

LINDA LINGLE
GOVERNOR



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

RODNEY K. HARAGA
DIRECTOR

Acting Deputy Director
GLENN M. OKIMOTO

IN REPLY REFER TO:

HWY-DS 2.1284

AUG 12 2003

'03 AUG 12 P2:49

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

TO: GENEVIEVE SALMONSON, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET, SUITE 702
HONOLULU, HAWAII 96813

FROM: RODNEY K. HARAGA
DIRECTOR OF TRANSPORTATION

SUBJECT: FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR HANA HIGHWAY
ROCKFALL MITIGATION, TMK 2ND DIV 1-1-001: PARCELS 044 AND 052
AND TMK 2ND DIV 1-1-008: PARCELS 001 AND 005,
VICINITY OF HANA, MAUI, HAWAII

The State of Hawaii Department of Transportation Highways Division (HDOT) has reviewed the comments received during the 30-day public comment period that began on February 23, 2003. HDOT has determined that this project will not have significant environmental effects and has issued a FONSI.

Please publish this notice in the August 26, 2003, OEQC Environmental Notice. We have enclosed a completed OEQC Publication Form, four copies of the draft EA, and the project summary on disk.

If there are any questions, please contact Mr. Scot Urada at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Attachment

2003-08 - 23 - MA - FEA

AUG 23 2003

FILE COPY

FINAL ENVIRONMENTAL ASSESSMENT

**(HANA HIGHWAY ROCKFALL) MITIGATION,
HUELO TO HANA**

PROJECT NO. 360AB-02-98

HANA, ISLAND OF MAUI, HAWAII

Prepared for:
State of Hawaii
Department of Transportation
Highways Division

Prepared by:
M&E Pacific, Inc.
1001 Bishop Street, Suite 500 Pauahi Tower
Honolulu, HI 96813

August 2003

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SECTION 1
PROJECT SUMMARY

Project Name: Hana Highway Rockfall Mitigation.
Huelo to Hana
Project No. 360-AB-02-98

Applicant: State of Hawaii
Department of Transportation - Highways Division
601 Kamokila Boulevard, Room 688
Kapolei, Hawaii 96707
Contact: Mr. Scot Urada, P.E., Project Engineer
Phone: (808) 692-7553 Fax: (808) 692-7555

Approving Agency: State of Hawaii
Department of Transportation - Highways Division
601 Kamokila Boulevard, Room 688
Kapolei, Hawaii 96707
Contact: Mr. Scot Urada, P.E., Project Engineer
Phone: (808) 692-7553 Fax: (808) 692-7555

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

Location: Hana Highway MP 11.05-MP 11.31
TMK Designation: 2nd Tax Division 1-1-001: parcels 044 and 052
Properties Owner: State of Hawaii
State Land Use Classification: Parcel 044: Conservational
Parcel 052: Agricultural

County Zoning: Agricultural
Special Designation: SMA

Location: Hana Highway MP 19.18-MP 19.52
TMK Designation: 2nd Tax Division 1-1- 008: parcels 001, 005
Properties Owner: State of Hawaii
State Land Use Classification: Parcel 001: Agricultural and Conservational
Parcel 005: Agricultural

County Zoning: Agricultural
Special Designation: SMA (parcel 005 only)

Proposed Action:

This project proposes to implement rockfall mitigation strategies at two locations on Route 360 Hana Highway. These strategies will include creation of roadway setbacks and erection of catchment devices to prevent rockfall debris from entering the roadway. Realignment of the roadway at one site to create setbacks will require construction of a cantilevered roadway supported by cast-in-place concrete shafts.

Determination:

Finding of No Significant Impact (FONSI)

SECTION 2

CONSULTATION LIST

2.1 FEDERAL

U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service

2.2 STATE

Department of Land and Natural Resources, Historic Preservation Division
Department of Transportation, Highways Division
Department of Business, Economic Development and Tourism, Land Use
Commission
Department of Health, Environmental Management, Clean Water Branch
University of Hawaii, Hawaii Natural Heritage Program

2.3 COUNTY OF MAUI

Planning Department
Department of Public Works, Environmental Management

2.4 GENERAL PUBLIC (Reference Appendix A)

Public Meeting 7PM May 7, 2002: DOT Baseyard, Keanae, Maui, Hawaii
Public Meeting 7PM May 8, 2002: Helene Hall, Hana, Maui, Hawaii
Public Meeting 7PM May 9, 2002: Community Center, Haiku, Maui, Hawaii
Public Meeting 7PM March 18, 2003: Helene Hall, Hana, Maui, Hawaii
Public Meeting 7PM March 19, 2003: DOT Baseyard, Keanae, Maui, Hawaii
Public Meeting 7PM March 20, 2003: Community Center, Haiku, Maui, Hawaii

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. Slopes adjacent to the highway are heavily vegetated and overhung with loose rocks in many locations. It is subject to high annual rainfall, abundant groundwater and runoff. The combination of loose rocks and abundant rainfall and associated runoff results in a high rockfall hazard potential for the highway and its users. The narrow road is practically devoid of shoulders or ditches in many locations with the result that rocks and debris often spill onto the traffic lanes of the roadway. When the State of Hawaii Department of Transportation (DOT) maintenance records were examined, a total of 108 rockfall or rock slide events occurred between July 2000 and February 2003. Severity of these events ranged from a few boulders on the road to an event requiring a few days of clean up effort.

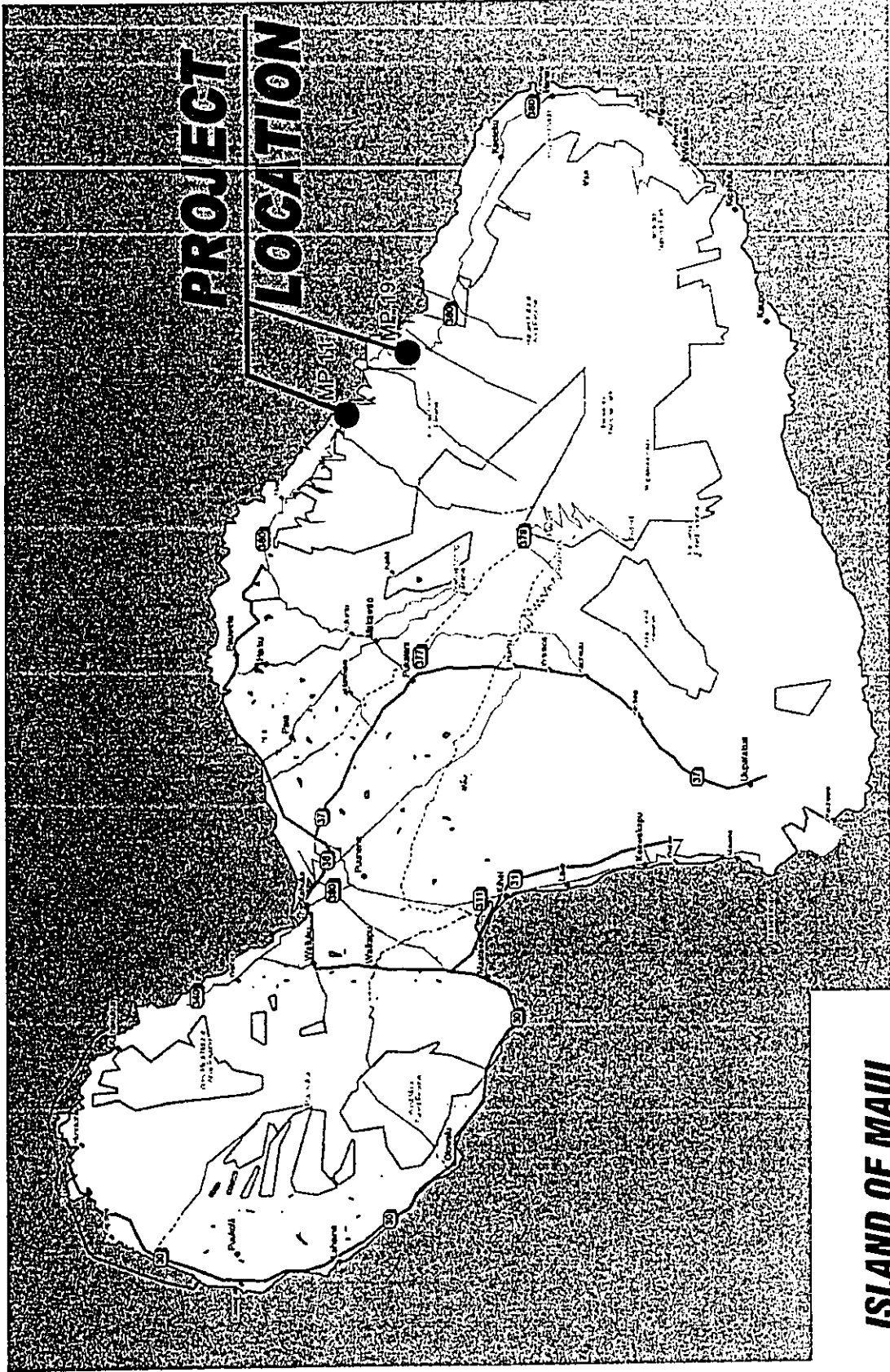
In order to mitigate the hazardous conditions from potential or ongoing rockfalls, the DOT undertook a study to evaluate and rate slopes adjacent to the Hana Highway between mileposts (MP) 4.0 and 30.0 for their potential hazards. This study, the Hana Highway Rockfall Mitigation Plan was completed in May 2000. A total of 35 sites were identified in this study and the proposed project addresses two of these 35 sites. This Environmental Assessment (EA) discusses planned mitigation strategies and their implications along two stretches of Hana Highway: 1) Mileposts (MP) 11.05 to 11.31 and 2) MP 19.18 to 19.52 (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 2-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 2-lanes of traffic.

In the vicinity of MP 11.05-11.31, the single-lane roadway is approximately 14' in width. There are no shoulders on either side of the roadway. A metal guardrail is located on the makai side of the roadway for vehicular safety. The mauka side of the AC roadway abuts the lower edge of the adjacent slope (Figure 2). Longitudinal cracks on the makai edge of the roadway pavement indicate downward and outward movement of the roadway. A large scarp is evident on the mauka side of the roadway indicating a possible past landslide (or rockslide.) Discussions with DOT maintenance personnel confirm that a rockslide has occurred in this area in the past (Geolabs, 2001.)

In the vicinity of MP 19.18-19.52, the two-lane roadway is approximately 18' in width. Shoulders are non-existent on the makai side of the roadway and minimal to non-existent on the mauka side of the roadway. A concrete-rubble masonry (CRM) wall is located immediately adjacent to the makai side of the roadway to provide support and for vehicle safety (Figure 3).



ISLAND OF MAUI

VICINITY MAP
NOT TO SCALE

Bishop Square
Pauahi Tower, Suite 500
1001 Bishop Street
Honolulu, Hawaii 96813

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Pacific, Inc.

HANA HIGHWAY
ROCKFALL MITIGATION
PROJECT NO. 360-AB-02-98
STATE DOT - HIGHWAYS DIVISION

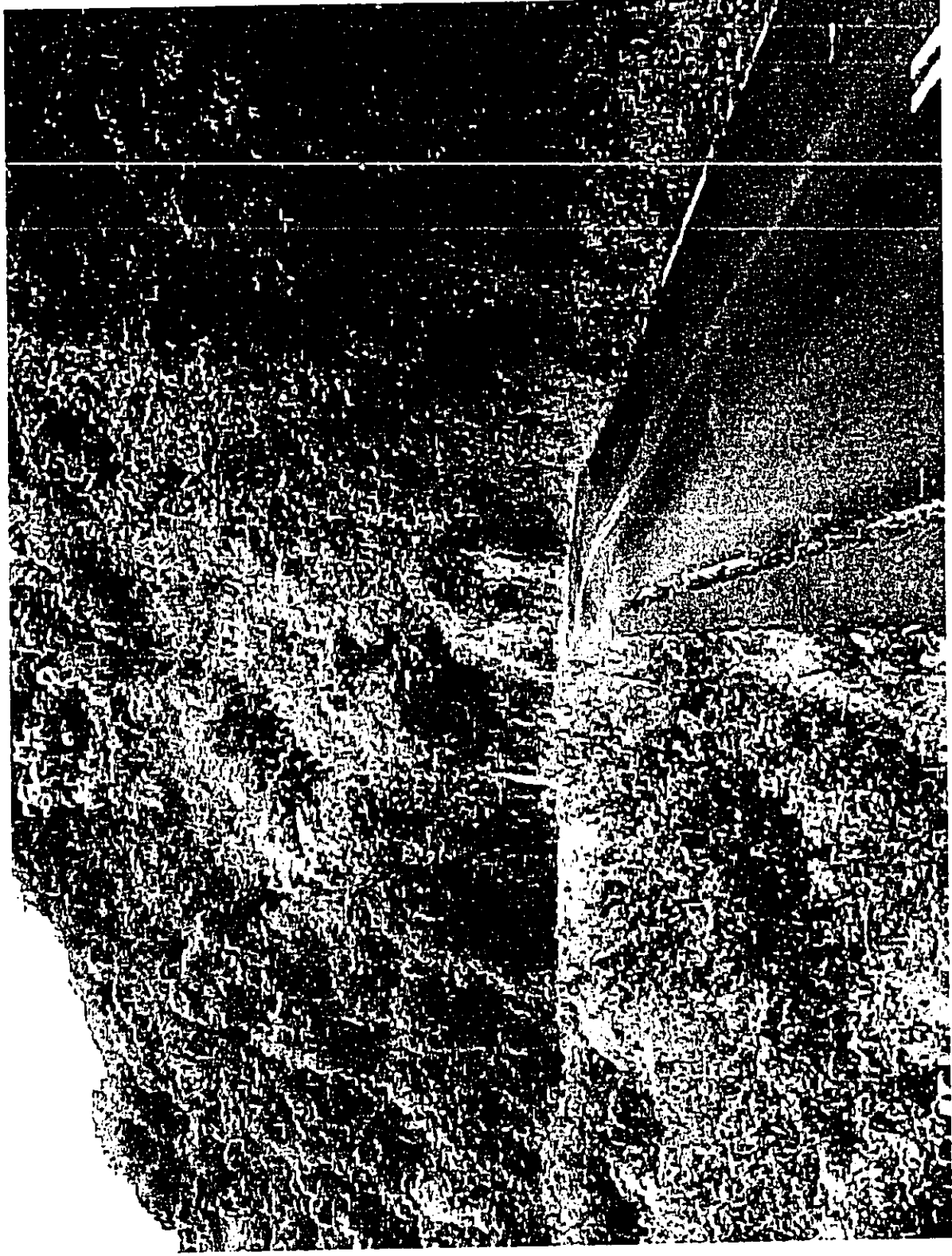
FIGURE 1
PROJECT LOCATION
August 2003



Bishop Square
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1001 Bishop Street
Honolulu, Hawaii 96813

HANA HIGHWAY
ROCKFALL MITIGATION
PROJECT NO. 360-AB-02-98
STATE DOT - HIGHWAYS DIVISION

FIGURE 2
VIEW OF MP 11.05 PROJECT SITE
August 2003



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HANA HIGHWAY
ROCKFALL MITIGATION
PROJECT NO. 360-AB-02-98
STATE DOT - HIGHWAYS DIVISION

FIGURE 3
VIEW OF MP 19.18 PROJECT SITE
August 2003

Overhanging trees and weathered basalt is generally noted on the face of mauka slopes. Landslide debris appears to be piled up along the makai edge of the roadway (Geolabs, 2001).

This project proposes to incorporate design features that will reduce the hazards associated with rockfalls along the Hana Highway. Design features will include roadway realignment to move the roadway away from the mauka slopes and cutting into the slope to create rock catchment zones. Inclusion of various types of fencing, barriers and screening will prevent falling debris from entering the traveled roadway.

3.3 PROJECT COST AND DURATION

The DOT budgeted \$2,000,000 to provide for rockfall mitigation at both project sites. Costs will be funded from State monies. Project start date is anticipated to occur in fiscal year 2004 (July 2003 to June 2004) with an estimated construction period of six to eight months. Due to the \$2,000,000 fiscal year 2004 construction budget, the construction of this project will be phased to complete the proposed improvements. It is anticipated that the MP 11.05-11.31 site will be constructed as the first phase. MP 19.18-19.52 will be constructed in subsequent phases as additional construction funds become available in the future.

3.4 PURPOSE OF ENVIRONMENTAL ASSESSMENT

This EA results from the use of State land and monies. 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 Rockfall Mitigation projects located at MP 11.05-11.31 and MP19.18-19.52. 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.

SECTION 4**DESCRIPTION OF ACTION'S TECHNICAL, ECONOMIC, SOCIAL AND ENVIRONMENTAL CHARACTERISTICS****4.1 TECHNICAL**

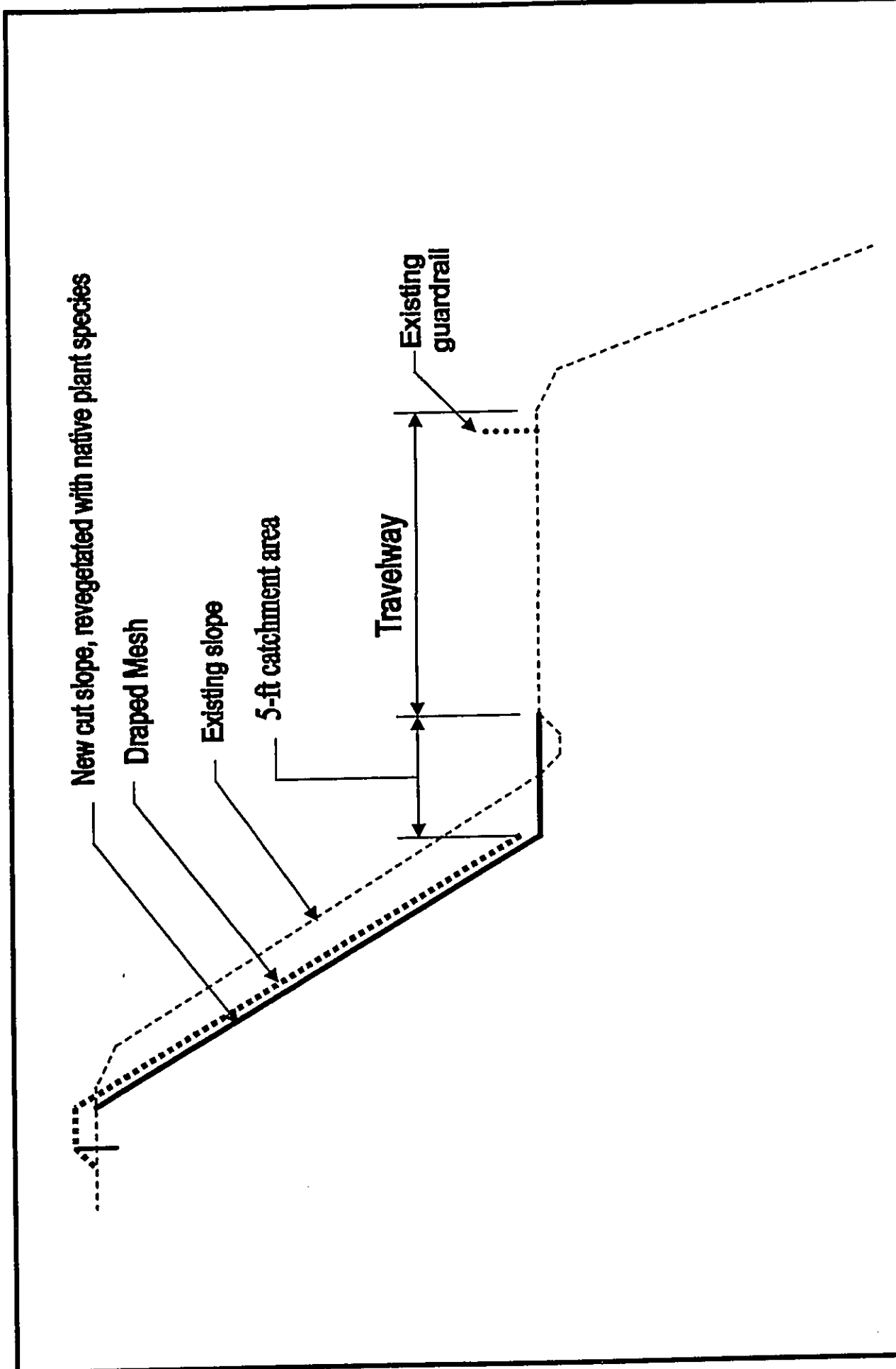
Rockfall mitigation will consist of slope cutting or realignment of the roadway in the makai direction to create a setback from the hillside to prevent falling debris from entering the travel lanes of Hana Highway. Portions of the MP 11.05 the Highway will remain in its current single-lane configuration while at MP 19.18 two-lane travel will be provided.

Guardrails in the vicinity of MP 11.05 site has been undermined due to erosion of the steeply banked slopes makai of the roadway. In order to stabilize the slopes, restore the guardrails and provide for a catchment setback the mauka hillside will be cut approximately 5' to 6' to create a rock catchment zone. A dark colored mesh will be draped on the hillside to contain and control rockfall. The cut slope and makai slope will be re-vegetated with native plant species to restore ground cover and control erosion (Figures 4 and 5). If needed, other shoulder stabilization measures will be provided.

At MP 19.18, the road centerlines will be relocated in the makai direction between approximately 5' and 12' as necessary in order to create an approximately 5 to 10-foot wide setback. This setback will establish a rock catchment area where debris fall will not impact on travel lanes. New guardrails or rock textured barriers will be erected along the edge of all cantilevered roadway portions. As the hillside immediately makai of the right-of-way is steeply sloped, this project proposes to cantilever the roadway out over the makai downslopes. Support for this cantilevered roadway will be provided by twin rows of deep shaft foundations stretching parallel to the roadway alignment. Shafts will be 5' in diameter and spaced at 10 foot intervals. These 5' diameter shafts will be capable of supporting a roadway cantilevered out to a maximum of 9 feet.

These deep shaft foundations will be drilled and filled with cast-in-place concrete. The drilled shafts will extend a minimum of 25 feet below the bottom of the drilled shaft cap (or footing) into the load-bearing basalt formation. These drilled shafts derive their vertical support mainly from skin friction between the concrete shaft and the surrounding materials. Actual shaft length design will be based on the recommendation of a geotechnical engineer. Based on geotechnical investigations performed, groundwater sources or aquifers are not anticipated to be affected.

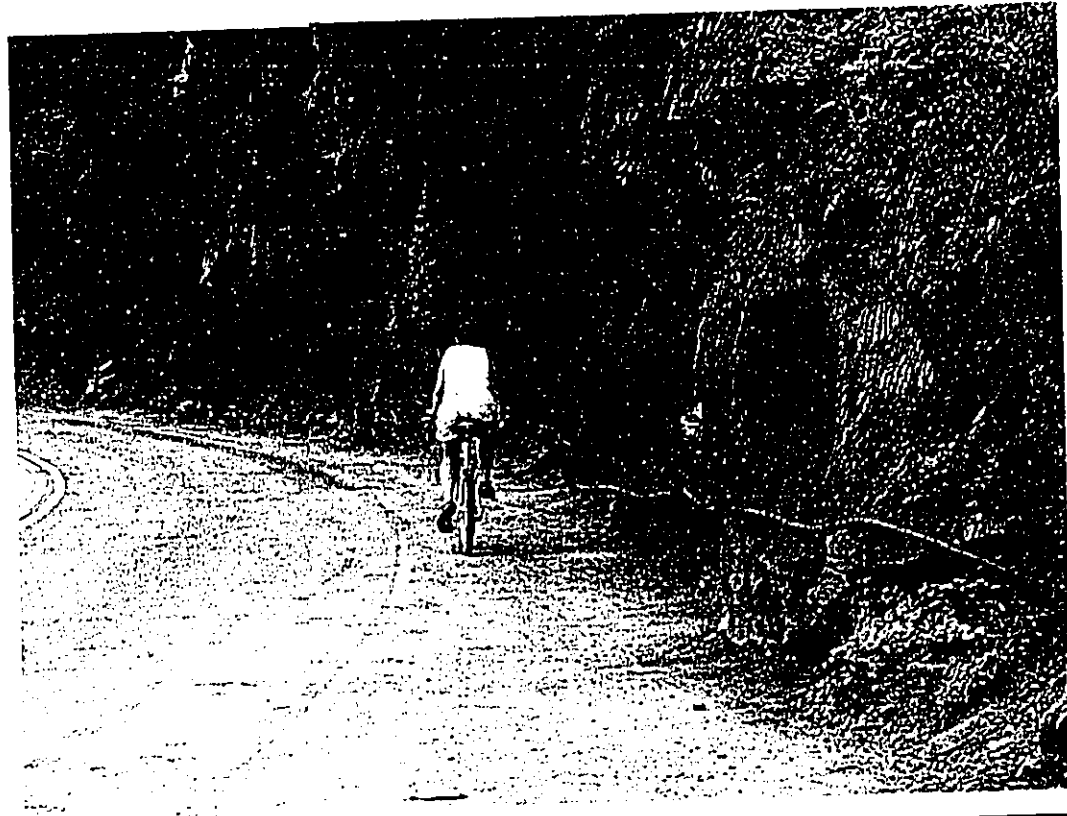
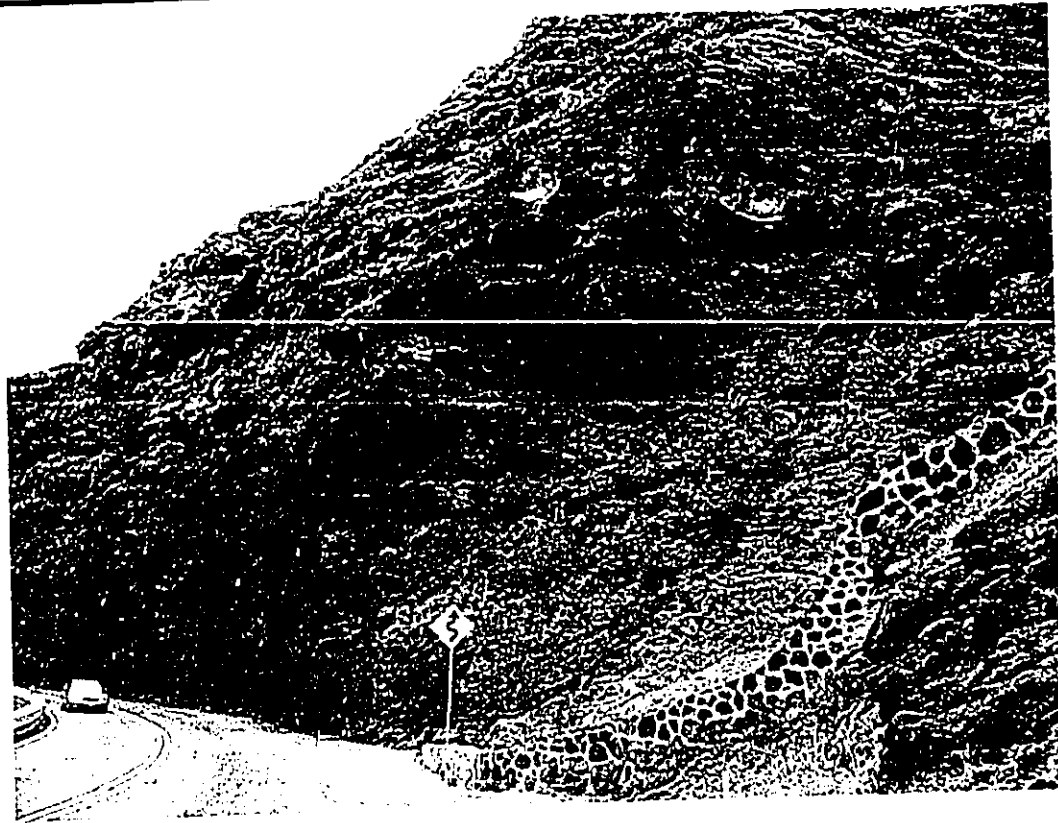
To provide structural integrity, each row of vertical shafts will be connected with a longitudinal tie-beam. This tie-beam will be designed as a retaining structure that is capable of resisting pressures exerted by the adjacent soils and surcharges from the road above. In addition, this tie-beam will be designed to withstand forces resulting from earthquakes. Design considerations will allow the structure to move up to 2 to 3 inches in the event of an earthquake.



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ROCKFALL MITIGATION
 PROJECT NO. 360-AB-02-98
 STATE DOT - HIGHWAYS DIVISION

FIGURE 4
SLOPE CUTTING WITH MESH
 FOR MP 11.05 - 11.31
 August 2003

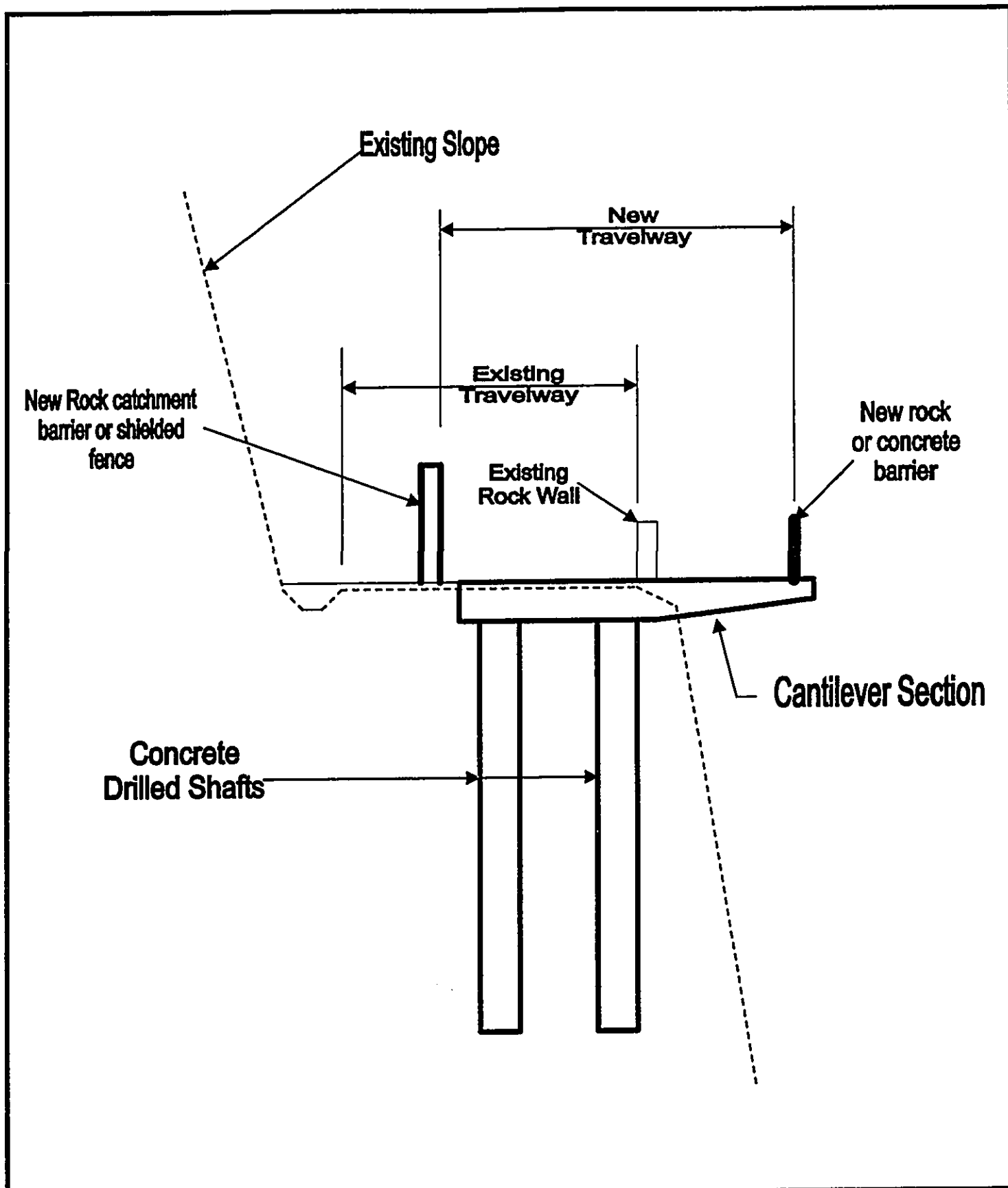


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**HANA HIGHWAY
ROCKFALL MITIGATION**

PROJECT NO. 360-AB-02-98
STATE DOT - HIGHWAYS DIVISION

FIGURE 5
TYPICAL VIEW OF DRAPED MESHING
August 2003



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 Honolulu, Hawaii 96813

**HANA HIGHWAY
 ROCKFALL MITIGATION**

PROJECT NO. 380-AB-02-98
 STATE DOT - HIGHWAYS DIVISION

**FIGURE 6
 CANTILEVER SECTION AND BARRIER
 FOR MP 19.18 - 19.52
 August 2003**

Catchment design at MP 19.18 will differ from that at MP 11.05. Draped meshing is inappropriate for the taller mauka slopes in this area with dense tree cover. A concrete barrier and associated fencing will be used to provide for rockfall containment (Figure 6). Roadway realignment will create a 20-foot, two-lane travelway, barrier/fencing and an approximate 10-foot setback. The new edge barrier will be 2'-10" in height and the rock catchment fencing or barrier will be about 6 feet in height. The fencing will be used to absorb the energy of the falling rock while the rock faced or textured concrete barrier will protect the fencing from vehicular traffic and to shield the fence from view.

