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IN REPLY REFER TO:
HWY-M 2.019-07

February 5, 2007

TO: GENEVIEVE SALMONSON, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
DEPARTMENT OF HEALTH

FROM: BRENNON T. MORIOKA, Ph.D., P.E.
DEPUTY DIRECTOR - HIGHWAYS

SUBJECT: FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

The State of Hawaii, Department of Transportation, Highways Division, has reviewed the comments received during the 30-day public comment period that began on Thursday, June 8, 2006. We have determined that this project will not have any significant environmental effects and have issued a FONSI. Please publish the notice in the next available OEQC *Environmental Notice.* Enclosed a completed OEQC Publication Form and four copies of the final EA.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

Enclosures

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2007-03-08-MA-FEA-
HONOAPIILANI HIGHWAY WIDENING

MAR - 8 2007

ENVIRONMENTAL ASSESSMENT (*FINAL*)

Honoapi'ilani Highway Widening

Lahainaluna Road to 'Aholo Road

Waine'e, Lahaina, Maui, Hawai'i

Tax Map Key Numbers (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [*por each*]

DOT-HWY Project No. 30BC-01-04

FEBRUARY 2007

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Prepared for:

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Prepared by:

M&E Pacific, Inc.
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ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
ADAAG	Americans with Disabilities Act Accessibility Guidelines
AMP	Archaeological Monitoring Plan
APE	Area of Potential Effects
BMP(s)	Best Management Practice(s)
CatEx	Categorical Exclusion
CDD(s)	Community Development District(s)
CDUA	Conservation District Use Application
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CIA	Cultural Impact Assessment
CWA	Clean Water Act
CWB	Clean Water Branch
CWRM	Commission on Water Resource Management
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
DA	US Department of the Army
DAG	US Department of Agriculture
DAR	Division of Aquatic Resources
DBEDT	State Department of Business, Economic Development & Tourism
DEA	Draft Environmental Assessment
DLNR	State Department of Land and Natural Resources
DOH	State Department of Health
DOI	US Department of the Interior
DOT	State Department of Transportation
DP	County of Maui, Department of Planning
DPR	County of Maui, Department of Parks and Recreation
DPWEM	Department of Public Works and Environmental Management

DSP	Division of State Parks
DWS	County of Maui, Department of Water Supply
EA	Environmental Assessment
EPA	US Environmental Protection Agency
ESA	Endangered Species Act
FHV	Flood Hazard Variance
FHWA	US Department of Transportation, Federal Highway Administration
FONSI	Finding of No Significant Impact
FWS	US Fish and Wildlife Service
gpd	Gallons Per Day
HAR	Hawai'i Administrative Rules
HECO	Hawaiian Electric Company
HRS	Hawai'i Revised Statutes
HWY	Highways Division (DOT)
LUO	Land Use Ordinance
LWCF	Land & Water Conservation Fund
MECO	Maui Electric Company, Ltd.
mgd	Million Gallon(s) Per Day
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPRSA	Marine Protection, Research and Sanctuaries Act
NCZMA	National Coastal Zone Management Act
NEPA	National Environmental Policy Act
NGPC	Notice of General Permit Coverage
NHPA	National Historic Preservation Act
NOC	Notice of Cessation
NOI	Notice of Intent
NOC	Notice of Cessation
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service

NRC	"No-Rise" Certification
NRCS	US Department of Agriculture, Natural Resources Conservation Service
NWP	Nationwide Permit
OCCL	Office of Conservation and Coastal Lands
OEP	Office of Environmental Planning
OEQC	State Office of Environmental Quality Control
OHA	State Office of Hawaiian Affairs
OP	Office of Planning
RHA	Rivers and Harbors Act
SCAP	Stream Channel Alteration Permit
SCS	Soil Conservation Service
SHPD	State Historic Preservation Division
SMA	Special Management Area
SSA	Shoreline Setback Area
SSL	Shoreline Setback Line
SSV	Shoreline Setback Variance
UH	University of Hawai'i at Mānoa
US	United States Government
USACE	US Army Corps of Engineers
USGS	US Geological Survey
WQ	Water Quality
WQC	Water Quality Certification
WRRC	Water Resources Research Center

CHAPTER 1—INTRODUCTION

1.1 PROJECT INFORMATION SUMMARY

Project Name:	Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Project Owner:	State of Hawai'i, Department of Transportation, Highways Division Ali'i'aimoku Building 869 Punchbowl Street, Room 513 Honolulu, Hawai'i 96813-5097 Contact: Charlene Shibuya, Project Manager State of Hawai'i, Department of Transportation, Highways Division Maui District 650 Palapala Drive Kahului, Hawai'i 96732 Phone: (808) 873-3535, Fax: (808) 873-3544, Email: Charlene.Shibuya@Hawaii.Gov
Accepting Authorities:	County of Maui, Department of Public Works and Environmental Management State of Hawai'i, Department of Transportation US Department of Transportation, Federal Highway Administration
Location:	Honoapi'ilani Highway, Route 30, between Mileposts 19.90 & 20.97 District of Lahaina, Island of Maui Vicinity and Location Maps are attached for reference as Figure 1, respectively.
Proposed Action:	The proposed action involves widening the existing State-owned Honoapi'ilani Highway from two to four lanes in compliance with government standards, and constructing a separate bikelane and sidewalk. This project will ease traffic congestion in Lahaina. A General Conceptual Plan for the project is attached as Figure 2.
Property Owner and TMK Designation:	Honoapi'ilani Highway State of Hawai'i, Department of Transportation The site is located within an 80'-wide roadway right-of-way (ROW) in favor of the State of Hawai'i for Honoapi'ilani Highway, Route 30, bordered on both sides primarily by private residential properties, and partially along its *mauka* edge by County of Maui parks. Tax Map Keys: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]: Various Parcels A Tax Map Key Map of the site is attached for reference as Figure 3.

State Land Use District: Urban/Agriculture

A State Land Use Designation Map is attached for reference as Figure 4.

Existing County Zoning: The project site is contained within County of Maui, Maui Planning & Traffic Commission, Land Zoning Map 8: Showing Lahaina and Surrounding Areas (1961 and as amended).

Land Use Code & Activity:

→ *Mauka* adjacent parcels

Lahainaluna Road to Dickenson Street:	300—Commercial 900—Homeowner
Dickenson Street to Prison Street:	100—Residential (One or More Family Living Units) 500—Agricultural & Rural
Prison Street to Shaw Street:	500—Agricultural & Rural
Shaw Street to 'Aholo Road:	500—Agricultural & Rural 900—Homeowner
South of 'Aholo Road:	100—Residential (One or More Family Living Units)

→ *Makai* adjacent parcels

Lahainaluna Road to Dickenson Street:	100—Residential (One or More Family Living Units) 200—Apartment 300—Commercial
Dickenson Street to Prison Street:	100—Residential (One or More Family Living Units) 200—Apartment 700—Hotel & Resort 900—Homeowner
Prison Street to Shaw Street:	100—Residential (One or More Family Living Units) 800—Unimproved Residential 900—Homeowner

Shaw Street to 'Aholo Road:	100—Residential (One or More Family Living Units) 900—Homeowner
South of 'Aholo Road:	100—Residential (One or More Family Living Units)

Zoning Code & Description:

→ *Mauka* adjacent parcels

Lahainaluna Road to Dickenson Street:	03—R-2 Residential District 32—B-2 Business District
Dickenson Street to Prison Street:	51— AGR Agricultural
Prison Street to Shaw Street:	51—AGR Agricultural
Shaw Street to 'Aholo Road:	51—AGR Agricultural 11—A-1 Apartment
South of 'Aholo Road:	51—AGR Agricultural 61—P1 Public-Quasi-Public

→ *Makai* adjacent parcels

Lahainaluna Road to Dickenson Street:	03—R-2 Residential District 11—A-1 Apartment 31—B-1 Business District 32—B-2 Business District
Dickenson Street to Prison Street:	03—R-2 Residential District 12—A-2 Apartment 21—H-1 Hotel
Prison Street to Shaw Street:	02—R-1 Residential District 03—R-2 Residential District
Shaw Street to 'Aholo Road:	03—R-2 Residential District
South of 'Aholo Road:	03—R-2 Residential District

A portion of the County Land Use Zoning Map is attached for reference as Figure 5.

The project site is located completely within the National Historic Landmark area, partially adjacent to (but outside of) Lahaina Historic District No. 1 (HD1 Area 4 at the Dickenson Street intersection), and

	completely outside of Lahaina Historic District No. 2 as described in the Maui County Code and *Lahaina Historic Districts Map* (December 14, 1966, Revised March 22, 1967). A Lahaina Historic Districts Map Showing Historic Districts 1 and 2 is attached for reference as Figure 6.
Development Plan Land Use Designation:	Public Facility (80'-wide road Right-of-Way (ROW) under the State of Hawai'i for Honoapi'ilani Highway, Route 30)
Special Designation:	The project is adjacent to, but outside of the County of Maui Special Management Area (SMA). A Special Management Area Map is attached for reference as Figure 7.
Preparer of This Environmental Assessment:	M & E Pacific, Inc. Davies Pacific Center 841 Bishop Street, Suite 1900 *Honolulu, Hawai'i 96813* Contact: Mike Nishimura, Project Engineer Phone: (808) 521-3051, Fax: (808) 524-0246
Determination:	Finding of No Significant Impact (FONSI)

1.2 OVERVIEW OF PROPOSED PROJECT

The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides by private residential subdivisions of Lahaina and the West Maui Regional Park/Lahaina Aquatic Center.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The existing highway between 'Aholo Road and Lahainaluna Road (project limits) varies in width, but is primarily comprised of two 11' asphaltic concrete (AC)-paved lanes and paved or grassed shoulders without curbs or gutters. Approaches to intersections with cross streets transition up to four 11' lanes—one lane in each direction for traffic straight through the intersection and outside lanes for right turns. Distinct lanes for bicyclists and pedestrians have not been established.

The State of Hawai'i DOT, Highways Division (HWY) proposes to increase the paved width of Honoapi'ilani Highway to accommodate four vehicular travel lanes with median (either shared left-turn corridor or landscaped) continuously throughout its length from 'Aholo Road to Lahainaluna Road, west of which has already been widened to 4 lanes. The highway portion within the project limits will be both normally crowned and superelevated in areas to match the existing conditions. The highway cross section will also have a demarcated bikelane, concrete curb, narrow planting area, and concrete sidewalk along its *makai* side, and a paved shoulder along its *mauka* edge. Finished structures will be within the existing 80'-wide road right-of-way (ROW). Finished structures will be within the existing 80'-wide road right-of-way (ROW), and will be "collapsible" from 4 lanes back down to 2 should future traffic-support by the Lahaina Bypass or Mill Street improvements allow it. Sideroad pavement transitional work to accommodate the widened highway *makai* of the ROW will be required at intersections with 'Aholo Road, Shaw Street, Prison Street, and Dickenson Street.

Clearing, grubbing and embankment will be required outside of the existing edges of pavement to accommodate the widened highway. As required, tree removal, branch trimming, and root protection will be conducted in coordination and compliance with County, State and federal requirements. Mature monkeypod trees adjacent to but outside of the ROW will remain, while shrubbery and small trees within the ROW will be removed. A draft landscaping plan (including trimming of some ROW-adjacent trees) is included in the appendices of this report, and a final version of the landscaping plan will be included in the construction documents. The landscaping plan will be discussed with the County of Maui, Department of Planning, and Department of Parks and Recreation, and the Maui County Arborist Advisory Committee.

Concrete retaining walls and guardrails will be installed near the ROW edges as required to support the widened highway. Noise barriers will be installed atop the retaining walls, as required, to mitigate noise nuisance to properties adjacent to the highway.

Drainage in the existing condition sheet flows off the highway into neighboring properties. The new curb will retain runoff on the highway and direct flow to drywells, which will be constructed to inject runoff from the highway into the ground. Thus, roadside and downstream flooding conditions will be improved by the project due to reduced runoff contribution from the highway to current drainage patterns and structures. Both ends of three existing culvert systems along the highway within the project limits will be extended to accommodate the widened highway. Existing discharge structures at the extended *makai* outlet ends will be left relatively unaltered and small areas at the extended *mauka* inlet ends will be graded to provide positive drainage slopes toward the culverts.

Highway intersections with cross streets—'Aholo Road, and Shaw, Prison, and Dickenson Streets (all County of Maui)—will be adjusted and improved to accommodate the widened highway; traffic signal loops, street lights, pavement marking, signage, and Americans with Disabilities Accessibility Guidelines (ADAAG)-compliant curb ramps will be adjusted or installed as required. Kaua'ula Street does not intersect with Honoapi'ilani Highway, and future plans will not involve connecting this street to the highway.

The main elements of the project include the following items:

- Clearing and grubbing;
- Roadway widening;
- Retaining wall, noise barrier and guardrail installation;
- Drainage improvements and culvert extensions;
- Intersection improvements; and,
- Roadway re-striping and signage adjustment.

The estimated construction cost for this project is roughly $14 million, which will be covered by both Federal and State funding. The construction work is anticipated to begin in late 2007 and last approximately 18 months.

1.3 REQUIRED PERMITS AND CLEARANCES

Various County of Maui, State of Hawai'i and Federal permits, variances, approvals and clearances are required for the proposed project. These items include the following types:

- County of Maui
  - Department of Planning (DOP)
    1. Special Management Area (SMA) Permit
- State of Hawai'i
  - Department of Health (DOH), Clean Water Branch (CWB) & United States (US) Environmental Protection Agency (EPA)
    1. National Pollutant Discharge Elimination System (NPDES) General Permit—Notice of Intent (NOI) Form C—*Storm Water Associated with Construction Activity*
  - DOH, Office of Environmental Quality Control (QEQC)
    1. Hawai'i Revised Statutes (HRS) Chapter 343, *Environmental Impact Statements*—Cultural Impact Assessment (CIA)
  - Department of Land and Natural Resources (DLNR), State Historic Preservation Division (SHPD)
    1. HRS Chapter 6E, *Historic Preservation*, and Hawai'i Administrative Rules (HAR) Title 13, Subtitle 13, *Historic Preservation Division*—Historic Site Review

- Federal Government
  - US EPA and US Department of Transportation, Federal Highway Administration (FHWA)
    1. National Environmental Policy Act (NEPA) Coordination
  - US DOI Fish and Wildlife Service (FWS)
    1. Endangered Species Act (ESA) Section 7 Evaluation
  - US Advisory Council on Historic Preservation (ACHP), in conjunction with the SHPD
    1. National Historic Preservation Act Section 106 Review and Consultation

1.3.1 COUNTY OF MAUI

The regulating agency for the County of Maui is the Department of Planning, which requires a Special Management Area Permit for projects that occur within their designated SMA. Maps at the Maui County Planning Department indicate the SMA to be *makai* of the Honoapi'ilani Highway ROW. Since some pavement transitioning will occur *makai* of the ROW into the sideroads: 'Aholo Road, and Shaw, Prison and Dickenson Streets, the DOT-HWY has elected to file a formal SMA application, to insure that all property owners within 500 feet of the project receives certified mailing notices with an opportunity to express concerns at the public hearing for the project tentatively planned for April 2007. Coordination is also being done with the Planning Department to ensure the project is compatible with their plans and future projects for the area, such as, their Drainage Master Plan. Project coordination is also being conducted with the County of Maui Cultural Resource Commission, Arborist Advisory Committee, and Department of Parks & Recreation to make sure the project conforms to their requirements.

