *maka`āinana* (commoners), if they had been made aware of the procedures, were able to claim the plots on which they had been cultivating and living. If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent after which they could then take possession of the property (Chinen 1961:16).

Hāna, one of the many lands received by Victoria Kamamalu, was not kept, but given by Kamamalu to the government, parceled, and awarded during the Māhele. Most of Wananalua Ahupua`a was purchased by J.P. Judd (Grant 883), Oloewa was awarded to Richardson (LCA 443), `Aleamai was awarded to Kaleimakali`i (LCA 8660), and Mokaenui belonged to the government. The majority of Haneo`o Ahupua`a was received by Julia Alapai (LCA 8525B) and Keohōkalole, mother of King Kalākaua, received Hāmoa Ahupua`a.

COMMERCIAL SUGAR

The sugar industry appeared early in Hāna, between 1849 and 1859. A Mr. Lindgren constructed a small mill on the flats of Haneo`o-Hāmoa, *makai* of the Hāna Highway, and began cultivation of around 60 acres of cane. The Hāna Plantation, begun in 1851 by George Wilfong, was one of the first commercial sugar plantations in Hawai`i. By 1861, more land consolidation and general improvements, including a railroad, had occurred, and the whole operation had a new owner, August Unna. Many small LCA and grant owners also cultivated cane and then sold it to the mill. An extensive wall system was constructed, establishing boundaries and protecting the agricultural crops from the rising encroachment of grazing cattle. The Hāna Plantation was purchased by a Mr. Grinbaum in 1889, combining them with previously obtained sections, and thus forming the Hāna Plantation Company (Condé and Best 1973). In turn, Theo H. Davies and Co. assumed ownership of the plantation in the early 1900s, absorbing small LCA holdings and changing the name to Kaeleku Sugar Co. Once again, a change in ownership occurred when C. Brewer & co. obtained possession in 1933, but by 1945, the plantation was closed and liquidated (*ibid*).

Archival research indicates the settlement pattern in the Hāna District was one of dispersed households living and farming within a relatively narrow coastal zone (0–600 ft. amsl), at this time. As the importance of commercial sugar increased, valuable land was absorbed into the plantation and the population shifted – small land holdings were sold and settlement concentrated around the mill and port of Hāna (Kame`eleihiwa 1992:309). Wilfong imported laborers from other countries, beginning with the Chinese in 1852, to maintain the sugar crops, further altering the traditional lifestyle. It should be noted that the 1946 tsunami inundated much of the coastal region, affecting the old Hāna airport and any other low-lying area within the Hāna District. Presumably, past tsunami also impacted the land. Most of the land surrounding the present project route was planted in sugar.

RANCHING

Livestock was introduced to the Hawaiian Islands in 1793 when Captain Vancouver transported cattle and sheep aboard his ship the *Discovery* with the intention of giving the four cows, two bulls, four ewes, and two rams to Kamehameha I as a gift of goodwill. The rough seas and intense heat of the journey took its toll on the health of the cattle and several of the animals died. In order to ensure that the cattle population would increase, a ten year *kapu* was placed on slaughtering them. Eventually the cattle did recover in number. However, once the 10 year *kapu*

on cattle slaughter had been lifted the number of cattle increased so dramatically they became a dangerous nuisance. As they were allowed to roam wild gardens were destroyed and the Native Hawaiians were terrified of being attacked. Managing and controlling the unruly animals became a necessity. In order to solve this problem Kamehameha I employed “a varied crew with unsavory reputations who had immigrated to the islands to escape their pasts” as bullock *hunters* to capture the animals (Cowan-Smith and Stone 1988:8).

Things were about to change in 1803 when Captain Richard Cleveland and his partner Captain William Shaler introduced horses to the Islands. These men brought aboard their ship, the HMS *Lelia Byrd*, several horses including a stallion and a mare with foal which they presented as gifts to Kamehameha. Soon the horses, like the cattle, were roaming freely across the Islands. The horses (*lio*) adapted rapidly to the rough terrain where the cattle grazed and “their ability to work the livestock [did not] go unnoticed” (Cowan-Smith and Stone 1988:12).

Around 1830, Kamehameha III brought Mexican *vacqueros* from Vera Cruz to the Big Island to teach the local men how to rope and handle the animals. As the cattle and horse populations proliferated the animals were transferred to the various Hawaiian Islands and the *vacqueros*, which now included local cowboys, were needed on the outer islands.