4.2 ECONOMIC

Monies will be provided from DOT funds. Federal funding will not be utilized for either site.

4.3 SOCIAL

Hana Highway is the only developed roadway 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.

Rockfall mitigation measures will improve road safety and utility and reduce maintenance requirements. Realignment of the roadway and inclusion of a rock catchment system will significantly reduce motorist hazards due to potential rockfalls. The use of deep shaft foundations will diminish the possibility of roadway failure. Elimination or reduction of slides across the roadway will increase roadway usability as well as reduce the amount of road maintenance now demanded of DOT personnel.

Road closures will be necessary for certain construction phases during slope cutting and construction of the cantilevered roadway structure. Sequencing of temporary and short-term closures will be required to minimize the impact on resident and tourist travel through the project sites. Closures are discussed more fully 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 roadway realignment are expected. The cantilevered portions of the roadway will replace portions of an existing roadway. The realigned roadway portions will extend out past the existing roadway pavement edge. Acquisition of State lands or granting of an easement across State lands in favor of the DOT for maintenance purposes may be required if the improvements extend outside the existing roadway right-of-way.

Although there are 35 rockfall sites identified in the Rockfall Mitigation Plan, this EA covers only the two sites being addressed in this project for the following reasons:

- A. Since each site has its unique characteristics, rockfall mitigation strategies may vary substantially between sites. Impacts caused by mitigation strategies will vary with the option chosen.

- B. Detailed investigation and engineering is needed at each site to determine the most appropriate site-specific rockfall measures.
- C. The cost to do such an undertaking for all 35 sites at one time is cost prohibitive. This undertaking will need to be done incrementally as public funding becomes available.
- D. Even if engineering for all 35 sites are done and environmental concerns are addressed at this time, implementation is anticipated to take 20 to 30 years due to the high anticipated construction costs. Since design standards and environmental laws have historically changed over time, such changes which will likely result in redesign or a reassessment of the previously designed mitigation measures.

For the above reasons, the cumulative impacts of all 35 sites cannot be quantified since detailed engineering for all 35 sites was not done at this time. As funding becomes available, separate EAs will be prepared for each follow-on project.

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 sites are 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 first project site is located approximately between MP 11.05 and 11.31. This site is found to the west of Honomanu Bay near Puohokamoa Falls and is approximately 300' westward towards Kahului from the Haipuaena Bridge crossing Haipuaena Stream. This project area involves portions of the Hana Highway and lies adjacent to portions of TMKs: 1-1-01: parcel 044 and 052, both of which are owned by the State of Hawaii.

The second project site is located approximately between MP 19.18 and 19.52. This site lies above the town of Wailua and overlooks Wailua Bay. The project site is approximately 0.35 miles westward of the Waikani Bridge crossing Wailuanui Stream and lies adjacent to the Wailua Lookout. This second project area involves portions of the Hana Highway and adjacent to portions of TMKs: 1-1-08: parcel 001 and 1-1-08: parcel 005, both of which are owned by the State of Hawaii.

The areas adjacent to both project sites is very steeply sloped and heavily vegetated (Figures 2 and 3).

5.1.2 CLIMATE

Equable temperatures, moderate humidity and persistent breezes characterize Hawaii's climate. These favorable climatic conditions occur at both project sites. According to the Soil Conservation Service (USDA, 1972), the average temperature in nearby Kailua, Maui is 70.7°F with average minimum and maximum monthly temperatures ranging from 64.2°F and 77.2°F, respectively.

Northeasterly trade winds prevail much of the time throughout the state of Hawaii. These trades vary in frequency. Often times they last for weeks on end. Other times they are virtually absent. 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 at which time general wind patterns become weaker and more variable.

Both project sites are located windward facing lower slopes of Haleakala mountain. Rainfall on these windward slopes is orographic in nature and results from the cooling of

moisture-laden trade winds as they rise up the mountain slopes. Annual rainfall at both sites approaches 160 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 (USEPA) 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 (µg/m ³)	HI AAQS (µg/m ³)
Carbon Monoxide	1-hour	40,000	10,000
	8-hour	10,000	5,000
Nitrogen Dioxide	Annual	100	70
Sulfur Dioxide	3-hour	No Standard	1,300
	8-hour	365	365
	Annual	80	80
Lead	Quarterly	1.5	1.5
Ozone	8-hour	157	157
PM ₁₀	24-hour	150	150
	Annual	50	50
Hydrogen Sulfide	1-hour	No Standard	35

Source: Hawaii Department of Health, December 2002

Of the sixteen air monitoring sites located in the state of Hawaii, most are found on Oahu where most of the commercial and industrial activities occur. Only two sites are found on Maui. There is no monitoring station in the vicinity of either rockfall mitigation project sites. The nearest monitoring station is located to the west in Paia. This station monitors only atmospheric PM₁₀ concentrations resulting from nearby agricultural and sugar mill operations.

In general, it is assumed that the air quality at the project sites is good. The general area around the project site is rural in character and absent of heavy industry. The monitoring station at Paia, although located some distance away and situated closer to populated areas, reported no exceedances of state or federal PM₁₀ standards during the year 2001. Also, the DOH's 2001 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

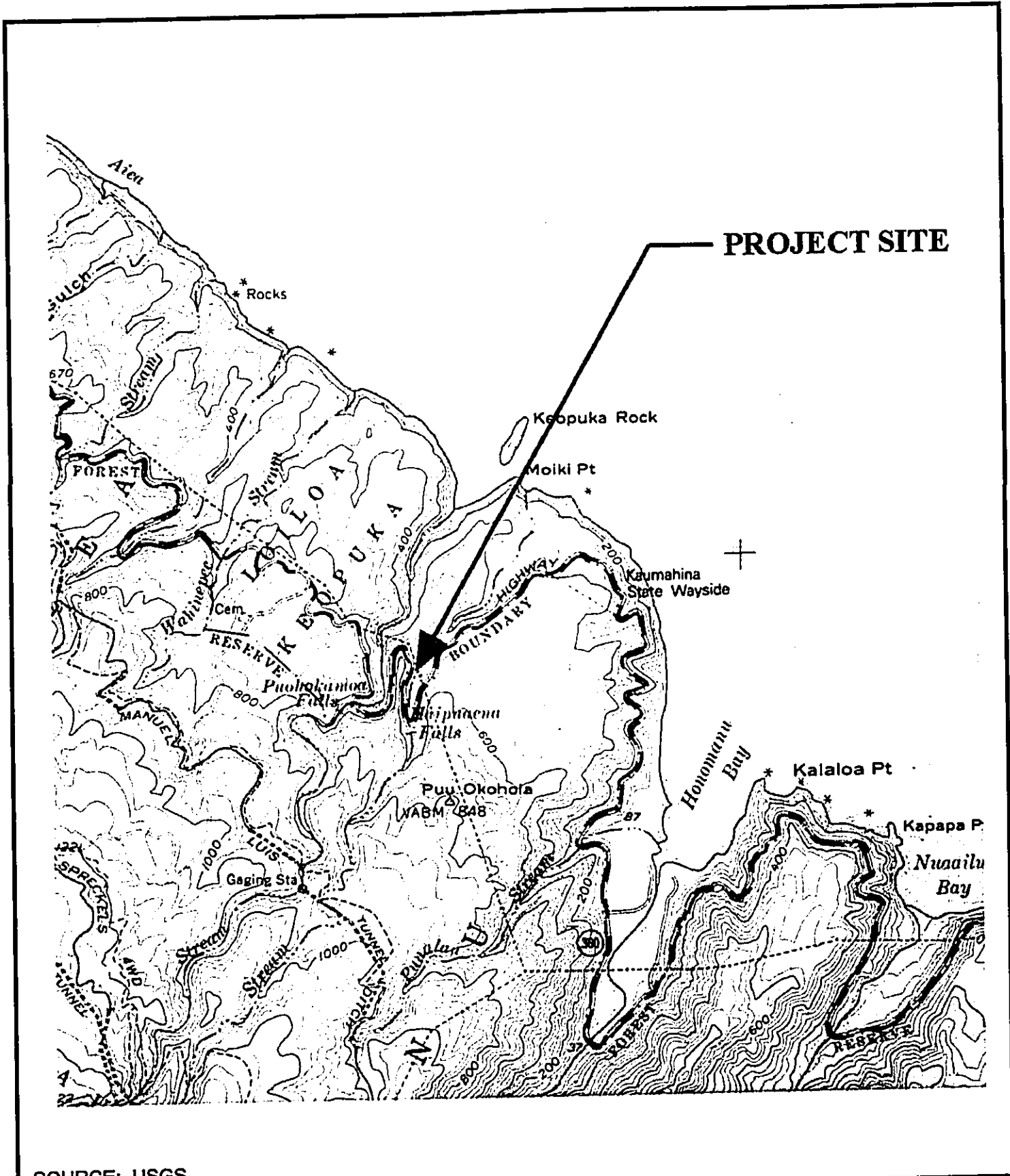
Elevation at the project site located at MP 11.05 is approximately 580 feet Mean Sea Level (MSL). Slopes in this area are estimated to be 7V:8H. Elevation at the MP 19.18 project site is approximately 680 feet MSL. Slopes in the vicinity of this project area are very steep at 3.5V: 1H. (Refer to Figures 7 and 8.)

Geotechnical explorations conducted between MP 0.00 and MP 34.63 describe the underlying soil matrix as saprolitic material over weathered basalt formation. The saprolitic materials generally consisted of stiff to very stiff clayey silts in the upper regions and graded hard to very hard silty sands and gravels (extremely weathered basalt) as the depth of explorations increased. The exploratory borings extended to a maximum depth of 51 feet below ground surface and encountered basalt formations at depths ranging from 3 to 50.8 feet (Geolabs, 2001).

A boring (B-4) in the area of MP 11.40 encountered silty basalt sand between depths of 1.5 to 3.5 feet below the surface of the ground that, in turn, lay atop slightly weathered and hard gray basalt between depths of 3.5 feet and 21 feet. This was underlain by extremely weathered and soft gray basalt that extended to the bottom of the boring. A boring (B-8) from the area of MP 19.80 identified a layer of clayey silt or sandy silt between depths of 2 feet and 14 feet below the ground surface. This was underlain by silty basalt gravel between depths of 14 and 30 feet that lay atop gray basalt. (Refer to Figures 9 and 10.)

5.1.5 SOILS

The Soil Conservation Service of the U.S. Department of Agriculture (USDA, 1972) classifies soils at both project sites as rough mountainous land (rRT). (Refer to Figures 11 and 12.) Interspersed among these very steep soils are numerous intermittent drainage channels. The soil mantle is often very thin. It ranges from 1 to 10 inches atop saprolite. Rock land, rock outcrop, soil slips and eroded spots make up 20 to 40% of the acreage.



SOURCE: USGS

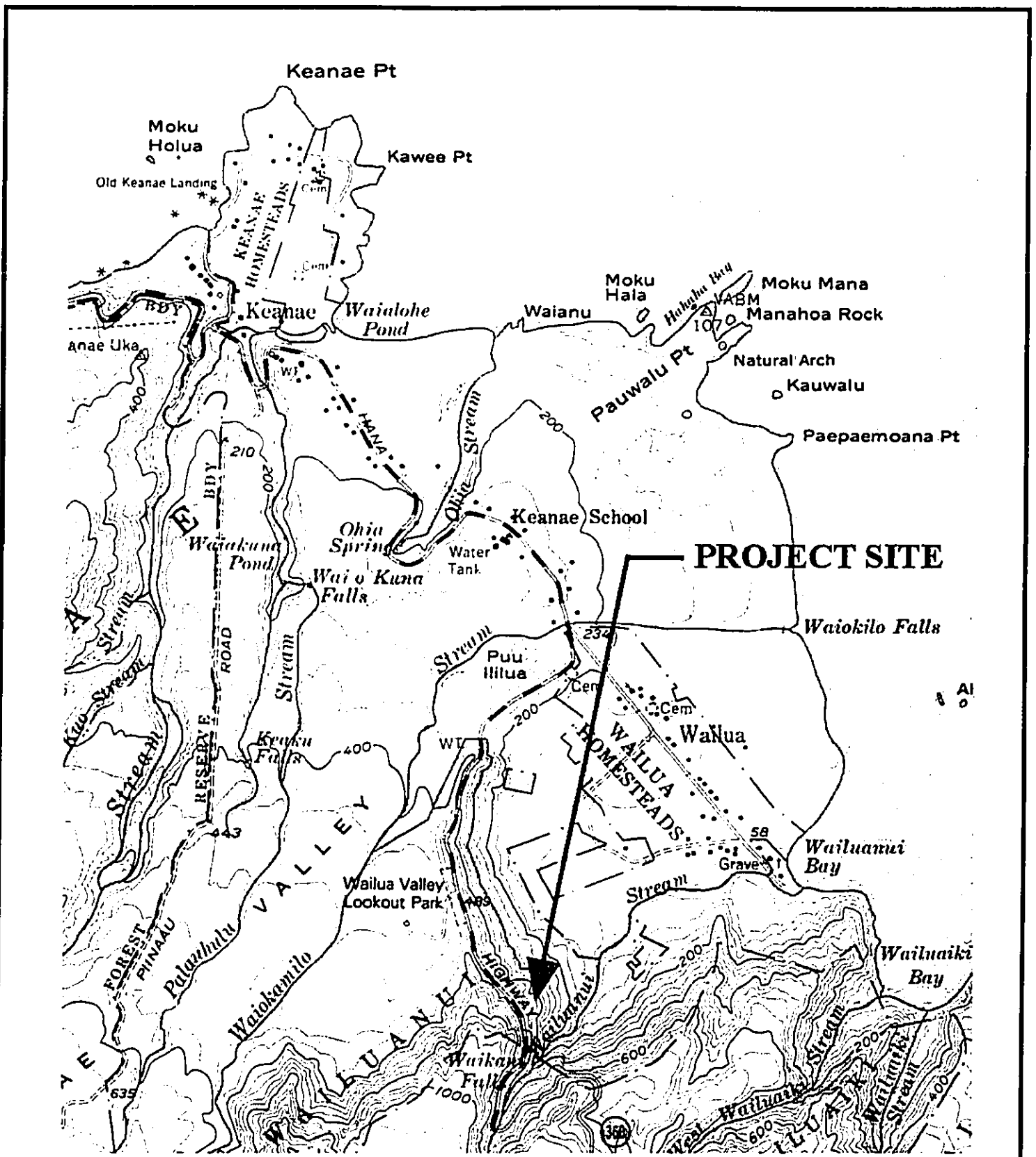


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**HANA HIGHWAY
 ROCKFALL MITIGATION**

PROJECT NO. 360-AB-02-98
 STATE DOT - HIGHWAYS DIVISION

FIGURE 7
 MP 11.05 USGS QUAD
 August 2003



SOURCE: USGS

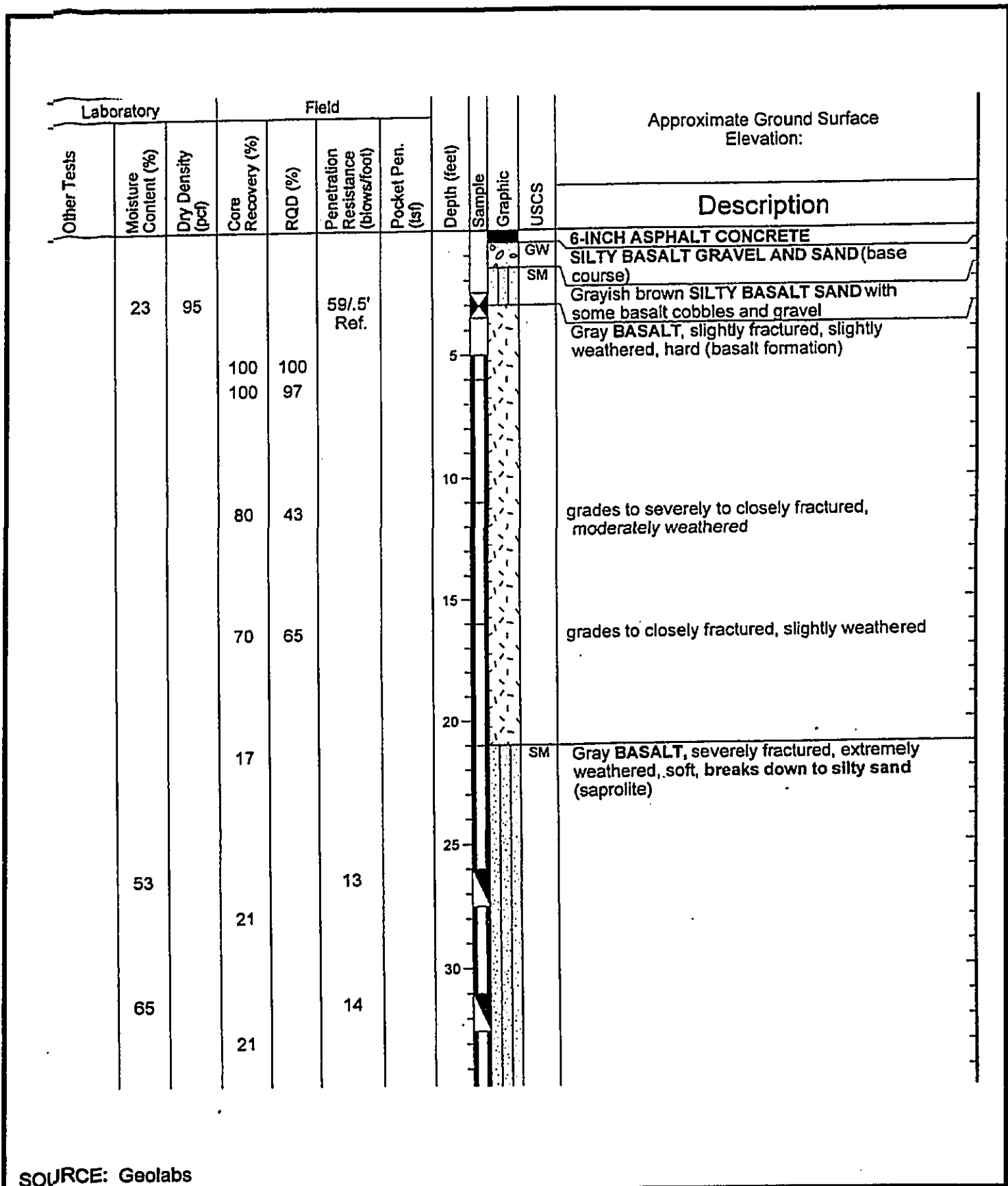


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FIGURE 8
 MP 19.18 USGS QUAD
 August 2003



SOURCE: Geolabs

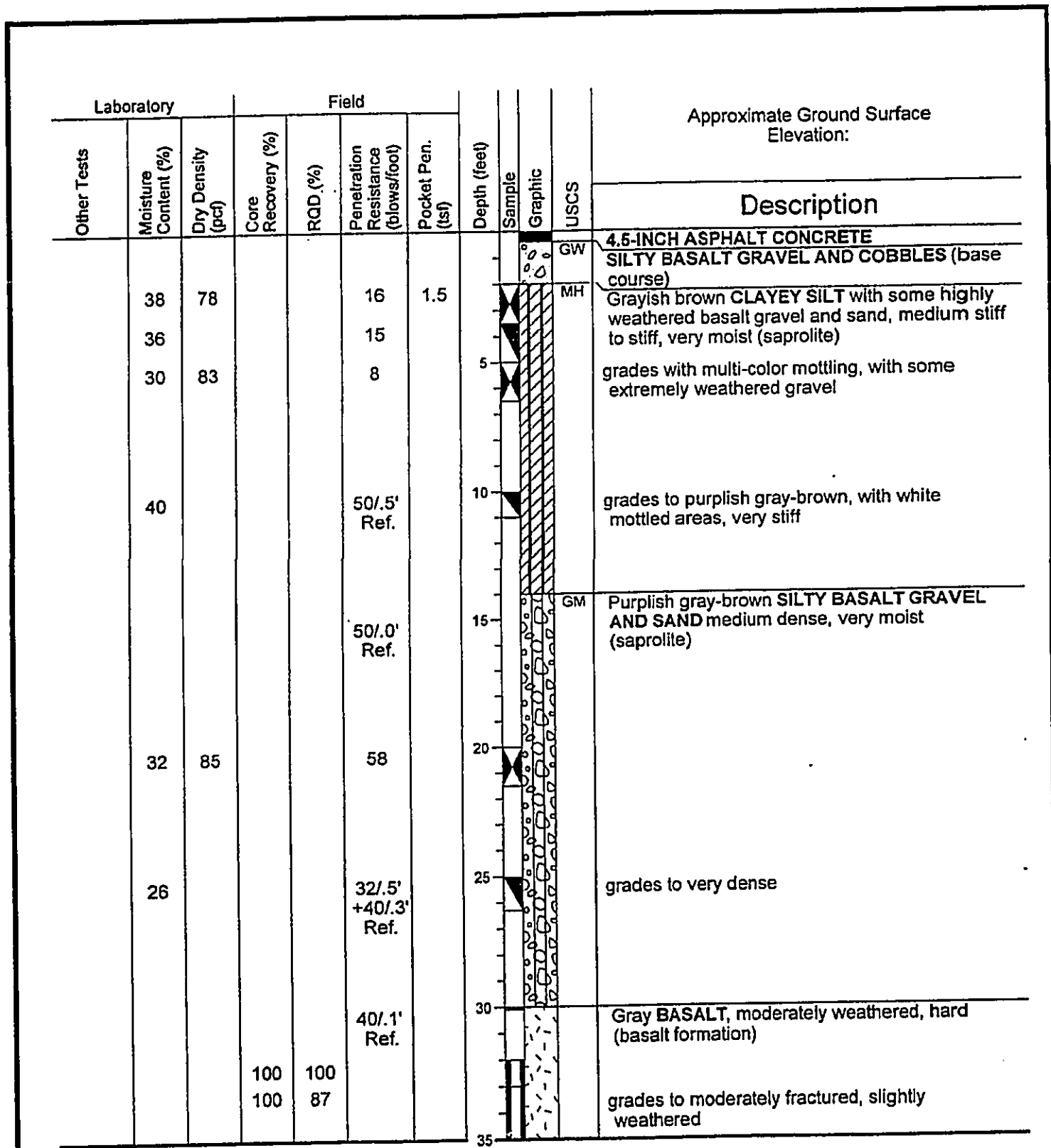


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HANA HIGHWAY
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FIGURE 9
 BORING LOG VICINITY OF MP 11.05
 August 2003



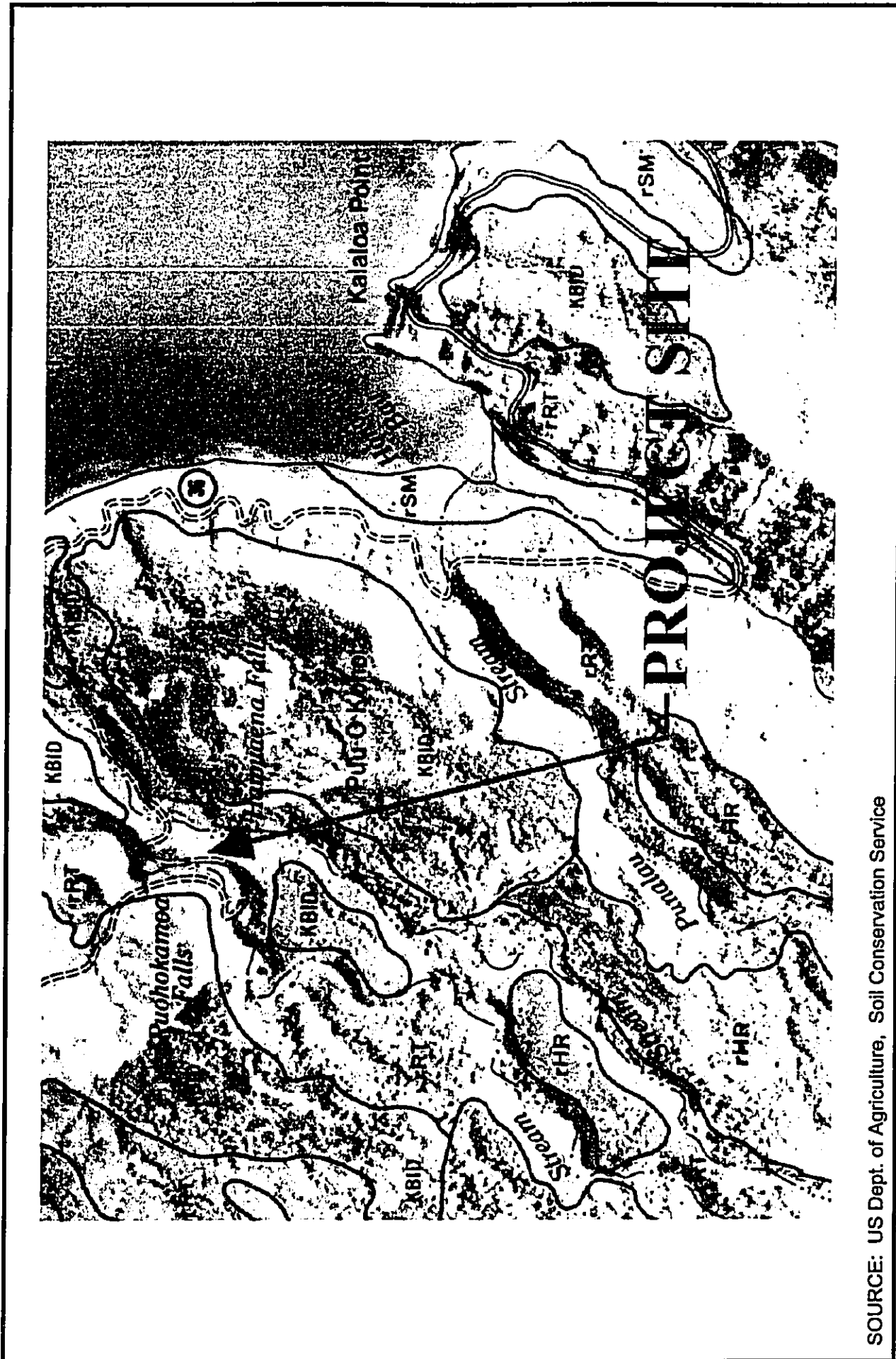
SOURCE: Geolabs



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HANA HIGHWAY
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FIGURE 10
 BORING LOG VICINITY OF MP 19.18
 August 2003

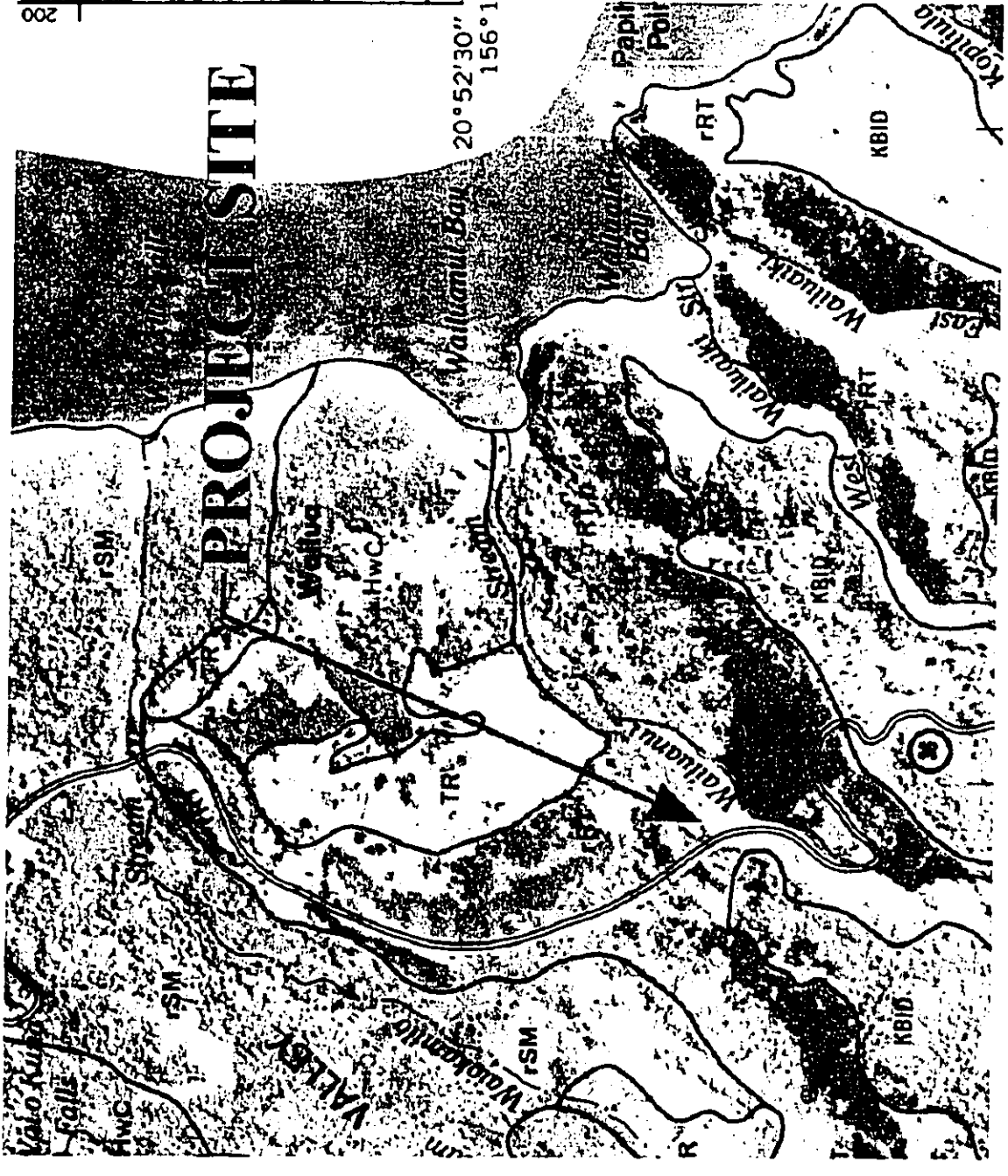


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**HANA HIGHWAY
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**FIGURE 11
 SOILS IN VICINITY OF MP 11.05
 August 2003**

SOURCE: US Dept. of Agriculture, Soil Conservation Service



SOURCE: US Dept. of Agriculture, Soil Conservation Service



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FIGURE 12
 SOILS IN VICINITY OF MP 19.18
 August 2003

5.1.6 WATER RESOURCES AND HYDROLOGY

Perennial streams exist near both project sites. MP 11.05 lies near the perennial Puohokamoa and Haipuaena Streams. The MP 19.18 project site is approximately one-third of a mile west of the perennial Wailuanui Stream.