1.3.1.1 Special Management Area Permit

The SMA is land extending inland from the shoreline, as delineated on the SMA maps adopted by the County of Maui. The SMA Permit covers any uses, activities or operations that are defined as being part of "development" within the SMA. Uses, activities and operations not considered to be associated with "development" are exempt from SMA requirements.

Any "development"-related uses, activities or operations within the SMA requires either an SMA *Minor* Permit or an SMA Use Permit (SMP), depending on the total cost and environmental impact of the proposed project. Generally, an SMA Minor Permit may be processed if the total cost of the proposed development is less than $125,000 and will have no substantial adverse environmental or ecological impacts. If the project has a total value that exceeds $125,000 and/or results in substantial adverse impacts, including potential cumulative impacts, on the environment, an SMP (SMA *Major* Permit) is required.

No developments can occur in the SMA unless the appropriate agency first approves and issues an SMA Permit. The DOP is the reviewing agency for both SMA Minor Permits and SMPs; however, the approving agency depends on the type of SMA Permit. For SMA Minor Permits, the approving agency is the DOP, while for SMPs, the approving agency is the Planning Commission. For projects in Community Development Districts (CDDs), the approving agency is the DBEDT-OP. The SMA Use Permit is regulated under HRS Chapters 205A and 343.

An SMA Map of the region encompassing the project site is attached for reference as Figure 7. According to the map, the project area borders the SMA, along the *makai* ROW. In addition, the total cost for this project exceeds $125,000. Although an evaluation has not been done to assess the extent of work that is affected by the SMA requirements, DOT-HWY coordination with the regulating agency, the County of Maui, Department of Planning, is on-going at the time this report is written. An SMP is being acquired by the DOT-HWY for the project.

1.3.2 STATE OF HAWAI'I

The regulating agencies for the State of Hawai'i includes the DOH-CWB (in conjunction with and/or in representation of the EPA), DOH-OEQC and DLNR-SHPD. One item is required from the DOH-CWB: an NPDES General Permit. Another requirement is a Cultural Impact Assessment, which analyzes the impact of the project on cultural practices and features associated with the project area. A Historic Site Review, involving evaluation and consultation for the identification, protection and handling of historic properties, as required, is needed of the DLNR-SHPD.

1.3.2.1 National Pollutant Discharge Elimination System Permit

The DOH is delegated by the EPA to administer the National Pollutant Discharge Elimination System Permit program in Hawai'i. The NPDES permit program is described in and administered through Chapter 11-55—*Water Pollution Control* of the Hawai'i Administrative Rules (HARs). The NPDES Permit is regulated under CWA et seq, HRS Chapter 342D, 40 CFR Parts 122 to 125 and HAR 11-55.

The water quality designation of the region encompassing the project site is classified as Class 2 Inland and Class A Marine Waters. Construction work discharges near or at these types of land and water designations can be covered under general NPDES permit coverage.

Different types of discharges from construction work require different types of NPDES Notice of General Permit Coverage (NGPC). Notice of Intent (NOI) Form C—*Storm Water Associated with Construction Activity*, will be submitted to cover general rainfall runoff on the site to State receiving surface waters for the duration of the project. The total area affected by the project exceeds the minimum 1-acre requirement for filing the NOI-C. Form C requires best management practices (BMPs) to control and treat the discharge. The BMPs and methods of discharge treatment for the proposed project are discussed in Chapter 2.

The coverage of the issued permits will terminate upon completion of all project work. Notice of Cessation (NOC) forms will be submitted to the CWB at the end of the construction.

1.3.2.2 Cultural Impact Assessment

According to the *Guidelines for Assessing Cultural Impacts*, adopted by the State of Hawai'i, Environmental Council on November 19, 1997, it is the policy of the State of Hawai'i under Chapter 343, HRS, to alert decision makers through the environmental assessment process, about significant environmental effects which may result from the implementation of certain actions. An environmental assessment of cultural impacts gathers information about cultural practices and cultural features that may be affected by actions subject to Chapter 343, and promotes responsible decision making.

Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to promote and preserve cultural beliefs, practices, and resources of native Hawaiians and other ethnic groups. Chapter 343 also requires environmental assessment of cultural resources, in determining the significance of a proposed project.

To assess the cultural practices, values and characteristics associated with the project area, informants knowledgeable with the history, use and culture of the area were interviewed. A total of 6 persons, referred by the Office of Hawaiian Affairs (OHA) in Maui as being cultural resource contacts in West Maui, were interviewed in 5 sessions between March 9–10, 2006, to obtain a broad range of cultural resource perspectives about the area and acquire a wide range of viewpoints about the potential project impacts on cultural features. These 5 interviews were with the following informants:

(i) Akoni Akana
(ii) Kimokea Kapahulehua
(iii) Ke'eaumoku Kapu
(iv) Howard Kihune
(v) Charlie Makekau & William Waiohu, Jr. (arranged by Aunty Patty Nishiyama [present during interview] of the Nā Kūpuna O Maui)

In addition to identifying cultural practices, relevance and history of the project site and its surrounding areas, the informants were asked about their knowledge of any native, endangered or threatened floral and faunal species; archaeological and historic properties or sites; aesthetic or visual resources; *mauka-makai* or other traditional accesses; and, socio-economic value associated with the project site. The discussions helped to determine potential impacts to these resources that the proposed project may have, and identified any concerns that the individual has about the project undertaking and any of its features.

All informants anticipate minimal or no impacts on any cultural; visual; or native, threatened, or endangered floral or faunal resources by the project. Similarly, they also anticipate no impacts on

any archaeological or historic properties or sites by the project. These findings are due to the project occurring in an existing, established highway ROW in an area that has been frequently altered and thoroughly developed throughout its past.

The main concerns regarding the project that were identified by the informants are as follows:

1. Construction impacts to Pūehuihueiki Cemetery at the 'Aholo Street intersection with Honoapi'ilani Highway (south and *mauka*) are avoided.—The project will end at the 'Aholo Road intersection north the cemetery. Also, the cemetery is outside of the ROW and the work area/project limits.

2. Impacts to flooding and drainage are addressed and coordinated with other on-going and planned projects in the Lahaina area.—Highway structures will reduce runoff to adjacent properties by containing surface flow in the road and injecting runoff into the ground. Thus, the project will improve the flooding conditions of the area. Existing adjacent drainage patterns and facilities will remain unaltered. Coordination with other concurrent and proposed government projects, such as, the Maui County Drainage Master Plans and Lahaina Watershed Flood Control Project, and State Lahaina Bypass Project, is on-going and will be maintained throughout the project.

3. Proper coordination is done with regulating agencies.—Public notice for the project has been printed on June 8, 2006, in the State of Hawai'i, Office of Environmental Quality Control's *The Environmental Notice*. Copies of the Draft Environmental Assessment have also been sent to specific agencies for their review and comment. Coordination with Federal, State and County regulating agencies will be maintained throughout the project. Public notice for the project will be printed again in *The Environmental Notice* for the Final Environmental Assessment.

   The project was brought before the Maui County Cultural Resources Commission on Thursday, March 2, 2007, and was also presented to the Maui County Arborist Advisory Committee. Coordination with these agencies will be maintained throughout the project.

4. Project coordination with the public is maintained.—A public informational meeting for the project was initially held on Wednesday, April 28, 2007, and a second public informational meeting for the project was held on Thursday, October 19, 2006. Public notice for the project has been printed on June 8, 2006, in the State of Hawai'i, Office of Environmental Quality Control's *The Environmental Notice*. A copy of the Draft Environmental Assessment for the project has been on file and available for public review at the Lahaina Public Library since June 1, 2006. Public notice for the project will be printed again in *The Environmental Notice* for the Final Environmental Assessment. Also, a public charrette for the project was held from Tuesday, February 8, 2007, through Friday, January 12, 2007.

   Project notification and preconsultation letters have been sent out to specific residents, businesses and organizations, mostly along the project site, with identified or prospective concerns with the project. Public notification and coordination will be maintained throughout the project. Additionally, public meetings will be held, and a public hearing for the project is tentatively scheduled for April 2007. Informational mailouts for the project and hearing will be sent out to residents within 500′ of the project area.

5. No land takes will be done.—Finished project structures will be within the ROW. Some corner roundings and pavement transitions at intersections with cross streets—'Aholo Road and Dickenson, Prison and Shaw Streets—will be required *makai* of the ROW to accommodate the widened highway.

6. Traffic is maintained along the highway, especially during peak traffic hours, and access to the recreational facilities *mauka* of the highway are maintained.—Provisions for these requirements will be contained in the design drawings and specifications. During project construction, periodic material transport will also cause a slight increase local traffic congestion; however, a lane of continual traffic in both directions will be permitted along Honoapi'ilani Highway throughout the project. Once the new retaining wall and pavement shoulder are in-place, a single lane will be closed for detour of both vehicular

and pedestrian travel with barriers, and traffic along the highway will be diverted along the constructed pavement portion and the remaining existing pavement. Pedestrians will be redirected to the detour route as well. Nevertheless, the overall local traffic pattern should not be altered significantly by the proposed action. Some periodic minor delays will be scheduled during off-peak traffic hours, and disruptions during peak traffic hours will occur only as an absolute last resort. Safe and convenient access to the existing parks and intersecting roads on both the *mauka* and *makai* sides of the highway will be maintained at all times throughout the construction phase.

7. Temporary traffic diversion during the project is done effectively and efficiently with the least impact on the community.—Alternatives for highway traffic re-routing during the project will be assessed, evaluated and discussed at the public meetings. The use of Mill Street to help ease traffic congestion during construction is also being evaluated.

8. The project construction will be subject to standard government archaeological and historic site regulations.—Project construction will be subject to the standard DOT-HWY archaeological requirements. Should historic material be encountered, construction work in the immediate vicinity of the find will stop, the resources will be protected against further disturbance, and the State of Hawai'i, Department of Land and Natural Resources, Historic Preservation Division, Maui Office will be contacted for further direction.

The contract bid documents will include Section 107.13—*Pollution Control and Protection of Archeological, Historical and Burial Sites*, Paragraph (B)—*Archaeological, Historical, and Burial Sites*, of the State of Hawai'i, Department of Transportation, Highways Division, *Hawaii Standard Specifications for Road and Bridge Construction* (2005). This paragraph states the following:

"Whenever the Contractor encounters sites of potentially historic or archaeological significance such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentration of charcoal or shells, work shall cease in the immediate vicinity of the site and the site shall be protected from damage. The Contractor shall

suspend any work that may affect the site and inform the Engineer immediately. Upon direction by the Engineer, the Contactor shall provide and install temporary fencing to protect such sites. The Contractor shall not resume the work suspended without the prior written direction of and subject to the conditions set by the Engineer."

The project also has been brought before both the Maui County Cultural Resource Commission (CRC) and the Maui County Arborist Advisory Committee (AAC), and coordination will be maintained by the DOT-HWY with the CRC and AAC throughout the design phase of the project and as the project develops. Coordination with the DOT-HWY Landscape Architect is also on-going.

1.3.2.3 Historic Site Review

Any project proposing construction, alteration or improvement of any nature that may affect a historic site that is eligible for listing or is listed on the Hawai'i Register of Historic Places that is funded or undertaken by State or County agencies must obtain approval for the work from the Historic Preservation Division within the DLNR. Such projects, which require State and County permits, licenses, certificates, land use changes, subdivisions or other entitlements for use that may affect such sites, must be submitted to the State's Historic Preservation Division so they may have an opportunity to comment to the regulatory agency on any effects.

The project owner is responsible for determining whether eligible historic sites are present, and this determination must be verified by the Historic Preservation Division. This step might require an inventory survey by a qualified archaeologist since less than 10% of historic sites have been recorded. If historic sites are present that are eligible for listing on the Hawai'i Register of Historic Places, the project owner should develop mitigation commitments to properly address and treat any impacts to the sites. Projects which are funded or undertaken by State or County agencies must have mitigation commitments, develop scopes of work for these commitments, and have it verified that the commitments are fulfilled—all approved by the Historic Preservation Division. Projects which require State and County permits, licenses, certificates, land use changes, subdivisions or other entitlements for use that may affect such sites, should get

mitigation commitments approved by the Historic Preservation Division. The division then will recommend to the regulatory agency that a condition be attached to any approved permit that requires the mitigation with approved scopes of work and verification of the execution of the mitigation. Such conditions ensure a "no adverse effect" determination.

The action may proceed unimpeded whenever the Historic Preservation Division documents in writing that no eligible historic sites are present or that there will be "no effect" to such sites.

If eligible historic sites will be affected, then in projects where the Historic Preservation Division has regulatory authority, a mitigation commitment must be agreed to in writing, a scope of work for the mitigation must be approved in writing, and a verification of the execution of the mitigation must be given in writing, prior to the proceeding of the project's land altering construction.

If eligible historic sites will be affected, then in projects where a State or County agency has regulatory authority, a mitigation commitment should be worked out with the Historic Preservation Division, which will notify the agency by letter. The division will then recommend a condition for any regulatory action that might be approved. The condition will include the requirement for an approved scope of work and verification that the mitigation has been successfully executed. The condition must be met prior to the commencement of project land altering construction elements.

1.3.3 UNITED STATES GOVERNMENT

The regulating agencies for the Federal government include the US Environmental Protection Agency and US Department of Transportation, Federal Highway Administration for the National Environmental Policy Act Coordination, US Department of the Interior Fish and Wildlife Service for the Endangered Species Act Evaluation, and the US Advisory Council on Historic Preservation for the National Historic Preservation Act Section 106 review and consultation.

The National Environmental Policy Act of 1969 (NEPA), 42 USC 4321 *et seq.*, as implemented by Executive Orders 11514 and 11991 and the Council on Environmental Quality (CEQ)

Regulations of November 29, 1978 (43 FR 55978) requires that Federal agencies include in their decision-making processes appropriate and careful consideration of all environmental effects of proposed actions, analyze potential environmental effects of proposed actions and their alternatives for public understanding and scrutiny, avoid or minimize adverse effects of proposed actions, and restore and enhance environmental quality as much as possible. Preparation of this Environmental Assessment was coordinated with the FHWA pursuant to CEQ Regulations implementing the procedural provisions of the NEPA.