Cattle were on the Island of Maui as early as 1806. Amaso Delano (in Brennan 1995:97) provides the following account of the effect cattle had on traditional life on Maui:

They had recently brought to this island, one of the bulls the Captain Vancouver landed at Owhyee (Hawaii). He had made very great destruction amongst their sugar cane and gardens, breaking them and their cane patches and tearing them to pieces with his horns and tearing them with his feet. He would run after and frighten the natives and appeared to have the disposition to do all the mischief he could, so much so that he was an unwelcome guest among them.

As sandalwood and *koa* were diminishing, cattle became an important resource to the Hawaiian economy. By 1820, the number of cattle had increased to such a degree they were aggressively being hunted for their hides. In addition, their tallow and meat became important commodities of local and international trade. Soon cattle and their importance in the trade industry flourished to such an extent that Hawai`i became a major supplier of beef to California during the Gold Rush and subsequently to the visiting whaling ships, as well (Cowan-Smith and Stone 1988:6). Around 1945 or 1946, Paul Fagan, one of the new owners of the Hāna Plantation Company, shifted land use from cane to cattle pasture and began building a small Hotel in Hāna (Kolb *et al.* 1993). Mr. Fagan purchased 14, 000 acres of Hāna land and utilizing some of the plantation lands to raise cattle, began the Hāna Ranch (Cleghorn and Rogers 1987:12).

PREVIOUS ARCHAEOLOGY

Numerous archaeological projects have been conducted since the 1990s in Hāna District (Figure 3). Table 2 lists those projects completed in proximity to the Hāna Town area.

Table 2: Sample of Archaeological Projects Conducted near the Project Area.

| Author | Date | Location | Investigation |
|-------------------------|-----------|--------------------|---------------------|
| Thrum | 1909-1913 | Hāna District | <i>Heiau</i> survey |
| Walker | 1931 | Hāna District | Survey |
| Nakkim | 1970 | Hāna District | Survey |
| Bevacqua | 1972 | Hāna District | Survey |
| State Survey | 1973 | Hāna District | Survey |
| Bordner | 1981 | Hotel Hāna | Recon., testing |
| Cleghorn and Rogers | 1987 | Hāna Ranch | Archival research |
| Griffin | 1987 | Hāna Ranch | Field check |
| Cleghorn | 1988 | Hāna Ranch | Reconnaissance |
| Estioko-Griffin | 1988 | Kawaipapa Complex | Field check |
| Pietrusewsky | 1989 | Kauiki Beach | Burial |
| Donham | 1991 | Mokae Ahupua`a | Burial |
| Borthwick <i>et al.</i> | 1992 | Hāna Ranch | Survey, testing |
| Henry and Graves | 1993 | Kawaipapa | Survey |
| Fredericksens | 1993 | Kawaipapa, Niumalu | Survey |
| Masterson <i>et al.</i> | 1997 | Haneo`o | Survey, testing |
| Sterling | 1998 | Hāna District | Synthesis |

An earlier document by Scientific Consultant Services enumerated the archaeological projects conducted in and around Hāna (Sullivan and Dega 2003). These included work conducted by Sterling (1998), and Cleghorn and Rogers (1987), who provided a synthesis of archaeological sites within the general Hāna area during a Bishop Museum Study (Cleghorn and Rogers 1987:18, 20) involving aerial photograph analysis shows archaeological sites within close proximity to the current project area, Table 2 provides a brief description of these sites.

Walker (1931), compiled a list of archaeological sites along the Hāna coast, and Thrum's *Hawaiian Annual* provided an archaeological study focused on religious structures of Maui Island (1917). Having been a pre-Contact population center and loci of political development, Hāna contains a multitude of sites, especially *heiau* (Kirch 1985:136; Walker, 1931). There are approximately 18 *heiau* sites from Hāna Bay to Hāmoa Ahupua`a, at the southern end of the present project route (Thrum 1917, Walker 1931).

Less than a quarter mile from the current project area, an archeological survey was conducted on approximately 11 acres of land for the Hāna Medical Center; four archaeological sites were identified (Henry and Graves 1993). Features included two boundary walls, enclosures, a platform, and a terrace. Functional interpretation included habitation, animal husbandry, agriculture, and boundary makers.



Figure 3: USGS Topographic Map Showing Location of Previous Archaeological Studies in the Vicinity of the Project Area

An Inventory Survey was conducted on 400 acres of former pastureland, *mauka* of the Hāna Highway through Papa`auhau, `Aleamai, and Haneo`o (Borthwick *et al.*:1992). In spite of many years under cane cultivation, 51 sites were identified and described. These included habitation, agricultural, and religious sites. Testing resulted in the collection of samples for radiocarbon dating, with one yielding a date range entirely within the pre-Contact era (A.D. 1345–1650). Walker had previously identified Luumaikaua Heiau near the County Road, and Kahuwakahoku Heiau, associated with a large fish pond in Haneo`o (1931).