These inland freshwater streams are classified by the Department of Health as Class 2 streams. All streams near the two project sites lead to marine waters surrounding the island. A review of Water Quality Maps indicates that these marine waters are Class AA.

5.1.7 NATURAL HAZARDS ROCK SLIDES

The DOT identified a stretch of Hana Highway as a high rockfall hazard area due to repeated maintenance actions and other factors as described in section 3.1. In response to this hazardous identification, the DOT commissioned Oceanit Laboratories to prepare a rockfall mitigation plan for this stretch of Hana Highway.

The DOT's *Rockfall Mitigation Plan* (Oceanit, 2000) surveyed the Hana Highway between MP 4.0 and 30.0. The *Rockfall Mitigation Plan* characterizes the basalt above the roadway as a very strong and porous rock, conducive to groundwater movement. The *Rockfall Mitigation Plan* notes that the rocks bounding the highway are inundated with streams, groundwater, waterfalls and springs. This water acts to increase the pore pressure of the soils which, in turn, increases the effective stress on these steeply sloped soils. The upper layers of the soils in region often consist of fine-grained silty clay or clay. These materials retain water until effective stresses increase and exceed soil cohesive strengths leading to slope failure. It is in areas of such soil deposits that occasional mudslides are reported by the DOT.

The *Rockfall Mitigation Plan* applied a rockfall hazard rating system developed by the Federal Highways Administration (FHWA) along this 26-mile stretch of Hana Highway. The results of the rating system indicate that these two project sites have a high estimated potential for rockfall onto the roadway.

FLOODS

The Flood Insurance Rate Map (FIRM) flood plain hazard maps designate the project site located between MP 11.05 and 11.31 as being in Zone C. A designation of Zone C means that the project area is subject to minimal threat from flooding (Figure 13).

A review of the FIRM map index for the project area between MP 19.18 and 19.52 indicates that the appropriate map (Community Panel 150003 0300) is not printed because the project area is under minimal threat of inundation due to tsunami. No information is given regarding the threat from flooding.

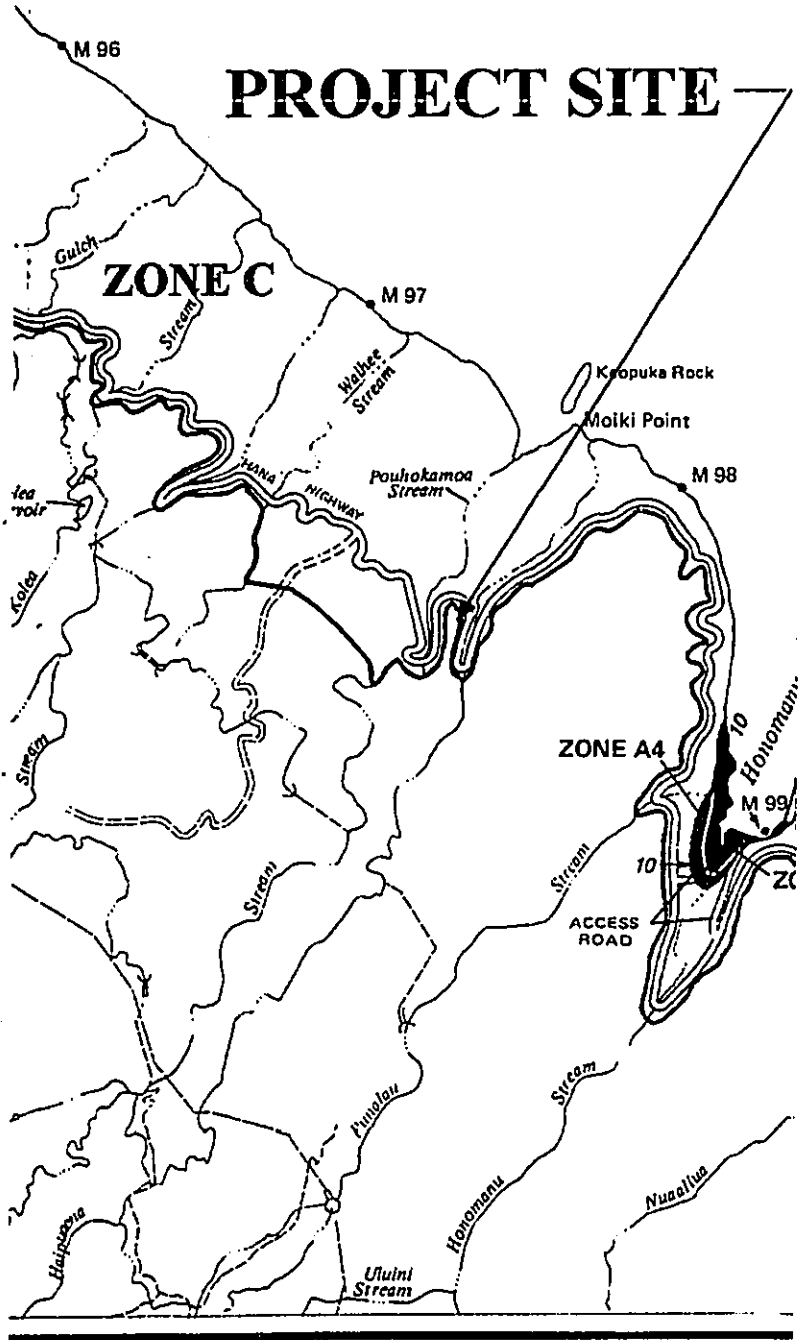
Oopuola Point



APPROXIMATE SCALE

2000 0 2000 FEET

PROJECT SITE



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

MAUI COUNTY, HAWAII

PANEL 225 OF 400
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
150003 0225 B
EFFECTIVE DATE:
JUNE 1, 1981



federal emergency management agency
federal insurance administration

SOURCE: Federal Emergency Management Agency



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**HANA HIGHWAY
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FIGURE 13
FIRM MAP VICINITY OF MP 11.05
August 2003

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 they are rare events. These storms bring very heavy rains that may contribute to soil and slope instability.

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 0-4.

5.1.8 FLORA AND FAUNA

The rough mountainous land described in Section 5.1.5 supports wildlife habitats and varied types of vegetation such as ohia, false staghorn, treefern, yellow foxtail, lantana, kukui and puakeawe (USDA, 1972). A draft environmental assessment (State of Hawaii, 1996) was undertaken for improvements to Hana Highway at MP 14.30. This assessment indicated that flora such as lehua, lauhala, bamboo were also found on ridges in the vicinity of the two proposed projects sites. This assessment determined that improvements in the vicinity of MP 14.30 would have no adverse effects on fish or wildlife resources.

The Hawaii Natural Heritage Program at the University of Hawaii was consulted for the location of any rare species or natural communities near either proposed project site. At MP 11.05, their records indicate the presence of a rare invertebrate species Pacific Megalagrion Damsselfly (*Megalagrion Pacificus*). This damsselfly is a candidate species that will be listed as Endangered in the near future. It was recorded at the location of the Haipuaena Stream at Hana Highway and was last observed in 1993. No rare species are recorded near the MP 19.18 project site (Appendix B.)

The Hawaii Stream Assessment ranks perennial streams for their biological significance. These ranks range from "limited" to "moderate" to "outstanding". Near MP 11.05, Puohokamoa and Haipuaena Streams are ranked as limited. Biologically, these streams contain some native stream species but not enough to warrant them as biologically significant. Near MP 19.18, the Wailuanui Stream is ranked as outstanding and is considered highly biologically significant with native stream species.

In January of 2003, the U.S. Fish and Wildlife Services (USFWS) verbally informed the DOT that the two project areas are not located within critical habitat boundaries and do not appear to be in areas of endangered plants. In February of 2003, the USFWS again informed the DOT verbally that they do not believe there are endangered animal species in the vicinity of the proposed project areas. In March of 2003, written confirmation of the above statements has been received from the USFWS (Appendix B).

5.1.9 VISUAL

The two project sites are very rural in nature. Steep, vegetated slopes are located above and below the project sites (Figures 2 and 3). Unobstructed viewplanes extend from the mountains to the ocean from both elevated project sites. No buildings or dwellings are located at either project site; however bridges crossing streams are located within several hundred feet. The two project sites are visible from viewpoints on opposite sides of the gulches as one travels along Hana Highway. Wailua Bay lookout is located near the project site designated as MP 19.18.

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 Department of Land and Natural Resources' Historic Preservation Division (SHPD) to determine the presence, if any, of cultural resources. An SHPD review determined that "no historic properties will be affected by the undertaking" (Appendix C)

A review of the SHPD's Inventory of Historic Properties website indicates that there are no historic properties near the MP 11.05 site. Four heiaus are listed within a one-half mile radius of the MP 19.18 project site. These are: the Kualani Heiau which appears to be located in the vicinity of the MP 19.18 site, the Makehau Heiau located one-quarter mile downslope in Wailua Homesteads, the Kupau Heiau located one-half mile upslope and the Kamokukupeu Heiau located one-half mile to the north.

5.2.2 PUBLIC SERVICES/INFRASTRUCTURE

No public services or infrastructure exist in the vicinity of either project site.

5.2.3 NOISE

The two project sites are located in remote, rural areas. No industrial or commercial activities occur near the project sites. 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 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 either proposed project site.

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. Very low population densities such as these are true of both project sites.

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 two project sites 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 two project sites. 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 either of these projects, compliance with EO 12898 is not required for this EA.

However, mitigation strategies proposed for both project sites 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 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. Specific portions of the Hawaii State Plan related to proposed rockfall mitigation at the two project sites is as follows:

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

(b)(4): “Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.”

Section 226-13 Objectives and policies for the physical environment – land, air, and water quality.

(b)(5): “Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.”

5.4.2 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.

Parcels adjacent to the MP 11.05 project site include TMK: 1-1-001 parcels 052 and 044. Parcel 052 is classified by the State as Agricultural and Rural. The State classifies parcel 044 as Conservational – (general conservational).

Parcels adjacent to the MP 19.18 project site include TMK: 1-1-008: parcels 001 and 005. Both parcels 001 and 005 are classified as Agricultural and Rural and Conservational.

Specifically, the Land Use Law relates to the two proposed project sites 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.”

5.4.3 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.

5.4.4 PROPERTY OWNERSHIP

Two properties lie adjacent to the proposed project site at MP 11.05. They include those properties identified as TMK: 1-1-001: parcels 044 and 052. Both parcels are owned by the State of Hawaii.

The two properties adjacent to the proposed project site at MP 19.18 are identified as TMK: 1-1-008: parcels 001 and 005. Both of these parcels are owned, also, by the State of Hawaii.

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 either project area. Therefore no mitigative measures are required.

6.2.2 AIR QUALITY

The principal sources of air pollution associated with these two projects 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 is 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.

Realignment of the roadway is not expected to generate increased emissions due to domestic vehicular traffic. The Hana Highway is an existing roadway. The proposed projects will alter roadway alignments only and will not open a new travel corridor.

Construction activities will incorporate dust control measures and Best Management Practices (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 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 be continue to be used and cantilevered portions of the realigned roadway will be supported by shafts drilled at least 25 feet into the hillside. Therefore no mitigation measures are required.

6.2.4 SOILS

No short-term or long-term adverse impacts to the climate are anticipated in either 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 two project sites may temporarily affect these two water resources. Stormwater runoff from the construction sites 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 projects. No long-term effects are anticipated.

It is anticipated that the size of each construction site will exceed one acre and therefore a National Pollution Discharge Elimination System (NPDES) permit will be required. This permit will incorporate mitigative BMPs to prevent project site runoff or groundwater effluent from causing deterioration of the stream(s) water quality. Temporary water pollution control measures to eliminate siltation of the adjacent streams 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 proposed projects will have a positive impact on the dangers of rockfalls along Hana Highway in the vicinity of the two sites. Prevention of slides onto the roadway will eliminate the inconvenience of temporary road closures, expenditures of maintenance monies to clean up the debris as well as increasing public safety. These beneficial impacts will be both short-term and long-term.

FLOODS

Neither project site is located in a flood zone. Drainage occurs in a sheet-flow manner. Roadway realignment 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, erection of concrete barriers at the MP 19.18 site may redirect some drainage flow but is not anticipated to affect overall area drainage flow patterns. No adverse impacts are anticipated for the long-term. Therefore no mitigation measures are required.

HURRICANES

Implementation of rockfall mitigation 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 cantilevered roadway and its appurtenances.

6.2.7 FLORA AND FAUNA

Realignment of the Hana Highway to accommodate a cantilevered roadway and slope cutting will result in short-term adverse impacts on local vegetation. Various areas will be disturbed during construction activities such as emplacement of meshing, drilling, grading, etc. Nearly all of the excavation and drilling work for the cantilevered structure at MP 19.18 will be done within the existing pavement limits of the roadway. The proposed slope cutting and draped mesh at MP 11.05 will require excavation and existing plants will grow through the mesh openings. The anticipated project durations are short and are not expected to impose long-term negative effects. Disturbed areas will be revegetated upon completion of construction activities to mitigate the short-term effects. The use of uluhe has been suggested by the public and is being considered by the DOT.

As no endangered wildlife habitats are noted in the EA for Hana Highway improvements at MP 14.39, no endangered wildlife habitats are anticipated to exist in the vicinity of the two proposed project sites. Therefore, no mitigative measures are required.

Only the MP 11.05 project site is located near the habitat of a rare species. Construction activities are expected to be localized and of short-term duration. Most construction activities in this site are located within the existing paved roadway and are not expected to impact upon the damselfly's habitat. Meshing construction is such that existing plants will be able to grow through the mesh and it is not expected to exert long-term or cumulative impacts. 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 drilling, grading, pouring of concrete, paving and erection of various retention barriers and the draped mesh. No significant short-term impacts are anticipated and therefore no mitigation measures are required.

Erection of rockfall retention devices will exert long-term adverse impacts on the visual resources in the vicinity of the two project areas. Both fencing and draped meshing will be permanent. To minimize the impact of these permanent rockfall mitigation features, specifications within the contract documents will require a coating for both types of fence fabric that is made of green or black PVC in order to blend the fabric in with the background. In addition, it is anticipated that vegetation eventually will grow over and engulf the draped meshing and provide a visual block of the draped meshing.

Attempts will be made to maintain the original character of the highway. If the original highway segment utilized metal guardrails, new metal guardrails will be installed. The new metal guardrail will not be the three-beam type. If existing rockwalls are present, new rock walls or concrete walls with a textured and stained finish will be installed to match the area. Exposed concrete will be stained to match the surrounding areas and exposed cut areas will be revegetated by using hydromulch and native plant species.

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. Currently, based on a review of SHPD's website, no historic sites exist near the MP 11.05 site and only the Kulani Heiau exists near the proposed MP 19.18 project site. It is unlikely that significant historic sites exist within the Hana Highway right-of-way due to prior road-construction activities. However, work outside the existing right-of-way potentially could uncover historic resources.

In order to mitigate the impact of construction activities upon any potential resources, SHPD has reviewed the proposed work area and indicated that "no historic properties will be affected by this undertaking." 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. Should the Contractor uncover any cultural resources during his construction activities, he will be required to stop work immediately and notify the SHPD of his finds. SHPD will then determine the appropriate treatment of these new finds. The DOT will comply with all SHPD requirements.

Although no significant historic sites are anticipated to be encountered, the HDOT is cognizant that Route 360 Hana Highway is listed on the 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. Despite the high cost, the cantilever structure was chosen since it was the least visible and because of the numerous positive comments that the HDOT has received from the public.

6.3.2 PUBLIC SERVICES/INFRASTRUCTURE

No public services or infrastructure exists in the vicinity of either proposed project area. Therefore, no short-term, long-term or cumulative adverse impacts are anticipated. No 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.

Realignment of the roadway to enact rockfall mitigation measures will replace 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. In public information meetings held by DOT, the residents and businesses requested that daytime road closures be minimized. Night road closures were generally acceptable to the affected residents and business owners.

Due to the extremely constricted work area, for construction and public safety reasons, it is infeasible to keep the roadway partially open at all times. Certain work activities will require complete road closures during daylight hours so that the work can be done in a safe manner. Such activities would include: removal of large trees, slope cutting in high areas, installing draped mesh, excavating for the reinforced road slab, installing reinforcing steel, and placing concrete for the concrete road slab. To reduce traffic impacts, complete daytime road closures will be allowed to these activities only and the proposed road closure hours are shown in Table 6.1 below.

TABLE 6.1
ANTICIPATED ROAD CLOSURE HOURS
(For road slab excavation & construction)

No lane or Road Closures	4:30 AM to 8:30 AM
One lane or partial road closure, 20-minute maximum waiting time	8:30 AM to 11:30 PM
Complete Road Closures	11:30 AM to 3:30 PM
No lane or Road Closures	3:30 PM to 9:30 PM
Complete Road Closure	9:30 PM to 4:30 AM

The above table describes the proposed construction and road closure hours during reinforced concrete road slab excavation and construction. It is estimated that MP 11.05 site will utilize this schedule for approximately 3 weeks duration and the MP 19.18 site will utilize this schedule for approximately 10 weeks duration.

Incentive and disincentive clauses in the construction contract to minimize daytime closures are being considered by 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 the affected communities and traveling public.

Once construction work for the: large tree removal, slope cutting in high areas, installing draped mesh, and reinforced roadway slab is completed, complete daytime road closures will not be allowed and this requirement will be stated in the construction contract. Road closures involving contra-flow traffic with a 20-minute maximum waiting time will be allowed in the daytime. Table 6.2 shows the proposed road closure hours for all other activities excluding construction of the reinforced roadway slab.

TABLE 6.2
ANTICIPATED ROAD CLOSURE HOURS
(For all other work activities)

No lane or Road Closures	4:30 AM to 8:30 AM
One lane or partial road closure, 20-minute maximum waiting time	8:30 AM to 3:30 PM
No lane or Road Closures	3:30 PM to 9:30 PM
Complete Road Closure	9:30 PM to 4:30 AM

The above table (6.2) describes the proposed construction and road closure hours during all other work activities. It is estimated that MP 11.05 site will utilize this schedule for approximately 5 weeks duration and the MP 19.18 site will utilize this schedule for approximately 6 weeks duration.

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

Emergency response vehicles will be allowed to traverse the construction site at all times.

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 the various County of Maui bridge replacement projects, DOT will also attempt to schedule construction of this project to avoid concurrent complete road closures with the County bridge projects.

6.3.5 RECREATIONAL FACILITIES

No recreational facilities exist in the vicinity of the proposed project areas. Therefore, no short-term, long-term or cumulative adverse impacts are anticipated. No mitigative measures are required.

6.4 SOCIO-ECONOMIC

6.4.1 DEMOGRAPHICS

Implementation of the rockfall containment measures will replace the existing unprotected Hana Highway. 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

Roadway realignment and its associated rockfall mitigation measures will replace existing portions of the Hana Highway. It is not likely to induce or reduce economic growth in the Hana District in the short-term, long-term or cumulatively. Existing lifestyles in the area will not be altered for the short-term, long-term or cumulatively. Discontinuous and necessary road closures will be scheduled to allow for vehicular traffic during the day so that residents may travel to and from work and tourists may visit the area. It is anticipated that work will occur only on weekdays and not on weekends or holidays.

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

These proposed projects are funded entirely by state monies and are not federally funded. Therefore the 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 temporary road closures along the Hana Highway. This impact will be of short-term duration and will last only for the life of the projects. Periodic opening of the roadway during daytime hours will allow for travel along Hana Highway at specific times.

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

6.5 LAND USE

6.5.1 HAWAII STATE PLAN

Two objectives of the Hawaii State Plan are the preservation of scenic views and the reduction of threats to life or property from erosion. The proposed actions are consistent with both of these objectives.

Roadway realignment will replace existing stretches of roadway and will not alter scenic viewplanes along Hana Highway. Fencing or draped mesh will have green PVC coating to soften any visible appearances after construction and will not alter scenic vistas.

Implementation of rockfall mitigation measures will act to protect both life and property. Rock slides will be prevented from entering the travel lanes of the Hana Highway.

6.5.2 STATE LAND USE LAW

Proposed actions to mitigate rockfall hazards are consistent with the Hawaii State Land Use Law. Public roadways are a permissible use of agricultural land.

6.5.3 COUNTY OF MAUI

The proposed projects are consistent with County of Maui's General Plan. Specific land use objectives contained in this plan include the use of land for social and economic benefit of County residents and the preservation of agricultural lands. Planned rockfall mitigation strategies will provide social and economic benefits to County residents

through increased roadway safety and utility and decreased maintenance expenditures. 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 both project sites are owned, also, by the State of Hawaii. The proposed rockfall mitigation actions will require the DOT to acquire that land or obtain an easement in favor of the DOT for maintenance purposes. In either event, land ownership will be retained by the State of Hawaii. Therefore no adverse impacts are foreseen on property ownership for the short-term, long-term or cumulatively. No mitigation measures are required.

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

Erosion of the slopes above and below the roadways will continue. Erosion of the downslopes will continue to contribute to the failure of the foundation soils as well as the traveled road surface. Eventually portions of the roadway may collapse. Erosion of the upslopes will continue to contribute to rockslides that create roadway safety hazards and maintenance requirements. The DOT recognizes that unstable slopes are a problem along the stretch of Hana Highway between MP 4.0 and 30.0 and is proceeding with systematic improvements to those portions identified as having a high potential for rockfall. Selection of a "no-action" option would not be consistent with improvements to Hana Highway now underway and therefore this option is eliminated.

7.2 CATCHMENT ALTERNATIVES**SLOPE CUTTING**

Slope cutting involves removal of portions of a hillside in order to create the roadway setback. However, slopes adjacent to the roadway in some locations are too steep and tall, or too rocky and fragmented to permit slope cutting in certain areas.

The geology at MP 19.18 makes slope cutting difficult and dangerous. Additionally, to create sufficient space for the rock catchment areas, it is anticipated that a vast amount of excavation will be required. This will result in a construction period that will be considerably longer than the proposed roadway cantilever option. Various road users and especially the Keanae and Hana communities will be impacted for a longer period and therefore this option is considered not recommended.

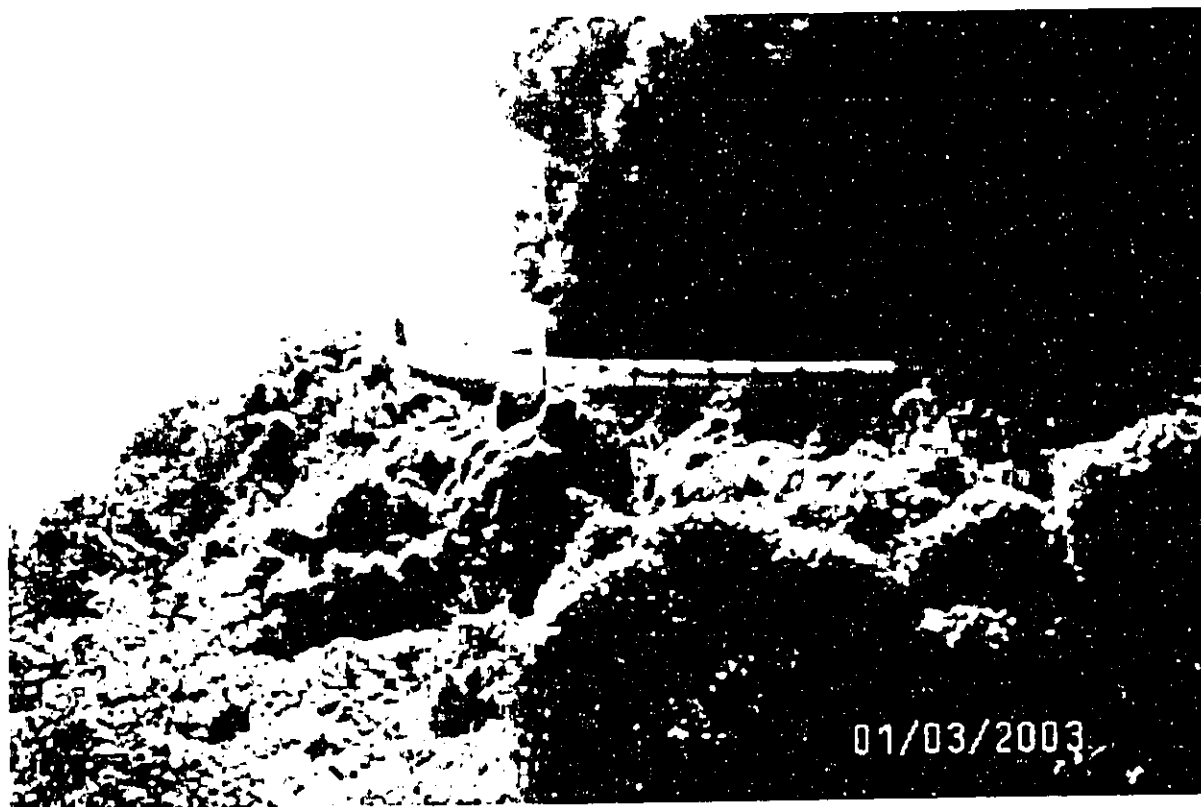
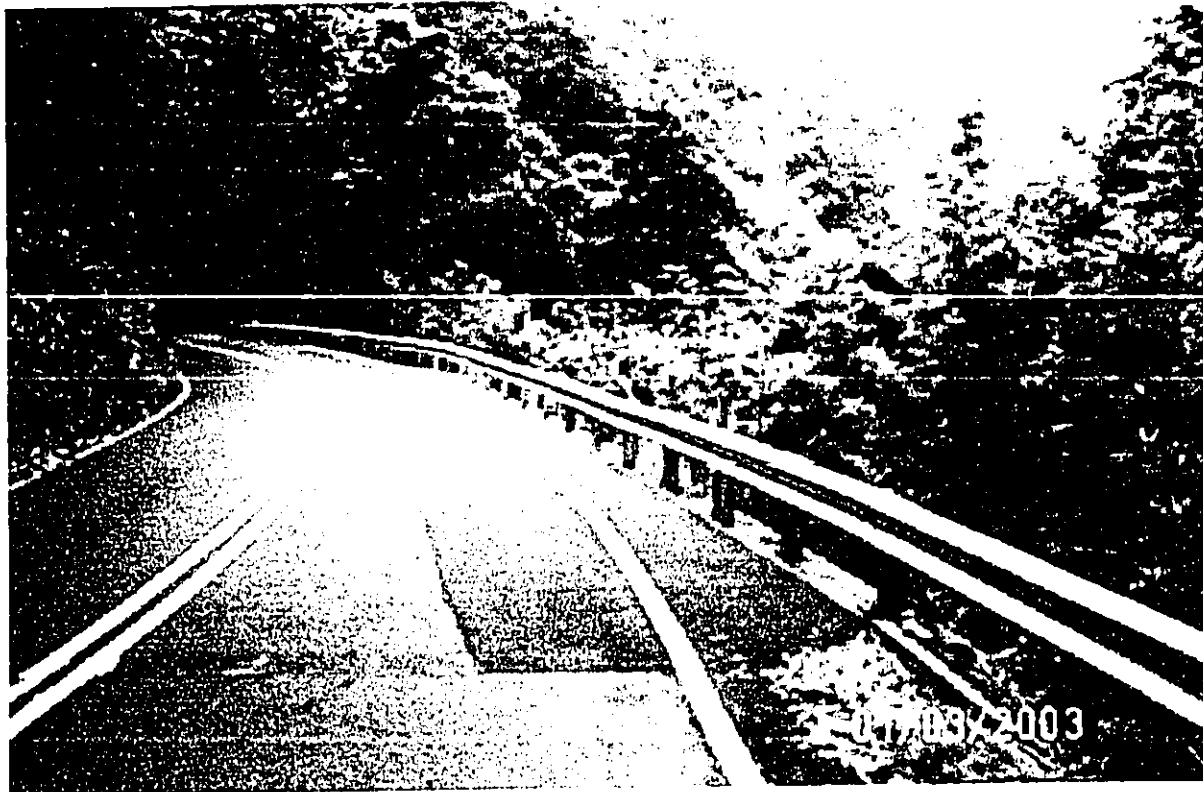
In other areas, slope cutting is a viable alternative depending on the height of the slope, steepness, composition, ground cover, and other factors. At the MP 11.05 site, slope cutting is possible and the estimated construction period is anticipated to be shorter than other options. Public opinions based on actual experience or on the expected finish product of slope cutting measures varies. The Maui County Cultural Resources Commission expressed its preference to slope cutting at this site in trying to maintain the original roadway character by introducing the least amount of new structures.

GABIONS

Gabions are in use now along the Hana Highway. Public input at the community meetings was against the use of more gabions, therefore this option for rock catchment was not considered.

7.3 ROAD SUPPORT ALTERNATIVE

This project considered the construction of a retaining wall to support the realigned roadway. Both project sites are limited in space with steep slopes makai of the roadway. A deep retaining wall is required to achieve a stable foundation and construction of this deep retaining wall will involve significant excavation and backfill and require long road closures. Areas required for excavation and construction of the retaining walls will be



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Honolulu, Hawaii 96813

HANA HIGHWAY
ROCKFALL MITIGATION

PROJECT NO. 360-AB-02-98
STATE DOT - HIGHWAYS DIVISION

FIGURE 14
PREVIOUSLY COMPLETED
CANTILEVER STRUCTURES
August 2003

bare and exposed for long periods and increases the risk factor of erosion of these exposed cuts. Undermining or collapse of the exposed cuts to install the deep retaining walls, in combination with other excavation already encroaching on the existing pavement areas, may prevent vehicular travel through the work sites. As Hana Highway is the only road in/out of Hana, the risk presented by this option is deemed unacceptable.

Construction of deep retaining walls will require footings that are located much nearer to adjacent streams. Controlling sedimentation during the construction periods then becomes increasingly more difficult. Therefore, this option is not feasible.

The roadway cantilever structure has been used at five other locations on Hana Highway in a previous project to restore portions of the highway. Although the completed structure may realign the roadway to create rock catchment areas, it is the least visible of all options and has received favorable comments from community members. Exposed portions of the structure such as the outer edge of the cantilever slab and new guardrails can be textured or stained to help blend it in with the surrounding environment (Figure 14). Daytime complete road closures required for the construction of the structure will be one of the shortest when comparing this with other options. For these reasons, the cantilever structure remains one of the preferred options.