Two other potential Federal requirements include the US Department of the Interior National Park Service, Land & Water Conservation Fund (LWCF) Section 6(f)(3) compliance, and the FHWA Department of Transportation Act (DOTA) Section 4(f) evaluation. LWCF Coordination was done with the local delegate authority for the US National Park Service—the State of Hawai'i, Department of Land and Natural Resources (DLNR), Division of State Parks (DSP)—and they determined that the project is not subject to LWCF Section 6(f)(3) requirements. A copy of this DLNR-DSP determination letter is included in the appendices of this report.

The FHWA has determined that the project's NEPA requirements, which cover DOTA Section 4(f) requirements, may be satisfied through a Categorical Exclusion. The DOT-HWY is in the process of coordinating with the FHWA on the final requirements for the Categorical Exclusion. A copy of the summaries of coordination with the FHWA is included in the appendices of this report.

1.3.3.1 Endangered Species Act Evaluation

Congress passed the Endangered Species Preservation Act in 1966. This law allowed listing of only native animal species as endangered and provided limited means for the protection of species so listed. The Departments of Interior, Agriculture and Defense were to seek to protect listed species, and insofar as consistent with their primary purposes, preserve the habitats of such species. Land acquisition for protection of endangered species was also authorized. The Endangered Species Conservation Act of 1969 was passed to provide additional protection to

species in danger of "worldwide extinction." This Act called for an international ministerial meeting to adopt a convention on the conservation of endangered species.

In 1973, the Endangered Species Act was passed, which considerably strengthened the provisions of its predecessors, and broke some new ground. Its principal provisions are as follows:

- US and foreign species lists were combined, with uniform provisions applied to both [ESA Section 4];
- Categories of "endangered" and "threatened" were defined [ESA Section 3];
- Plants and all classes of invertebrates were eligible for protection, as they are under the Conservation on International Trade in Endangered Species of Wild Fauna and Flora (CITES) [ESA Section 3];
- All Federal agencies were required to undertake programs for the conservation of endangered and threatened species, and were prohibited from authorizing, funding, or carrying out any action that would jeopardize a listed species or destroy or modify its "critical habitat" [ESA Section 7];
- Broad taking prohibitions were applied to all endangered animal species, which could apply to threatened animals by special regulation [ESA Section 9];
- Matching Federal funds became available for States with cooperative agreements [ESA Section 6];
- Authority was provided to acquire land for listed animals and for plants listed under CITES [ESA Section 5]; and
- US implementation of CITES was provided [ESA Section 8].

Significant amendments have been enacted in 1978, 1982, and 1988, while the overall framework of the 1973 Act has remained essentially unchanged.

Since the project is partially-funded by the federal government, it must be in compliance with ESA Section 7 requirements. A letter was sent to both the US DOI-FWS and the University of

Hawai'i at Mānoa, Center for Conservation Research and Training (CCRT), Hawai'i Natural Heritage Program (HNHP) requesting information on any endangered or threatened species known to exist near the project site. A determination letter was received from the US DOI-FWS (that works together with the HNHP) that no critical habitats are located within or proposed for the project area. In addition, no federally-listed threatened or endangered plant and animal species are known to exist at the project area. A copy of the US DOI-FWS response letter is included in the appendices of this report.

1.3.3.2 National Historic Preservation Act Section 106 Review and Consultation

The use of Federal funds and the requirement of Federal permits for the project triggers the need for NHPA Section 106 compliance; Federal involvement in the project subjects the project to the NHPA Section 106 review process. The purpose of the NHPA Section 106 review process is to evaluate the potential for effects on existing historic sites, if any, resulting from the project.

The NHPA Section 106 review process encompasses a "good faith effort" in ascertaining the existence and location of historic properties near and within the project site, establishing an Area of Potential Effects (APE) of the project, identifying whether a potential for "adverse affects" on historic properties by the project exists, and developing a reasonable and acceptable resolution in the monitoring and treatment of any historic sites that is agreed upon by the agency, Hawai'i State Historic Preservation Officer (State of Hawai'i, Department of Land and Natural Resources, Historic Preservation Division [SHPD]), and consulting government agencies, community associations, and native Hawaiian organizations and families. This resolution is in the form of the legal document "Memorandum of Agreement" (MOA) should the potential for "adverse effects" be determined to exist from the project. The review process also affords the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment and provide consultation on the project.

For the project, an initial investigatory letter was distributed to government agencies, community associations, the SHPD and native Hawaiian organizations. The letter described the project undertaking and requested information on any historic properties existing near and within the

project site. Copies of the investigatory letters that were distributed to the aforementioned parties are included in the appendices of this report. Responses received and summaries of coordination are also included in the appendices. The ACHP has declined their opportunity to offer consultation for this project.

In the unlikely event that historical or cultural materials be discovered during ground disturbing activities, work in the area will cease immediately and the SHPD will be notified of the discovery and consulted as to the appropriate course of action. Burial finds will be treated in accordance with HAR 12-300 and HRS 6E-43.6. The SHPD will determine the appropriate treatment of the remains and any associated historical or cultural material in consultation with recognized descendants, if any, and the Maui/Lāna'i Islands Burial Council.

1.3.4 PUBLIC NOTIFICATION AND CONSULTATION

In addition to obtaining the aforementioned permits, variances, approvals and clearances, the State DOT-HWY is in the process of notifying and informing the general public of the proposed project and will allow them the opportunity to provide feedback on the project. Public notification is being accomplished through the following means:

- Articles in regular publications (*Lahaina News* [daily newspaper] and *The Environmental Notice* [OEQC bimonthly notice];
- Informational mailouts to residences and establishments adjacent to the project site;
- Submittal of the draft version of this EA to the public State library closest to the project site (Lahaina Public Library, 680 Wharf Street, Lahaina, Hawai'i 96761) for public review; and,
- Public charrette/hearings/meetings.

Copies of the public notification base letter and the database of addressees are included in the appendices of this report. Public responses and comments are also included in the appendices. Public coordination is on-going as the project progresses toward construction.

1.4 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT

This Environmental Assessment (EA) is prepared pursuant to Chapter 343 of the HRS and DOH, HAR Title 11-200, *Environmental Impact Statement Rules*. This document will serve as a written evaluation of the potential physical and social effects on the environment by the proposed project, as well as, mitigative measures wherever necessary.

1.4.1 GOVERNMENT AGENCY REVIEW

The draft version of this EA was distributed to different Federal, State and County government agencies for their review and comment. These agencies are summarized in Chapter 5. Comments generated by the aforementioned agencies and responses by the DOT-HWY are included in the appendices.

CHAPTER 2—PROJECT DESCRIPTION AND ALTERNATIVES CONSIDERED

2.1 PROJECT DESCRIPTION AND BACKGROUND

The DOT-HWY proposes to widen Honoapi'ilani Highway on the northwestern coast of the Island of Maui to four travel lanes and complete shoulder improvements. Shoulder work will include drainage improvements, intersection improvements, installing ADAAG-compliant curb ramps at intersections and sidewalk, restriping to support four-lane travel, installing retaining walls and noise barriers as required, culvert inlet/outlet extensions, and installing pavement edge guardrails (as required) meeting NCHRP 350 standards. The scope of work for the proposed project includes the following items:

- Topographic survey;
- Subsurface exploration;
- EA;
- Various permits, variances, approvals and clearances;
- Hydraulic and hydrologic study; and
- Civil, structural and electrical design for items to include:
  - Highway widening with the installation of bikelane, curb, ADAAG-compliant curb ramps and sidewalk,
  - Retaining wall construction (as required),
  - Noise barrier construction (as required),
  - Culvert inlet and outlet extensions,
  - Guardrail installation (as required),
  - Restriping,
  - Temporary and permanent lighting and intersection traffic signal and pedestrian crossing controls,
  - Traffic control, and
  - Environmental protection and BMPs.

The Basis of Design report for the project, as well as, the Soils Report, is included in the appendices of this report.

The project site is located in a well-developed, urban area bordered primarily on both *mauka* and *makai* sides by residential subdivisions. Publicly-used Lahaina Aquatic and Recreational Centers (County of Maui, Department of Parks and Recreation [DPR]) adjoins the *mauka* side of Honoapi'ilani Highway near the highway's intersection with Shaw Street.

According to the DBEDT *State of Hawai'i Data Book 2002*, the resident population of the Lahaina District has grown steadily over the past couple of decades from about 10,300 in April 1980, to approximately 14,600 in April 1990 (41.7% increase) and 18,000 in April 2000 (23.3% increase). In addition, the number of visitors to Maui County has risen steadily over this same period as well. Thus, Honoapi'ilani Highway needs to be maintained to support this growth. Honoapi'ilani Highway is the primary thoroughfare for local residents and tourists on west Maui, and in many places, it is the only thoroughfare. Honoapi'ilani Highway is the main artery that connects towns on the leeward side of Maui, such as, Mōpua, Olowalu, Lahaina, Kā'anapali, Honokōwai, Māhinahina, 'Alaeloa, Nāpili Bay, Kahana, Kapalua, Honokahua, Honolua and Honokōhau..

A traffic forecast for the project has been completed that analyzes current traffic conditions in the project area and evaluates traffic conditions out 20 years from the present based on the Honoapi'ilani Highway Widening Project, and the Lahaina Bypass Project. According to this document, *Traffic Forecast for Honoapi'ilani Highway Widening, Lahainluna Road to 'Aholo Road*, the Honoapi'ilani Highway Widening Project is required to provide acceptable traffic levels of service for the 20-year time frame of the forecast analysis. Additionally, the report finds that the projected growth in traffic along Honoapi'ilani Highway in Lahaina will require mitigation within the next 10 years even with the construction of the proposed Lahaina Bypass Project. This document is included in the appendices of this EA.

The general scope of work for construction includes the following tasks:

- Establishment of traffic control;
- Installation of BMPs for environmental protection;
- Installation of temporary lighting;
- Clearing and grubbing;
- Highway widening, including the installation of bikelane, curb, ADAAG-compliant curb ramps, sidewalk, retaining walls or guardrails as required, noise barrier as required, and culvert inlet and outlet extensions that will leave the existing culvert structures relatively unaltered;
- Highway restriping;
- Installation of permanent lighting with intersection traffic signal and pedestrian crossing controls;
- Final grading and landscaping; and
- Removal of temporary lighting and temporary BMPs.

The overall project length is composed of four sections designated by mileposts (MPs):

(1) **WORK ZONE 1**—MP 19.9 to MP 20.3: *'Aholo Road to Shaw Street*

Construction work will begin at MP 19.9, the Honoapi'ilani Highway intersection with 'Aholo Road, and progress northward. The work will start north of the existing Pūehuihueiki Cemetery, and will not impact it. Additionally, the cemetery is located outside of the highway ROW and the project limits/work area. After the 'Aholo Road intersection, Honoapi'ilani Highway will taper from two lanes into four lanes with paved shoulders, a bikelane and concrete sidewalk all within the existing 80' roadway ROW. All existing signage will be relocated to allow for the new road width. Retaining walls, noise barriers and/or guardrails will be installed as required for the new road. The lanes at the Shaw Street intersection will be restriped to align with the new roadway. New curb ramps compliant with Americans with Disabilities Act Accessibility Guidelines (ADAAG) will be installed at the Shaw Street intersection.

(2) **WORK ZONE 2**—MP 20.3 to MP 20.5: *Shaw Street to Prison Street*

Highway widening will continue along the roadway portion between Shaw Street and Prison Street from two lanes to four lanes with a shoulder, bikelane and sidewalk. Retaining walls, noise barriers and/or guardrails will be installed as required. Existing signage will be relocated, and culvert inlets and outlets will be extended to accommodate the new roadway width as required. The culvert discharge structures will be left relatively unaltered by the project. New ADAAG-compliant curb ramps will be installed at the Prison Street intersection.

(3) **WORK ZONE 3**—MP 20.5 to MP 20.8: *Prison Street to Dickenson Street*

Similar to Work Zone 2, the portion of the highway between Prison Street and Dickenson Street will continue to be widened from two lanes to four, with a shoulder, bikelane and sidewalk. Retaining walls, noise barriers and/or guardrails will be installed as required, and all existing manholes will be adjusted to meet the finish grade of the new roadway pavement. New ADAAG-compliant curb ramps will be installed at the Dickenson Street intersection, and the traffic signal will be adjusted to provide adequate clearance as per DOT-HWY, *Manual on Uniform Traffic Control Design* (MUTCD), and ADAAG requirements.

(4) **WORK ZONE 4**—MP 20.8 to MP 20.97: *Dickenson Street to Lahainaluna Road*

Highway widening will continue along the roadway portion between Dickenson Street and Lahainaluna Road from two lanes to four lanes with a shoulder, bikelane and sidewalk. The new four-lane roadway will transitionally connect to and terminate at the existing four-lane section of the Honoapi'ilani Highway just north of its intersection with Lahainaluna Road. Retaining walls, noise barriers and/or guardrails will be installed as required. The existing destination sign will be replaced with a smaller version to allow for the added roadway width. The replacement sign will be of similar materials and colors as the existing sign, and approval of the sign will be acquired from the Maui County Cultural Resources Commission.

Construction parcels are limited to areas directly related to construction activities, that is, the area required to perform highway widening and related construction. The Contractor will be responsible for coordinating and establishing his staging and storage area with the appropriate regulating authorities. At the discretion of the Contractor and approval of Maui County and the State, temporary wooden or chain link construction fencing with or without fabric about 6-feet tall may be erected for security purposes around the work and staging/storage areas.

Traffic control along Honoapi'ilani Highway will be established to maintain safe, continuous flows of motorists, bicyclists and pedestrians throughout the project. The Contractor will adhere to the traffic control plan developed for the project and approved by both the County and State.

For the protection of nearby park users, residences, motorists, bicyclists and pedestrians, both temporary and permanent BMPs will be used for the project. Storm water runoff and wind will tend to carry sediment from exposed areas to areas adjoining the project site. Any accumulated dirt and debris from construction activities will be cleaned, as required, from public roadways and neighboring driveways to keep the surroundings clean and safe. Erosion and soil loss due to storm events will be controlled with the use of temporary BMPs, such as, earthen berms, silt fences, sandbags, gravel, mulch and fast-growing groundcover at exposed areas and along the perimeter of the project site. Dust screens, mulch, fast-growing groundcover and periodic watering of exposed ground within the project area will also be used as required to keep adjacent areas free from dust nuisance. These BMPs will be removed upon completion of the project construction work. Dismantling and removal of the temporary BMPs all have the potential to temporarily generate debris due to soil disturbance; however, the disturbance is anticipated to be relatively small and of short, insignificant duration. Construction equipment will also be maintained regularly to minimize fluid discharge from their normal operation and storage.

Permanent BMPs will consist of natural berms and swales formed alongside the highway, grassing of exposed areas and the installation of native (indigenous) and/or adopted Polynesian-introduced species of plants. The project will be compliant with the State DOT-HWY & US EPA January 2006 consent decree for permanent BMPs. These BMPs will remain in place indefinitely.