Five sites were identified during an Archaeological Inventory Survey and testing adjacent to Loko Nui fishpond in Haneo`o Ahupua`a (Masterson *et al.* 1997). Historic Hawaiian graves, a boundary wall, a subsurface hearth, a trash pit, and an historic house site were recorded.

The *ahupua`a* of Hāmoa has been mentioned as being the place of many *heiau*, from sea to mountain (Ashdown 1971). Although there are no streams, dryland taro thrived in the wet climate. Nakkim refers to Hāmoa as the ‘breadbasket’ of this stretch of Hāna coastline” (1970).

Hāmoa was mapped and surveyed by the State Historical Sites Survey in 1973 (Hommon 1973). A walled site (50-50-13-1484), including over 100 features, was referred to as the “Hāmoa Complex” most of which appeared to be agricultural in function. Features included agricultural clearings, walls, terraces, an *auwai* (ditch), and stone mounds. An historical and archaeological study of Hāmoa was completed in 1993 (Kolb *et al.*). The study was the most extensive survey and synthesis of historic data for a windward community in East Maui at the time. Seventy-four features, including walls, terraces, mulch pits, enclosures, modified rock shelters, and at least five *heiau* were combined (based on feature proximity) to form 11 sites (*ibid*). All but seven sites were located *mauka* of the Hāna Highway. The presence of so many religious structures suggests the significance of Hāmoa maybe equivalent to Kawaipapa and Wananalua Ahupua`a, to the north (*ibid*:105). Seven radiocarbon dates resulting from this project ranged from A.D.1229 to A.D. 1675, into the present time, and clustering in between the fifteenth to seventeenth centuries (*ibid*:96).

Mokae Ahupua`a contains an extensive habitation site near Pu`u Hele extending inland from Kaholaiki beach, as well as sand dune used for burials (Donham 1991). Two separate water-worn stone pavements including human bone, shell midden and charcoal have been exposed along 40 meters of eroding dune.

In 2001, the Hāna Belt Road was listed on the National and Hawai`i Registers of Historic Places and given the SIHP No. 50-50-06-1638. The completion of the Road, now referred to as Hāna Highway, was completed in 1926 and linked East Maui with the rest of the island. The engineering and transportation feat utilized existing pathways to construct a road which expands over 1,530 acres and contains over 74 structures.

METHODOLOGY

The survey phase of fieldwork consisted of the crew surveying the project area with the objective of identifying surface features. Though no traditional Hawaiian sites were anticipated, it was clear that because of the location and historic nature of the bridge, historic sites were likely to exist nearby.

Documentation of site consisted of numerous photographs, tape and compass maps and limited shovel testing to determine the nature of the subsurface sediments. Stratigraphic profiles of the shovel test pit were illustrated in the field and soil characteristics were recorded. Photographs were taken of trench locations prior to, and during, excavation.

Archival research entailed investigating the historic and archaeological background of the general project area. This examination included a documentary search of previous archaeological research conducted in this region of Maui as well as a review of archival literature relating to Land Commission Awards and local mythology. The review of historical documents was accomplished in order to understand the impact of post-Contact events on the cultural and archaeological landscape of the region.

All laboratory work was conducted in the Honolulu office of SCS and included the drafting of site plan view maps and trench profiles. All documentary materials are currently being curated at the SCS office on Maui.

RESULTS OF FIELDWORK

The relatively small project area (less than 300 sq. meters) was subjected to a 100% pedestrian survey and one shovel test, as well as photographic documentation and mapping. In all, one historic property composed of two features was identified during the archaeological inventory survey. One shovel test was excavated on the west side of the bridge to a depth of 70 cm below surface. Due to the cobble and boulder nature of the soil, the unit could not extend any deeper and additional attempts at excavation were not able to penetrate the stony sediment. On the east side of the culvert no shovel test units were conducted due to the lack of soil and exposure of bedrock along the gulch floor.