SECTION 8

DETERMINATION

In accordance with Chapter 343, Hawaii Revised Statutes, this draft Environmental Assessment characterizes the technical, social and environmental issues related to Rockfall Mitigation along Hana Highway. 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.

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 rockfall mitigation strategies will not irrevocably commit to loss or destruction any natural or cultural resources. Roadway realignment will occur in portions of an existing roadway. Only one cultural resource has been identified in the vicinity of the MP 19.18 project 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 realignment of an existing roadway and erection of barriers within the existing right-of-way or upon steeply sloped land. 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 rockfall mitigation 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. Strategic scheduling of intermittent road closures during the workday will permit residents and tourists to continue to utilize the roadway during the construction periods.

5. *Substantially affects public health:*

The proposed activities will not substantially affect public health in a negative manner. Rockfall mitigation strategies will substantially improve safety to the motoring public through the prevention of rockslides entering the traveled motorway.

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

Rockfall mitigation will not lead to secondary impacts such as population changes and effects on public facilities. The proposed actions will realign portions of an existing road and erect containment measures and rockfall barriers along the realigned portions of the road.

7. *Involves a substantial degradation of environmental quality:*
Rockfall mitigation proposed at MP 11.05 and MP 19.18 will not degrade environmental quality. The existing rural and agricultural quality of Hana District will remain. Proposed improvements will replace portions of an existing road with a realigned roadway. Catchment methods will be designed to be unobtrusive and blend in with the surrounding environment.

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

Although there are 35 rockfall sites identified in the Rockfall Mitigation Plan, this EA covers only the two sites being addressed in this project for the following reasons:

- A. Since each site has its unique characteristics, rockfall mitigation strategies may vary substantially between sites. Impacts caused by mitigation strategies will vary with the option chosen.
- B. Detailed investigation and engineering is needed at each site to determine the most appropriate site-specific rockfall measures.
- C. The cost to do such an undertaking for all 35 sites at one time is cost prohibitive. This undertaking will need to be done incrementally as public funding becomes available.
- D. Even if engineering for all 35 sites are done and environmental concerns are addressed at this time, implementation is anticipated to take 20 to 30 years due to the high anticipated construction costs. Since design standards and environmental laws have historically changed over time, such changes which will likely result in redesign or a reassessment of the previously designed mitigation measures.

For the above reasons, the cumulative impacts of all 35 sites cannot be quantified since detailed engineering for all 35 sites was not done at this time. As funding becomes available, separate EAs will be prepared for each follow-on project.

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

The proposed projects will not substantially affect any rare, threatened or endangered species or its habitat. The habitat of one rare species, the Pacific Megalagrion Damselfly, was identified as being located near the project site MP 11.05. However, construction will be localized and of short term duration. The installation of meshing will allow for the continued growth of native vegetation

will not exert long term impacts on the damselfly's habitat. No other rare, threatened or endangered species were identified in the vicinity of either proposed project site.

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

The proposed projects will not substantially degrade environmental quality. Any 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 projects 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 projects are located in an environmentally sensitive zone that is erosion-prone. Construction of rockfall containment will exert a positive impact to prevent future rockslides from entering the traveled roadway. The proposed project areas are not located in a flood plain, tsunami zone, beach, geologically hazardous land, estuary, fresh water or coastal water.

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

Proposed mitigation strategies will not affect substantially any scenic vistas. Construction of the cantilevered portions of the roadway will replace existing roadways and will have low guardrails on the makai side of the roadway. Protective fencing or mesh will be coated with green or black PVC to blend in with the surrounding environment. It is anticipated that the natural vegetation will grow through the PVC-coated mesh.

13. *Requires substantial energy consumption:*

Rockfall mitigation 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.

SECTION 10

PERMITS AND APPROVALS REQUIRED

FEDERAL

None

STATE

- Department of Land and Natural Resources: Conservation District Use Application
- Department of Health: National Pollution Discharge Elimination System (NPDES) Permit
- Department of Transportation: Work Within State Highway Right-of-Way

COUNTY OF MAUI

- Planning Department: Special Management Area Permit

SECTION 11

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APPENDIX A
RECORD OF PUBLIC MEETINGS

State of Hawaii
Department of Transportation (DOT)
Hana Highway Improvements
Island of Maui

MINUTES

DATE/TIME:

PLACE HELD:

May 7, 2002/7:00 p.m.

Keanae Baseyard

May 8, 2002/7:00 p.m.

Helene Hall, Hana

May 9, 2002/7:00 p.m.

Haiku Community Center

HANA DESIGN TEAM:

Mr. Scott Urada - Department of Transportation (DOT)

Mr. Freddie Cajigal- DOT

Mr. Clayton Mimura (Geolabs, Hawaii)

Mr. Alan Tomita - M&E

Ms. Diane Kodama - M&E

Mr. Jong Namgung - Mitsunaga & Associates

COMMUNITY:

See attached sign in sheet for community members

PURPOSE: Hana Public Meetings Summary

DISCUSSIONS:

1. At each community meeting, the design team presented the attached powerpoint presentation which discusses the existing and future projects and options for the rock mitigation project.
2. The rock options are cantilevered roads which similar to the roads currently being constructed by Kiewit, draped mesh, similar to the mesh on the Honoapiilani Highway on the way to Lahaina, and slope cutting which was done on Hana Highway approximately 4 years ago by Goodfellow. Some kind of rock catchment will need to be constructed for all options.
3. We then proceeded to ask the community members what their thoughts were on the rock mitigation project.
 - a. Keanae - (Attendees: Alan Tomita, Diane Kodama, Clayton Mimura, Ferdinand Cajigal, Scot Urada, Aileen Lee) Aileen Lee suggested that we do the draped mesh with the black bamboo foliage to hide the mesh. The black bamboo has a pretty sturdy root system and may be a viable option. Aileen would urge the Keanae community to do a test plot with the bamboo. We also discussed the types of catchment and Aileen was particular toward the fencing shown on the presentation.
 - b. Hana - (Attendees: Diane Kodama, Clayton Mimura, Scot Urada, Tom Tyler) Tom Tyler has been living in Hana for a couple of years. He understood the methods that were presented and stated that he would post the powerpoint presentation handout at the post office for more to see.
 - c. Haiku - (Attendees: Diane Kodama, Clayton Mimura, Jong Numgong, Ferdinand Cajigal, Scot Urada, Dawn Duensing) Dawn Duensing is a historian and actively

involved with the State agencies governing the SMA and EA permit processes. One major thing that Dawn stated was that the alignment of the Hana Highway is historical and if we proposed to widen the road say 10' and change the alignment, it would affect the historic nature of the highway. Dawn said that the CRC is concerned that by doing so on future projects, the cumulative effect of all these realigning of the highway would have a significant impact to the historic nature of Hana Highway. We had discussed the possibility of incorporating all 3 methods to achieve safety on the roadway and informed Dawn that even if slope screening is used, we still need to provide a rock catchment area.

- d. General -At least two of the three people attending the meetings appeared to lean toward the draped mesh. Draped mesh may be the most feasible at the 11 mile marker but the 19 mile marker is 325 ft high and may need not only the mesh but maybe also the cantilever and the slope cutting.

4. Based on the above discussions the design team has decided to proceed as follows:

- a. M&E will topo the rockfall mitigation areas
- b. Geolabs will evaluate the two areas and determine if a cantilever structure would be feasible.
- c. A decision will be made as to what option or combination of options appears to be the most viable after Geolabs assessment of the rockfall areas.
- d. An environmental assessment will be prepared based on the most viable option. *Since it appears that the road closures will be required, night work will be specified and the selling point will be selecting an option that would minimize road closures. HWY-DS will modify the Time of Performance of M&E's contract to reflect the duration of preparing the EA and public comment period.*

State of Hawaii
Department of Transportation (DOT)
Hana Highway Improvements
Island of Maui

MINUTES

DATE/TIME:

PLACE HELD:

March 18, 2003/7:00 p.m.

Helene Hall, Hana

March 19, 2003/7:00 p.m.

Keanae Baseyard

March 20, 2003/7:00 p.m.

Haiku Community Center

HANA DESIGN TEAM:

Mr. Scot Urada - Department of Transportation (DOT)

Mr. Freddie Cajigal- DOT

Mr. Clayton Mimura (Geolabs, Hawaii)

Ms. Diane Kodama - M&E Pacific

COMMUNITY:

See attached sign in sheet for community members

PURPOSE: Hana Public Meetings Summary

DISCUSSIONS:

1. At each community meeting, the design team presented the attached powerpoint presentation which discusses the existing and future projects and options for the rock mitigation project.
2. The rockfall mitigation options are cantilevered structures similar to that recently constructed by Kiewit Construction on another project, draped mesh, and slope cutting which was done on Hana Highway approximately 5 years ago by Goodfellow Bros. The recommended options are as follows:
 - a. MP 11.05: Cantilever & Mesh or Slope Cutting & Mesh
 - b. MP 19.18: Cantilever & Barrier
3. We then proceeded to ask the community members what their thoughts were on the rock mitigation project.
 - a. a. Hana – (Attendees: Ferdinand Cajigal, Diane Kodama, Clayton Mimura, Scot Urada, 8 Community Members, see attached list)
 - 1) Carl Lindquist asked if the mesh was tested. Clayton stated that the mesh was not tested in Hawaii but used extensively in the mainland. The trees would create a problem for the mesh and therefore is not recommended for MP 19.18.
 - 2) Chuck Thorpe stated that he thought the mesh was good and felt that the plants would stabilize the rocks.
 - 3) The EA has a road schedule from the previous project and Cheryl Mendonca stated that the traffic hours has changed since then and the busy hours change from MP to MP. The previous schedule was based on traffic counts at MP 14.

- 4) Sandi Simoni suggested that the State and County coordinate their project to ease traffic. The County has several bridge projects that will affect traffic also.
- 5) Generally, everyone appeared to be aware of the death of a teacher a few years back from a falling rock. Another person died during construction on the Hana Highway.
- 6) It was suggested that Police should try to help and remove rocks on the road. It was observed by a few community members that police just pass the rocks on the road. Everyone agreed that there are rocks on the road but they haven't seen any major blockages. Clayton stated that the Rock Mitigation Report by Oceanit reports that the sites identified have the most likelihood of having falling rocks and just because it hasn't happened in the last 20 years, it still could happen tomorrow.
- 7) The community as a whole did not care for the rock catchment fence.
- 8) David Campbell expressed that during the last construction project, the visitor industry community was aware of the road closure schedule but the tourist still got the message that the road was closed and not a partial closure.
- 9) The community expressed that the Hana Highway is the number 1 tourist attraction in Maui and aesthetics is the number 1 priority. DOT explained that because the study was done and since DOT is aware of the safety hazard or potential safety hazard, DOT must begin something to address this.
- 10) The cantilever project that was completed in 2002 received good reviews by the community however DOT explained that this project was a road stabilization/restoration project and not a rock mitigation project. The roadway width was restored to 2-lanes in 4 of 5 locations. The projects have different goals and need to be looked at differently.
- 11) There are two options at MP 11.05 with an approximate \$3M difference in price. The community asked if the \$3M can be used for other projects such as a bathroom facility. DOT explained that the funds are appropriated for specific projects. In this case, the appropriated State funds cannot be used for other purposes.
- 12) Sandi Simoni stated that she had called Bob Carroll's office and they were not aware of the public meetings. It was suggested by the community to have more advance notification of the project. Scot Urada stated that flyers were made and should have been posted at the community bulletin boards. DOT will look into publicizing the meetings more effectively in the future. A meeting attendee suggested that KAPA radio in Kona could be used as a public announcement tool since it can be received in Hana
- 13) The question was also brought up if another public meeting was going to be held before the beginning of construction. Scot Urada said that no other Public Meetings were planned before the start of construction.
- 14) Hana businesses are busiest in June, July and August and businesses generate the majority of their yearly revenue during this 3-month period. Is there a way to avoid construction during these months? DOT said that attempts will be made to schedule the project around this period. At the same time, DOT will need to check with the Maui County to see their project schedules.

- 15) The majority of the community is in favor of night work only. Clayton stated that installation of the mesh and slope cutting were construction items that might be too dangerous for the workers to do at night.
- b. Keanae – (Attendees: Diane Kodama, Clayton Mimura, Ferdinand Cajigal, Scot Urada, 8 Community Members, see attached list)
- 1) Aileen Lee was concerned if the mesh was safe. She felt that the mesh anchors at the top of the mountain will crumble and be let go. Clayton Mimura explained that the anchors are embedded deep within the rock and will not cause instability of the slope.
 - 2) Laura Straight indicated that she felt mesh was okay if the native plants will grow through and hide the mesh. But also stated that she hated the concrete barriers, fences and gabions. Scot pointed out that the walls can be designed to look like a rock wall. Certain community members seemed to accept the idea of a fake rock wall.
 - 3) The question was asked if the fake rock wall could hide the fence. Geolabs will do more tests to see if this is possible.
 - 4) Pualani Kimoke who has worked for Kiewit and Dick Pacific on the previous projects said that Kiewit kept road closures to a maximum of 20 minutes and was acceptable to the community. Concrete trucks were the main cause of road closures. Pualani stated that she preferred the mesh.
 - 5) David Campbell reviewed the discussion from the previous Hana meeting for everyone's information.
- c. Haiku – (Attendees: Diane Kodama, Clayton Mimura, Ferdinand Cajigal, Scot Urada, 8 Community Members, see attached list)
- 1) David Campbell again reviewed the discussions from the Hana and Keanae meetings for everyone's information.
 - 2) Attendees noted that in past projects, newspaper emphasizes that Hana Road will be closed and can the media be controlled to not use the word "closure". DOT responded that unfortunately they cannot control the media.
 - 3) The construction schedule is not accurate for road closures during the day and people need to be notified of the time on a daily basis. It was understood that the Contractor cannot set a certain schedule for the entire period and if a hotline can be utilized that would help. The hotline should have at minimum a daily update recording of the day's activities. In the past projects, a number would be posted, but when people called the number, many times no-one would answer.
 - 4) Armin Engert reported that a Chicago newspaper had an article of a Hana Road Closure.
- d. General – The majority of the community liked the cantilever and considers it a safe alternative. The main concerns were aesthetics, road closure and economic effect.
- e. Scot passed out surveys at each of the meetings and the community members returned completed forms at the end of the night.

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

DATE: March 16, 2003
 7:00 P.M.

HANA HIGHWAY ROCKFALL MITIGATION
 HANA HIGHWAY, REPAIR WORK AT MP 19.0

PUBLIC INFORMATIONAL MEETING

Helene Hall, Hana

PLEASE PRINT

NAME	ADDRESS	ORGANIZATION	PHONE NO.
DAVID CAMPBELL	21 ALI'IAHUNA PLACE, KUAHIAHIA	TEMPERATION	877-8888
EARL ANDERSON	P.O. Box 8 Hana 96713	Halekele Mt/Gate	(Kipukulu Club) 248-7375
Col Lindquist	P.O. Box 507 Hana 96713	Hana Business Council	248-7002
Cheryl Mendmea	PO Box 446 Hana 96713	Hana Treasurer	248-7372
Chuck Thorpe	Box 40 Hana, 96713	Halekele Carvers	248-7308
Dan & Sondra Simon	PO Box 843 Hana 96713	Hana Business Council	248-2558
Bill Fairman	PO Box 183 Hana 96713		248-8300
Jean Mandifin	Box 547 Hana 96713		248-4601

DOCUMENT CAPTURED AS RECEIVED

HANA HIGHWAY ROCKFALL MITIGATION
DOT KEANAE BASEYARD
MAY 19, 2003, 7:00 PM

PLEASE SIGN IN

	NAME	ADDRESS	PHONE #
1.	<u>Rimokeo</u>	<u>Keanae</u>	<u>248-7617</u>
2.	<u>Bob Lee</u>	<u>SRV - Box 129 Keanae</u>	<u>248-7768</u>
3.	<u>Flaine Wendor</u>	<u>SR 93 Ha'ikū</u>	<u>249-2370</u>
4.	<u>Kama Straight</u>	<u>HCI Box 94 Ha'ikū</u>	<u>248-5589</u>
5.	<u>ED WENDT</u>	<u>HCI Box 92 Haiku</u>	<u>248-7130</u>
6.	<u>DAVID CAMPBELL</u>	<u>21 AHINAHINA KULA</u>	<u>877-8888</u>
7.	<u>OHJA-LEKUA CROSS</u>	<u>SRV Box 129 Keanae</u>	<u>248-5744</u>
8.	<u>Mike Kupucik</u>	<u>180 WAILUA RIVER RD.</u>	<u>248-7330</u>
9.	_____	_____	_____
10.	_____	_____	_____
11.	_____	_____	_____
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HANA HIGHWAY ROCKFALL MITIGATION
HAIKU COMMUNITY CENTER
MAY 20, 2003, 7:00 PM

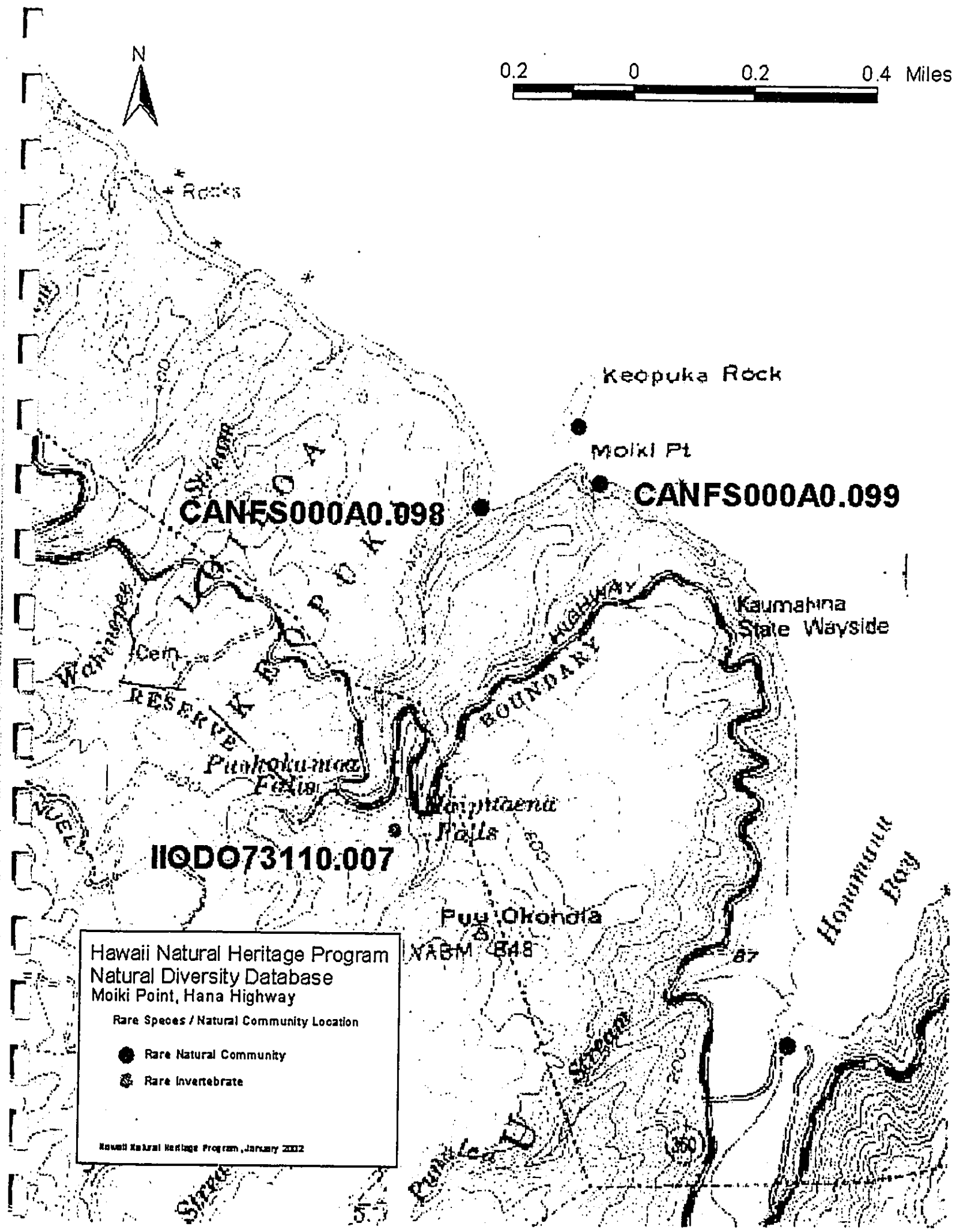
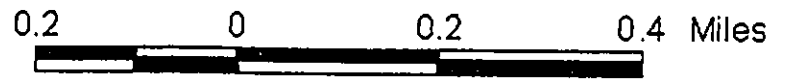
PLEASE SIGN IN

	NAME	ADDRESS	PHONE #
1.	<u>Jan Fleetham</u>	<u>190 Kea'aula, Haiku</u>	<u>573-1558</u>
2.	<u>ARMID EDGERT</u>	<u>32 Kuukama St. Kahului</u>	<u>572-6557</u>
3.	<u>KARIN EDGERT</u>	<u>32 Kuukama St. Kahului</u>	<u>572-6557</u>
4.	<u>DAVID CAMPBELL</u>	<u>21 AHINAHINA PL. ^{KULA} 96710</u>	<u>8778888</u>
5.	<u>Raquel Antdin</u>	<u>854 Hokeo St.</u>	<u>870-1557</u>
6.	<u>Nicole Allaire</u>	<u>4050 Mahinahina Pl</u>	<u>649-5120</u>
7.	<u>Jessica Nagasaki</u>	<u>1603 Aa St.</u>	<u>661-8426</u>
8.	<u>Annie Nguyen</u>	<u>PO Box 13000</u>	<u>661-4077</u>
9.	_____	_____	_____
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APPENDIX B

RECORD OF FLORAL AND FAUNAL INVESTIGATION

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IIODO73110.007

Hawaii Natural Heritage Program
 Natural Diversity Database
 Moiki Point, Hana Highway

Rare Species / Natural Community Location

- Rare Natural Community
- ⊗ Rare Invertebrate

Hawaii Natural Heritage Program, January 2002

Keopuka Rock

Moiki Pt

Kaunahua State Wayside

Puu Okonohia
NABM 848

Honomua Bay

* Rocks

Puuhokumaka Falls

Maipitana Falls

RESERVE

BOUNDARY

Wahinelee

MUELA

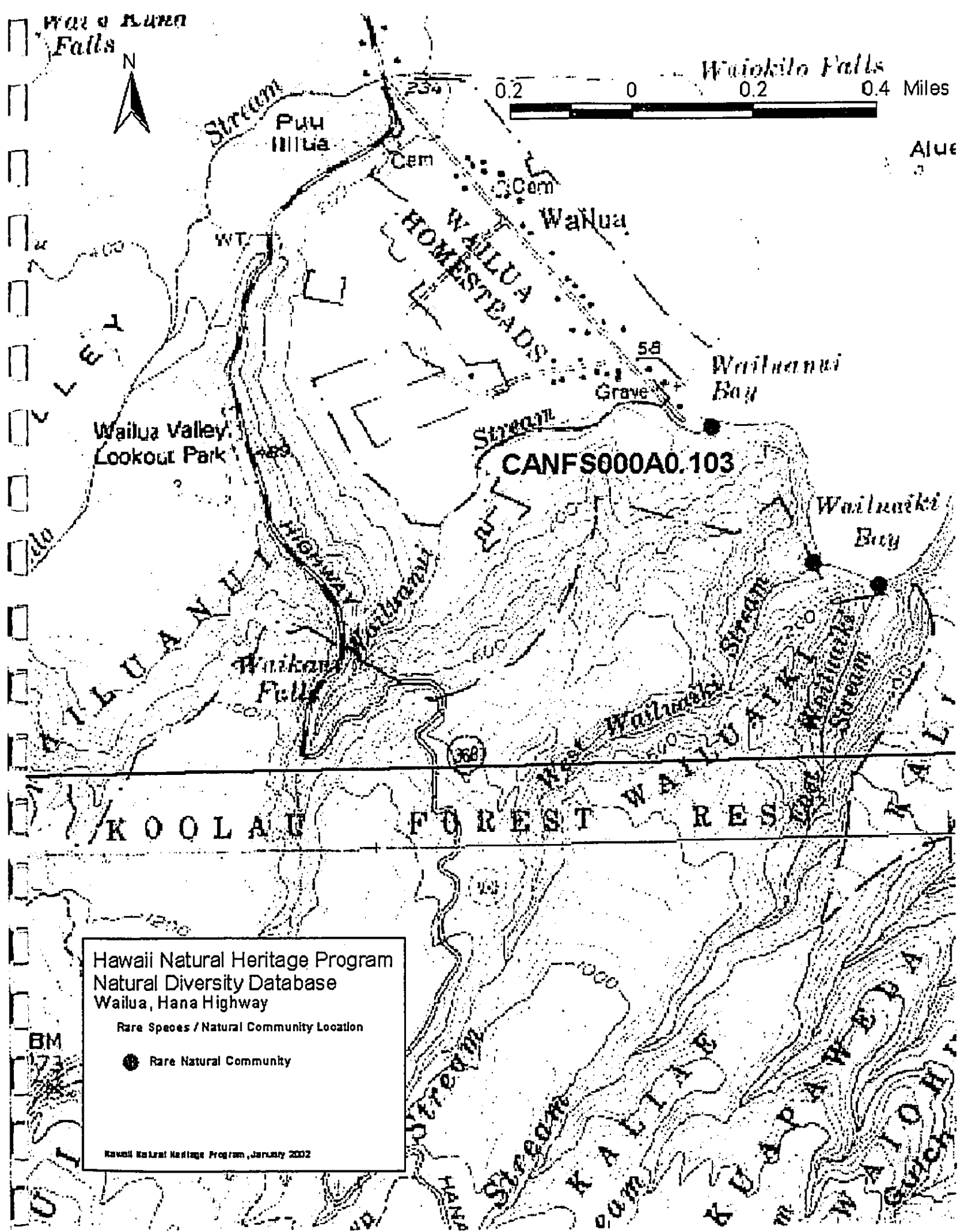
SIPUKU

57

350

87

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Hawaii Natural Heritage Program
 Natural Diversity Database
 Wailua, Hana Highway

Rare Species / Natural Community Location

● Rare Natural Community

Hawaii Natural Heritage Program, January 2002

CANFS000A0.103

Wailua Valley Lookout Park

Wailuanui Bay

Wailuaiki Bay

KOOLAU FOREST RESERVE

Wailua Falls

Waiokilo Falls

0.2 0 0.2 0.4 Miles

Alue

Puu Hiiua

Cem

Cem

Wailua

WAILUA HOMESTEADS

58

Grave

Stream

Wailua Valley

Lookout Park

WAILUA VALLEY

Wailua Falls

Wailuaiki Stream

Wailuaiki Stream

Wailuaiki Stream

Wailuaiki Stream

368

953

KALI Stream

KUPAHEWA Stream

WAILUA Stream

BM 173

U

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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:
PI-03-46

MAR 11 2003

Mr. Scot Urada
State Highways Division, Technical Design Services Office
601 Kamokila Blvd., Rm 688
Kapolei, Hawaii 96707

Dear Mr. Urada:

This responds to your January 29, 2003, letter in which you request the U. S. Fish and Wildlife Service provide a species list for the Hana Highway Rockfall Mitigation Project, on the island of Maui. The proposed project is located in two locations on the Hana Highway. At the Mile Post 11.05-11.31 location the State will install a slope screening (mesh) on the "mauka" slope face and construct a short cantilever to shift the road 0 to 9 feet towards the ocean. This will provide a rock catchment area. At the Mile Post 19.18-19.52 location, the State will install a similar cantilever structure as previously described. To construct the cantilever, the State Highway Division anticipates that most of the excavation work will be done inside already disturbed areas.

We reviewed the information you provided and pertinent information in our files, including maps prepared by the Hawaii Natural Heritage Program. To the best of our knowledge, no federally listed or proposed species, or proposed or designated critical habitat, occur on the proposed project sites.

We appreciate your efforts to conserve endangered species. If you have any questions, please contact Marilet Zablan, Supervisory Fish and Wildlife Biologist (phone: 808/541-3441; fax: 808/541-3470).

Sincerely,

for Paul Henson, Ph.D.
Field Supervisor

Post-It® Fax Note	7671	Date	3/17/03	# of pages	1
To	Bruce Wade	From	Scot Urada		
Co./Dept.	M&E	Co.	HWY-DS		
Phone #		Phone #	692 7553		
Fax #		Fax #			

APPENDIX C

LETTER OF "NO EFFECT" FROM SHPD

LINDA LINGLE
GOVERNOR OF HAWAII



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

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAKULIHEWA BUILDING, ROOM 555
801 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

HAWAII HISTORIC PRESERVATION
DIVISION REVIEW

Log #: 31614
Doc #: 0301CD50

Applicant/Agency: Bruce Wade, PE
Address: M & E Pacific, Inc.
Suite 500, Pauahi Tower
1001 Bishop Street
Honolulu, Hawaii 96813-3588

SUBJECT: Chapter 6E-42 Historic Preservation Review – Information Request Pertaining to
the Propose Hana Highway Rockfall Mitigation Project 360-AB-02-98 Cultural
Resources Survey

Ahupua`a: Honomanu and Wailua

District, Island: Hana, Maui

TMK: (2) 1-1-001:052 & 1-1-008:001 & 005

1. We believe there are no historic properties present, because:

- a) intensive cultivation has altered the land
- b) residential development/urbanization has altered the land
- c) previous grubbing/grading has altered the land
- d) an acceptable archaeological assessment or inventory survey found no historic properties
- e) other: Based on the submitted information request, we understand the proposed undertaking will be primarily located within the previously disturbed deposits of the existing right-of-way. In the event that historic sites (human skeletal remains, etc.) are identified during the construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Office needs to be contacted immediately at 243-5169, on Maui, or at (808) 692-8023, on O`ahu.

2. This project has already gone through the historic preservation review process, and mitigation has been completed ___.

Thus, we believe that "no historic properties will be affected" by this undertaking

Staff: Cathleen A. Dagher
Cathleen A. Dagher, Assistant Maui/Lana`i Island Archaeologist
(808) 692-8023

Date: 31 January 2003

APPENDIX D

PUBLIC COMMENTS & RESPONSE TO COMMENTS

LINDA LINGLE
GOVERNOR



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

RODNEY K. HARAGA
DIRECTOR

Acting Deputy Director
GLENN M. OKIMOTO

IN REPLY REFER TO:

HWY-DS 2.9442

FEB 11 2003

TO: MS. GENEVIEVE SALMONSON, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET, SUITE 702
HONOLULU, HAWAII 96813

FROM: *for* GLENN M. YASUI
ADMINISTRATOR, HIGHWAYS DIVISION *Glenn M. Yasui*

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR HANA HIGHWAY
ROCKFALL MITIGATION, TMK 2ND DIV 1-1-001: PARCELS 044 AND 052
AND TMK 2ND DIV 1-1-008: PARCELS 001 AND 005,
VICINITY OF HANA, MAUI, HAWAII

The State of Hawaii Department of Transportation has reviewed the draft environmental assessment for the subject project and anticipates a Finding of No Significant Impact (FONSI) determination. Please publish notice of availability for this project in the February 23, 2003, issue of the OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form, four copies of the draft EA and the project summary on disk. If there are any questions, please contact Mr. Scot Urada at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Attachment

HWY-DS 2.9409

FEB 14 2003

TO: IRENE PAVAO, BRANCH MANAGER
HANA PUBLIC AND SCHOOL LIBRARY
DEPARTMENT OF EDUCATION
P. O. BOX 490
HANA, HAWAII 96713

FROM: GARY C. P. CHOY *Gary C. P. Choy*
ENGINEERING PROGRAM MANAGER
DESIGN BRANCH, HIGHWAYS DIVISION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR HANA HIGHWAY
ROCKFALL MITIGATION, HUELO TO HANA, MILE POST 11.05-11.31 AND
MILE POST 19.18-19.52, PROJECT NO. 360AB-02-98

The State Department of Transportation Highways Division (DOT) proposes to install rockfall mitigation measures at two locations on Route 360 Hana Highway.