A site-specific BMP plan will be developed by the Contractor, with the approval of DOT-HWY, that includes the types and locations of the BMPs, and the extent of the site preparation required, such as, clearing, grubbing, grading and BMPs. Also included in this plan will be details on the measures to restore the area to its original condition, or better, with the approval of the DOT-HWY, subsequent of construction activities. This BMP plan will be submitted to the DOH for approval prior to the commencement of construction work.

Temporary lighting for the project work area will be provided as required. The brightness of the lights will not exceed the brightness of the existing lights so as not to disorient any wildlife. The temporary lights will be turned off when not in use. Residences, businesses and recreational areas adjacent to the work areas will be shielded from the temporary lighting so as not to cause a nuisance.

After BMPs are in place and traffic control measures are established, areas to be newly paved will be cleared and grubbed. As required, existing structures and facilities will be demolished and removed to accommodate the widened highway. Existing asphaltic concrete (AC) will be removed as required. All waste material generated from clearing, grubbing and demolition activities will be properly disposed of by the Contractor in accordance with all applicable government requirements and regulations. Materials to be recycled will be properly stockpiled until use.

A demolition plan will be developed by the Structural Engineer as required, and the anticipated equipment to be used in the demolition of the existing pavement and highway structures include:

- Jackhammers;
- Sawcutters;
- Dump trucks; and
- Backhoe.

After clearing, grubbing and demolition exercises are completed, preparation for the new structures will commence. Fill material will be required mostly for support of widened highway structures toward the ROW edges, and superelevated highway portions. The elevations and grades of the new highway will be similar to the existing condition; elevation build-up, if any, will be minimized. Requirements for fill material are contained in the Section 203—*Roadway Excavation and Embankment* contained in the State of Hawai'i, Department of Transportation, Highways Division, *Special Provisions, Proposal, Contract and Bond* standard document. The project is not anticipated to involve substantial amounts of excavation.

Existing utilities at the site include the following items:

- DPWEM
  - 10-inch sewerline with manholes along the *mauka* ROW and 12-inch sewerline crossing the highway roughly 130′ southeast of Lahainaluna Road;
  - 24-inch sewerline with manholes along the *makai* ROW and 8-inch and 18-inch sewerlines crossing the highway at Dickenson Street;
  - Catch basin, drain manhole and 24-inch drainline *mauka* of the highway at the Dickenson Street intersection, outside of the 80′ ROW;
  - Drain inlet a couple of feet outside of the ROW near DOT-HWY baseline station 92+00;
  - 10-inch sewerline with manholes along the *mauka* ROW and crossing the highway at Prison Street;
  - 10-inch sewerline with manholes crossing the highway at Shaw Street;
  - Two 24-inch corrugate metal pipe culverts beneath Shaw Street, catch basin, drain inlet, two 24″ drainlines parallel to and roughly 15′ outside and *mauka* of the ROW, and outlet at about DOT-HWY baseline station 104+00;
  - Drain inlet and 18-inch drainline *mauka* of the ROW at Kau'aula Street;
  - 10-inch sewerline with manholes along the *mauka* ROW and crossing the highway at Kau'aula Street ;

- 12-inch drainline outlet onto concrete rip rap *mauka* of the ROW at about DOT-HWY baseline station 120+50; and,
- 12-inch drainline outlet onto concrete rip rap *mauka* of the ROW at about DOT-HWY baseline station 126+50.

- DWS
  - Waterlines along highway and at road intersections, inclusive of air-release valves (ARVs) in manholes, valves in boxes, fire hydrants and backflow preventers.
- Hawaiian Telcom
  - Underground telephone lines with boxes throughout highway.
- MECO
  - Streetlight poles alternating on both sides of the highway between Lahainaluna Road and Prison Street, and at the Shaw Street intersection;
  - Power poles for overhead lines crossing the highway at Lahainaluna Road, Dickenson Street, Prison Street, Shaw Street and 'Aholo Road;
  - Underground electrical lines with boxes to service properties;
  - Aboveground transformers; and,
  - Traffic signal pole and pullboxes along with underground control loops at intersections with Dickenson and Shaw Streets.
- Oceanic Time Warner Cable of Hawaii
  - Underground cable television lines with boxes.
- State DOT
  - 24-inch highway culverts at approximate DOT-HWY baseline stations 75+00, 95+50, and 99+50 (two).

Concrete retaining walls will be installed where required to support the widened highway in built-up and superelevated areas. Noise barriers will be constructed for adjacent residences, businesses and recreational areas, where required to mitigate raised levels of noise generated by the increase in highway capacity. Culverts affected by the project will be left in place unaltered; however, inlet and outlet ends will be extended to accommodate the new roadway width. Culvert discharge structures on the *makai* ends will be left relative unaltered, and small areas at the

extended *mauka* inlet ends will be graded to provide positive drainage slopes toward the culverts. The existing pavement will be rehabilitated as required in localized areas depending on the type and severity of exhibited stress in accordance with the soils report for the project (*Geotechnical Engineering Exploration, Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road, Lahaina, Maui, Hawaii* [June 3, 2005]). Concrete curbs, ADAAG-compliant curb ramps at road intersections, a sidewalk, and guardrail (as required) will be constructed and the AC pavement will be extended out to its new, project width. An AC corridor along the *mauka* edge of the new paved area will be dedicated for bicycle travel. Existing highway shoulders are signed as a bike route, which will not change from the highway widening. Roadside swales will be left in their existing condition to manage stormwater drainage runoff. A typical highway section is attached for reference as Figure 2. Some pavement transitioning will occur *makai* of the ROW into the sideroads: 'Aholo Road, Shaw Street, Prison Street, and Dickenson Street, to accommodate the widened highway.

The new, finish highway will occupy the entire 80'-wide ROW, and be composed of the following typical components:

- Four continuous AC vehicle through lanes;
- Highway median that is either landscaped, serves as a pedestrian crossing refuge, or paved for vehicle left turns;
- AC *mauka* shoulder and bikelane;
- AC *makai* bikelane;
- Concrete *makai* curb;
- Concrete *makai* sidewalk with grass strip;
- Concrete retaining wall along *makai* ROW edge beneath noise barrier; and,
- Guardrails as required.

The DOT-HWY will coordinate with the property owners adjacent to the ROW regarding the owner's responsibility of maintaining the proposed shrubs since the plants will encroach partly upon their property. The DOT-HWY will also coordinate the installation of the new project

structures with the property owners since clearing and grubbing operations will involve the removal of some vegetation currently within the ROW.

Finished structures will be within the existing 80'-wide road right-of-way (ROW), and will be "collapsible" from 4 lanes back down to 2 should future traffic-support by the Lahaina Bypass or Mill Street improvements allow it. Sideroad pavement transitional work to accommodate the widened highway *makai* of the ROW will be required at intersections with 'Aholo Road, Shaw Street, Prison Street, and Dickenson Street.

Meetings are planned by the DOT-HWY throughout the design phase of the project and as the project develops with the public, Maui County Arborist Advisory Committee (AAC) and the DOT-HWY Landscape Architect to coordinate new landscaping for the project portion of the highway. Sketches of the latest proposed landscaping design, current at the time this report is written, is included in the appendices.

Permanent lighting will be provided for the widened highway. The brightness of the lights will not exceed existing so as not to disorient any wildlife and cause nuisance to adjacent properties.

Finish grades shall be restored to be similar to existing grades. Detailed strategies to restore the adjacent areas affected by project construction activities to their original condition, or better, will be required of the Contractor in his development of a site-specific, construction BMP plan with the approval of the DOT-HWY and DOH.

Once the permanent structures and pavement are constructed and in-place, temporary lighting, BMPs, signage, etc. will be removed after confirmation that the permanent BMPs are properly and completely established. Any waste material generated from the removal will be disposed of by the Contractor.

The proposed project will increase the safety of Honoapi'ilani Highway users by widening the highway and adding dedicated corridors for bicyclists and pedestrians to satisfy government agency standards and regulations. The widening of the highway is in accordance with the

mission of the DOT-HWY: provide a safe, efficient and accessible highway system through the utilization of available resources in the maintenance, enhancement and support of land transportation facilities; the establishment and upkeep of highways and associated structures within right-of-ways dedicated to the State of Hawai'i for the safe use of all users, and the renovation or replacement of facilities that lack compliance with government agency design standards.

2.2 PROJECT APPROACH

The *Guidelines for Sustainable Building Design in Hawai'i* was considered to minimize the impact of the project on the environment while making practicable use of Hawai'i's natural resources. Some characteristics of the project in favor of the guidelines include:

• Best Management Practices:	Dust nuisance, erosion and pollution will be controlled with various temporary and permanent measures.
• Minimization of impact on environment:	Drainage will be improved through new curbs and drywells that will dispose of highway runoff and reduce the amount of flow accommodated by existing drainage structures, such as, culverts and earthen/grassed swales. Inlet and outlet treatments (bridges) will keep existing culverts unaltered by the project; thus, maintaining existing drainage patterns. Native (indigenous) and/or adopted Polynesian-introduced species of plants will be used for landscaping. Final structures will be flat to avoid hindering any visual resources.
• Use of recycled material:	Glassphalt will be used.
• Coordination with utility agencies:	The project was coordinated with the future plans for service in the area of various utility agencies.

2.2.1 TOPOGRAPHIC SURVEY

The existing roadway, right-of-way (ROW), properties, easement lines, improvements, vegetation, utilities, baselines, elevation data, etc, in and near the project site were surveyed for analysis and as a base for design. The results are displayed in the Topographical Survey of Existing Condition shown in Figure 8.

2.2.2 SUBSURFACE EXPLORATION

A soils report (*Geotechnical Engineering Exploration, Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road, Lahaina, Maui, Hawaii*, dated June 3, 2005) summarizing the geotechnical exploration has been developed by a Geotechnical Engineer licensed in the State of Hawai'i—Geolabs, Inc., and is attached as an appendix to this EA. According to this report, the soils at the project site consist of surface fill materials underlain by soft to medium stiff alluvial deposits extending to depths of approximately 7 to 20 feet below the existing ground surface. Below the alluvial deposits, colluvial soils and dense basaltic cobbles and boulders were encountered in borings over medium hard to hard basalt rock formations extending to the maximum depth explored of about 136 feet below the existing surface. Logs of exploration borings are contained in the soils report.

Based on the subsurface conditions encountered at the site and available traffic data provided for pavement analyses, the Geotechnical Engineer recommends the following new pavement design for the aforementioned identified Work Zones:

(1) **WORK ZONE 1**—MP 19.9 to MP 20.3: *'Aholo Road to Shaw Street*

- 4″ AC
- 7″ asphalt concrete base (ACB, 91% relative specific gravity)
- 6″ untreated permeable base (UTPB)
- 6″ aggregate subbase (ASB, 95% relative compaction)

Rehabilitation of existing pavement: 2″ AC overlay.

(2) **WORK ZONE 2**—MP 20.3 to MP 20.5: *Shaw Street to Prison Street*

- 4" AC
- 7" ACB
- 6" UTPB
- 6" ASB

Rehabilitation of existing pavement: 2" AC overlay.

(3) **WORK ZONE 3**—MP 20.5 to MP 20.8: *Prison Street to Dickenson Street*

- 4" AC
- 7½" asphalt concrete base (ACB, 91% relative specific gravity)
- 6" untreated permeable base (UTPB)
- 6" aggregate subbase (ASB, 95% relative compaction)

Rehabilitation of existing pavement: 2½" AC overlay.

(4) **WORK ZONE 4**—MP 20.8 to MP 20.97: *Dickenson Street to Lahainaluna Road*

- 4" AC
- 7½" asphalt concrete base (ACB, 91% relative specific gravity)
- 6" untreated permeable base (UTPB)
- 6" aggregate subbase (ASB, 95% relative compaction)

Rehabilitation of existing pavement: 2½" AC overlay.

Based on the subsurface conditions anticipated at the site, the Geotechnical Engineer recommends shallow foundations bearing on the recompacted on-site soils or new compacted fills for the support of new retaining walls. The retaining walls will be designed to resist the lateral earth pressures due to the adjacent soils and traffic loads.

Based on the results of permeability testing of the site, the Geotechnical Engineer indicates that the shallow subsurface conditions appear to be unfavorable for the use of new drainage drywells for stormwater runoff disposal. In general, a very low disposal capacity of about 0.1 cubic feet per second (cfs) may be anticipated for drywells embedding in the upper alluvial soils. Higher

disposal capacities of over 1 cfs may be anticipated for drywells extending into the basalt rock formation underlying the site at depths of over 70 to 110 feet fellow the existing ground surface.

2.2.3 HYDROLOGIC AND HYDRAULIC STUDIES

Two hydrologic and hydraulic studies have been completed or are being completed at the time this report is written that include the project site in whole or part. These documents are:

- *Drainage Master Plan for the County of Maui*, dated October 11, 1971, by R. M. Towill Corporation; and
- *Lahaina Town Drainage Master Plan*, dated July 2004, by Belt Collins Hawaii Ltd.

These two reports were referenced in the development of a project-specific drainage analysis for the Honoapi'ilani Highway Widening Project. The project will also be coordinated with the plans for the County of Maui *Lahaina Watershed Flood Control Project*.

A report analyzing the hydrologic and hydraulic impacts of the project were conducted by M & E Pacific, Inc. (*Drainage Report, Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road, Waine'e, Lahaina, Maui, Hawai'i*, dated July 2005). Runoff from the highway and adjacent areas will be managed mostly with new catch basin/drain inlet drywells and existing road culverts from existing grassed earthen swales alongside the roadway. Swales on the *mauka* side of the highway will direct drainage parallel to the longitudinal slope of the road to the existing culverts, which will intercept the flow and pass water *makai* beneath the pavement. New drywells will inject flow roughly 100′ into the ground. The design runoff flows were based on existing data and guidelines from the DOT-HWY, County of Maui and City and County of Honolulu for drainage areas within the 80′ ROW.

Clearing, grubbing and demolition activities for the project will expose areas and make them susceptible to erosion. Soil loss during project work will be controlled through the use of measures, such as, gravel, mulch, earthen berms, silt fences and sandbags. Erosion mitigative measures were discussed in Section 2.1.

2.2.4 MASTER BIKE PLAN

The project will support and be compliant with the State of Hawai'i Master Bike Plan—*Bike Plan Hawaii*, dated September 2003—for the area encompassing the site. The applicable objectives and policies of the Master Bike Plan for the West Maui region are:

- Support improvements for the safe and convenient movement of people and goods, pedestrians and bicyclists in the Lahaina region particularly along Honoapi'ilani Highway, Front Street, and lower Honoapi'ilani Road and seek to establish a regional network of bikeways and pedestrian paths; and,
- Promote residential communities that provide convenient pedestrian and bicycle access between residences and neighborhood commercial areas, parks and public facilities, in order to minimize use of the automobile.