SIHP NO.: 50-50-06-1636

Site Type: Bridge and Basalt Lined Culvert

Function: Transportation, Water diversion

Feature (#): 2

Age: Historic

Description: Site -1636 includes all features associated with the Hāna Belt Road, completed in 1926 and listed on the National and Hawai'i Register of Historic Places in 2001. Features A and B consist of an historic one-lane bridge and a basalt-lined culvert. The bridge and culvert are located at mile marker 33.88 along the Hāna Highway, just north of the Uakea Road/Hāna Highway fork and just south of the Hāna Fire Department, adjacent to a County Maintenance yard. The bridge (Feature A) spans a semi-dry gulch that consists of basalt cobbles, boulders and recently mowed

grasses and weeds on the *mauka* side, and a basalt and concrete-lined culvert (Feature B) on the *makai* side.

Feature A

Feature A consists of a one-lane bridge located at mile marker 33.88 along the Hāna Highway. The bridge is paved with asphalt with a concrete guardrail over a concrete box drain spanning the gulch (Figures 4-6). The bridge measures five meters in length with an overall width of 4.37 meters. The west (*mauka*) face of the bridge consists of a 4.25 meter long by 2.65 meter high concrete box flanked by a 3.5 meter long by 55-250 cm high basalt and concrete stone face on the north side and a 4.75 meter long by 83-265 cm high basalt and concrete stone face on the south side. The northwest and southwest flanks are capped with painted concrete and inscribed with “10/16/07 V. Polido” indicating recent modifications to the original construction. The east face of the bridge is finished with concrete and has the date “1915” stamped with 20 cm high numbers and measures 2.55 meters from the top of the guard rail to the base of the gulch. Galvanized steel guardrails extend from the north and south flanks of the east side of the bridge.

The internal dimensions of the concrete box measures 4.32 m long by 4.27 m wide by 1.22 m high and constructed of molded concrete. The base of the culvert is covered in alluvium, bedrock and modern trash and debris.

Feature B

Feature B consists of the basalt and concrete lined culvert abutting the eastern side of the bridge at mile marker 33.88 (see Figure 4). The basalt is stacked 10+ courses to a height of 2 meters on the northeast and southeast corners of the bridge (Figures 7 and 8). The culvert extends to Uakea Road approximately 65 m to the east. The culvert measures 4.9 m across where it connects with the east side of the bridge. As it continues towards the east the culvert flares out on the north side and remains relatively perpendicular to the bridge on the south side.

The base of the culvert is exposed bedrock and loose basalt cobbles and boulders and an assortment of detritus (Figure 9). Two mature palm trees are growing from the base of the culvert approximately 10 meters from the bridge indicating that the culvert has remained relatively dry or semi-dry for several years.

Shovel Test Unit

One shovel test unit was dug on the southwestern side of the bridge where no bedrock was observed. The unit extended to 68 cm below surface and was terminated due to the presence of boulders and extremely stony sediment (Figure 10). Only one stratigraphic layer was observed which consisted of 10 YR 4/2 (dark grayish brown) stony silt loam containing few historic trash remnants (rusted metal, wire). No cultural layers or traditional Hawaiian materials were encountered and it is likely that this layer represents previously disturbed natural sediments



Figure 4: View West of Bridge and Culvert (SIHP No. 50-50-06-1636 Features A and B)