In accordance with state laws, a Draft Environmental Assessment (DEA), Hana Highway Rockfall Mitigation Huelo to Hana, Mile Post 11.05-11.31 and Mile Post 19.18-19.52 dated February 2003 has been prepared for public viewing and comment. Please ensure the Draft Environmental Assessment is made available for public viewing until March 25, 2003.

If there are any questions, please contact Mr. Scot Urada at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Enclosure

c: M&E Pacific, Bruce Wade

bc: HWY-DS (SU)
HWY-M (FC)

SU:kny

HWY-DS 2.9409

FEB 14 2003

TO: JOHN CLARK, HEAD LIBRARIAN
KAHULUI PUBLIC LIBRARY
DEPARTMENT OF EDUCATION
90 SCHOOL STREET
WAILUKU, HAWAII 96793

FROM: GARY C. P. CHOY *Gary C. P. Choy*
ENGINEERING PROGRAM MANAGER
DESIGN BRANCH, HIGHWAYS DIVISION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR HANA HIGHWAY
ROCKFALL MITIGATION, HUELO TO HANA, MILE POST 11.05-11.31 AND
MILE POST 19.18-19.52, PROJECT NO. 360AB-02-98

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If there are any questions, please contact Mr. Scot Urada at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Enclosure

c: M&E Pacific, Bruce Wade

bc: HWY-DS (SU)
HWY-M (FC)

SU:kny

HWY-DS 2.9409

FEB 14 2003

TO: SUSAN WERNER, BRANCH MANAGER
WAILUKU PUBLIC LIBRARY
DEPARTMENT OF EDUCATION
251 HIGH STREET --
WAILUKU, HAWAII 96798

FROM: GARY C. P. CHOY *Gary C. Choy*
ENGINEERING PROGRAM MANAGER
DESIGN BRANCH, HIGHWAYS DIVISION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR HANA HIGHWAY
ROCKFALL MITIGATION, HUELO TO HANA, MILE POST 11.05-1.31 AND
MILE POST 19.18-19.52, PROJECT NO. 360AB-02-98

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Enclosure

bc: HWY-DS (SU)
HWY-M (FC)
M&E Pacific, Bruce Wade

SU:kny

FEB 14 2003

TO: COLIN KIPPIN, DEPUTY ADMINISTRATOR
OFFICE OF HAWAIIAN AFFAIRS

FROM: *for* RODNEY K. HARAGA, DIRECTOR
DEPARTMENT OF TRANSPORTATION

Dee m. Gami

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT, ROUTE 360 HANA HIGHWAY
ROCKFALL MITIGATION, HUELO TO HANA, MILE POST 11.05-11.31 and
MILE POST 19.18-19.52, PROJECT NO. 360AB-02-98

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The DOT earlier completed the Hana Highway Rockfall Mitigation Plan (Plan) in May 2000 that surveyed the slopes of Hana Highway and developed an implementation plan for rockfall mitigation measures. In community meetings held with the Hana Community Association and Na Moku Aupuni o Ko'olau Hui, acceptable mitigation measures for 35 sites identified in the Plan were developed. The subject project will address two of the 35 sites and as funding becomes available in the future, other projects will be implemented by HDOT to systematically address the remaining sites.

A DEA by DOT's consultant, M&E Pacific Inc., has been prepared and enclosed for your review and comments. Based on the documentation and mitigation measures contained in the DEA, it is our determination that this project will have no adverse impacts on archaeological or historic resources. In accordance with Hawaii Revised Statutes §343 and Chapter 6E Historic Preservation, we request your review of our findings. We will assume your concurrence if we receive no objections from your office within 30 days upon receipt of this letter.

If there are any questions, please contact Mr. Scot Urada at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Attachment

c: - M&E Pacific (Bruce Wade)

bc: HWY-DS (SU)
HWY-M (FC)

SU:kny

FEB 14 2003

TO: PETER YOUNG, DIRECTOR
DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: *JW* RODNEY K. HARAGA, DIRECTOR *Dee m. Jami*
DEPARTMENT OF TRANSPORTATION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT, ROUTE 360 HANA HIGHWAY
ROCKFALL MITIGATION, HUELO TO HANA, MILE POST 11.05-11.31 and
MILE POST 19.18-19.52, PROJECT NO. 360AB-02-98

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Attachment

c: M&E Pacific (Bruce Wade)

bc: HWY-DS (SU)
HWY-M (FC)

SU:kny

FEB 14 2003

HWY-DS 2.9409

TO: P. HOLLY McELDOWNNEY, ACTING ADMINISTRATOR
STATE HISTORIC PRESERVATION DIVISION
DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: RODNEY K. HARAGA, DIRECTOR
DEPARTMENT OF TRANSPORTATION *Rodney K. Haraga*

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT, ROUTE 360 HANA HIGHWAY
ROCKFALL MITIGATION, HUELO TO HANA, MILE POST 11.05-11.31 and
MILE POST 19.18-19.52, PROJECT NO. 360AB-02-98

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If there are any questions, please contact Mr. Scot Urada at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Attachment

c: M&E Pacific (Bruce Wade)

bc: HWY-DS (SU)
HWY-M (FC)

SU:kny

FEB 14 2003

Mr. Daniel Grantham, President
Sierra Club, Maui Group
P. O. Box 791180
Paia, Hawaii 96779

Dear Mr. Grantham:

Subject: Draft Environmental Assessment for Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31 and Mile Post 19.18-19.52, Project No. 360AB-02-98

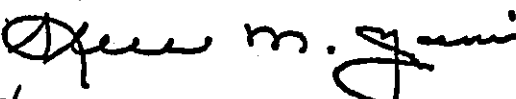
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If there are any questions, please contact Mr. Scot Urada at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Very truly yours,


for RODNEY K. HARAGA
Director of Transportation

Enclosure

c: M&E Pacific, Bruce Wade

bc: HWY-DS (SU)
HWY-M (FC)

SU:kny

FEB 14 2003

Mr. Carl Lindquist
Alliance for the Heritage of East Maui
P. O. Box 455
Hana, Hawaii 96713

Dear Mr. Lindquist:

Subject: Draft Environmental Assessment for Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31 and Mile Post 19.18-19.52, Project No. 360AB-02-98

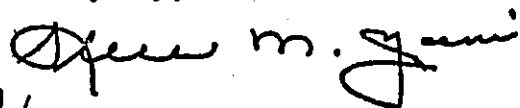
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If there are any questions, please contact Mr. Scot Urada at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Very truly yours,


for RODNEY K. HARAGA
Director of Transportation

Enclosure

c: M&E Pacific, Bruce Wade

bc: HWY-DS (SU)
HWY-M (FC)

SU:kny

FEB 14 2003

Mr. Paul Hemson
Field Supervisor
Department of the Interior
U. S. Fish and Wildlife Service
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850-0056

Dear Mr. Hemson:

Subject: Draft Environmental Assessment for Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31 and Mile Post 19.18-19.52, Project No. 360AB-02-98

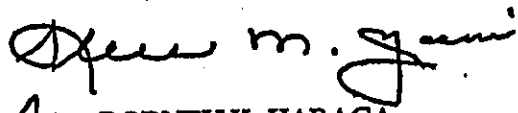
The State Department of Transportation Highways Division (DOT) proposes to install rockfall mitigation measures at two locations on Route 360 Hana Highway. The project scope is outlined in the Draft Environmental Assessment (DEA), Hana Highway Rockfall Mitigation Huelo to Hana, Mile Post 11.05-11.31 and Mile Post 19.18-19.52 dated February 2003.

The DOT earlier completed the Hana Highway Rockfall Mitigation Plan (Plan) in May 2000 that surveyed the slopes of Hana Highway and developed an implementation plan for rockfall mitigation measures. In community meetings held with the Hana Community Association and Na Moku Aupuni o Ko'olau Hui, acceptable mitigation measures for 35 sites identified in the Plan were developed. The subject project will address two of the 35 sites and as funding becomes available in the future, other projects will be implemented by HDOT to systematically address the remaining sites.

A DEA by DOT's consultant, M&E Pacific Inc., has been prepared and enclosed for your review and comments. Based on the documentation and mitigation measures contained in the DEA, it is our determination that this project will have no adverse impacts on archaeological or historic resources. In accordance with Hawaii Revised Statutes §343 and Chapter 6E Historic Preservation, we request your review of our findings. We will assume your concurrence if we receive no objections from your office within 30 days upon receipt of this letter.

If there are any questions, please contact Mr. Scot Urada at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Very truly yours,


RODNEY K. HARAGA
Director of Transportation

Enclosure

c: M&E Pacific, Bruce Wade

bc: HWY-DS (SU)
HWY-M (FC)

SU:kny

FEB 14 2003

HWY-DS 2.9409

Mr. Michael Foley
Director of Planning
County of Maui
Planning Department
250 South High Street
Wailuku, Hawaii 96793

Dear Mr. Foley:

Subject: Draft Environmental Assessment for Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31 and Mile Post 19.18-19.52, Project No. 360AB-02-98

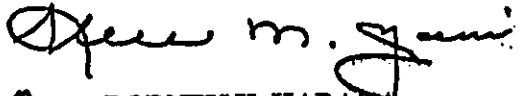
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If there are any questions, please contact Mr. Scot Urada at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Very truly yours,



RK
RODNEY K. HARAGA
Director of Transportation

Enclosure

c: M&E Pacific, Bruce Wade

bc: HWY-DS (SU)
HWY-M (FC)

SU:kny

FEB 21 2003

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

Dear Ms. Wienert:

Subject: Draft Environmental Assessment for Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31 and Mile Post 19.18-19.52, Project No. 360AB-02-98


The State Department of Transportation Highways Division (DOT) proposes to install rockfall mitigation measures at two locations on Route 360 Hana Highway. The project scope is outlined in the Draft Environmental Assessment (DEA), Hana Highway Rockfall Mitigation Huelo to Hana, Mile Post 11.05-11.31 and Mile Post 19.18-19.52 dated February 2003.

The DOT earlier completed the Hana Highway Rockfall Mitigation Plan (Plan) in May 2000 that surveyed the slopes of Hana Highway and developed an implementation plan for rockfall mitigation measures. In community meetings held with the Hana Community Association and Na Moku Aupuni o Ko'olau Hui, acceptable mitigation measures for 35 sites identified in the Plan were developed. The subject project will address two of the 35 sites and as funding becomes available in the future, other projects will be implemented by HDOT to systematically address the remaining sites.

A DEA by DOT's consultant, M&E Pacific Inc., has been prepared and enclosed for your review and comments. Based on the documentation and mitigation measures contained in the DEA, it is our determination that this project will have no adverse impacts on archaeological or historic resources. In accordance with Hawaii Revised Statutes §343 and Chapter 6E Historic Preservation, we request your review of our findings. We will assume your concurrence if we receive no objections from your office within 30 days upon receipt of this letter.

If there are any questions, please contact Mr. Scot Urada at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Very truly yours,


RODNEY K. HARAGA
Director of Transportation

Enclosure

c: M&E Pacific, Bruce Wade

bc: HWY-DS (SU)
HWY-M (FC)

SU:kny

2003 FEB 19 9 10:58

HWY-DS 2.9409 also sent

Ms Keala Lono
Hana Community Partners
P O Box 1036
Hanaa, Hawaii 96713

Mr Dan Simone, President
Hana Business Council
P O Box 843
Hanaa, Hawaii 96713

Mr. John Bloumer-Buell
Hana Community Assn
P O Box 202
Hanaa, Hawaii 96713

FEB 25 2003

TO: JOHN HARRISON
UNIVERSITY OF HAWAII AT MANOA
ENVIRONMENTAL CENTER
2500 DOLE STREET
KRAUSS ANNEX BUILDING 19
HONOLULU, HAWAII 96822

FROM: *for* RODNEY K. HARAGA, DIRECTOR
DEPARTMENT OF TRANSPORTATION

Dee M. Gami

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT, ROUTE 360 HANA HIGHWAY
ROCKFALL MITIGATION, HUELO TO HANA, MILE POST 11.05-11.31 and
MILE POST 19.18-19.52, PROJECT NO. 360AB-02-98

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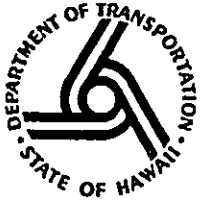
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If there are any questions, please contact Mr. Scot Urada at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Attachment

c: M&E Pacific (Bruce Wade)
bc: HWY-DS (SU)
HWY-M (FC)

SU:kny



TRANSMITTAL MEMORANDUM
HIGHWAYS DIVISION
DESIGN BRANCH

DOT 4-337
(HWY-D r5/01)

LETTER NO. _____

DATE: March 17, 2003

TO: Native Hawaiian Legal Corporation 1164 Bishop Street, Suite 1205 Honolulu, HI 96813

ATTN: Mahealani Kamauu

FROM: HWY-D _____ HWY-DC _____ HWY-DH _____
 HWY-DB _____ HWY-DD _____ HWY-DS Scot Urada
692-7553

SUBJECT: Hana Highway Rockfall Mitigation, M.P. 11.05-11.31 and M.P. 19.18-19.52

PROJECT NO. 360AB-02-98

We are sending you: Attached _____ Under Separate Cover

COPIES	DESCRIPTION
1	Draft Environmental Assessment dated February 2003

These are transmitted as checked below: SUSPENSE DATE: _____

FOR REVIEW & COMMENT _____ APPROVAL _____ INFORMATION
 ATTENTION & ACTION _____ AS REQUESTED _____ FILE

REMARKS: As discussed in our telcon, a copy of this EA is available at the DOT Keanae Baseyard. Additional copies are available at the Wailuku, Kahului, and Hana public Libraries.

cc: HWY-DS (SU)

Signed

By

SCOT URADA
Project Manager

REPLY: _____

Date: _____ Signed _____

AUG - 5 2003

Mr. Carl Lindquist
Alliance for the Heritage of East Maui
P. O. Box 507
Hana, Hawaii 96713

Dear Mr. Lindquist:

Subject: Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31
and Mile Post 19.18-19.52, Project No. 360AB-02-98

Thank you for your letter dated July 11, 2003, which expressed your concern of the Hawaii State Department of Transportation, (HDOT) Highways Division erecting a chain link fence to be used for rockfall containment near the Wailua Lookout on Route 360 Hana Highway.

In response to your question if every possible alternative was studied, HDOT reviewed the following options or combination of options listed below:

1. Slope Cutting
2. Draped Mesh
3. Roadway Cantilever
4. Slope Scaling and Boulder Removal
5. Rock Catchment Fencing
6. Barriers
7. Conventional Retaining Walls
8. Do nothing

When HDOT weighed the different factors such as visual impact, construction safety to the contractor and road users, effectiveness, and cost, a rockfall mitigation method had to be chosen so that the effects to the above mentioned factors would be reduced or minimized. It was very clear to HDOT that visual impact was one of the top concerns based on feedback received from the community. The roadway cantilever structure appeared to be the most acceptable option in terms of finished appearance, safety, and construction impact and this was demonstrated in the recently completed Hana Highway Repairs and Maintenance, Phase-1 project. For this reason, even though the roadway cantilever is one of the most costly options, HDOT felt that this method for the Wailua Lookout area would be appropriate when weighing all of the different factors.

As explained at the Public Informational Meeting (PIM), although the roadway cantilever will create a rock catchment area, it does not prevent rocks from entering the travel way. The cantilever must be combined with some other secondary rockfall mitigation measure to make it more effective. By process of elimination, only the rock catchment fencing and barrier options were left and these secondary containment methods are proposed. The use of various textured and stained concrete barriers to hide the rock catchment fencing from view is currently being studied by HDOT.

Other methods were eliminated for the following reasons: Due to the height and the fragmented and rocky composition of the slope, slope cutting was eliminated. Since slope screening will require removal of the dense tree cover, this would introduce a higher risk of future erosion to the slope and the visual impact would be significant, so this alternative was eliminated. Slope scaling and boulder removal was *not determined to be feasible* since it is extremely difficult to identify all hazardous or potentially hazardous boulders on this large slope. Conventional retaining walls were not considered to be feasible since it poses a high risk potential during construction and the exposed face of over 15 to 30 feet in height would create a substantial visual impact. Since HDOT has been put on notice that hazardous or potentially hazardous areas exist, the do-nothing option was not acceptable. HDOT's legal position from tort claims resulting from rockfall related events would be compromised. The above reasons were presented at the PIM held at Helene Hall this past May.

In a Maui County Cultural Resources Commission (CRC) meeting that HDOT attended on June 5, 2003, the CRC asked HDOT to contact other state DOTs or agencies to learn what rockfall mitigation measures they have successfully implemented. The CRC provided HDOT with contacts from the National Parks Service and the Oregon DOT. HDOT contacted both agencies and have learned that the mitigation measures they considered in their projects were very similar or identical to those considered by HDOT. The Oregon DOT provided HDOT with considerable project information for their Restoration of the Historic Columbia River Highway project. When this information was reviewed by HDOT, it was apparent that the large exposed roof-column structure chosen for that project would be significantly more visually intrusive than HDOT proposed roadway cantilever system with fence/barrier.

HDOT feels that all rockfall mitigation options were considered based on research by our staff and by our consultant. HDOT's consultant looked at rockfall measures used by other states as well as from other countries, and HDOT contacted other agencies identified by the Maui County CRC.

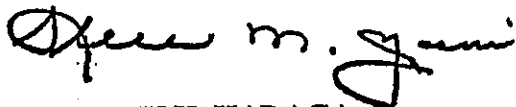
HDOT is also cognizant of the highway being listed in the Register of Historic Places and recognizes the importance to maintain the original character of the highway. HDOT also recognizes the historic importance of Hana Highway and have given serious consideration to all of the comments received from the community. Some of the comments will have influence in the final design and construction of the project.

Mr. Carl Lindquist
Page 3

HWY-DS 2.1194

HDOT will attempt to accommodate comments raised by stakeholders like yourself, but at the same time, must make difficult choices in fulfilling HDOT's primary responsibility of providing a safe facility for the traveling public. HDOT would like to thank you for your comments and for your active participation in the project development. If you have any questions, please call Scot Urada at 692-7553, Project Manager, Technical Design Services Office, Design Branch, Highways Division.

Very truly yours,



RODNEY K. HARAGA
Director of Transportation

bc: HWY-M
HWY-DS (SU) ✓
M&E Pacific (Diane Kodama)

SU:kny

Hana Coast Realty, Inc.

Post Office Box 507
Hana, Maui, Hawaii 96713
Phone (808) 248-7002
Fax (808) 248-7270

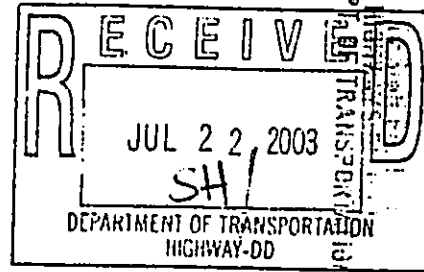
e-mail: hanaland@maui.net
website: hanacoastrealty.net

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

2003 JUL 14 P 2:05

July 11, 2003

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



03 JUL 22 P12:41

RECEIVED

Aloha Mr. Haraga:

As you may be aware, both as an individual and as a member of the steering committee of the Alliance for the Heritage of East Maui, (AHEM), I have, on several occasions been quite vocal about the cavalier manner in which past projects involving the State portion of Hana Highway have been handled. Conversely, however, I would like to congratulate you and your department for the obvious care you have taken in your approach to the repairs being planned near the Wailua Lookout.

Your design plans appear to have taken great care to preserve the historic nature of the area, and I hope that this same concern will be incorporated in future projects as well. I particularly call your attention to some of the "safety" projects being planned for this same area, one section of which calls for the erection of a chain link fence to be used for rockfall containment. If carried forward, this will, of course, completely, (and adversely), alter the appearance of that section of the roadway, and I would hope that every possible alternative would be carefully studied. Surely there must be another solution.

I appreciate the opportunity of reviewing your plans, and hope you will feel free to call on me if I may ever be of assistance in any matter involving the Hana area.

Sincerely,

A handwritten signature in cursive script that reads "Carl Lindquist".

Carl Lindquist

RECEIVED
JUL 17 3 29 PM '03
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

APR 14 2003

TO: PETER L. YEE, DIRECTOR
NATIONHOOD AND NATIVE RIGHTS
OFFICE OF HAWAIIAN AFFAIRS

FROM: *JK* RODNEY K. HARAGA *Glen M. Quinn*
DIRECTOR OF TRANSPORTATION

SUBJECT: ROUTE 360 HANA HIGHWAY ROCKFALL MITIGATION, HUELO TO
HANA, MILE POST 11.05 TO 11.31 AND MILE POST 19.18 TO 19.52,
PROJECT NO. 360AB-02-98, RESPONSE TO DRAFT EA COMMENTS
AND FINDING OF NO SIGNIFICANT IMPACT (FONSI)

The Department of Transportation (HDOT) is in receipt of your letter dated March 17, 2003, regarding the subject project. We thank you for taking the time to express your comments.

HDOT informed affected residents through the use of community meetings. One of three such informational meetings was held at the DOT Baseyard in Keanae on March 19, 2003. The purpose of this meeting was to explain the project intent and scope as well as to solicit community input. Eight neighborhood residents, including Mr. Ed Wendt, attended this meeting and the residents provided input both verbal and written. In the meeting, Mr. Wendt did not identify any specific cultural resource or cultural practices in the proposed project areas.

Most of the attendees had favorable comments to the proposed cantilever structures since similar structures were installed at five other locations along the highway. Although the cantilever structure is one of the most costly options, it is the least intrusive strategy in terms of aesthetics.

Your letter also requested that studies be conducted to assess the effects of highway construction on water flow and quality. HDOT does not believe this project will impact underground or surface water quantity or quality. The proposed project will not be deep enough to impact underground water sources. In addition, the contractor will be required to impose Best Management Practices to prevent sedimentation runoff from impacting surface waters.

Again, thank you again for your time and consideration. If you have any questions, please contact Mr. Scot Urada, Project Manager at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Attachment

bc: HWY-DS (SU)
HWY-M (FC)
M&E Pacific (Bruce Wade)

SU:kny

APR 11 2003

DWK-Ble3

PHONE (808) 594-1888

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

FAX (808) 594-1885



2003 MAR 19 A 10:24

STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPOLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

March 17, 2003

HRD03/915
RECEIVED
MAR 21 1 39 PM '03
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Rodney Haraga, Director
State Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

RE: Draft Environmental Assessment, Route 360 Hana Highway Rockfall Mitigation,
Huelo to Hana, Milepost 11/05-11.31 and Mile Post 19.18-19.52.

Dear Mr Haraga,

OHA is in receipt of your February 14, 2003 request for review and comment on the
above referenced project. We offer the following comments.

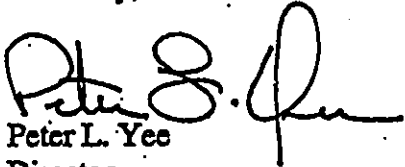
OHA is aware that the Hana Highway is in need of upgrades. The proposed project
satisfies the need for highway design that will withstand rock falls and require less
maintenance over time, thus decreasing the amount of time that the Hana Highway is
closed.

However, OHA is concerned that the design of the cantilevered highway and the rock fall
mitigation will destroy the scenic impact of the highway, and may affect view planes
important to traditional practitioners. We ask that you contact Ed Wendt of the
Wailuanui Taro Farmers Associations and other residents of Wailuanui and Keanae to
ensure that the highway design does not impact traditional practices or block view planes
important to Native Hawaiian traditional practices.

OHA is also concerned that water flow to the Wailuanui and Keanae taro farms is not affected during or after construction of the highway. §174C-101 protects the rights of Native Hawaiian ahupua'a tenants to cultivate taro and gather resources from the streams in their ahupua'a. Many of the streams in the area flow underground before surfacing on the peninsulas. OHA requests that the effect of highway construction and maintenance on water flow and water quality be conducted.

Thank you for this opportunity to comment. If you have further questions, please contact Pua Aiu at 594-1931 or e-mail her at paiu@oha.org.

Sincerely,



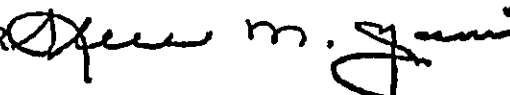
Peter L. Yee

Director

Nationhood and Native Rights

April 23, 2003

TO: P. HOLLY McELDOWNEY, ACTING ADMINISTRATOR
STATE HISTORIC PRESERVATION DIVISION
DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: GLENN M. YASUI, ADMINISTRATOR 
HIGHWAYS DIVISION

SUBJECT: ROUTE 360 HANA HIGHWAY ROCKFALL MITIGATION, HUELO TO
HANA, MILE POST 11.05-11.31 AND MILE POST 19.18-19.52,
PROJECT NO. 360AB-02-98, RESPONSE TO DRAFT EA COMMENTS
AND FINDING OF NO SIGNIFICANT IMPACT (FONSI)

The Department of Transportation (HDOT) would like to acknowledge receipt of your letter dated April 3, 2003, regarding the subject project. We would like to thank you for taking the time to express your comments. In this letter, SHPD asks if more information justifying the type of construction chosen and requests assurance that all possibilities have been considered.

HDOT is aware that Route 360 Hana Highway was placed on the National Register of Historic Places and agrees that efforts need to be made to maintain the character of the highway so that adverse visual effects are minimized. Recognizing the importance of aesthetics and its subjective nature, HDOT attempted to engage community participation into the project development process in two series of Public Informational Meetings (PIM) held at Hana, Keanae, and Haiku. These meetings were held in 2002, and more recently, in March 2003.

In the PIMs, HDOT presented the options or combinations of options available to mitigate rockfalls, the pros and cons for the various options, risks associated with each option, and the decision making process to describe why a particular option was eliminated. On April 21, 2003, HDOT's Project Manager, Scot Urada, made a short presentation to Susan Tasaki and Tonia Moy of your staff. This presentation was similar to that shown in the most recent PIMs.

As described in the presentation, the following options tabulated below were considered for the two work areas in the proposed Rockfall Mitigation project (Project). It was explained that since the two work sites are significantly different in nature, the proposed mitigation measures differs between the two sites.

Site 1 : Mile Post 11.05 – 11.31

Option	Construction Duration	Construction Cost	Construction Risk	Rockfall Effectiveness	Visual Impact
Slope Cutting	2 – 3 months	\$500,000	Medium	Good	High
Draped Mesh	1 month	\$700,000	Low	Fair	Low
Cantilever structure	5 – 7 months	\$4,000,000	Med-Low	Fair	Low
Fencing/Barrier	1 month	\$700,000	Low	Poor	Med.
Retaining Walls	4 – 6 months	\$2,400,000	Very High	Poor	High
Cantilever + barrier	5 – 7 months	\$4,400,000	Med-Low	Good	Med.
Cantilever + Mesh	5 – 7 months	\$4,700,000	Med-Low	Good	Low
Slope Cut + Mesh	3 – 5 months	\$1,200,000	Med-Low	Good	High

The proposed mitigation strategy presented in the draft EA is boldfaced in the above table.

Nearly all of the PIM attendees showed preference to the cantilever structure since in a past HDOT project, similar structures were constructed that had minimal visual impact to the roadway. Attached for your reference are photographs of the completed project. Another benefit of using the cantilever structure is that most of the work can be performed at night so daytime road closures can be reduced and socio-economic impact is reduced.

Installation of the roadway cantilever structure allows HDOT to shift the traffic outwards away from the slopes so that a rockfall catchment area can be created at the toe of the existing slope. HDOT would like to note that although constructing the cantilever structure will help in terms of safety, it is not an effective measure by itself. Boulders or rockslides landing in the catchment area will need to be controlled and contained so that the debris does not encroach onto the travel way. For this reason, as shown in the above table, the cantilever structure is more effective when combined with another mitigation option.

HDOT thinks that installing a draped mesh to control rockfall movements on certain types of slopes is a viable option if properly chosen. Since the slope Mile Post 11 (Site 1) is primarily fern and grass covered, HDOT thinks that given the wet environment and type of ground cover, the natural vegetation will grow through the mesh and help conceal it from view.

Site 2: Mile Post 19.18 – 19.52

Option	Construction Duration	Construction Cost	Construction Risk	Rockfall Effectiveness	Visual Impact
Slope Cutting	N/A	N/A	Very high	N/A	Very high
Draped Mesh	4 – 6 months	\$8,000,000	High	Fair	High
Cantilever structure	7 - 9 months	\$6,000,000	Med-Low	Fair	Fair
Fencing/Barrier	2 months	\$1,000,000	Low	Poor	Med.
Retaining Walls	7 – 9 months	\$4,000,000	Very High	Poor	High
Cantilever + barrier	7 – 10 months	\$7,000,000	Med-Low	Good	Med.
Cantilever + Mesh	10 – 12 months	\$14,000,000	High	Fair	High

The proposed mitigation strategy presented in the draft EA is boldfaced in the above table.

Slope cutting was not recommended for this area due to the fragmented and rocky slope composition, slope steepness and height, overhanging portions over the existing roadway, and the sheer volume of the excavation required to create sufficient catchment area. Due to the construction risk and the anticipated construction period if such an undertaking is performed, this option was eliminated.

Installing draped mesh at this area was not recommended unlike at Site 1. Installation of the draped mesh will require the removal of large trees that covers this slope that will create substantial visual impact. Additionally, removal of the tree cover will also contribute to additional erosion therefore this option was eliminated.

Retaining walls were not proposed at both sites due to the anticipated height of the walls and large exposed concrete face. Wall heights could exceed 30 feet in some locations. The risks associated with constructing the wall was determined to be very high since portions of the existing roadway may have to be removed to facilitate construction of the wall footing. Therefore, from a visual impact and construction risk standpoint, this option was eliminated.

Since slope cutting, draped mesh, and retaining walls were eliminated at Site 2, the remaining options were reduced to rock catchment fence and/or solid barrier. As noted earlier, to provide an effective protection system, the cantilevered roadway needs to be combined with another measure. For this reason, HDOT is proposing to use rock catchment fencing this location.

Ms. P. Holly McEldowney
Page 4
April 23, 2003

Although most of the PIM attendees did not support rock catchment fencing, some attendees were receptive to installing the rock catchment fence provided it is hidden by a rock wall or textured concrete barrier to lessen the visual impact. HDOT is also exploring the possibility of using a concrete barrier with veneer finish provided a crash-tested design is available. HDOT is also conducting additional rockfall analyses to determine if the proposed fencing and barrier height can be reduced to lessen the visual impact.

Aesthetics of the secondary mitigative measures (draped mesh and fencing with barrier) to be combined with the roadway cantilever will remain a topic of debate. Given that HDOT has the responsibility to provide a safe facility to the highway users, HDOT feels that the secondary measures are necessary to significantly improve safety and that efforts are being made to achieve a balance of safety and aesthetics.