The implementing actions for these objectives and policies are:

- Establish major recreation ways for pedestrians and bicycles from the *pali* to Lahaina town and to Kapalua along the coastal highways, including Honoapi'ilani Highway and Lower Honoapi'ilani Road, and along the southern side of Kahoma Stream and other major drainage channels; and,
- Redesign *mauka-makai* streets in Lahaina town to enhance pedestrian and bicycle movement to include enhanced sidewalk/mall facilities, bicycle lanes, and street furniture with particular attention to Lahainaluna Road.

The project will provide a dedicated bikelane and sidewalk for bicyclist and pedestrian travel along the highway. This is in conformance with both the first Master Bike Plan objective/policy and the first implementing action above.

Additionally, the bikelane and sidewalk will be incorporated into the intersections of *mauka-makai* cross streets (Lahainaluna Road, Dickenson Street, Prison Street, Shaw Street, and 'Aholo

Road), allowing for future connections of bikelane and sidewalk networks with cross street work and/or improvements. The northeast and southeast corners of the Lahainaluna Road intersection will be modified so the existing bike route in the paved shoulder is continuous. This would also provide dedicated bicyclist and pedestrian access to both the Lahaina Aquatic and Recreation Centers & Parks. Thus, the project is in conformance with both the second Master Bike Plan objective/policy and the second implementing action above.

2.2.5 CIVIL DESIGN

Highway widening and all related finished structures will be contained within the existing 80' roadway ROW. Some corner roundings and pavement transitions at intersections with cross streets—'Aholo Road and Dickenson, Prison and Shaw Streets—will be required *makai* of the ROW to accommodate the widened highway. The finished highway width will contain four AC lanes for motorists, a landscaped median, paved *mauka* shoulder, paved *makai* bikelane, concrete *makai* sidewalk, concrete *makai* integral curb, and guardrails and concrete retaining walls/sound barriers along edges of the widened pavement, as required. Road intersections will contain ADAAG-compliant curb ramps, relocated street and traffic lights, and adjusted traffic light loops.

The design speed for the highway portion will be 45 mph with a posted speed of 35 mph continuously throughout its entire length. A horizontal curve with superelevation with e_{max} of 6% will be used. DOT-H and AASHTO standards will be used as a guideline for design.

Traffic control will be implemented throughout construction, and project work will be conducted in a manner to avoid significantly impacting 24-hour, continual use of Honoapi'ilani Highway and access to nearby residences and existing recreational areas. Temporary and permanent signings, striping, pavement markings and lighting will be provided as required.

The project Basis of Design is included in the appendices of this report.

2.2.6 STRUCTURAL DESIGN

The new inlet and outlet extensions for culverts will accommodate the increased highway width, while discharge structures will be left relatively unaltered. Additionally, retaining walls will be installed as required for embankment beneath the widened highway structures toward the ROW edges. Gaps in this retaining wall foundation will be installed as required to accommodate large trees adjacent to the outside edges of the ROW. The design of the culvert treatments and retaining walls (and gaps) will conform to applicable Federal, State and County requirements.

2.2.7 ELECTRICAL DESIGN

The new street and traffic light relocations and traffic light loop adjustments will accommodate the increased highway width. The design of the street and traffic light relocations and traffic light loop adjustments will conform to applicable Federal, State and County requirements

2.2.8 VEGETATION REMOVAL AND PROTECTION

In order to accommodate the increased width of Honoapi'ilani Highway, trees and bushes on both sides of the highway within the ROW will need to be removed. Additionally, trees outside and adjacent to the ROW may need pruning to allow vertical clearance for the sidewalk, and protection for their roots from highway structures. Gaps in the retaining wall foundation, particularly along the *mauka* ROW edge along the Lahaina Aquatic & Recreational Centers and Parks, will be installed as required to accommodate large tree roots to minimize adverse effects on the trees. Consultation with property owners and coordination with regulating government agencies (such as, the County of Maui Department of Planning, Arborist Advisory Committee, State DOT-HWY arborist, etc.) will be performed to determine the most effective means of completing this removal task. The DOT-HWY may consider conducting a highway beautification project in the future; the median may be landscaped.

2.3 CONSTRUCTION PLAN

At the beginning of construction, a staging area for the contractor will be established and mobilization will commence. Traffic control will be implemented as required, in accordance with the Contractor's approved Traffic Control Plan. Best management practices will be installed, the site will be cleared and grubbed, and existing structures will be demolished and removed as

required. Construction work will proceed for highway widening work as described earlier for the four different Work Zones. Final landscaping will include grading and the installation of vegetation, such as, groundcover and native plants. Refer to Figure 2 for a General Conceptual Plan of the project. A detailed construction plan will be developed by the contractor prior to construction commencement.

2.4 ALTERNATIVES CONSIDERED

2.4.1 NO ACTION

The "No Action" alternative entails the lack of any type of construction work change in the current condition, such as, roadway widening or reroutement. Therefore, no physical or social effects on the environment are incurred and no immediate costs for planning and development are required by the State.

The project is proposed because the existing highway does not comfortably and safely support current vehicular traffic, bicyclist and pedestrian requirements of the Lahaina area. If widening work is not performed on the highway or an alternate/bypass route is not constructed, traffic congestion will continue to impair travel to and past Lahaina. This congestion may increase the likelihood of accidents and injury of the highway users, resulting in greater liability of the government.

The "No Action" alternative represents a postponement in government expenditure and constitutes sustained risk for government agencies. The lack of action and increased compromise of public safety could incur larger environmental effects and greater capital expenditure than the environmental effects and investment associated with immediate roadway widening work. Therefore, the "No Action" alternative is not considered to be a feasible option.

2.4.2 LAHAINA BYPASS

The "Lahaina Bypass" alternative consists of constructing a roadway roughly ¾ mile *mauka* and parallel to Honoapi'ilani Highway that accommodates traffic traveling past Lahaina. This would effectively separate traffic slowing down to enter Lahaina from through traffic. This alternative

will help ease the congestion of traffic approaching Lahaina from both directions, and complements the Honoapi'ilani Highway Widening Project.

Maui DOT is currently in the early planning stages of constructing a bypass road for traffic passing by Lahaina Town. This involves the determination of a feasible and acceptable location, planning and the production of a complete design for the bypass roadway. However, the highway widening projects represents a more immediate resolution for the growing traffic problem along the highway.

The cost of building a new highway bypass will be several orders of magnitude higher than the proposed Honoapi'ilani Highway Widening Project. This added cost would result from tasks, such as, land acquisition to support the new bypass roadway and its easement, and larger design involvement for an entirely new roadway. At the time this report is written, the State does not have sufficient resources to fund such a project, and a request for federal aid is being considered. Therefore, the "Lahaina Bypass" alternative is not considered to be as an immediate solution as the highway widening project. The bypass roadway option, however, is still being actively pursued by the department for the future. With consideration for the Lahaina Bypass Project, as well as, the subsequently-discussed Mill Street Improvements, the Honoapi'ilani Highway Widening Project will involve "collapsibility" of the widened highway portion from 4 lanes back down to 2 should future traffic-support by the Lahaina Bypass or Mill Street improvements allow it.

2.4.3 MILL STREET

The "Mill Street" alternative consists of redirecting a portion of traffic parallel to Honoapi'ilani Highway along Mill Street from Lahainaluna Road to 'Aholo Road that would accommodate traffic traveling past Lahaina. Mill Street would be improved to accommodate increased vehicular usage.

Similar to the Lahaina Bypass alternative, this project is being actively pursued by the department to alleviate traffic along Honoapi'ilani Highway; however, the improvement and use of Mill Street as a permanent traffic-bearing corridor will require the potential acquisition of

some land from adjacent private properties, and mitigation of increased noise and air pollution for nearby residences, businesses and industries for the increased use of Mill Street. If street lighting is required along the road, illumination impacts on the residences, businesses, industries and wildlife will need to be assessed. Public notification and coordination, as well as, consultation with a biologist and botanist, may be needed.

The DOT-HWY report, *Joint State/County Maui Interim Transportation Plan*, identifies the Honoapi'ilani Highway-Lahainaluna Road intersection as being heavily congested during the morning and afternoon peak periods due to traffic demand generated by the elementary, middle and high schools located along Lahainaluna Road. The use of the Mill Street could increase vehicular congestion and backup at this Lahainaluna Road-Mill Street intersection, especially during peak traffic hours along Lahainaluna Road with motorists entering and exiting Mill Street, or similarly, for motorists trying to enter and exit Mill Street at the other end, at the street's intersection with 'Aholo Road. Nonetheless, traffic concentration will be distributed away from the central Lahainaluna Road- Honoapi'ilani Highway intersection.

Another concern is that Mill Street will probably be used mostly by local traffic. Drivers, especially tourists, along Honoapi'ilani Highway would tend to remain on the highway and maintain a straight route instead of turning off to use Mill Street since they may have been driving a considerable distance along the highway before they arrive at Lahaina. In addition, use of the Mill Street would involve 4 turns for the driver with the possibility of traffic light stops, making 2 left turns across oncoming traffic while heading north, and merging with traffic trying to re-enter Honoapi'ilani Highway. Tourists would probably tend to stay along the highway for ease of driving while remaining along the coast. Thus, the need to increase the capacity of and maintain the main highway corridor would remain even though Mill Street was used as an alternate traffic route.

Nonetheless, the use of Mill Street as a permanent solution to help ease traffic along Honoapi'ilani Highway is being considered by the department. Mill Street is being analyzed by the department as a detour during construction of the Honoapi'ilani Highway Widening Project to route traffic away from the primary work area. Control of traffic would be accomplished with

police officers/flaggers at either end of the detour along the highway and temporary signs along Mill Street. Undesired traffic during nonwork times would be controlled with the use of gates and temporary signs. At the conclusion of construction work, Mill Street may be repaved for any increased use by motorists.

2.4.4 CANE HAUL ROAD

As recommended by the West Maui Highway Action Committee and discussed by the DOT-HWY report, *Joint State/County Maui Interim Transportation Plan*, the "Cane Haul Road" alternative involves the use of an existing private road system parallel to and just *makai* of Kuhua Street through the *mauka* portion of the Pioneer Mill site that was previously used for sugar cane production. This route utilizes an existing bridge over Kahoma Stream and connects to Keawe Street in Lahaina Business Park. With the termination of sugar cane operations, landowner Amfac Land Co. is considering the demolition of Pioneer Mill and redevelopment of the site. The report indicates that this presents a unique opportunity to negotiate the temporary use of the private road by the public, and the landowner has rendered his willingness to consider this option.

Negotiations with Amfac Land Co. will be required for the acquisition and/or use of the land encompassing the road. In addition, should the road by improved and widened, some land from adjacent private properties may have to be acquired. This may require the generation of funds for compensation. Amfac Land Co. would also have to clear the site, which could take at least a year to accomplish, according to the Joint Report. The mill would have to also be assessed as to whether it retains any historical significance since it is over 50 years old. As required by the DLNR-SHPD, measures to protect and preserve the integrity of the property and structures may be needed in accordance with HRS Chapter 6E.

The road has been used for private purposes and may need to be improved to accommodate higher traffic volumes and loading by the public to bring it up to code. The existing Kahoma Stream Bridge may need to be improved to meet government regulations, which would require work to be done within the steam limits, triggering the need for a number of federal, State and County permits and clearances.

The Joint Report indicates that the Pioneer Mill site may contain contaminated soil; thus, use of the site may require the preparation and development of environmental documents and permits, acquisition of approvals and clearances from and consultation with regulating authorities, and construction monitoring and remedial actions.

The existing Cane Haul Road alignment contains adjacent, opposite horizontal bends that may not support desired traffic speeds along the road. A design analysis may be needed.

The increased use of Cane Haul Road due to public traffic will generate increased noise and air pollution for nearby residences, businesses and industries. If street lighting is required along the road, illumination impacts on the residences, businesses, industries and wildlife will need to be assessed. Public notification and coordination, as well as, consultation with a biologist and botanist, may be needed.

The Joint Report identifies the Honoapi'ilani Highway-Lahainaluna Road intersection as being heavily congested during the morning and afternoon peak periods due to traffic demand generated by the elementary, middle and high schools located along Lahainaluna Road. The use of Cane Haul Road would involve the installation of a traffic signal system at its intersection with Lahainaluna Road. This may exacerbate vehicular congestion and backup, especially during peak traffic hours, along Lahainaluna Road with motorists entering and exiting Cane Haul Road. Similarly, traffic congestion may develop for motorists trying to enter and exit Cane Haul Road at the other end, at the road's intersection with Keawe Street. Nonetheless, traffic concentration will be distributed away from the central Lahainaluna Road- Honoapi'ilani Highway intersection.

Another concern is that Cane Haul Road will probably be used mostly by local traffic. Drivers, especially tourists, along Honoapi'ilani Highway would tend to remain on the highway and maintain a straight route instead of turning off to use Cane Haul Road since they may have been driving a considerable distance along the highway before they arrive at Lahaina. In addition, use of Cane Haul Road would involve 4 turns for the driver with the possibility of traffic light stops,

making 2 left turns across oncoming traffic while heading north, and merging with traffic trying to re-enter Honoapi'ilani Highway. Tourists would probably tend to stay along the highway for ease of driving while remaining along the coast. Thus, the need to increase the capacity of and maintain the main highway corridor would remain even though Cane Haul Road was used as an alternate traffic route.

Nonetheless, the development and use of Cane Haul Road as a permanent solution to help ease traffic along Honoapi'ilani Highway is being considered by the department. This would serve as a continuation of Mill Street, and form a collector road, and could encourage motorists to travel it more frequently.

2.4.5 CONCLUSION

Taking cost, risk, safety, environmental impact, public opinion and project duration factors into consideration, widening of the highway is determined to be the best resolution to immediately remediate existing deficiencies of Honoapi'ilani Highway, while achieving short-term goals of the State. Nonetheless, the eventual development of all aforementioned alternate projects—Lahaina Bypass, Mill Street Improvements, and the Cane Haul Road Improvements—will contribute to the comfortable sustainability of traffic and its growth projections.

CHAPTER 3—AFFECTED ENVIRONMENT, ANTICIPATED EFFECTS AND PROPOSED MITIGATIVE MEASURES

3.1 INTRODUCTION

The environmental review process is regulated under Hawai'i's Environmental Impact Statement Law (HRS 343), which ensures that appropriate consideration is given to all environmental concerns regarding the proposed project. Part of the process requires identification and a summary of potential environmental effects from the proposed action and all considered mitigative measures to avoid or minimize the effects, which include both "primary" and "secondary" effects, as well as, "cumulative" "short-term" and "long-term" effects.

A "primary" or "direct" effect refers to an effect caused by an action, in this case a construction activity, and occurs, immediately, at the same time and place as the instigating action.

A "secondary" or "indirect" effect refers to an effect caused by an action that occurs, later in time or farther removed in distance from the instigating action, but is still reasonably foreseeable.