Figure 5: View Northeast of SIHP No. 50-50-06-1636 Feature A

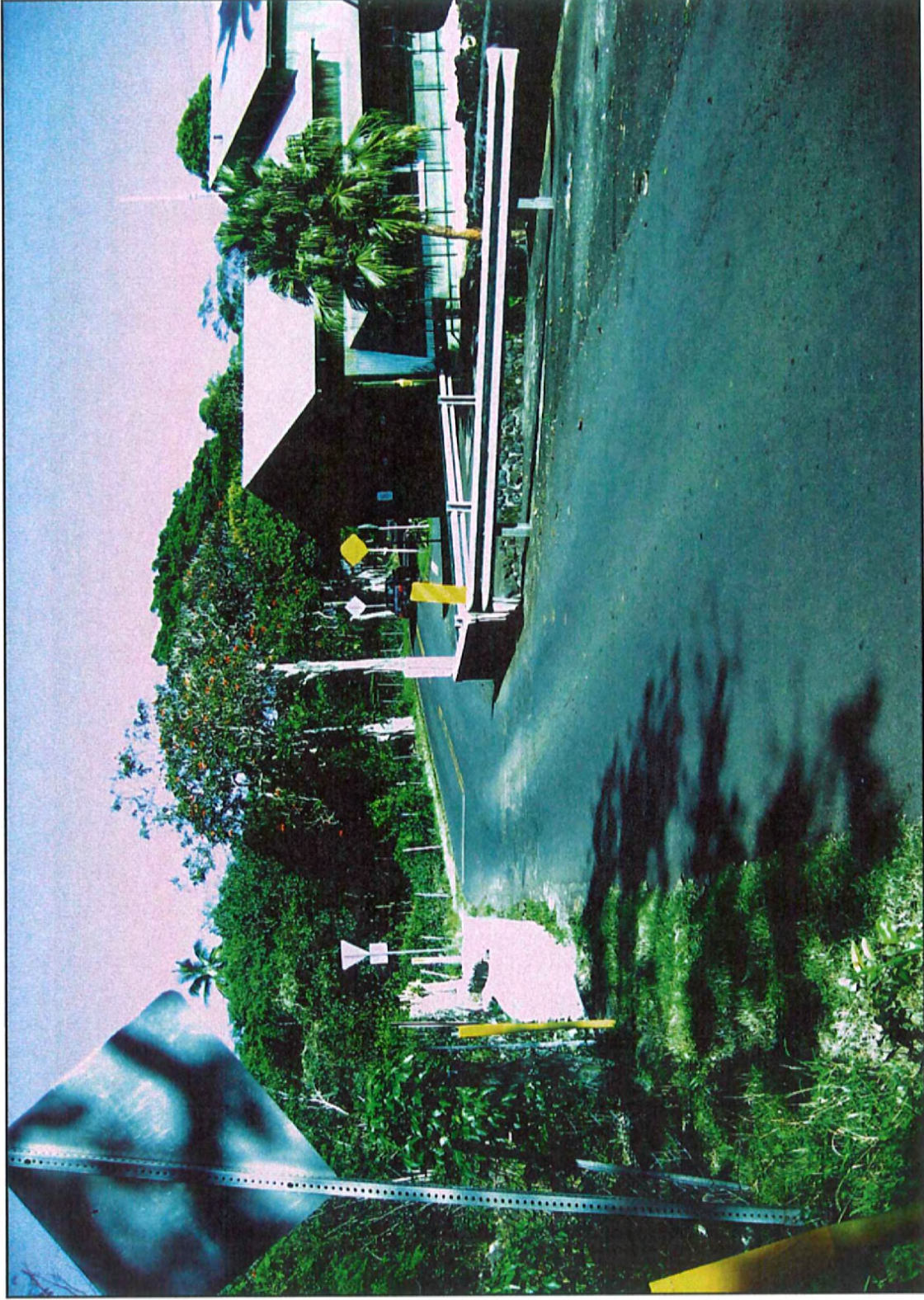


Figure 6: View North of Bridge Spanning the Gulch



Figure 7: View to North of the Culvert Abutting the Bridge



Figure 8: View South of the Culvert Abutting the Bridge



Figure 9: View East from Beneath Bridge Showing Base of Culvert



Figure 10: View of South (upslope) Wall of Shovel Test Unit 1

SIGNIFICANCE ASSESSMENTS

Two features associated with the Hāna Highway (SIHP No. 50-50-06-1636) were documented in the project area during Archaeological Inventory Survey at TMK: 1-4-006:001. In consultation with SHPD-Maui Archaeologist Patty J. Conte, the features (see below) have been evaluated for significance according to the criteria established for the State and National Register of Historic Places. The five criteria are listed below:

- Criterion A:** Site is associated with events that have made a significant contribution to the broad patterns of our history;
- Criterion B:** Site is associated with the lives of persons significant to our past;
- Criterion C:** Site is an excellent site type; embodies distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual construction;
- Criterion D:** Site has yielded or has the potential to yield information important in prehistory or history;
- Criterion E:** Site has cultural significance; probable religious structures or burials present (State of Hawai`i criteria only).

State Site 50-50-06-1636

This section of the Hāna Highway is significant under criterion D.

RECOMMENDATIONS

STATE SITE 50-50-06-1636

No further work is recommended at the portion of Hāna Highway at mile marker 33.88 that crosses a basalt and concrete lined culvert in the project area. The features have been documented with photographs and scale drawings. It is clear, however, that any widening or realignment of the bridge would alter a portion of the western extent of the culvert and may include slight alterations to the existing bridge.

ARCHAEOLOGICAL MONITORING

Archaeological Monitoring is recommended during any subsurface disturbance (includes excavation as well as grubbing/bulldozing) in the bridge area at mile marker 33.88 [TMK: 1-4-006:001]. This recommendation is made to protect any additional cultural resources that may be encountered during subsurface excavation on the bridge.

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