In closing, HDOT feels that all available options were explored and careful consideration was given to each. To be receptive to the project stakeholder's concerns, HDOT is proposing to use one of the more costly options to lessen visual impacts and to reduce socio-economic impacts.

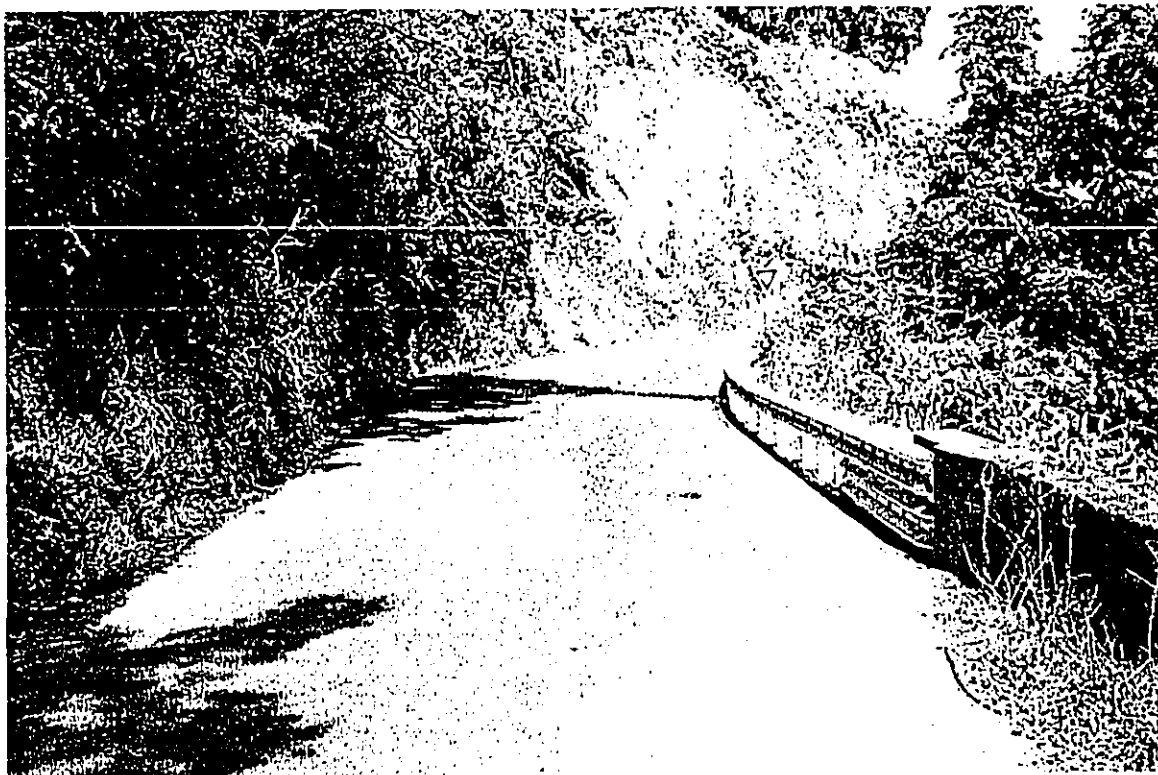
We hope that this memorandum gives sufficient information about the options that were considered and the decision-making process used to arrive at the proposed improvements. HDOT will be receptive to any suggestions that your office may have to offer and is willing to meet at anytime to discuss the project.

If you have any questions, please contact Mr. Scot Urada, Project Manager at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Attachments

bc: HWY-DS (SU)
HWY-M (FC) w/Attachments
M&E Pacific (Bruce Wade) w/Attachments

SU:kny

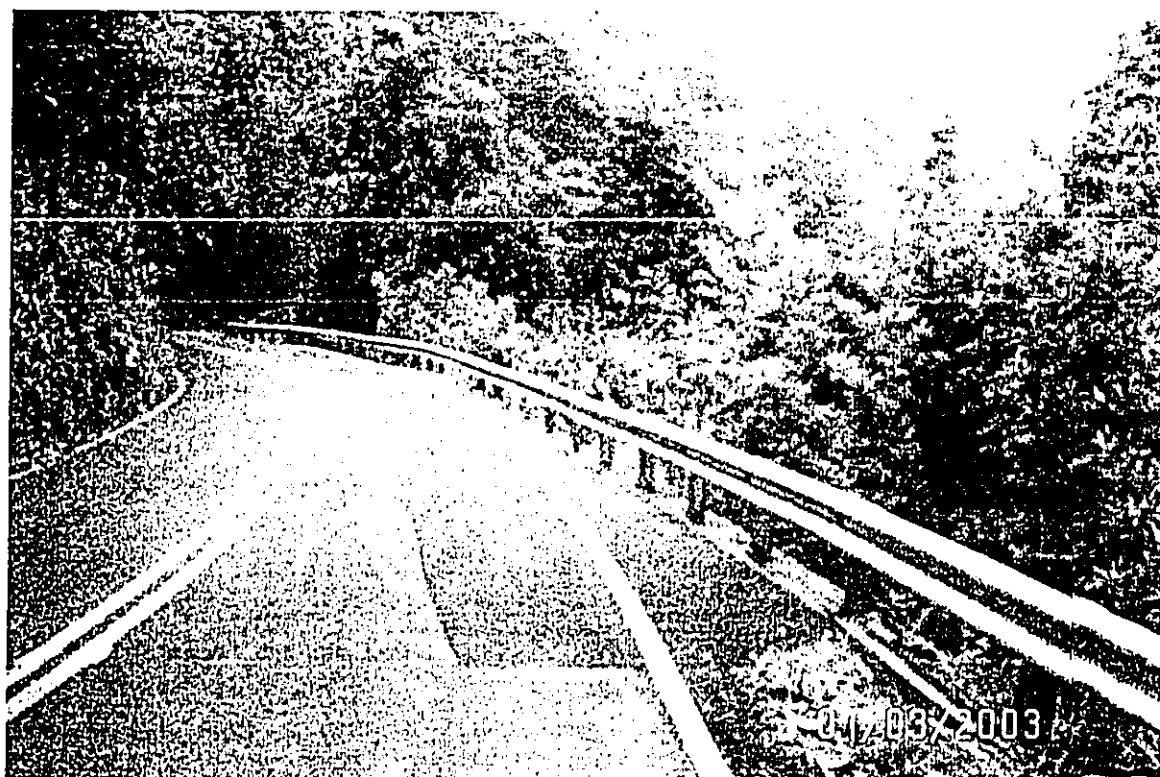


Mile Post 11.4

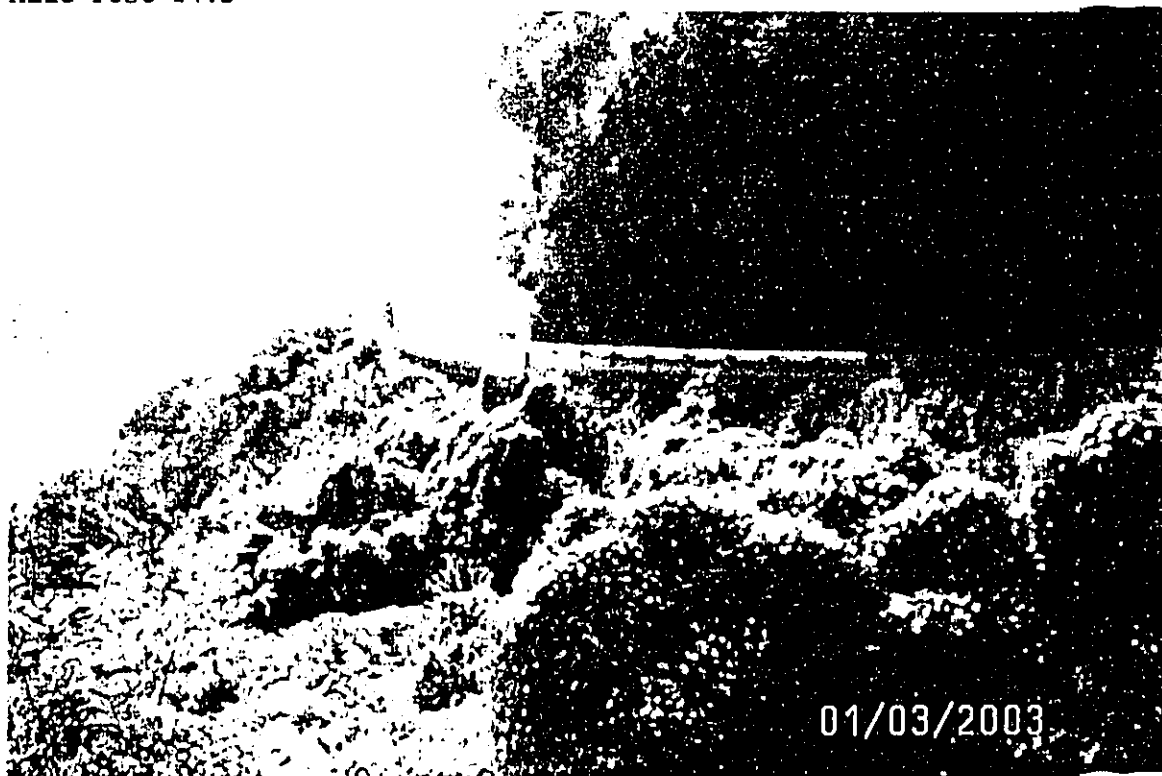


Mile Post 12.8

Hana Highway Repairs & Maintenance at Various Locations, Phase-1



Mile Post 14.3



Mile Post 12.8

Hana Highway Repairs & Maintenance at Various Locations, Phase-1

LINDA LINGLE
GOVERNOR OF HAWAII



DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION STATE OF HAWAII

RECEIVED
PETER T. YOUNG, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
DAN DAVIDSON, DEPUTY DIRECTOR FOR LAND
ERNEST Y.W. LAU, DEPUTY DIRECTOR FOR
COMMISSION ON WATER RESOURCE MANAGEMENT

'03 APR 16 P1:15

VIR 0481

2003 DEPARTMENT OF LAND AND NATURAL RESOURCES

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

DESIGN GROUP
HIGHWAYS DIVISION
DEPT. OF TRANSPORTATION
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

April 3, 2003

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

LOG NO: 2003.0182
DOC NO: 0304ST01
Architecture

Dear Mr. Haraga:

SUBJECT: Chapter 6E (HRS) Review Draft Environmental Assessment,
Route 360 Hana Highway Rockfall Mitigation,
Huelo to Hana, Mile Post 11.05-11.31 and Mile Post 19.18-19.52
HWY-DS-2.9409 Project No. 360AB-02-98
TMK: (2) 1-1-008: 001, 005, Huelo to Hana, Hawaii

Thank you for the letter dated February 24, 2003 regarding the Draft Environmental Assessment (DEA), Route 360 Hana Highway Rockfall Mitigation, Huelo to Hana. The project proposes to incorporate design features that will mitigate the inconveniences and hazards associated with rockfalls along the Hana Highway. Design features will include roadway realignment to move the roadway away from the mauka slopes, creating a rockfall catchment area. Inclusion of various types of fencing or barriers will prevent falling debris from entering the traveled roadway. The Environmental Assessment (EA) identifies potential project impacts and their significance and develops strategies to mitigate those impacts. The 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.

We believe that the proposed improvements as indicated in the DEA submitted will have an adverse effect on the character of Hana Highway, located in the Hana Belt Road Historic District which is both on the Hawaii State and the National Registers of Historic Places. While we understand the need for the proposed project, we request further information justifying the type of construction chosen, and assurance that all possibilities have been considered; i.e., how other states may have handled similar projects with similar conditions. Thank you for the opportunity to comment. Should you have any questions regarding architecture please contact Susan Tasaki at 692-8032.

Aloha,

P. Holly McEldowney

P. Holly McEldowney, Acting Administrator
State Historic Preservation Division

ST:ak

RECEIVED
Apr 13 11 23 PM '03
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

MAY 28 2003

TO: JASON K. KOGA, DISTRICT LAND AGENT
LAND DIVISION, MAUI DISTRICT LAND OFFICE
DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: GLENN M. YASUI, ADMINISTRATOR *Glenn M. Yasui*
HIGHWAYS DIVISION

SUBJECT: Route 360 Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31 and Mile Post 19.18-19.52, Project No. 360AB-02-98, Response to Draft EA Comments and Finding of No Significant Impact (FONSI)

The Department of Transportation (HDOT) would like to acknowledge receipt of your letter dated March 19, 2003, regarding the subject project. We would like to thank you for taking the time to express your comments and offer our responses as follows:

1. Comment: "Mile Post 11.05-11.31, TMK: (2) 1-1-001 - Parcel 044 is part of the Koolau Forest Reserve under jurisdiction of the Forestry and Wildlife (DOFAW). Further, portions of Parcel 044 are within the water license area currently under Alexander & Baldwin, Inc. It is not anticipated that minor easements will affect the water license area; however, it is recommended that DOFAW be consulted on its impact to the Forest Reserve.

Parcel 052 may be proposed for future leasing. We believe this project will not affect any existing or potential access points to this parcel from the Highway."

Response: HDOT has initiated contact with the DOFAW Maui District Office and is in the process of obtaining their comments.

2. Comment: "...our comments given above are without information on the amount of area that may be needed outside the existing right-of-way. Please submit details on any such areas as they become available. The granting of any easement or setting aside of State lands to the Department of Transportation will be subject to the Board of Land and Natural Resources' approval."

Response: As plans are developed and right-of-way requirements identified, right-of-way maps and construction plans will be prepared and transmitted to DLNR. HDOT will apply for all necessary easements or permits from DLNR.

If you have any questions, please contact Mr. Scot Urada, Project Manager at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

bc: HWY-DS (SU)
HWY-M (FC)
M&E Pacific (Bruce Wade)

SU:kny

LUNDA LINGLE
GOVERNOR

PHONE: (808) 984-8103
FAX: (808) 984-8111



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
54 High Street, Room 101
Wailuku, Hawaii 96793

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DAN R. DAVIDSON
DEPUTY DIRECTOR

ERNEST Y. LAU
DEPUTY DIRECTOR FOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

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

March 19, 2003

Department of Transportation – Highways Division
601 Kamokila Boulevard, Room 688
Kapolei, HI 96707

Attention: Mr. Scot Urada, P.E., Project Engineer

Subject: Draft Environmental Assessment – Project No. 360AB-2 Route 360 Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31 and Mile Post 19.18-19.52, Maui, TMK: (2) 1-1-001:044 and 052, and 1-1-008:001 and 005

The Draft Environmental Assessment states “Acquisition of State lands or granting of an easement across State lands in favor of the DOT for maintenance purposes may be required if the improvements extend outside the existing roadway right-of-way.”

Mile Post 11.05-11.31, TMK: (2) 1-1-001

Parcel 044 is part of the Koolau Forest Reserve under the jurisdiction of the Division of Forestry and Wildlife (DOFAW). Further, portions of Parcel 044 are within the water license area currently under Alexander & Baldwin, Inc. It is not anticipated that minor easements will affect the water license area; however, it is recommended that DOFAW be consulted on its impact to the Forest Reserve.

Parcel 052 may be proposed for future leasing. We believe this project will not affect any existing or potential access points to this parcel from the Highway.

Mile Post 19.18-19.52, TMK: (2) 1-1-008

Both Parcels 001 and 005 are currently unencumbered. A permit for agricultural and aquaculture purposes on Parcel 005 may be considered. We believe this project will not adversely affect access to Parcel 005, and a minor easement over the Parcel will not adversely affect the proposed use.

Department of Transportation – Highways Division

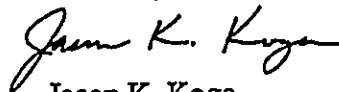
March 19, 2003

Page 2

Be advised that our comments given above are without information on the amount of area that may be needed outside of the existing right-of-way. Please submit details on any such areas as they become available. The granting of any easement or set aside of State lands to the Department of Transportation will be subject to the Board of Land and Natural Resources' approval.

The Maui District Land Office has no other comments at this time. Thank you for allowing us to review and comment on the subject matter.

Sincerely,

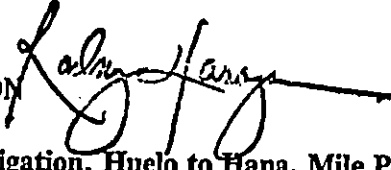


Jason K. Koga
District Land Agent

c: N. Vaccaro
District Files

JUN - 2 2003

TO: GENEVIEVE SALMONSON, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

FROM: RODNEY K. HARAGA, DIRECTOR 
DEPARTMENT OF TRANSPORTATION

SUBJECT: Route 360 Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31
and Mile Post 19.18-19.52, Project No. 360AB-02-98 - Response to Draft EA
Comments and Finding of No Significant Impact (FONSI)

The Department of Transportation (HDOT) is in receipt of your letter dated February 26, 2003 in regards to the above referenced project. We would like to thank you for taking the time to express your comments and would like to offer the following responses:

1. Comment: "In order to reduce bulk and save paper, please consider printing both sides of pages in the final document."

Response: HDOT has advised the agent assisting HDOT in preparing the environmental assessment (EA) and will consider 2-sided printing of the final document.

2. Comment: "The draft EA notes that other rockfall areas along Hana Highway are under improvement. What other areas are involved and what will be the scheduling overlap between them and the projects at the two areas covered by this EA? What is the cumulative disruptive effect on the public and how will you mitigate it?"

Response: A total of 35 rockfall sites along Hana Highway have been identified as hazardous or potentially hazardous. As funding for design and construction becomes available, each site will be studied in greater detail and site-specific solutions will be developed at that time. Separate EAs will be prepared for these follow-on projects. Since HDOT does not have adequate funding to design and construct all 35 sites at one time, determining cumulative effects for all sites is difficult at this juncture.

Based on community input collected in public informational meetings for this project, HDOT is exploring the possibility of maximizing construction at night when road closures are needed to reduce socio-economic impacts. For all follow-on projects requiring road closures, HDOT will continue to look at maximizing night work.

HDOT anticipates that one or two sites will be designed and constructed every two years as funding becomes available.

Thank you again for your review and comments. If you have any questions, please contact Mr. Scot Urada, Project Manager at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

bc: HWY-DS (SU)
HWY-M (FC)
M&E Pacific (Bruce Wade)

SU:kny

LINDA LINGLE
GOVERNOR



GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENT QUALITY CONTROL
236 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

February 26, 2003

Glenn Yasui
Department of Transportation
Highways Division
869 Punchbowl Street
Honolulu, HI 96813

Attn: Scot Urada

Dear Mr. Yasui:

Subject: Draft environmental assessment (EA) for Hana Highway Rockfall Mitigation

We have the following comments to offer:

Two-sided pages: In order to reduce bulk and save on paper, please consider printing on both sides of the pages in the final document.

Cumulative effect: The draft EA notes that other rockfall areas along Hana Highway are under improvement. What other areas are involved and what is or will be the scheduling overlap between them and the projects at the two areas covered by this EA? What is the cumulative disruptive effect on the public and how will you mitigate it?

If you have any questions, please call Nancy Heinrich at 586-4185.

Sincerely,

A handwritten signature in cursive script that reads "Genevieve Salmonson".

GENEVIEVE SALMONSON
Director

c: Bruce Wade

HWY-DS 2.0433

JUN - 8 2003

Mr. Paul Henson, Field Supervisor
United States Department of the Interior
Fish and Wildlife Service
Pacific Islands Fish and Wildlife Service
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850

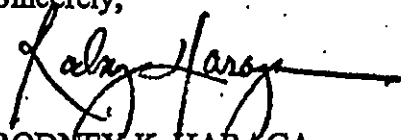
**Subject: Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31
And Mile Post 19.18-19.52, Project No. 360AB-02-98 – Response to
Draft EA Comments and Finding of No Significant Impact (FONSI)
Reference: PI-03-46**

Dear Mr. Henson:

Thank you for your review of our Draft EA and other information the Department of Transportation (HDOT) provided for the subject project. HDOT reviewed your letter dated March 11, 2003, and note that you are not aware of any federally listed, species, proposed species for listing or proposed or designated critical habitats within our proposed project sites.

HDOT recognizes the historic importance of Hana Highway and will make attempts to be responsive to the public's input while at the same time providing a safe facility for everyone.

Sincerely,


RODNEY K. HARAGA
Director of Transportation

bc: M&E Pacific, Inc., Bruce Wade
HWY-M (FC)
HWY-DS (SU)

SU:kny



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:
PI-03-46

MAR 11 2003

Mr. Scot Urada
State Highways Division, Technical Design Services Office
601 Kamokila Blvd., Rm 688
Kapolei, Hawaii 96707

Dear Mr. Urada:

This responds to your January 29, 2003, letter in which you request the U. S. Fish and Wildlife Service provide a species list for the Hana Highway Rockfall Mitigation Project, on the island of Maui. The proposed project is located in two locations on the Hana Highway. At the Mile Post 11.05-11.31 location the State will install a slope screening (mesh) on the "mauka" slope face and construct a short cantilever to shift the road 0 to 9 feet towards the ocean. This will provide a rock catchment area. At the Mile Post 19.18-19.52 location, the State will install a similar cantilever structure as previously described. To construct the cantilever, the State Highway Division anticipates that most of the excavation work will be done inside already disturbed areas.

We reviewed the information you provided and pertinent information in our files, including maps prepared by the Hawaii Natural Heritage Program. To the best of our knowledge, no federally listed or proposed species, or proposed or designated critical habitat, occur on the proposed project sites.

We appreciate your efforts to conserve endangered species. If you have any questions, please contact Marilet Zablan, Supervisory Fish and Wildlife Biologist (phone: 808/541-3441; fax: 808/541-3470).

Sincerely,

for Paul Henson, Ph.D.
Field Supervisor

JUN - 8 2003

Mr. David Scott, Executive Director
Historic Hawaii Foundation
P.O. Box 1658
Honolulu, Hawaii 96806

Dear Mr. Scott:

**Subject: Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31
And Mile Post 19.18-19.52, Project No. 360AB-02-98 – Response to
Draft EA Comments and Finding of No Significant Impact (FONSI)**

Thank you for your review and comments to our Draft EA for the Subject Project. The Department of Transportation (HDOT) reviewed your comments listed in your March 11, 2003, letter and would like to offer the following responses:

1. Comment: "We feel that context sensitive design solutions could better address the problem."

Response: HDOT attempted to engage the affected communities in May 2002. Despite issuing a media press release and running a meeting notice in the Maui News, attendance to the three public informational meetings (PIM) at Hana, Keanae, and Haiku was poor. Due to the poor turnout, HDOT elected to conduct a second series of PIMs on March 18th, 19th, and 20th this year after the Draft EAs were distributed and increased its efforts to publicize the project. Stories appeared in the Honolulu Advertiser, Honolulu Star Bulletin, and a front-page article was published in the Maui News. HDOT also posted flyers and contacted individuals.

HDOT has carefully noted all of the comments raised in the PIMS and selection of options and refinements to the project have been heavily influenced by these comments. Based on feedback from the meetings, HDOT is looking into maximizing night work to minimize socio-economic impact and is exploring the possibility of a rock faced wall or barrier to screen the proposed rock catchment fencing at the Mile Post 19 site. Nearly all of the PIM attendees had positive comments of the proposed roadway cantilever system due to its obscure nature and actual appearance of other similar structures already used to restore the roadway at five locations on Hana Highway. Attached are photos of a recently constructed project that used a similar cantilever structure.

JUN - 3 2003

2. Comment: We are certain other solutions could be designed that would control the perceived hazard that the occasional rockfalls produce."

Response: Rockfalls are not a perceived hazard. Review of our maintenance records from July 2000 to Feb 2003 indicate that 108 maintenance actions were undertaken that were attributed to rockfall occurrences. In many instances, maintenance crews were notified at night or on holidays and clean-up activities were completed before the normal weekday or weekend traffic hours.

HDOT considered a range of solutions to minimize danger from these events that included: slope cutting, draped mesh, cantilevered roadway, rock catchment fencing, barriers, conventional retaining walls, or combinations of the options presented. Based on community input and also considering minimizing socio-economic impact, safety to the road users and construction crew, effectiveness, and aesthetics, the roadway cantilever structure combined with other secondary measures was selected.


HDOT would be happy to discuss any other mitigation options that were not considered by HDOT in Historic Hawaii Foundation's opinion.

3. Comment: "We are...not convinced this solution is necessary. We are certain that the community would feel this 'solution' is an inappropriate response..."

Response: HDOT considered the range of options listed in Item 2 above from the standpoints of project duration, construction risk, minimizing socio-economic impact, and effectiveness. From our evaluation and from listening to comments from the affected communities, HDOT determined the solutions proposed in the EA to be the most appropriate. Again, as stated in Item 2 above, the cantilever structure was the most acceptable option to the community.

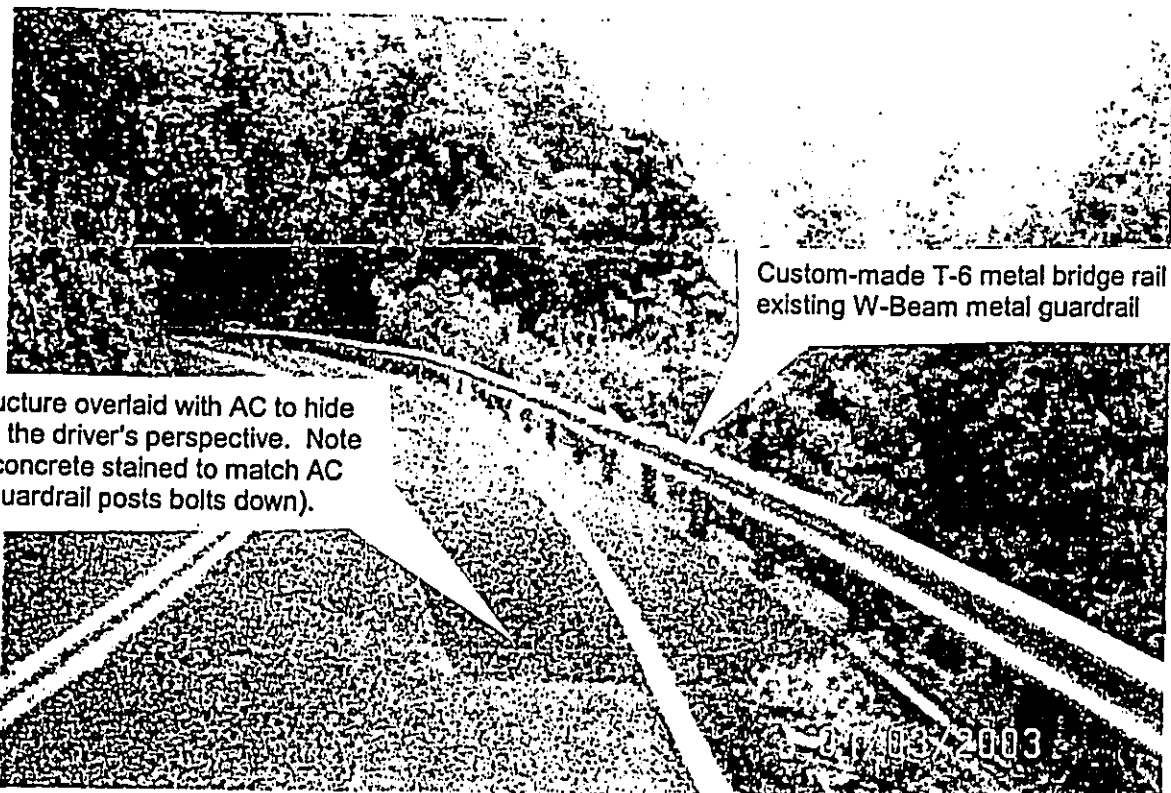
HDOT would like to thank you again for your comments and hope that the above sufficiently addresses all your concerns. HDOT recognizes the historic importance of Hana Highway and will make attempts to be responsive to the public's input while at the same time providing a safe facility for everyone. If the Historic Hawaii Foundation wishes to further discuss this project, please contact Scot Urada, Project Manager at 692-7553.

Sincerely,


RODNEY K. HARAGA
Director of Transportation

bc: M&E Pacific, Mr. Bruce Wade
HWY-DS (SU)
HWY-M (FC)

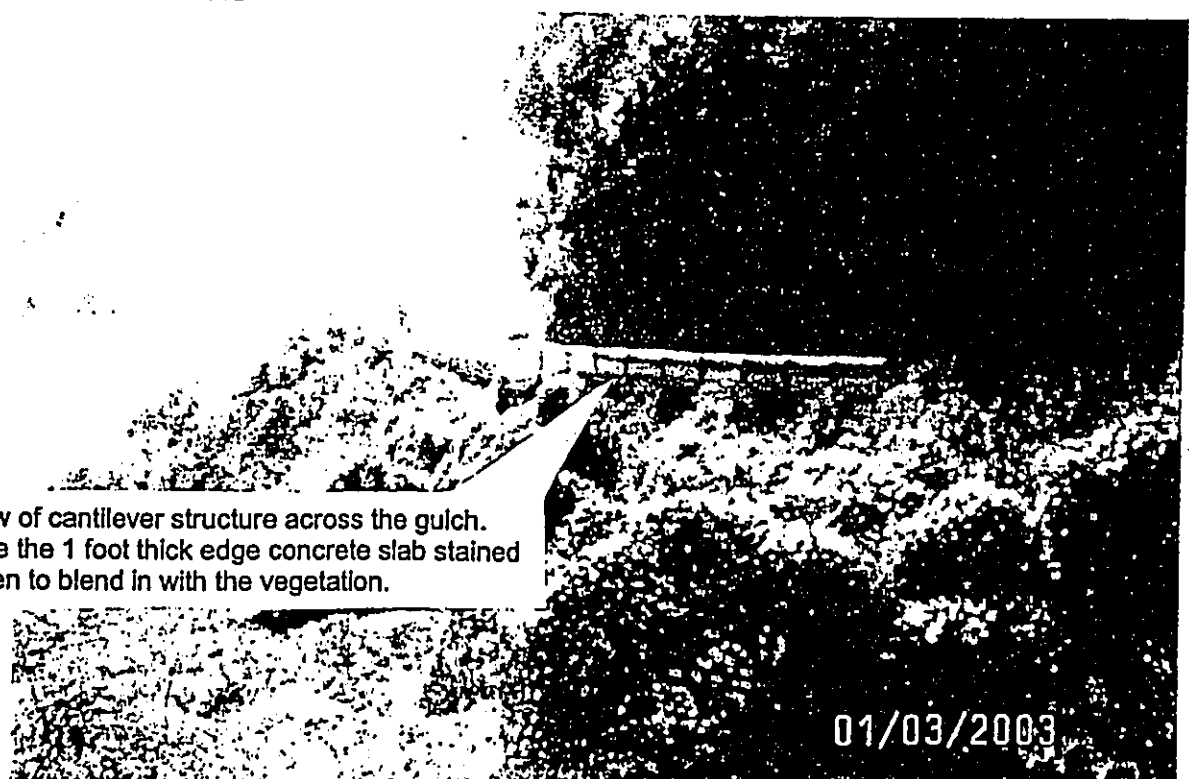
SU:kny



Cantilever structure overlaid with AC to hide structure from the driver's perspective. Note small strip of concrete stained to match AC color (where guardrail posts bolts down).