A "cumulative" effect refers to a comprehensive, built-up effect comprised of the incremental effects of an immediate, instigating action adding to effects of other past, present and reasonably foreseeable future actions, regardless of the agency or person who undertakes such other actions.

A "short-term" effect is an effect of relatively short duration and generally refers to a project construction work-related effect.

A "long-term" effect is an effect of relatively long and lasting duration and generally refers to an effect that remains after completion of the project construction work.

"Mitigation" refers to procedures followed and activities undertaken during the project to alleviate and minimize any negative effects and impacts of the project work.

The following sections describe the existing physical and social environments within the project site and surrounding areas, and explore the potential effects anticipated from the proposed action and the practical mitigative measures for any adverse impacts. All project-related work shall be assessed in compliance with State and County policies.

3.2 PHYSICAL ENVIRONMENT

3.2.1 CLIMATE

Existing Condition

The climate of an area consists of a composite, or frequency distribution, of various kinds of weather within a relatively large region. The outstanding features of Hawai'i's climate include mild temperatures throughout the year, moderate humidity, persistence of northeasterly trade winds, significant differences in rainfall within short distances, and infrequent severe storms. For most of Hawai'i, there are only two seasons: "summer," between May and October and "winter," between October and April. Summer is generally drier and warmer and winter is wetter and cooler.

As indicated in the *Atlas of Hawai'i*, Third Edition (1998) by the Department of Geography, University of Hawai'i at Hilo, prevailing wind pattern over maui follows a southwesterly direction. These trade winds that approach the island at an average speed of about 14 to16 miles per hour are laden with moisture from traveling over the Pacific Ocean. The mountainous relief of the island alters the wind direction and speed—slowing it in some areas and accelerating it in others. Moist air blowing against the steep slopes is forced to rise sharply, which results in sudden cooling and saturation and the subsequent formation of clouds and precipitation. This orographic process occurs on the windward side of the mountain ranges. In contrast, leeward areas, in which the project site is located, are influenced by descending, warming air from which some moisture has been removed (potentially precipitation) as it passes over the mountain. Consequently, leeward areas are usually clearer and drier than windward areas. Average rainfall in project area is about 15 inches per year. Maui also experiences periodic northwesterly "Kona" winds and storms, especially in the winter season, which bring cooling relief to the southeastern coast of the island.

Table 3-1 contains information provided by the *Western Regional Climate Center* that was obtained from the two weather stations nearest to the project site.

Table 3-1 Climatic Information for Weather Stations Adjacent to the Site

Station	Average Annual Maximum Temperature (°F)	Average Annual Minimum Temperature (°F)	Average Annual Total Precipitation (inches)
Lahaina 361 (515177)	84.9	66.4	14.62
Kahului WSO AP 398 (512572)	83.8	67.4	19.02

Anticipated Effects and Mitigative Measures

No short-term, long-term or cumulative adverse effects are anticipated to the climatic conditions in the project area; therefore, no mitigative measures are proposed.

3.2.2 GEOLOGY AND TOPOGRAPHY

Existing Conditions

According to the document, *Geology and Ground-Water Resources of the Island of Maui, Hawaii*, by Stearns and MacDonald (October 1942), volcanic rocks in West Maui have been subdivided into 3 types: Wailuku, Honolua and Lahaina series. The West Maui volcano first built an oval shield-shaped dome of primitive olivine basalt in layers averaging 15-feet thick. The dome reached a height of approximately 7,000 feet above the sea during the Wailuku series. The Wailuku basalts are very permeable and yield water feely. Dike complexes—a parallel group of closely-spaced dikes—in higher elevations confine water far above sea level. Streams that cut into the dikes are spring-fed and perennial. The Honolua lavas are andesites and soda trachytes characterized by platy cleavage faces, which contain small specks of feldspar. The layers of Honolua lavas average approximately 75 feet in thickness and form a protective veneer over the easily eroded dome of Wailuku basalts. A thin interbedded layer of red soil ranging from several inches to 5 feet in thickness is located between the 2 volcanic series. The Lahaina volcanic series is comprised of lava flows emitted after erosion approached the present stage. All Lahaina lava

flows lie on the dry leeward side of West Maui near Lahaina. They usually lie on gravel deposits and are comprised of pictritic basalts and nepheline basanite.

The geomorphology of the region encompassing the project site is characterized by 3 features. One feature is deep canyons and valleys, such as, Kau'aula Valley, which have been formed by stream erosion caused by water flowing over steep surfaces, the presence of alternating layers of resistant and nonresistant rock, high rainfall in the higher elevations, a low rainfall in the lower elevations. Another feature is domes ranging from 100 to 600 feet high and from 1,000 to 3,000 feet in diameter, such as, Pu'u Hipa and Pu'u Māhanalua Nui. These domes are composed of trachyte and closely-related rocks, and are formed by lava being squeezed from a small vent. The third feature is the flow-slope plains, as represented by the agricultural lands along the lower western flank of the West Maui Mountains, with grades ranging from 3 to 6 percent and conforming closely to the underlying lava flows.

Basal groundwater floats atop salt water and underlies a peripheral belt approximately 1½ to 4 miles wide inland. The basal water table stands about a foot above mean sea level near the coastline and rises at a rate of approximately 2 feet per mile inland. The high-level water table is confined in the dyke complexes in the Wailuku basalt layers in the higher elevations.

The project topography indicates that elevations within and adjacent to the project site are relatively flat, ranging from approximately 13′msl to 25′msl on the roadsides and 15′msl to 30′msl within the paved highway. The highway is generally built-up a few to several feet higher than its adjacent properties.

Anticipated Effects and Mitigative Measures

Although construction work will involve minimal earthwork, the finish grades within the construction limits will match the existing condition upon completion of the project. Therefore, no long-term effects are anticipated to the geology and topography within the project area. No cumulative effects on geology and topography are expected when reviewed against past, present and reasonably foreseeable future actions.

3.2.3 WATER RESOURCES AND HYDROLOGY

3.2.3.1 Surface Water

Existing Conditions

The following information details the nearest surface water bodies to the project site:

1. Pacific Ocean—roughly ¼ mile west;
2. Kau'aula Stream—approximately ¼ mile south; and,
3. Kanahā Stream—about ½ mile north:

Anticipated Effects and Mitigative Measures

No long-term and cumulative adverse effects are anticipated on the hydrologic and hydraulic properties of the surface water resources from the proposed project. Due to the far distance (buffer of land, groundcover, vegetation, residential structures, etc.) of the waters from the project, and the *mauka-makai* general drainage pattern of the region, the project is anticipated to have no affect on the Pacific Ocean, Kau'aula Stream, Kanahā Stream, or any other surface water body.

3.2.3.2 Groundwater

Existing Conditions

According to the University of Hawai'i, Water Resources Research Center, Technical Report No. 185—*Aquifer Identification and Classification for Maui: Groundwater Protection Strategy for Hawai'i* (February 1990) by Mink and Lau, the hydrogeology at the site consists of a dual aquifer-type formation that conforms to the information contained in the table below.

Table 3-2 Hydrogeology at the Site

Aquifer	Island	Aquifer Sector	Aquifer System	Aquifer Type	Aquifer Code	Status Code	Quadrangle Number
Upper	6 (Maui)	02 (Lahaina)	04 (Launiupoko)	116	60204116	33321	2
Lower	6 (Maui)	02 (Lahaina)	04 (Launiupoko)	111	60204111	21222	2

The two aquifers are very different in detail. The upper aquifer consists of unconfined basal water in sedimentary, nonvolcanic lithology. It has no potential use (development stage), is neither ecologically important nor drinkable for utility purposes, has moderate salinity of 1,000–5,000 mg/L Cl^-, is of replaceable uniqueness and has high vulnerability to contamination. The lower aquifer consists of unconfined basal water in geological flanks—aquifers in horizontally extensive lavas. It has potential use (development stage) for drinking utility purposes, has low salinity of 250–1,000 mg/L Cl^-, is of replaceable uniqueness and has moderate vulnerability to contamination. Basal water is freshwater in contact with seawater and an unconfined aquifer is defined where the water table is the upper surface of the saturated aquifer. An Aquifer Classification Map is attached as Figure 9.

The boundaries of the aquifer Launiupoko Aquifer System are the north divide Kahoma Valley, Pu'unoa Point to Awalua (small drainage north of Olowalu), and the south divide of Launiupoko. The geology of the system is characterized by Wailuku basalt with minor areas of Honolua cover. Vents and dikes of Honolua affect groundwater occurrence and behavior. The main Wailuku rift zone extends several miles inland and a narrow coastal plain of alluvium is present; however, it is insufficient for caprock. The valleys are underlain by "old alluvium." The system is composed of unconfined basal, unconfined high-level dike, and unconfined high-level perched volcanic aquifers. The terrestrial environment contains sugar agriculture, the Lahaina urban center, modest tourism at the coast, and mostly forest reserve further inland. About two miles of basal groundwater in Wailuku basalt extends inland from the coast, beyond which is high-level dike water, also in Wailuku basalt. The basal groundwater occurs in flank lavas, which are covered at the coast by a narrow shelf of sediments that are ineffective as caprock.

The *Maui County Water Use and Development Plan* (1992) identifies four Maui County Department of Water Supply (DWS) water districts for leeward, west Maui. They are Lahaina, Honokōwai, 'Alaeloa and Honokōhau. During the 1989–1991 period, the total minimum bimonthly average water consumption for all 4 districts was 4.07 mgd and the maximum was 5.45 mgd. The annual average for 1990–1991 was 4.75 mgd. For the Lahaina water district, which had the largest consumption of the 4 districts and encompasses the project site, the minimum bimonthly average consumption was 1.89 mgd, with a maximum of 2.92 mgd, during

1989–1991. The annual average for the 1990–1991 year was 2.46 mgd. The plan projected an overall future demand of 11.0 mgd for the 4 water districts by the year 2010.

West Maui has seven aquifers with a combined sustainable yield of roughly 40 mgd:

1. Kahakuloa—8 mgd;
2. Honokōhau—10 mgd;
3. Honolua—8 mgd;
4. Honokōwai—8 mgd;
5. Launiupoko—8 mgd;
6. Olowalu—3 mgd; and
7. Ukumehame—3 mgd.

The site is contained within the Launiupoko aquifer, which has an approximate sustainable yield of 8 mgd.

Anticipated Effects and Mitigative Measures

No potable water production wells or injection wells are located near the site. In addition, the project will not involve any activities that would present any potential impacts on hydrogeological formations at or near the site. Thus, no short-term, long-term or accumulative effects are anticipated on the groundwater resources from the proposed project and no mitigative measures are proposed.

3.2.4 WATER QUALITY

Existing Conditions

The region encompassing the project site is designated to be Class 2 Inland Waters out to the shoreline and Class A Marine Waters from the shoreline out to the 600-foot (100-fathom) contour according to the classification of water uses for inland and marine waters outlined in HAR 11-54, *Water Quality Standards*. No Reserve, Preserve, Wildlife Refuge, Sanctuary, or National or State Park is identified to be within or near the project site. A Water Quality Map from the DOH Office of Environmental Planning (OEP) is attached as Figure 11. The two classes of waters are protected in very similar manners.

Class 2 Inland Waters are to be protected for their use as recreation, the support and propagation of aquatic life, agricultural and industrial water supplies, shipping and navigation. The uses to be protected in this class of waters are all uses compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge that has not received the best degree of treatment or control compatible with the criteria established for this class. No new treated sewage discharges shall be permitted within estuaries.

Class A Marine Waters are to be protected for their use as recreation and aesthetic enjoyment. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge that has not received the best degree of treatment or control compatible with the criteria established for this class. No new sewage discharges will be permitted within embayments.

Anticipated Effects and Mitigative Measures

No long-term and cumulative adverse effects are anticipated on the surface water resources from the proposed project since no surface water resources exist next to the site: the Pacific Ocean is roughly ¼ mile west of the site, Kau'ula Stream is about ¼ mile south of the site, and Kanahā Stream is ½ mile north of the site. However, a potential for short-term effects on drainage runoff is due to project construction (disturbance of ground, etc.) is foreseen. Therefore, mitigative

measures by way of both temporary and permanent BMPs, such as, silt fencing, sandbags, graveling, swales and grassing, as required, will be used. The project will be compliant with the State DOT-HWY & US EPA January 2006 consent decree for permanent BMPs.

Clearing and grubbing of vegetation, and demolition and typical construction ground disturbance (due to equipment movement) work may generate increased silt and sediment in runoff. Cleared areas will be temporarily susceptible to erosion. Silt and sediment erosion will be controlled through earthen or gravel berms, grassing, graveling and silt fences, as required. Dust screens, periodic watering and mulching, and fast-growing groundcover will be used as required to control dust generation. Public roadways and driveways will be cleaned of accumulated dirt and debris from construction activities as needed to maintain a clean, safe environment. Standard construction precautions will be taken to prevent oil, gas, lubricants and other toxic substances associated with the use of heavy machinery from spilling or leaching into the water. These measures include regular maintenance of vehicles and equipment and checks for leaks, avoidance of overfilling of fluids and filling of fluids in an area with spill containment measures (earthen berms, liners, etc.), and off-hour storage of vehicles in this same area.

3.2.5 SOILS

Existing Conditions

According to the *Soil Survey of the Islands of Kaua'i, O'ahu, Maui, Moloka'i and Lana'i, State of Hawai'i* (August 1972) prepared by the US Department of Agriculture (DAG), Soil Conservation Service (SCS), the soil at the project site is predominantly composed of 'Ewa silty clay loam, 0 to 3 percent slopes (EaA). The soil up to roughly 200′ away from 'Aholo Road is composed of Pūlehu silt loam, 0 to 3 percent slopes (PpA). A Soil Designation Map is attached as Figure 12.

The 'Ewa series soils consists of well-drained soils in basins and on alluvial fans on the islands of Maui and O'ahu. These soils developed in alluvium derived from basic igneous rock, and are nearly level to moderately sloping. Elevations range from near seal level to 150 feet. The annual rainfall amounts to 10 to 30 inches, most of which occurs between November and April, and the

mean annual soil temperature is 73°F. The natural vegetation consists of fingergrass, kiawe, koa haole, klu and uhaloa. Common uses include sugarcane, truck crops, pasture and homesites.

In a representative EaA soil profile, the surface layer is dark reddish-brown silty clay loam about 18-inches thick. The subsoil is about 42-inches thick, and is dark reddish-brown and dark-red silty clay loam with a subangular blocky structure. The substratum is coral limestone, sand or gravelly alluvium. The soil is neutral in the surface layer and subsoil (pH 6.6–7.3). The shrink-swell potential is moderate and corrosivity is low for both uncoated steel and concrete. Permeability is moderate (0.63–2.0 inches per hour) and runoff is very slow with an erosion hazard no more than slight. The available water capacity is about 1.3 inches per foot in the surface layer and 1.4 inches per foot in the subsoil. This soil is more than 60-inches deep and in places, roots penetrate to a depth of 5 feet or more.