Custom-made T-6 metal bridge rail to match existing W-Beam metal guardrail

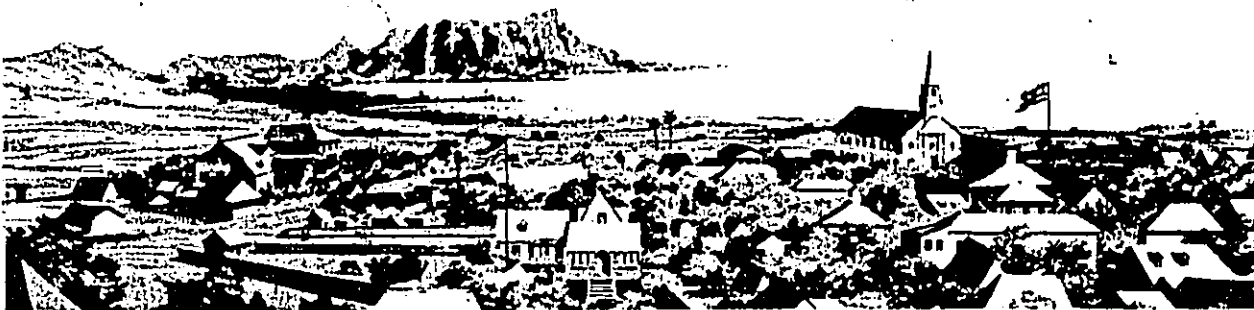
Mile Post 14.3



View of cantilever structure across the gulch. Note the 1 foot thick edge concrete slab stained green to blend in with the vegetation.

Mile Post 12.8

Hana Highway Repairs & Maintenance at Various Locations, Phase-1



Historic Hawai'i Foundation

March 11, 2003

Mr. Scot Urada
Department of Transportation
Highways Division
601 Kamokila Blvd., Room 688
Kapolei, HI 96707

RE: Hana Highway Rockfall Mitigation

Dear Mr. Urada,

We are writing in opposition to the proposed Hana Highway Rockfall Mitigation project for the National Register listed Hana Highway on Maui. As the first step in a process that will "address" a history of rockfalls at 35 sites along the historic Hana Highway, we are opposed to the proposed solution. We feel that context sensitive design solutions could better address this problem.

The proposed solution would have an adverse effect on the historic and cultural integrity of this national treasure. We are certain other solutions could be designed that would control the perceived hazard that the occasional rockfalls produce. What other solutions were examined?

We are furthermore not convinced that this solution is necessary. We are certain that the community would feel that this "solution" is an inappropriate response to a desire to "reduce the inconvenience to affected communities."

We look forward to working with DOT to develop appropriate solutions to the design challenges faced by preserving and maintaining this national historic and cultural treasure. It is an asset that is appreciated by both our visitors and local communities and that appropriate repair and maintenance, which retains and enhances the unique characteristics of the Hana Highway, will be supported by Historic Hawai'i Foundation and the community at large.

If you have any questions do not hesitate to contact me. I look forward to working with you on this project.

Sincerely,



David Scott
Executive Director

Cc: Mike Fisch – HHF President
Peter Young – DLNR Director
Rodney Haraga – DOT Director
Hanalei Roads Committee
AHEM
Maui Cultural Resources Commission
Millie Kim – Kona Heritage Corridor
Betsy Merritt – National Trust for Historic Preservation

JUN 2 2003

HWY-DS 2.0431

Mr. James "Kimo" Falconer, Chair
Cultural Resources Commission
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawaii 96793

**Subject: Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31
and Mile Post 19.18-19.52, Project No. 360AB-02-98 – Response to
Draft EA Comments and Finding of No Significant Impact (FONSI)**

Dear Mr. Falconer:

Thank you for your review and comments to our Draft EA for the Subject Project. The Department of Transportation (HDOT) reviewed your comments and request listed in your March 25, 2003, letter and would like to offer the following responses:

1. Request: "The CRC respectfully requests a deadline extension to provide comments on the draft environmental assessment."

Response: The HDOT does not intend to submit a final environmental assessment before late June 2003 and will make considerations to accept comments after the 30-day comment period, provided that it does not adversely impact the project schedule or jeopardize construction funding.

2. Comment: "The CRC would like the opportunity to review the proposed project in relation to both the National and State listing of the Hana Belt Road."

Response: Any interested party is afforded the right to make comments to the environmental document under the State environmental process as covered in HRS 343 and HAR 11-200 and public participation is encouraged.


Mr. James "Kimo" Falconer
Page 2

HWY-DS 2.0431

JUN - 2 2004

HDOT requests that your comments be submitted as soon as possible so that HDOT is given a reasonable amount of time to review and address those comments. HDOT recognizes the historic importance of Hana Highway and will make attempts to be responsive to the public's input while at the same time providing a safe facility for everyone.

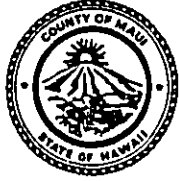
Sincerely,


RODNEY K. HARAGA
Director of Transportation

bc: M&E Pacific, Inc., Bruce Wade
HWY-DS (SU)
HWY-M (FC)

SU:kny

ALAN M. ARAKAWA
Mayor
MICHAEL W. FOLEY
Director
WAYNE A. BOTEILHO
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

March 25, 2003

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

Attention: Mr. Scot Urada

Dear Mr. Haraga:

RE: Draft Environmental Assessment for Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31 and Mile Post 19.18-19.53, Project No. 360AB-02-98

The above referenced document has recently come to the attention of several members of the Maui County Cultural Resources Commission (CRC). The CRC respectfully requests a deadline extension to provide comments on the draft environmental assessment.

The proposed project is located in the Hana Belt Road Historic District, which comprises both the roadway and the bridges and is listed on both the Hawaii State Register of Historic Places (March 19, 2001) and the National Register of Historic Places (June 15, 2001). The CRC would like the opportunity to review the proposed project in relation to both the National and State listing of the Hana Belt Road.

Your favorable response is greatly appreciated.

Should you require additional information, please contact Ms. Robyn L. Loudermilk, Staff Planner, of this office at 270-7735.

Sincerely,

FOR

JAMES "KIMO" FALCONER, Chair
Cultural Resources Commission

DESIGN ARCHITECT
HIGHWAYS DIVISION
DEPT. OF TRANSPORTATION

03 APR -1 P 4:23

RECEIVED

Mr. Rodney K. Haraga, Director
March 25, 2003
Page 2

JKF:RLL:lar

c: Wayne A. Boteilho, Deputy Planning Director
Clayton I. Yoshida, AICP, Planning Program Administrator
Robyn L. Loudermilk, Staff Planner
Bruce Wade, M&E Pacific, Inc.
General File
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LINDA LINGLE
GOVERNOR

RLC



RODNEY K. HARAGA
DIRECTOR

Acting Deputy Director
GLENN M. OKIMOTO

RECEIVED JUN 11 2003

2003
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

HWY-DS 2.0510

Ms. Dawn Duensing, Chairperson
Department of Planning
Cultural Resources Commission
County of Maui
250 South High Street
Wailuku, Hawaii 96793

JUN 10 2003

Attention: Robyn Loudermilk

Dear Ms. Duensing:

Subject: Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31
and Mile Post 19.18-19.52, Project No. 360AB-02-98 – Response to
Draft EA Comments and Finding of No Significant Impact (FONSI)

Thank you for your review and comments to our Draft EA for the subject project. The Hawaii State Department of Transportation, Highways Division (HDOT) reviewed your comments listed in your April 29, 2003, letter and offer the following responses:

1. **Comment:** "The proposed project is located in the Hana Belt Road Historic District...and is listed on both the Hawaii State Register of Historic Places (March 19, 2001) and the National Register of Historic Places (June 15, 2001)."

Response: HDOT recognizes the historic importance of Hana Highway and have given careful consideration to all of the comments received from the community and other interested parties. Efforts will be made to reduce visual impacts so that the original rural character of the highway can be preserved as much as possible.

2. **Comment:** "The Commission would like to be considered a consulting party on any projects that affect the Hana Belt Road Historic District."

Response: HDOT is aware of the Commission's interest and has added the Cultural Resources Commission (CRC) as a reviewing office for plans or environmental assessments.

3. **Comment:** The letter, signed January 31, 2003, from the State Historic Preservation Division fails to mention the State and National listing of the Hana Belt Road Historic District. The Commission do not concur with SHPD conclusion that ...we believe that "no historic properties will be affected" by this undertaking... The State and National Register listing indicates that historic properties will be affected."

Response: HDOT reviewed SHPD's letter that references to Chapter 6E-42 of the Hawaii Revised Statutes (HRS). It appears that the primary purpose of this letter was to inform HDOT that the likelihood of encountering burials, skeletal remains, or funerary objects is unlikely since the proposed work area has already been disturbed by the original roadway construction.

The DOT is cognizant of Route 360 Hana Highway being listed in the above mentioned Register of Historic Places and recognizes the importance to maintain the original character of the highway.

4. Comment: "The anticipated Finding of No Significant Impact (FONSI) is not appropriate given the State and National significance of the roadway."

Response: HDOT does not dispute the significance of Hana Highway being listed on the Register of Historic Places. HDOT is in agreement that efforts must be made to preserve the character of the highway.

HDOT found it difficult to quantify total impacts at this juncture. Due to the uniqueness for each site, mitigation strategies may differ considerably between sites. Additional engineering and investigation must be performed for every site to determine the appropriate mitigation strategy and what the impacts are for the proposed strategies. Currently there are no design or construction funds available for the other 33 sites, and separate Environmental Assessments will be prepared for future follow-on projects as design and construction funding becomes available.

HDOT consulted with the Office of Environmental and Quality Control, the Hawaii Division of the Federal Highway Administration, and a planner at the City and County of Honolulu to see how cumulative impacts could be addressed given the project funding limitations and inability to perform more detailed engineering at all sites. They all shared the same opinion that for this particular case that it is difficult to determine cumulative effects, and concluded that until future studies and engineering work is done, impacts to the environment cannot be determined. At a minimum, HDOT should disclose that there will be follow-on projects and a separate EA will be prepared for each of these future projects.

An Environmental Impact Statement (EIS) was not prepared for the above reason, and provided that HDOT can address "significant effects." Significant effects include: economic welfare, social welfare, and cultural practices as defined in the HRS.

To reduce economic and social impacts, HDOT will make attempts to coordinate State and County construction projects so that simultaneous road closures are avoided or closely coordinated, and HDOT will explore the option of maximizing night work and night road closures. HDOT is also exploring the option of including incentive and disincentive clauses into the construction contract so that if daytime closures are needed for certain work activities, the contractor would try to complete the work in the shortest time possible. By doing the above, social and economic impacts caused by construction road closures are reduced significantly.

The last EIS trigger would be adversely affecting cultural resources. HDOT is not aware of any ongoing cultural activities at the two project sites nor have any Draft EA comment letters identified any ongoing cultural practices. HDOT consulted with the State Historic Preservation Office (SHPD) and the Office of Hawaiian Affairs (OHA) and they have not identified any specific cultural resources in the project areas as well.

For the above reasons, HDOT feels that addressing this specific project's impacts by an Environmental Assessment and FONSI is appropriate. Based on community input and comments from reviewing offices and agencies, HDOT has given careful consideration to the comments received and certain design and construction elements have been modified accordingly to reduce socio-economic and cultural impacts.

5. **Comment:** The Commission expressed concern regarding the cumulative impacts of building concrete cantilever and retention walls as these structures will impact the historic character and integrity of the roadway. The proposed cantilevers and rock retention walls will change the road's historic alignment and character, which are important features in the road's historic integrity.

Response: HDOT agrees that the main elements that would make up the character of Hana Highway would include the original roadway alignment and the rustic appearance of the highway. As noted by the CRC, constructing roadway cantilevers to create a rock catchment zone will shift the roadway alignment.

When HDOT weighed the different factors such as visual impact, construction safety to the contractor and road users, effectiveness, and cost, a rockfall mitigation method had to be chosen so that the effects to the above mentioned factors would be reduced or minimized. While some mitigation methods can maintain the original alignment, these same methods would create more severe visual impacts. Other mitigation methods may lessen the visual impacts, but would require changes to the roadway alignment.

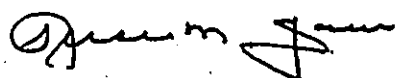
It was very clear to HDOT that visual impacts was one of the top concerns based on feedback received from the community for this project and for the recently completed Hana Highway Repairs and Maintenance, Phase-1 project. The roadway cantilever structure appeared to be the most acceptable option in terms of finished appearance, safety, and construction impact. For this reason, even though the roadway cantilever was one of the most costly options, HDOT felt that this method provides the best solution when weighing all of the different factors.

6. Comment: The Commission requested that a DOT representative attend a CRC meeting to present details of the proposed project, including what type of fencing or barriers will be installed.

Response: HDOT received this request in mid-May will send a representative to your June 5, 2003, CRC meeting on Maui as requested.

HDOT thanks you again for your comments and that the above sufficiently addresses your comments. If you have any questions, please call Scot Urada at 692-7553, Project Manager, Technical Design Services Office, Design Branch, Highways Division.

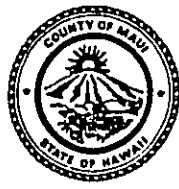
Very truly yours,



GLENN M. YASUI
Administrator
Highways Division

DIR 0634

ALAN M. ARAKAWA
Mayor
MICHAEL W. FOLEY
Director
WAYNE A. BOTEILHO
Deputy Director



RECEIVED

COUNTY OF MAUI '03 MAY -8 A10:54
DEPARTMENT OF PLANNING

April 29, 2003

SECTION 307
HIGHWAYS DIVISION
DEPT. OF TRANSPORTATION

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
2003 MAY -5 P 12:46

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

Attention: Mr. Scot Urada

Dear Mr. Haraga:

RE: Draft Environmental Assessment for Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05 - 11.31 and Mile Post 19.18 - 19.53, Project No. 360AB-02-98

At its regular meeting on April 3, 2003, the Cultural Resources Commission (Commission) reviewed the above document, and after due deliberation, offers the following comments:

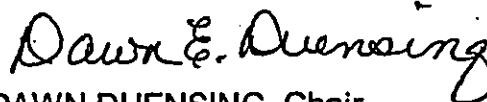
1. The proposed project is located in the Hana Belt Road Historic District, which comprises both the roadway and the bridges, and is listed on both the Hawaii State Register of Historic Places (March 19, 2001) and the National Register of Historic Places (June 15, 2001).
2. The Commission would like to be considered a consulting party on any projects that affect the Hana Belt Road Historic District.
3. The letter, signed January 31, 2003, from the State Historic Preservation Division fails to mention the State and National Register listing of the Hana Belt Road Historic District. The Commission does not concur with the SHPD conclusion that *...we believe that "no historic properties will be affected" by this undertaking...* The State and National Register listing indicates that historic properties will be affected.
4. The anticipated Finding of No Significant Impact (FONSI) is not appropriate given the State and National significance of the roadway.

Mr. Haraga
April 29, 2003
Page 2

5. The Commission expressed concern regarding the cumulative impacts of building concrete cantilevers and retention walls as these structures impact the historic character and integrity of the roadway. The proposed cantilevers and rock retention walls will change the road's historic alignment and character, which are important features in the road's historic integrity.
6. The Commission requested that a DOT representative attend a CRC meeting to present details of the proposed project, including what types of fencing or barriers will be installed.

Thank you for the opportunity to provide comments. Should you require further clarification, please contact Ms. Robyn L. Loudermilk, Staff Planner, of the Maui County Planning Department, at 270-7735.

Sincerely



DAWN DUENSING, Chair
Cultural Resources Commission

DD:RLL:lar

c: Wayne A. Boteilho, Deputy Planning Director
Clayton I. Yoshida, AICP, Planning Program Administrator
Robyn L. Loudermilk, Staff Planner
P. Holly McEldowney, Acting Administrator, State Historic Preservation Division
Bruce Wade, M&E Pacific
CRC Members
CRC File
Project File
General File
S:\ALL\ROBYN\CRC\Hana Belt Road Historic District\Rock Fall Mitigation\rockfallcomments1.wpd

SR 93 Ke'anae
Ha'iku, HI. 96708
March 21, 2003

Bruce Wade
M&E Pacific, Inc.
1001 Bishop St. Suite 500
Pauahi Tower
Honolulu, HI. 96813

RE: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR HANA HIGHWAY
ROCKFALL MITIGATION (HHRM)

Dear Mr. Wade:

The EA addresses rockfall mitigation at two sites on the Hana Highway as the beginning of implementation of the HHRM Plan (HHRMP), which will systematically address 35 sites. However, the EA fails to consider the cumulative impacts of working at these 35 sites. The proper approach would be the preparation of an EIS covering all 35 sites.

While you claim that "existing lifestyles in the area will not be altered for the short-term, long-term or cumulatively," in fact you are proposing that, for the foreseeable future—probably for the rest of my life—we will live according to your schedule of construction and road closures along an increasingly uglified road.

The fundamental problem with EA and the HHRMP is that they do not address the basic questions: 1. What is the risk of death or serious injury due to falling rocks? 2. Has that risk increased in the 76 years that the road has been open? 3. What is the risk of death or serious injury due to planned construction activities? 4. What are the comparative risks/costs/benefits?

The HHRMP presents a table of debris and rockfall events on the Hana Highway. This is meaningless. I have driven this road for 30 years. We drive around the rocks or wait for the road to be cleared. You accept this if you live in the Hana District. The rocks are less dangerous than the cows on the road (I encountered one this week).

In the last 50 years there has been only one long closure—four days in April, 1989. I know of only one death due to falling rocks. And I know of one death (and a lot of property damage) due to unsafe conditions allowed to exist during slope cutting at MP 16.13. So it seems that leaving things as they are might be the safest route.

The geologist at the meeting in Ke'anae this week admitted that 76 years is but a blink of the eye in geologic time, and that there is no evidence that the slopes are more prone to fall now than they were in the past. The consultant admitted that rockfalls might never happen, especially ones of serious magnitude. Yet you propose to disrupt our lives,

uglify this scenic highway, and spend many millions of state taxpayer dollars to prevent an unlikely contingency.

Since I suspect you will proceed regardless of our opinions, I offer the following suggestions for damage control:

1. Please remember that the Hana Highway is a Millennium Legacy Trail. Aesthetic concerns are very important:

- a. No gabions—they are hideous.
- b. No fences. They make it look like the mountain is imprisoned. If you insist on a fence, it should be entirely hidden by a real rock wall. We have talented rock masons in the Hana District.
- c. No concrete barriers—ugly! Again, rock is preferred.
- d. If rock is not legal, then use the fake rock we were shown at the meeting.
- e. Cantilevered road is far preferable to slope cutting, which has enormous environmental impacts.
- f. If there is slope cutting before mesh is draped, native plants such as uluhe should be planted.

2. Safety

The road at MP 16.13 is now much less safe than before because the construction left large spaces right in the rockfall area open. Tourists now use the area as a parking lot! Please don't repeat this.

3. Road closures

If we have to have them—I can live with the 11 a.m. to 3 p.m. closure. But 6:30 to 8:30 a.m. is tough—a lot of people drive out during that time. Also 9:30 p.m. is early to close—it means leaving town by 8 p.m.

I do not support a FONSI for this project. You will most certainly destroy natural and cultural resources with your barriers. The uglification and closures will substantially affect the economic and social welfare of the community and state. Slope cutting involves a substantial degradation of environmental quality. Cumulatively, the entire project has considerable effect on the environment. If past practices are evidence, slope cutting will surely affect water quality. The uglification that began at MP 16.13 and spread to MP 14.39 will further substantially affect scenic vistas and viewplanes.

An EIS for all 35 sites should be prepared.

Thank you for the opportunity to comment. Please send me a copy of any further publications related to this plan.

Sincerely,

A handwritten signature in black ink, appearing to read 'Elaine S. Wender', with a long horizontal stroke extending to the left.

Elaine S. Wender

JUL 14 2003

Ms. Elaine S. Wender
SR 93 Keanae
Haiku, Hawaii 96708

Subject: Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31
and Mile Post 19.18-19.52, Project No. 360AB-02-98
Response to Draft Environmental Assessment (EA) Comments

Dear Ms. Wender:

Thank you for your review and comments to our Draft EA for the subject project. The Hawaii State Department of Transportation, Highways Division (HDOT) reviewed your comments listed in your March 25, 2003, letter and offer the following responses:

1. **Comment:** "...the EA fails to consider the cumulative impacts of working at these 35 sites. The proper approach would be the preparation for an EIS covering all 35 sites."
Response: HDOT found it difficult to quantify total impacts at this juncture. Due to the uniqueness for each site, mitigation strategies may differ considerably between sites. Additional engineering and investigation must be performed for every site to determine the appropriate mitigation strategy and what the impacts are for the proposed strategies. Currently, there are no design or construction funds available for the other 33 sites; and, separate Environmental Assessments will be prepared for future follow-on projects as design and construction funding becomes available.

HDOT consulted with the Office of Environmental and Quality Control, the Hawaii Division of the Federal Highway Administration, and a planner at the City and County of Honolulu to see how cumulative impacts could be addressed given the project funding limitations and inability to perform more detailed engineering at all sites. They all shared the same opinion that for this particular case that it is difficult to determine cumulative effects, and concluded that until future studies and engineering work is done, impacts to the environment cannot be determined. At a minimum, HDOT should disclose that there will be follow-on projects and a separate EA will be prepared for each of these future projects.

Comment: "In the last 50 years there has been only one long closure—four days in April, 1989."

JUL 14 2003

Response: Our review of maintenance records from July 2000 to Feb 2003 indicate that 108 maintenance actions were undertaken that are directly attributed to rockfall occurrences. As stated at the Public Meeting held at the Keanae Baseyard this past March, this number could be higher since certain entries such as "debris on roadway" were not counted, when conceivably, it could have been rockfall debris. Only definitive entries were counted.

2. **Comment:** "The geologist at the meeting in Keanae admitted...and spending millions of state taxpayer dollars to prevent an unlikely contingency."

Response: Your comment is noted.

3. **Comment:** "No gabions—they are hideous."

Response: The HDOT does not intend to use gabions at either of the locations.

4. **Comment:** "No fences...It should be entirely hidden by a real rock wall..."

Response: The HDOT is exploring the possibility of using a textured concrete wall that is stained to simulate rock, or to use a concrete wall with rock veneer. The rock catchment fence constructed too close to the wall will reduce the effectiveness of the fence.

5. **Comment:** "No concrete barriers—ugly! Again, rock is preferred."

Response: Your comment is noted and the HDOT intends to provide a safety improvement that is consistent as much as possible with the scenic and rural character of the region. HDOT will explore the option of textured concrete or rock-veneered barriers.

6. **Comment:** "If rock is not legal, then use the fake rock we were shown at the meeting."

Response: Please refer to the above response to comment nos. 5 and 6 above.

7. **Comment:** "Cantilevered road is far preferable to slope cutting, which has enormous environmental impacts."

Response: The DOT is considering using the cantilevered roadway at one or both locations. As noted in the meeting, the roadway cantilever by itself is not particularly effective and must be combined with other rockfall mitigation options. At Mile Post 11, the roadway cantilever with slope mesh is proposed. At Mile Post 19, the roadway cantilever with fence and or barrier is proposed.

In a recent meeting with the Maui County Cultural Resources Commission (CRC), the CRC has expressed its support of a slope cutting/slope mesh combination at Mile Post 11 to preserve the original highway alignment and to introduce less new structures. As noted in the Public Meeting in Keanae, HDOT feels that slope cutting could be a viable option if given the right circumstances; however, public opinion related to aesthetics remains mixed.

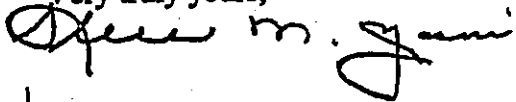
JUL 14 2003


8. **Comment:** "If there is slope cutting before mesh is draped, native plants such as uluhe should be planted."
Response: If slope cutting and draped mesh are implemented, the HDOT will investigate the use of native plants for its restoration.
9. **Comment:** "The road at MP 16.13...Tourists now uses this area as a parking lot."
Response: Your comment is noted for the Mile Post 16 area. HDOT will attempt to design the two rockfall areas to discourage parking in these areas.
10. **Comment:** "Road closures - If we have to have them -- I can live with 11 a.m. to 3 p.m. ...9:30 p.m. is early to close—it means leaving town by 8 pm."
Response: The HDOT is exploring the possibility of increasing the amount of night work to lessen daytime closures. As noted in the Public Informational Meeting, certain work activities requiring road closures must be done during daylight hours for the safety of the construction workers as well as the public. Depending on the mitigation method selected, these activities will be identified by HDOT so that the shortest timeframe for daytime road closures can be determined and the construction contract provisions will be based on this determination.

HDOT is exploring the possibility of including disincentive clauses into the construction contract to penalize the contractor for extending daytime road closures, and to include incentive clauses into the contract to reward the contractor if he can accomplish the work in a shorter time specified in the contract. The daytime road closure issue is still being studied at this time and revised hours will be included in the Final EA.

HDOT would like to thank you again for your comments and that the above sufficiently addresses all your concerns. HDOT recognizes the importance of preserving Hana Highway and will make attempts to be responsive to the public's input while at the same time providing a safe facility for everyone.

Very truly yours,



 RODNEY K. HARAGA
Director of Transportation

bc: Mr. Bruce Wade, M&E Pacific, Inc.
HWY-DS (SU)
HWY-M (FC)

SU:kny

JUL 14 2003

Mr. Nick Nikhilananda, President
Haiku Community Association
P. O. Box 1036
Haiku, Hawaii 96708-1036

Dear Mr. Nikhilananda:

Subject: Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31
And Mile Post 19.18-19.52, Project No. 360AB-02-98
Response to Draft Environmental Assessment (EA) Comments

Thank you for your review and comments to our Draft EA for the Subject Project. The Hawaii State Department of Transportation, Highways Division (HDOT) reviewed your comments listed in your March 25, 2003, letter and offer the following responses:

1. **Comment:** "The Hana Highway has been designated as a Millennium Legacy Trail. It is clearly one of Maui's jewels and should be preserved in its current character. The Hana Highway Rockfall Mitigation Plan to drape the hillsides with chain link at 35 sites, in addition to proposed chain link fencing and widening of the Hana Highway, will detract from the natural beauty that Mauaians and tourists drive the Hana Highway to enjoy."

Response: HDOT is cognizant that Route 360 Hana Highway was listed on the Register of Historic Places and agrees that efforts must be made to preserve the original character of the highway. HDOT would like to clarify that since each of the 35 sites are unique from one another, rockfall mitigation strategies may vary substantially between sites and mesh and fencing are not proposed for all sites.

Draped mesh is proposed at one of the two sites for this project. If chosen carefully, HDOT feels that draped mesh can be used successfully under certain circumstances and not have adverse visual impacts. Attached for your reference are some pictures of the recently completed rockfall project at Makapuu on the Island of Oahu.

The second rockfall site in this project is completely different in nature. The slope is higher, composition different, and with dense tree cover versus grass and fern at the first slope. For this reason, installing draped mesh would not be appropriate since it will require removal of the tree cover and the anticipated difficulty in construction will translate to a longer construction period.

JUL 14 2003

Since both of the above measures will require a rock catchment area so that rockfalls do not encroach onto the travel way, a roadway cantilever system is proposed at both sites to create a catchment area. Although it is one of the most costly options, the cantilever was chosen since it was the least visible. Based on the recently completed Hana Highway Repairs and Maintenance, Phase I project where similar cantilever structures were constructed, HDOT has received numerous positive comments from the public. Attached are photographs of the completed roadway cantilevers for your reference.

2. **Comment:** "The Draft EA regarding this project should clearly reflect the impact of this project upon the natural beauty and ambiance of the scenic drive. In accordance with the Haiku/Paia Community Plan, PLEASE take whatever actions are needed to preserve the scenic views along the Hana Highway."

Response: HDOT acknowledges that any improvements along Hana Highway will introduce a new element to the original highway. While the degree of impact is subjective, HDOT has collected comments from the community and other interested parties and is currently examining ways to reduce visual and socio-economic impacts.

HDOT selected the roadway cantilever from the various options based on public acceptance of the roadway cantilever structure and since it was the least visible. As suggested by a community member, HDOT is also considering shielding the rock catchment fence from view by using a textured and stained concrete barrier to simulate rock, or to use a concrete barrier with rock veneer.

HDOT found it difficult to quantify total impacts at this juncture. Due to the uniqueness for each site, mitigation strategies may differ considerably between sites. Additional engineering and investigation must be performed for every site to determine the appropriate mitigation strategy and what the impacts are for the proposed strategies. Currently there are no design or construction funds available for the other 33 sites, and separate Environmental Assessments will be prepared for future follow-on projects as design and construction funding becomes available.

HDOT consulted with the Office of Environmental and Quality Control, the Hawaii Division of the Federal Highway Administration, and a planner at the City & County of Honolulu to see how cumulative impacts could be addressed given the project funding limitations and inability to perform more detailed engineering at all sites. They all shared the same opinion that for this particular case that it is difficult to determine cumulative effects, and concluded that until future studies and engineering work is done, impacts to the environment cannot be determined. At a minimum, HDOT should disclose that there will be follow-on projects and a separate EA will be prepared for each of these future projects.

JUL 1 4 2003

As evidenced above, HDOT has collected comments from the public as well as interested parties and certain design and construction aspects of the project are being modified or considered. HDOT is making efforts to preserve the original character of the highway as much as possible while at the same time, provide a safe facility for the public.

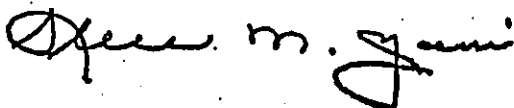
3. **Comment:** "The publicity for your meeting last week at the Haiku Community Center was insufficient. This resulted in very poor attendance from our community. In the future, we ask that the Haiku Community Association be notified well ahead of scheduled meetings."

Response: HDOT distributed copies of the draft EA to 20 identified stakeholders or viewing locations, ran a public notice advertisement in the Maui News, issued a press release that resulted in three newspaper articles covering the project (front page Maui News, Honolulu Advertiser, Honolulu Star Bulletin), posted flyers at community bulleting boards, and contacted various individuals for notification of the public informational meetings held in March 2003. HDOT feels that sufficient efforts were made in publicizing the project through several channels.

HDOT will notify the Haiku Community Association of upcoming meetings for future projects.

HDOT would like to thank you again for your comments and that the above sufficiently addresses all your concerns. HDOT recognizes the historic importance of Hana Highway and will make attempts to be responsive to the public's input while at the same time providing a safe facility for everyone. If you have any questions, please contact Scot Urada, Project Manager, Technical Design Services Office, Highways Division at 692-7553.

Very truly yours,

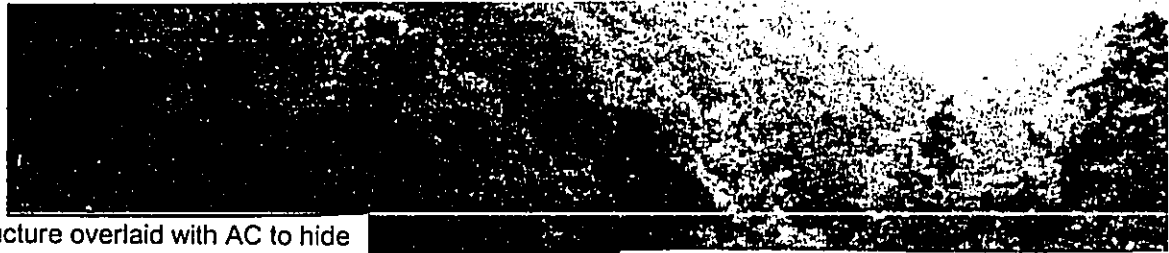


RK RODNEY K. HARAGA
Director of Transportation.