The Pūlehu series soils consist of well-drained soils on alluvial fans and stream terraces and in basins. These soils occur on the islands of Lana'i, Maui, Moloka'i and O'ahu. They developed in alluvium washed from basic igneous rock. The soils are nearly level to moderately sloping. Elevations range from nearly sea level to 300 feet. The annual rainfall amounts to 10 to 35 inches, and the mean annual soil temperature is 74°F. The natural vegetation consists of bermudagrass, bristly foxtail, fingergrass, kiawe, klu, lantana, koa haole and sandbur. Common uses include sugarcane, truck crops, pasture, homesites and wildlife habitat.

In a representative PpA soil profile, the surface layer is dark-brown silt loam about 21 inches thick. This is underlain by dark-brown, dark grayish-brown, and brown, massive and single grain stratified loam, loamy sand, fine sandy loam, and silt loam about 39 inches thick. Below this is coarse, gravelly or sandy alluvium. The soil is neutral in the surface layer and neutral to mildly alkaline below the surface layer (pH 6.6–7.8). The shrink-swell potential is moderate to low, and corrosivity is low for both uncoated steel and concrete. Permeability is moderate (0.63–2.0 inches per hour) and runoff is slow with an erosion hazard no more than slight. The available water capacity is about 1.4 inches per foot in the surface layer and subsoil. In places, roots penetrate to a depth of 5 feet or more. Low areas are subject to flooding.

Anticipated Effects and Mitigative Measures

No short-term, long-term or cumulative adverse effects are anticipated on soils at the project area; therefore, no mitigative measures are proposed.

3.2.6 NATURAL HAZARDS

Natural hazards in Hawai'i include floods, tsunamis, hurricanes and earthquakes. Existing conditions about these natural hazards and potential effects on these hazards due to proposed project are described as follows.

3.2.6.1 Floods

Existing Conditions

Community Panel Map Number 15003 0163 C (August 3, 1998) of the Federal Emergency Management Agency's (FEMA's) Flood Insurance Rate Maps (FIRMs), Panel 163 of 400, indicates that the project site is designated to be completely within flood zone C—areas of minimal flooding. A copy of the FIRM that encompasses the project site is attached as Figure 13.

Anticipated Effects and Mitigative Measures

The increased width of Honoapi'ilani Highway will contain more impermeable pavement and concrete area at the site. However, due to the proposed construction of drywells along the project area, the finished drainage condition will decrease the amount of surface runoff from the area and be an improvement from the existing drainage condition. As mentioned before, a drainage report has been completed that summarizes the effects of the project on drainage conditions. No further mitigative measures are anticipated to be required.

3.2.6.2 Tsunami

Existing Conditions

A tsunami is a series of waves generated by an impulsive disturbance in the ocean or in a small, connected body of water. Near Maui, tsunamis typically develop from underwater earthquakes, which could occur very close to Maui, within Hawaiian waters or even at relatively distant locations. Tsunami waves are capable of traversing the ocean for relatively long distances and could cause severe damage to property, injury and even casualty in coastal communities once land is reached. Underwater earthquakes often are generated through tectonic plate movement of the earth below the ocean floor.

Almost all coastal areas on Maui are within tsunami zones, and should a tsunami, or any other storm-generated event hit the shoreline, flow would generally be in the *mauka* direction. The project site is not considered to be within a coastal area. As shown in Figure 14—Tsunami Evacuation Maui Map 5: *Launiupoko Pt. to Wahikuli State Wayside Park*—the project site lies outside of the designated tsunami inundation/evacuation zone. More information about tsunamis and evacuation is available at the Maui Civil Defense Agency.

Anticipated Effects and Mitigative Measures

No special design considerations will be used for the project structures to withstand tsunami events since the site is outside the identified tsunami hazard zone. No adverse effect is anticipated on the potential of tsunami caused by the proposed project; therefore, no further mitigative measures are anticipated to be required.

3.2.6.3 Hurricanes

Existing Conditions

Hurricanes form in areas of enhanced thunderstorms over warm, tropical oceans and are the most destructive type of storms on Earth. The destructive fury of hurricanes comes from a combination of high winds, heavy rains and abnormally high waves and storm tides.

Hurricanes are relatively rare events in the Hawaiian Islands; however, records show that strong windstorms have struck all major islands in the Hawaiian Island chain since the beginning of

history. The first officially recognized hurricane in Hawaiian waters was Hurricane Hiki in August of 1950. Since then, five hurricanes or tropical storms have caused serious damage in Hawai'i. The maximum hurricane occurrence in Hawai'i happens during the late summer when the ocean surface is warmest.

Hurricane season begins in June and lasts through November in the Hawaiian Islands. These storms bring large amount of rain with high winds to all islands. Heavy rain, high wind and storm surges could cause flooding in the Lahaina area.

Anticipated Effects and Mitigative Measures

No adverse effect is anticipated on the potential of hurricane by the proposed project. The widened highway will be flat with minimal resistance to wind. No mitigative measures are anticipated to be required.

3.2.6.4 Earthquakes

Existing Conditions

Earthquakes in Hawai'i are closely linked to volcanism. They are an important part of the island-building processes that have shaped the island of Hawai'i and the other Hawaiian Islands. Thousands of earthquakes occur every year beneath the island of Hawai'i. However, Maui Island is designated to be in Seismic Zone 3, which indicates the third lowest potential of ground motion caused by seismic activity in the State of Hawai'i. The seismic zoning for the Hawaiian Islands are Zone 4—Hawai'i; Zone 3—Maui, Kaho'olawe, Lana'i and Moloka'i; Zone 2—O'ahu; and Zone 1—Kaua'i. Structures within the different seismic zonings are to be designed to withstand different intensities of seismic activity, with Zone 1 areas designated as being prone to lower intensity activities and Zone 4 being prong to higher intensity activities.

Anticipated Effects and Mitigative Measures

No adverse effect is anticipated on the potential of earthquake caused by the proposed project since the project involves primarily the widening of a highway. No mitigative measures are anticipated to be required.

3.2.7 SHORELINE

Existing Conditions

The project site is located roughly 1,500 feet *mauka* of the shoreline.

Anticipated Effects and Mitigative Measures

BMPs will be installed to mitigate any potential pollution, and the project is relatively distant from the shoreline, buffered by thoroughly developed structures. No short-term or long-term effects on the existing shoreline are expected and no mitigative measures are proposed.

3.2.8 FLORA AND FAUNA

3.2.8.1 Flora

Existing Conditions

According to the *Soil Survey of the Islands of Kaua'i, O'ahu, Maui, Moloka'i and Lana'i, State of Hawai'i* (August 1972) prepared by the United States Department of Agriculture, Soil Conservation Service, the natural vegetation at and near the site consists of kiawe trees (Prosopis pallida), koa haole, fingergrass, klu and uhaloa.

Anticipated Effects and Mitigative Measures

The proposed project will necessitate some vegetation removal to accommodate the increased width of Honoapi'ilani Highway. DOT-HWY may consider conducting a beautification project in the future.

According to the US DOI-FWS, no critical habitats are located within or proposed for the project area. In addition, no federally-listed threatened or endangered plant and animal species are known to exist at the project area

No long-term or cumulative effects are expected on flora in project area are anticipated; therefore, no further mitigative measures are proposed.

3.2.8.2 Fauna and Avifauna

Existing Conditions

Typical mammals in the project site include the Polynesian rat (Rattus Exulans), Roof rat (Rattus rattus), House mouse (Mus musculus) and small Indian mongoose (Herpestes auropuctatus). The avifauna (birds) in the project area typically include urban adapted species like the Cardinal, Spotted Dove, Barred Dove, *'Elepaio*, *I'iwi*, Common Mynah, *Pueo*, Ricebird, House sparrow and the Japanese White-eye. These birds can be found throughout the island of Maui. None of these are on nor are candidates for the Federal or State list of threatened or endangered species.

Anticipated Effects and Mitigative Measures

According to the US DOI-FWS, no critical habitats are located within or proposed for the project area. In addition, no federally-listed threatened or endangered plant and animal species are known to exist at the project area. Thus, no negative effects from this project on endangered and other species are expected and, consequently, no mitigative measures are proposed.

3.2.9 ARCHAEOLOGICAL AND CULTURAL RESOURCES

Existing Conditions

The State DLNR-SHPD website GIS did not identify any recorded information on *heiaus* or other historic properties or archaeological material near the site. Also no historic sites were identified within the project site by both the SHPD (determination letter attached in the appendices to this report) and CIA interview informants.

Anticipated Effects and Mitigative Measures

The proposed project will incorporate the standard DOT-HWY archeological monitoring requirements typical of their projects during all construction activities. If previously unknown and unanticipated resources are uncovered during the course of construction, the Contractor will stop work immediately and coordinate with the DOT-HWY and SHPD to determine the appropriate treatment and handling of the material.

No adverse effect is anticipated on archeological and cultural resources from the proposed project; therefore, no further mitigative measures are expected to be required.

3.2.10 NOISE CONDITIONS

According to HAR Title 11 Chapter 46, *Community Noise Control*, "noise" means any sound that may produce adverse physiological effects or interfere with individual or group activities, including, but not limited to, communication, work, rest, recreation or sleep. "Noise pollution" means noise emitted from any excessive noise source in excess of the maximum permissible sound levels. The accepted unit of measure for noise levels is the decibel (dB) because it reflects the way humans perceive changes in sound amplitude. Sound levels are easily measured, but human response and perception of the wide variability in sound amplitude is subjective.

Existing Conditions

Noise from vehicular traffic along Honoapi'ilani Highway is the primary source of ambient noise in this area. On weekdays, vehicular activity is sporadic and contributes relatively insignificant levels of noise with the exception of occasional trucks, vans or buses. During weekends, noise levels increase with the influx of recreational beach and park users.

The DOH monitors noise issues in accordance with HRS 19-342F and the Director issues noise permits only when excessive noise levels are expected. The Occupational Safety and Health Act (OSHA) of 1970 was established to "assure the safe and healthy working conditions for working men and women." OSHA regulations established a maximum noise level of 90 A-weighted decibels (dBA) for a continuous 8-hour exposure (typical work day) with higher maximum noise levels for shorter duration periods. Table 3-6 summarizes the maximum permissible sound levels for various noise durations.

A preliminary Noise Analysis and Abatement Study in accordance with FHWA requirements is being developed concurrently with this EA, and will be included in the appendix of the Final EA.

Table 3-6 Permissible Noise Exposure Levels

Duration (Hours / Day)	Permissible Sound Level (dBA)
8	90
6	92
4	95
3	97
2	100
1 to 1½	102
1	105
½	110
¼ or less	115

Source: 29 CFR 1910.95.

Anticipated Effects and Mitigative Measures

Intermittent elevated noise levels from certain types of construction activities are inevitable. However, they are expected to be short-term and minor. Typical heavy construction equipment noise levels are listed in Table 3-7. The noise generated from the construction equipment that are anticipated to be used for the project are lower than the permissible sound levels; therefore, no significant noise effects are expected from the proposed project. No mitigative measures are proposed. All construction work will be scheduled at daytime in accordance with HRS 342-F-1.

Table 3-7 Heavy Construction Equipment Noise Levels at 50 Feet

Equipment Type	Generated Noise Level (dBA)
Bulldozer	88
Backhoe (rubber tire)	80
Front Loader (rubber tire)	80
Dump Truck	75
Concrete Truck	75
Concrete Finisher	80
Crane	75
Asphalt Spreader	80
Roller	80
Flat-Bed Truck (18 Wheel)	75
Scraper	89
Trenching Machine	85

Source: US Army Corps of Engineers, Construction, Engineering Research Labs, 1978.

3.2.11 AIR QUALITY

In order to protect public health and welfare and to prevent the significant deterioration of air quality, per requirement of the Clean Air Act, last amended in 1990, the US Government Environmental Protection Agency (EPA) has established the National Ambient Air Quality Standards (NAAQSs) for certain harmful pollutants using two standards. The *Primary* standards set limits to protect public health, including the health of "sensitive" populations, such as, asthmatics, children and the elderly. The *Secondary* standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation and buildings. The DOH has also established ambient air quality standards to regulate the air quality statewide. The following table summarizes the national and state ambient air quality standards (SAAQs).

Table 3-8 National and State Ambient Air Quality Standards

Pollutant		NAAQSs		SAAQSs
		Standard Value	Standard Type	
Carbon Monoxide (CO)	8-Hour Average	9 ppm (10 mg/m^3)	Primary	5 mg/m^3 (4.4 ppm)
	1-Hour Average	35 ppm (40 mg/m^3)	Primary	10 mg/m^3 (9 ppm)
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.05 ppm (100 µg/m^3)	Primary & Secondary	70 µg/m^3
Ozone (O_3)	1-Hour Average	0.12 ppm (235 µg/m^3)	Primary & Secondary	-
	8-Hour Average	0.08 ppm (157 µg/m3)	Primary & Secondary	157 µg/m^3 (0.08 ppm)
Lead (Pb)	Quarterly Average	1.5 µg/m^3	Primary & Secondary	1.5 µg/m^3
Particulate (PM_{10})(1)	Annual Arithmetic Mean	50 µg/m^3	Primary & Secondary	50 µg/m^3
	24-Hour Average	150 µg/m^3	Primary & Secondary	150 µg/m^3
Particulate ($PM_{2.5}$)(2)	Annual Arithmetic Mean	15 µg/m^3	Primary & Secondary	-
	24-Hour Average	65 µg/m^3	Primary & Secondary	-
Hydrogen Sulfide (H_2S)	1-Hour Average	-	-	35 µg/m^3 (25 ppb)
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	0.03 ppm (80 µg/m^3)	Primary	80 µg/m^3 (0.03 ppm)
	24-Hour Average	0.14 ppm (365 µg/m^3)	Primary	365 µg/m^3 (0.14 ppm)
	3-Hour Average	-	Secondary	1,300 µg/m^3 (0.5 ppm)

µg/m^3 = microgram (10^{-6} grams) per cubic meter; mg/m^3 = milligram (10^{-3} grams) per cubic meter; ppb = parts per billion; ppm = parts per million
(1) *Particles with diameters of 10 micrometers or less*
(2) *Particles with diameters of 2.5 micrometers or less*

Existing Conditions

According to the State DOH Environmental Geographic Information System dated July 2004, only one (1) Air Quality Monitoring Station is present on the island of Maui, and it is located far from the project site in Kīhei, roughly 16 miles to the southeast (straight-line distance). This station was installed in February 1999 primarily to monitor $PM_{2.5}$ and PM_{10} for cane burning.