Attachments

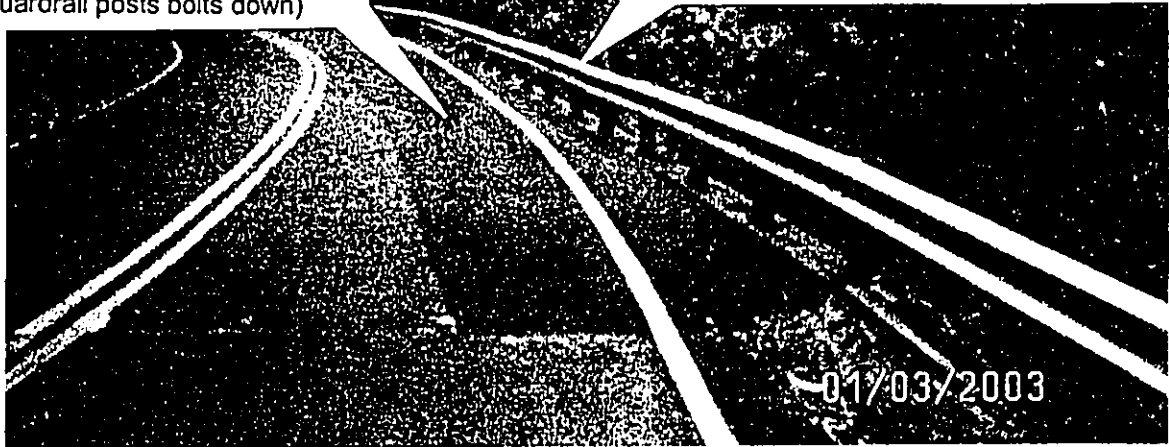
bc: M&E Pacific, Mr. Bruce Wade
HWY-DS (SU)
HWY-M (FC)

SU:kny

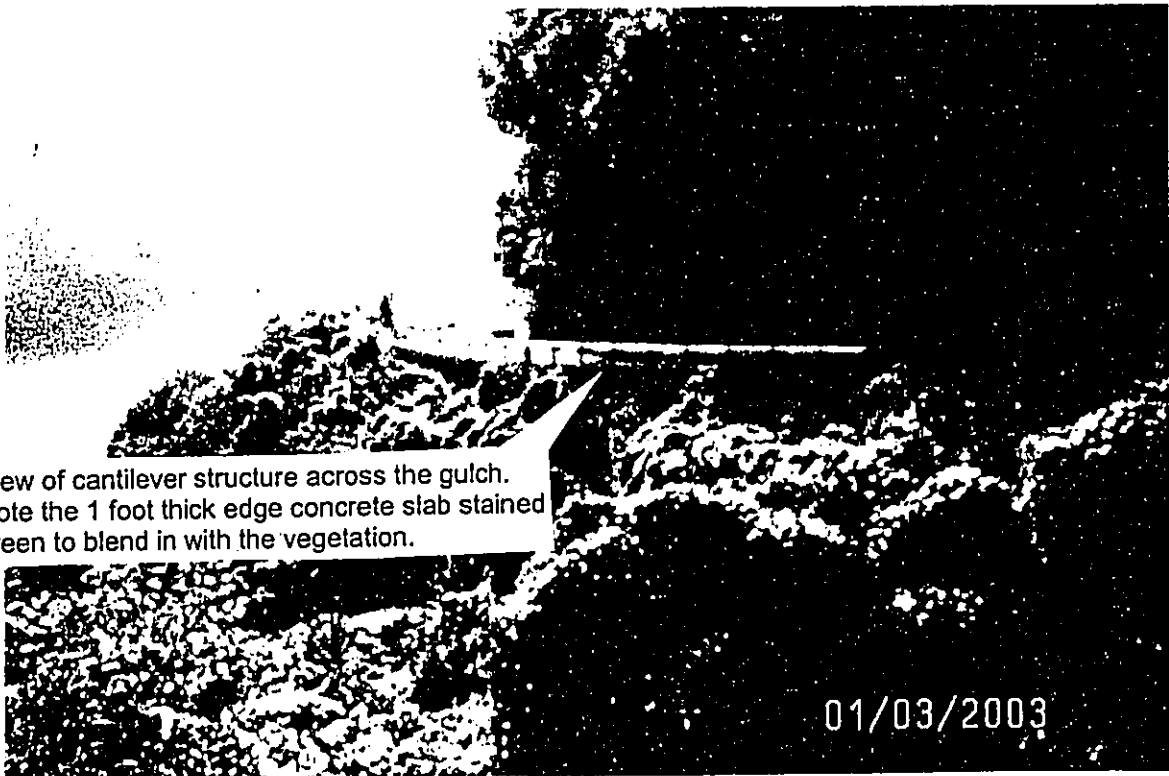


Cantilever structure overlaid with AC to hide structure from the driver's perspective. Note small strip of concrete stained to match AC color (where guardrail posts bolts down)

Custom made T-6 metal bridge guardrail to match existing W-Beam metal guardrails

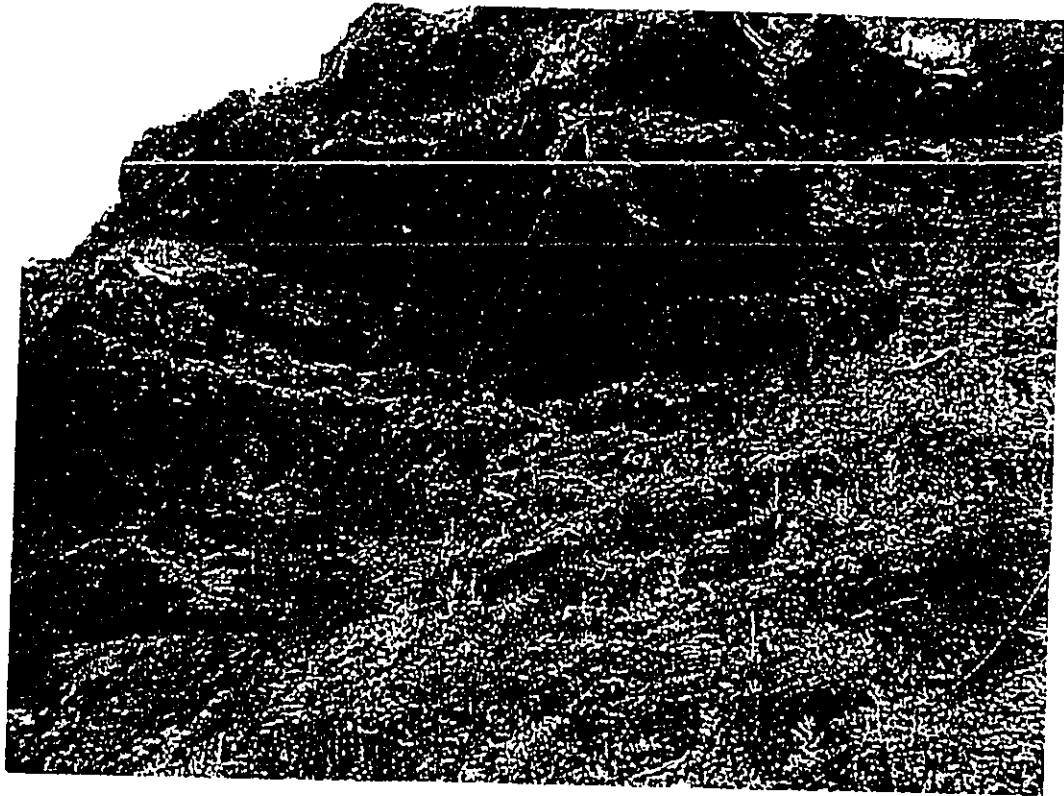


Route 360 Hana Highway Repairs & Maintenance, Phase-1
Mile Post 14.30 - Driver's Perspective

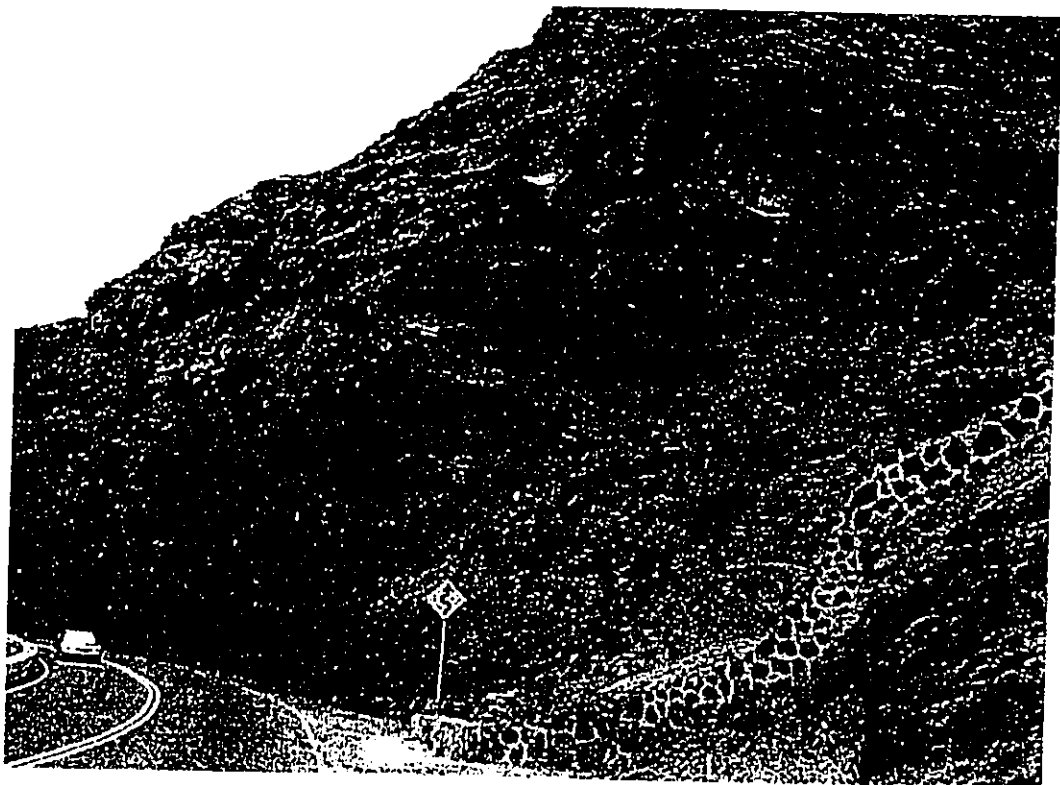


View of cantilever structure across the gulch. Note the 1 foot thick edge concrete slab stained green to blend in with the vegetation.

Route 360 Hana Highway Repairs & Maintenance, Phase-1
Mile Post 12.80 - View Across the Gulch



Makapuu, Oahu Rockfall Mitigation Project
Draped Mesh



Makapuu, Oahu Rockfall Mitigation Project

DOCUMENT CAPTURED AS RECEIVED

March 25, 2003

Dept. of Transportation, State Highways Division
601 Kamokila Blvd., Room 688
Kapolei, Hawai'i, 96707
Fax 808-692-7555
Attention: Scot Urada, Project Manager

Mr. Scot Urada:

The Hana Highway has been designated as a Millennium Legacy Trail. It is clearly one of Maui's jewels and should be preserved in its current character. The Hana Highway Rockfall Mitigation Plan to drape the hillsides with chain link at 35 sites, in addition to proposed chain link fencing and widening of the Hana Highway, will detract from the natural beauty that Mauians and tourists drive the Hana Highway to enjoy.

The Draft EA regarding this project should clearly reflect the impact of this project upon the natural beauty and ambiance of the scenic drive. In accordance with The Ha'iku/Pa'ia Community Plan, PLEASE take whatever actions are needed to preserve the scenic views along the Hana Highway.

The publicity for your meeting last week at the Ha'iku Community Center was insufficient. This resulted in very poor attendance from our community. In the future, we ask that the Ha'iku Community Association be notified well ahead of scheduled meetings.

We respectfully request your consideration of the Ha'iku, Huelo and Kailua community's viewpoint, as represented by the Ha'iku Community Association, regarding the Hana Highway Rockfall Mitigation Plan.

Thank you in advance for your attention to our concerns. We look forward to your personal response to this request.

Mahalo and Aloha,
The Ha'iku Community Association (HCA) Board of Directors
Nikhilananda President
Joel Eser Richman Vice-President
Tim Wolfe Secretary/Treasurer
Gregg Blue Past President
Marian Macy Zajac
Matt Daniells
Mark Raaphorst

HCA
P.O. BOX 1036
HA'IKU, MAUI, HAWAII, 96708-1036
Phone: 808-572-8787 Fax: 808-575-2207
s.nikhilananda2@gte.net

Post-it® Fax Note	7671	Date	3/25/03	# of pages	1
To	Diane Kodama		From	Scot Urada	
Co./Dept.	Bruce Wade		Co.	HWY-DS	
Phone #	MDE		Phone #	692 7553	
Fax #			Fax #		

March 25, 2003

Ferdinand M. Cajigal, P.E.
 Maui District Engineer, State Highway Division, Maui district office
 650 Palapala Drive
 Kahului, Hawai'i 96732
 Fax 808-873-3544

Mr. Ferdinand M. Cajigal, P.E.:

The Hana Highway has been designated as a Millennium Legacy Trail. It is clearly one of Maui's jewels and should be preserved in it's current character. The Hana Highway Rockfall Mitigation Plan to drape the hillsides with chain link at 35 sites, in addition to proposed chain link fencing and widening of the Hana Highway, will detract from the natural beauty that Mauians and tourists drive the Hana Highway to enjoy.

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Thank you in advance for your attention to our concerns. We look forward to your personal response to this request.

Mahalo and Aloha,
 The Ha'iku Community Association (HCA) Board of Directors
 Nikhilananda President
 Joel Esor Richman Vice-President
 Tim Wolfe Secretary/Treasurer
 Gregg Blue Past President
 Marian Macy Zajac
 Matt Daniells
 Mark Raaphorst

HCA
 P.O. BOX 1036
 HA'IKU, MAUI, HAWAII, 96708-1036
 Phone: 808-572-8787 Fax: 808-575-2207
 snikhilananda2@gte.net

JUL 14 2003

Mr. Robert Parsons
Environmental Coordinator
Office of the Mayor
200 South High Street
Wailuku, Hawaii 96793

Dear Mr. Parsons:

Subject: Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31 and
Mile Post 19.18-19.52, Project No. 360AB-02-98
Response to Draft Environmental Assessment (EA) Comments

Thank you for your review and comments to our Draft EA for the subject project. The Hawaii State Department of Transportation (HDOT) reviewed your comments listed in your March 25, 2003, letter and would like to respond as follows:

A. **Comment:** "...I believe the proposed mitigation needs to be reviewed in its totality as part of the 35 sites identified in the study conducted by Oceanit in the year 2000."

Response: To quantify cumulative effects of these future follow-on projects at this juncture is difficult for the following reasons:

1. Each rockfall site could be substantially different in nature from one another and the best mitigation strategy for each site cannot be determined until more detailed and site-specific engineering work is conducted. Until this is done, site-specific impacts and cumulative effects cannot be determined.
2. Additional engineering and investigation cannot be performed until design and construction funding are available. Since it is extremely costly to implement rockfall mitigation strategies at all 35 sites, the State will implement rockfall mitigation strategies at a rate of one to two sites every two years as funding becomes available. Currently, there are no design or construction funds available for the other 33 sites; therefore, no further studies can be done for these sites at this time.

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3. Separate EAs will be prepared for future follow-on projects as design and construction funding becomes available. To address the issue of cumulative effect, the HDOT consulted with the Office of Environmental and Quality Control, the Hawaii Division of the Federal Highway Administration, and a planner at the City and County of Honolulu. They all shared the same opinion that this particular case is difficult to determine cumulative effects, and concluded that until future studies and engineering work is done, impacts to the environment cannot be determined. At a minimum, HDOT should disclose that there will be follow-on projects and separate EAs will be prepared for each of these future projects.

- B. Comment:** A full EIS for the Hana Highway roads and bridges, including the County participation and discussion of the Piilani Highway as an alternative route is necessary to comply with Chapter 343, HRS."

Response: HDOT interprets this statement is related to concerns due to the proposed construction road closures where there may be adverse impacts related to economic or social welfare under "significant effects" as stated in HRS 343, two possible triggers to prepare an EIS. In the last series of public meetings HDOT conducted on March 18, 19, and 20, 2003, attendees at those meetings asked HDOT to coordinate construction with the County of Maui bridge replacement projects so that road closures are not occurring simultaneously. The attendees also asked if daytime road closures could be minimized or eliminated. To reduce economic and social impacts, HDOT will make attempts to coordinate State and County construction projects so that simultaneous road closures are avoided or closely coordinated, and HDOT will explore the option of maximizing night work and night road closures.

The last EIS trigger would be adversely affecting cultural resources. HDOT is not aware of any ongoing cultural activities at the two project sites nor have any Draft EA comment letters identified any ongoing cultural practices. HDOT consulted with the State Historic Preservation Office (SHPD) and the Office of Hawaiian Affairs (OHA) and they have not identified any specific cultural resources in the project areas as well.

For the above reasons, HDOT feels that by coordinating projects with the County of Maui to avoid simultaneous road closures, maximizing night work and night road closures, and by restricting daytime road closures, economic and social impacts are significantly reduced and preparation of an EIS is not required. Additionally, since there have been no indications to date of any cultural resources or activities from SHPD, OHA, recipients of the Draft EA, and from any other people having access to the Draft EA, HDOT feels that preparation of an EIS is not required.

- C. Comment:** The proposed project also falls within the SMA area, and thereby must comply with Chapter 205A, HRS.

Response: The project will comply with Chapter 205A, HRS and the EA will be modified to note this.

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- D. **Comment:** The Hana Community Plan, adopted as law on July 1st, 1994, contains specific language on page 21 regarding Physical Infrastructure. Under Transportation 3., "Encourage a program of roadway safety improvements, including shoulder widening, pull-over spots and installation of new signage and guardrails that do not detract from the region's scenic and rural character."

Response: In a recently completed project, HDOT solicited considerable public input in 2001 and restored five areas along Route 360 Hana Highway where cantilever structures similar to those proposed in this Draft EA were constructed and fitted with custom-fabricated metal guardrail that were acceptable to the Cultural Resource Commission. HDOT has received favorable comments from residents and other interested stakeholders on the workmanship and obscure aspects of the finished structures. HDOT is cognizant of the community's concern in maintaining the character of the highway and have made efforts in being responsive to aesthetic issues raised by project stakeholders.

In other future projects, HDOT will consider improving pullout spots along the highway. For this Rockfall Mitigation project, no pullout spots are recommended since encouraging parking in rockfall areas introduces additional safety hazards to the roadway users.

- E. **Comment:** "Balance traffic flow and safety requirements with the preservation of Hana region's historic bridges. I believe the D.O.T. has let the 10 ton vehicle weight limit go unenforced, jeopardizing both roadway and bridges, as well as vehicular safety."

Response: HDOT has noted down this concern and this will be forwarded to the office that would enforce the weight limit.

- F. **Comment:** "Page 32 of the Draft EA, 5.1.9. Visual, states, "Erection of rockfall retention devices will exert long-term adverse impacts on the visual resources of the two project areas." Next paragraph, "Attempts will be made to maintain the original character of the highway." Once again, the cumulative impact of adverse visual impacts of 35 sites is virtually certain to change the character of this historic and scenic treasure, recently recognized by a Federal Act as Hawaii's Millennium Legacy Trail."

Response: HDOT explored different rockfall mitigation options or combination of options. These were: 1) conventional retaining walls, 2) slope cutting, 3) draped wire mesh, 4) rock catchment fences or barriers, 5) roadway cantilever structures, and 6) slope scaling and boulder removal. The "do-nothing" option was not considered since HDOT has been made aware that a rockfall or potential rockfall hazard exists and HDOT is responsible to provide a safe facility for the traveling public. Slope scaling and boulder removal was eliminated since this type of action would only be feasible to areas with a discrete amount of known, hazardous boulders. These other five options or combination of options were presented by HDOT in the March 2003 public meetings and although most costly, nearly all of the meeting attendees showed support for the cantilever structure since it was the least intrusive of the options presented and much of the work could be constructed at night. In a separate meeting with the County of Maui Cultural Resources Commission (CRC) on June 5, 2003,

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the CRC expressed its preference of slope cutting at the Mile Post 11 site in lieu of constructing the cantilever structure. HDOT acknowledges that implementing rockfall mitigation strategies will introduce new elements to the highway that might be readily visible to the road users. HDOT intends to solicit public input for each follow-on project will make attempts to choose the most feasible option that would be the least intrusive after studying each area in detail and carefully considering input from the public.

- G. **Comment:** "Page 34, 6.4.2. Socio-Economic Environment claims that lifestyles will not be altered, despite anticipated road closures of thirteen hours a day for a projected six to eight months. Road closures due to rockfalls over any six-month period amounts to perhaps half a day for the entire Hana Highway.

Response: As stated above, HDOT has noted down the concern of complete road closures, and in particular, daytime road closures. HDOT will attempt to maximize night road closures to significantly reduce travel impact. For safety reasons however, certain types of construction work must be performed during the daytime and HDOT will attempt to minimize such daytime road closures.

HDOT is exploring the possibility of incorporating an incentive clause into the construction contract so that the contractor would be encouraged to finish work involving daytime closures as fast as possible. HDOT is also considering disincentive causes where the contractor would be penalized a monetary amount if daytime road closures are extended beyond that allowed in the contract. By doing so, HDOT will restrict daytime road closures to a minimum.

- H. **Comment:** "Appendix A of the Draft EA refers to an attached sign-in sheet for community members at three public meeting, yet there appears to be only four members of the public total for the three combined meetings."

Response: In 2002, HDOT issued a media press release to announce the scheduled public meetings and also published a notification ad in the Maui News. As you noted, attendance was poor. Although not required, HDOT elected to hold another series of public meetings this year when the Draft EA was published to give a second opportunity for the public to receive information and comment on the proposed Rockfall Mitigation project. This year, the HDOT actively contacted some stakeholders, issued a media press release, printed a notification ad in the Maui News, and posted flyers on community bulletin boards. As a result, the project was featured in three newspapers, including a front-page article in the Maui News. Attendance in this year's public meetings improved and HDOT feels that it made sufficient efforts to publicize the project.

- I. **Comment:** Page 40, under Section 9, Findings and Reasons Supporting Preliminary Determination of Finding of No Significant Impacts, 8., states, "The proposed projects will not exert a cumulative effect on the environment...and will not involve a commitment to larger action." In fact the areas described in the Draft EA are part of a larger action, as discussed earlier. Any effort to separate this action from the larger proposed action denies

Mr. Robert Parsons

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the public and decision makers of full disclosure of long-term and cumulative impacts. In this light, I urge the wishes and legal rights of the public be served by preparing a full, complete Environmental Impact Statement, detailing broad impacts of any and all changes anticipated and proposed for the transportation corridors to Hana.

Response: As stated in A. above, additional clarification will be included in the Final EA to discuss follow-on projects and the difficulty in trying to quantify cumulative effects at this stage.

HDOT would like to thank you again for your comments and that the above sufficiently addresses all items listed in your letter. HDOT recognizes the importance of preserving Hana Highway and will make attempts to be responsive to the public's input while at the same time, providing a safe facility for everyone.

If you have any questions, please call Scot Urada, Project Manager at 692-7553, Technical Design Services Office, Design Branch, Highways Division.

Very truly yours,


RODNEY K. HARAGA
Director of Transportation

c: M&E Pacific, Bruce Wade

bc: HWY-DS (SU)
HWY-M (FC)

SU:kny

ALAN M. ARAKAWA
MAYOR



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OFFICE OF THE MAYOR
Ke'ena O Ka Mele
COUNTY OF MAUI - Kalana O Maui
March 25, 2003

Dept. of Transportation, State Highways Division
601 Kamokila Blvd., Room 688
Kapolei, Hawai'i 96707
Fax-# 808-692-7555
Attention: Scot Urada, Project Manager

Aloha;

As Executive Assistant for Environmental Concerns to Maui County Mayor Alan Arakawa, I wish to express concerns with the Draft EA for Hana Highway Rockfall Mitigation. Specifically, I believe the proposed mitigation needs to be reviewed in its totality as part of the 35 sites identified in a study conducted by Oceanit in the year 2000. A full EIS for the Hana Highway roads and bridges, including County participation and discussion of the Pi'ilani Highway as an alternate route is necessary to comply with Chapter 343, HRS. The proposed project also falls within the SMA area, and thereby must comply with Chapter 205A, HRS, relating to Coastal Zone Management, which also requires study of cumulative impacts.

The Hana Community Plan, adopted as law on July 1st, 1994, contains specific language on page 21 regarding Physical Infrastructure. Under Transportation, 3., "Encourage a program of roadway safety improvements, including shoulder widening, pull-over spots and installation of new signage and guardrails that do not detract from the region's scenic and rural character." Also, 4., "Balance traffic flow and safety requirements with the preservation of the Hana region's historic bridges." I believe the D.O.T. has let the 10 ton vehicle weight limit go unenforced, jeopardizing both roadways and bridges, as well as vehicular safety.

Page 32 of the Draft EA, 5.1.9. Visual, states, "Erection of rockfall retention devices will exert long-term adverse impacts on the visual resources of the two project areas." Next paragraph, "Attempts will be made to maintain the original character of the highway." Once again, the cumulative impact of adverse visual impacts of 35 sites is virtually certain to change the character of this historic and scenic treasure, recently recognized by a Federal Act as Hawai'i's Millenium Legacy Trail.

Page 34, 6.4.2., Socio-Economic Environment claims that lifestyles will not be altered, despite anticipated road closures of thirteen hours a day for a projected six to eight months. Road closures due to rockfalls over any six month period amount to perhaps half a day for the entire Hana Highway.

Appendix A of the Draft EA refers to an attached sign in sheet for community members

at three public meetings, yet there appears to be only four members of the public total for the three combined meetings.

Page 40, under Section 9, Findings and Reasons Supporting Preliminary Determination of Finding of No Significant Impact, 8., states, "The proposed projects will not exert a cumulative effect on the environment...and will not involve a commitment to larger action." In fact the areas described in the Draft EA are part of a larger action, as discussed earlier. Any effort to separate this action from the larger proposed action denies the public and decision makers of full disclosure of long-term and cumulative impacts. In this light, I urge that the wishes and legal rights of the public be served by preparing a full, complete Environmental Impact Statement, detailing broad impacts of any and all changes anticipated and proposed for the transportation corridors to Hana.

Mahalo, and malama pono,



Robert Parsons,
Environmental Coordinator, County of Maui
200 S. High Street
Wailuku, HI. 96793
808-270-7960

cc: Ferdinand Cajjgal
OEQC

JUL 15 2003

Mr. Michael W. Foley, Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Maui, Hawaii 96793

Attention: Robyn Loudermilk

Dear Mr. Foley:

Subject: Hana Highway Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31
and Mile Post 19.18-19.52, Project No. 360AB-02-98
Response to Draft Environmental Assessment (EA) Comments

Thank you for your review and comments to our Draft EA for the subject project. The Hawaii State Department of Transportation, Highways Division (HDOT) reviewed your comments listed in your March 14, 2003, letter and offer the following responses:

1. Comment: "The Department confirms that both project sites are located in the Special Management Area as designated by the County of Maui."

Response: HDOT will submit an SMA application for approval by the County of Maui.

2. Comment: "As both project sites require the acquisition of additional right-of-way makai of the existing Hana Highway right-of-way, the project will require a Special Management Area (SMA) Use Permit."

Response: HDOT will submit an SMA application for approval by the County of Maui.

3. Comment: This portion of Hana Highway is part of the Hana Belt Road National Historic District and the Hana Belt Road Historic District. The EA should discuss the impact of the proposed project to this historic and cultural resource.

Response: HDOT recognizes the historic importance of Hana Highway and has given careful consideration to all of the comments received from the community and other interested parties. At this juncture, it is difficult to quantify total impacts. Due to the uniqueness for each site, mitigation strategies may differ considerably between sites. Additional engineering and investigation must be performed for every site to determine what the best mitigation strategy would be and what the impacts are for the proposed strategy.

Mr. Michael W. Foley
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Since it is extremely costly to address all 35 sites, the State will implement rockfall mitigation strategies at a rate of one to two sites every two years as funding becomes available. Currently, there are no design or construction funds available for the other 33 sites, and separate Environmental Assessments will be prepared for future follow-on projects as design and construction funding becomes available.

4. Comment: Based on historic district designations as both State and National level, the SMA Use Permit will be reviewed by the Maui County Cultural Resources Commission.

Response: HDOT will submit an SMA application for approval by the County of Maui and other associated offices.

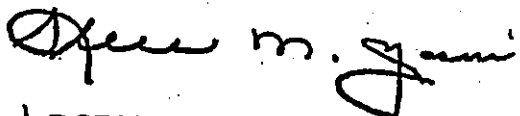
5. Comment: As the project sites are located in the Special Management Area, the EA should include the discussion of the objectives and policies of Chapter 205A, Hawaii Revised Statutes, related to Coastal Zone Management and the Special Management Area.

Response: The EA will be revised to discuss the above HRS sections as commented above.

HDOT thanks you again for your comments and that the above sufficiently addresses your comments. As requested, HDOT did attend your June 5, 2003, CRC meeting on Maui and gave a presentation of the project.

If you have any questions, please call Scot Urada at 692-7553, Project Manager, Technical Design Services Office, Design Branch, Highways Division.

Very truly yours,



RKH
RODNEY K. HARAGA
Director of Transportation

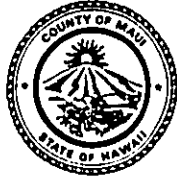
bc: M&E Pacific, Inc., Bruce Wade
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ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

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March 14, 2003

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

Attention: Mr. Scot Urada

Dear Mr. Haraga:

RE: Comments on Draft Environmental Assessment for Hana Highway
Rockfall Mitigation, Huelo to Hana, Mile Post 11.05-11.31 and
Mile Post 19.18-19.53, Project No. 360AB-02-98

The Maui County Planning Department (Department) has reviewed the subject document and has the following comments to offer:

1. The Department confirms that both project sites are located in the Special Management Area as designated by the County of Maui.
2. As both project sites require the acquisition of additional right-of-ways makai of the existing Hana Highway right-of-way, the project will require a Special Management Area (SMA) Use Permit.
3. This portion of Hana Highway is part of the Hana Belt Road National Historic District and the Hana Belt Road State Historic District. The EA should discuss the impact of the proposed project to this historic and cultural resource.
4. Based on historic district designations as both State and National level, the SMA Use Permit will be reviewed by the Maui County Cultural Resources Commission.

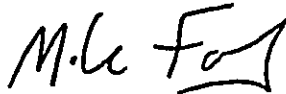
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Mr. Rodney K. Haraga, Director
March 14, 2003
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5. As the project sites are located in the Special Management Area, the EA should include the discussion of the objectives and polices of Chapter 205A, Hawaii Revised Statutes, relating to Coastal Zone Management and the Special Management Area.

Thank you for the opportunity to comment. Should you require additional information, please contact Ms. Robyn L. Loudermilk, Staff Planner, of this office at 270-7735.

Sincerely,



MICHAEL W. FOLEY
Planning Director

MWF:RLL:lar

c: Clayton I. Yoshida, AICP, Planning Program Administrator
Robyn L. Loudermilk, Staff Planner
Bruce Wade, M&E Pacific, Inc.
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