In general, the air quality at the project site is considered to be good since the prevalent trade winds on Maui contribute to favorable climatic conditions and air quality. The ambient air quality in the area is relatively pristine due to the lack of industrial pollutions, the relatively small population and the dense growth of vegetation. Air quality on the leeward coast of Maui is

generally affected by vehicular traffic and sugarcane burning. The general lack of high volumes of traffic, decreasing use of land for sugarcane, plus the flow of normal trade winds tend to mitigate the effects of vehicular traffic and sugarcane burning on air quality. According to the *Atlas of Hawai'i, Third Edition*, the remoteness of the Hawaiian Islands from any large sources of industrial pollution serves to keep the composition of the surrounding air relatively pure. Because of this, Hawai'i's regional atmosphere represents a standard of air quality against which air in other regions can be measured.

Anticipated Effects and Mitigative Measures

Temporary construction-related air quality effects will be unavoidable due to fugitive dust from excavation or other construction activities and exhaust from the operation of construction instrumentation. However, normal trade winds are expected to disperse polluting emissions effectively. Dust control measures and BMPs, such as, water sprinkling and mulching, will be applied during construction activities. No long-term air quality effects are anticipated from the proposed action. Upon the completion of the project, the air quality at the project site will return to its existing condition.

3.2.12 VISUAL RESOURCES

Existing Conditions

The project area is located in a predominantly well-developed residential area. No tall buildings are located near the site, and a portion of the project from Shaw Street to 'Aholo Road borders the open grass field of publicly-used Lahaina Aquatic and Recreational Centers (County of Maui, Department of Parks and Recreation [DPR]). The ROW is lined with trees, shrubs and bushes, and views of the mountainside are present from Honoapi'ilani Highway in occasional breaks in residential structures and foliage.

Anticipated Effects and Mitigative Measures

Short-term disturbance of the existing visual quality along Honoapi'ilani Highway is expected due to necessary vegetation removal, construction equipment, stockpiling of material, etc. However, these visual impediments are temporary for the duration of construction activities and will be controlled within acceptable limits by appropriate construction timing and phasing. Temporary construction visual blocks will be removed at the end of the project and cleared and grubbed areas will be revegetated with plants similar to the existing vegetation. Additionally, the median may be landscaped and the highway will provide an aesthetic "gateway" to Lahaina. The finished highway pavement will be flat; thus, no permanent visual blocks are anticipated by the permanent structures. As a result, no long-term negative effect or loss of visual quality is anticipated. No other Federal, State, County of Maui or community projects have been identified in the vicinity of the project site. Therefore, when reviewing past, present and reasonably foreseeable future actions, no cumulative effects are anticipated.

3.3 SOCIO-ECONOMIC ENVIRONMENT AND DEMOGRAPHICS

Existing Conditions

According to the DBEDT *State of Hawai'i Data Book 2002*, the resident population of the Lahaina District has grown steadily over the past couple of decades from about 10,300 in April 1980, to approximately 14,600 in April 1990 (41.7% increase) and 18,000 in April 2000 (23.3% increase). In addition, the number of visitors to Maui County has risen steadily over this same period as well. Thus, Honoapi'ilani Highway needs to be maintained to support this growth. Honoapi'ilani Highway is the primary thoroughfare for local residents and tourists on west Maui, and in many places, it is the only thoroughfare. Honoapi'ilani Highway is the main artery that connects towns on the leeward side of Maui, such as, Mōpua, Olowalu, Lahaina, Kā'anapali, Honokōwai, Māhinahina, 'Alaeloa, Nāpili Bay, Kahana, Kapalua, Honokahua, Honolua and Honokōhau.

In 2000, Maui County had a population of 85,752 persons 25 years old and over, and of this population, 83.4% was a high school graduate or higher, and 22.4% received their bachelor's degree or higher. Population projections for Maui County include 136,400 for the year 2010, 144,000 for the year 2015, 151,200 for the year 2020, and 158,700 for the year 2025.

In 1990, the island of Maui had 30,272 households, with a population of 90,031 in households for an average of 2.97 persons per household. The number of households on Maui increased to 40,156 by the year 2000, with a total household population of 116,417 and an average of 2.90 persons per household. The median household income for Maui County has fluctuated from $41,930 in 1995, to $40,647 in 1997, to $40,635 in 1998, to $42,765 in 1999, to $43,563 in 2000. This equates to per capita averages of $22,157, $22,080, $22,795, $23,861 and $24,966 for the years 1995, 1997, 1998, 1999 and 2000, respectively. The average per capita income for Maui County in 2001 was $25,542.

In 2000, Maui County contained 3,889 business establishments with 52,250 employees. The payroll for this year was $1,374M, with $324M in the first quarter. In 2001, Maui County contained 3,955 business establishments with 54,155 employees, and had first quarter and annual payrolls of $345M and $1,407M, respectively.

Notification of the general public and will be done to inform them of the project undertaking. This will be accomplished through direct consultation with residents and community associations/neighborhood boards, informational mailings, public meetings, and/or publication of project summaries and contact information in major local newspapers and bulletins. The DOT-HWY will complete a "good faith effort" in informing the public of the project and assessing and addressing their concerns.

Anticipated Effects and Mitigative Measures

The proposed highway widening project should not hinder economic or population growth in the Lahaina area. By increasing the highway capacity, some population growth of west Maui may be supported. Existing lifestyles in the long-term should not be impacted by the project. All construction work will take place only during normal working hours on weekdays. Therefore, no socio-economic short-term or long-term effects resulting from the proposed project are expected.

No other Federal, State, County of Maui or community projects have been identified in the vicinity of the project site. Therefore, when reviewing past, present and reasonably foreseeable

future actions, no cumulative effects are anticipated. No further mitigation measures are expected to be required.

3.4 ENVIRONMENTAL JUSTICE

Anticipated Effects and Mitigative Measures

On February 11, 1994, President Clinton issued Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations.* This order for Environmental Justice promotes the fair treatment of people of all races, income and culture with respect to the development, implementation and enforcement of environmental laws, regulations and policies. It requires federal agencies to take necessary steps to identify and avoid any disproportionate negative effects on minority and low-income population. Since the proposed project is mostly federally funded, compliance to EO 12898 is required.

The proposed project involves the widening and rehabilitation of an existing highway, which has equal importance to and equal impact on the entire population around the project area. Honoapi'ilani Highway is a major traffic route in the West Maui District, and the entire population (motorists, pedestrians/joggers, bicyclists, etc.) in that area will be using the new widened corridor once it is constructed. Therefore, it is not expected that any minority or low-income populations will experience disproportionate short-term or long-term adverse effects from the proposed project.

No other Federal, State, County of Maui or community projects have been identified in the vicinity of the project site. Therefore, when reviewing past, present and reasonably foreseeable future actions, no cumulative effects are anticipated. No further mitigation measures are expected to be required.

3.5 PUBLIC FACILITIES AND SERVICES

3.5.1 UTILITIES AND INFRASTRUCTURE

Existing Conditions

Existing utility lines and infrastructure in the vicinity of project site includes electrical lines and poles, telephone and cable lines, waterlines with fire hydrants and traffic signs. The MECO

electrical lines are overhead and cross the highway orthogonally in certain locations. Electrical lines to traffic lights at intersections are underground. DWS waterlines run underground parallel to Honoapi'ilani Highway and also service fire hydrants.

Anticipated Effects and Mitigative Measures

Existing utilities are anticipated not to be impacted by the project, other than the electrical lines for traffic signals at the intersections. Clear and visible signs indicating the relocation of the utilities will be used whenever necessary. Existing utilities will be protected from harm as required.

3.5.1.1 Wastewater and Solid Waste

Existing Conditions

Some sewerlines are present at the site beneath the highway. No solid waste facilities or service exist within the project site.

Anticipated Effects and Mitigative Measures

No short-term, long-term or cumulative effects resulting from the proposed project are expected; therefore, no mitigative measures are proposed. The sewerlines are not anticipated to be impacted by the project. Clear and visible signs indicating the relocation of the utilities will be used whenever necessary. Existing utilities will be protected from harm as required.

3.5.2 TRANSPORTATION FACILITIES

Existing Conditions

Honoapi'ilani Highway (Route 30) is a critical traffic corridor on West Maui that serves as the main transportation route between Mōpua and Honokōhau. The highway is maintained by the State within an 80-foot right-of-way, and has an 11-foot travel paved lane in each direction. The posted speed limit is 45 miles per hour for most of the highway.

Anticipated Effects and Mitigative Measures

Traffic queueing in the morning and afternoon rush times is creating backlogs on Honoapi'ilani Highway from Puamana Park to Lahainaluna Road. Improvements are needed to help alleviate

both: (1) this queuing, and (2) increasing traffic congestion within town, primarily along Waine'e and Front Streets. The project will relieve congestion along the highway, as well as, within town. The widened highway will also increase the safety of it users, including motorists, pedestrians and bicyclists.

As mentioned earlier in Chapter 2, according to a traffic forecast that has been completed for the project that analyzes current traffic conditions in the project area and evaluates traffic conditions out 20 years from the present based on the Honoapi'ilani Highway Widening Project, and the Lahaina Bypass Project, the highway widening project is required to provide acceptable traffic levels of service for the 20-year time frame of the forecast analysis. The projected growth in traffic along Honoapi'ilani Highway in Lahaina will require mitigation within the next 10 years even with the construction of the proposed Lahaina Bypass Project.

Temporary disruption of transportation is expected to be short-term and occur mainly during and initial and final stages of construction work when construction equipment is moved to and from the project site (mobilization and demobilization). During project construction, periodic material transport will also cause a slight increase local traffic congestion; however, a lane of continual traffic in both directions will be permitted along Honoapi'ilani Highway throughout the project. Once the new retaining wall and pavement shoulder are in-place, a single lane will be closed for detour of both vehicular and pedestrian travel with barriers, and traffic along the highway will be diverted along the constructed pavement portion and the remaining existing pavement. Pedestrians will be redirected to the detour route as well. Nevertheless, the overall local traffic pattern should not be altered significantly by the proposed action. Some periodic minor delays will be scheduled during off-peak traffic hours, and disruptions during peak traffic hours will occur only as an absolute last resort. Safe and convenient access to the existing parks and intersecting roads on both the *mauka* and *makai* sides of the highway will be maintained at all times throughout the construction phase.

Approaches to traffic control during construction of the project are being coordinated with agencies and the public at the time this report is written. Mill Street is being proposed as a temporary construction detour. Also, the construction contract documents will require that the

Contractor apply for a Noise Variance with the Department of Health, Noise, Radiation, and Indoor Air Quality Branch to allow night work which is subject to neighborhood receptiveness.

No other Federal, State, County of Maui or community projects have been identified in the vicinity of the project site. Therefore, when reviewing past, present and reasonably foreseeable future actions, no cumulative effects are anticipated.

Mitigation to reduce potential traffic effects will include use of signage, traffic controls and flagmen in project area. The existing bus stops will be temporarily relocated to a location out of the work area and as close to their existing locations as practicable to ensure safety.

3.5.3 RECREATIONAL FACILITIES

Existing Conditions

Based on a visual reconnaissance of the project site and its surrounding areas, the project area is thoroughly developed, dominated by residential houses. *Mauka* of the highway between Shaw Street and 'Aholo Road is the publicly-used Lahaina Aquatic and Recreational Centers & Parks (County of Maui, Department of Parks and Recreation [DPR]). Access to the centers is free.

During construction, public access to the centers and its grass park near the project site will remain unimpeded; thus, recreational activities will not be disturbed or altered from their present condition. Views of scenic areas, such as, the mountainside, may be blocked temporarily by construction machinery; however, equipment and temporary structures will be removed upon completion of the project and permanent scenic areas will not be altered, as previously discussed in Section 3.2.12.

As mentioned in Chapter 2 earlier, the project will be in compliance with the Master Bike Plan for the region. Facilities for bicyclist and pedestrian use of the highway will be installed, and access to the Lahaina Aquatic and Recreational Centers & Parks will be improved with bikelanes and sidewalks.

Anticipated Effects and Mitigative Measures

Twenty-four-hour, continual access to existing properties and facilities will be maintained throughout construction work. No short-term, long-term or cumulative effects are anticipated on existing recreational facilities; therefore, no mitigative measures are proposed.

CHAPTER 4—FINDINGS AND DETERMINATIONS

In accordance with Chapter 343, Hawai'i Revised Statutes, this draft Environmental Assessment characterizes the technical, social and environmental issues related to the widening of the Honoapi'ilani Highway between Lahainaluna and 'Aholo Roads. It identifies potential project impacts to the environment and their significance. The proposed project is not anticipated to exert any significant impacts to the environment. Therefore, a Finding of No Significant Impact" (FONSI) is anticipated and an Environmental Impact Statement should not required

The proposed action was preliminarily evaluated based on the thirteen (13) "Significance Criteria" of Title 11, Chapter 200-12 of the DOH Administrative Rules to determine if the proposed project will have a significant effect on the environment. The determination of a FONSI is anticipated for this project based on the following reasoning against the thirteen (13) criteria.

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

The proposed project is not anticipated to cause irrevocable loss or destruction to any significant natural or cultural resources in vicinity area. Knowledgeable individuals, organizations and agencies, such as, the SHPD, Maui/Lāna'i Islands Burial Council, Friends of Moku'ula, Nā Kūpuna O Maui, Lahaina Town Action Committee, West Maui Taxpayers Association, and Lahaina Town Restoration Foundation, among others, have been informed, contacted and/or consulted regarding the identification of historic and cultural property locations, if any, within or near the project site. The proposed project will incorporate the standard DOT-HWY archeological monitoring requirements typical of their projects during all construction activities. If previously unknown resources are uncovered during the course of construction, the Contractor will stop work immediately and coordinate with the DOT-HWY and SHPD to determine the appropriate treatment and handling of the material.

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

The proposed action will not curtail the range of beneficial uses of the environment. Although temporary construction work will occur near the Lahaina Aquatic & Recreation Centers and Parks, continuous access to the centers and parks will be provided throughout construction and recreational activities will not be affected. Additionally, the widened highway will enhance the safety for all of its users—motorists, pedestrians, bicyclists, etc.

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 action does not conflict 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 action is consistent with the environmental goals and objectives of the State of Hawai'i as described in the Hawai'i State Planning Act, HRS Chapter 226. The project is of short-term duration and Best Management Practices (BMPs) will be used throughout the duration of the project to mitigate and control the effects of construction activities. Permanent BMPs in the form of native (indigenous) and/or adopted Polynesian-introduced species of plants and grass will be installed as required. Additionally, the project will be compliant with the State DOT-HWY & US EPA January 2006 consent decree for permanent BMPs.

4. Substantially affects the economic or social welfare of the community or State;

The economic or social welfare of the community or State will not be substantially affected by the proposed project. The project is anticipated to provide some short-time, construction-related employment, which will have a marginal positive effect on the local economy. The project will provide a safer, less-congested highway (the major thoroughfare that links communities on the leeward side of Maui) for public use that meets government agency regulations and standards. The highway widening will demonstrate that the DOT-HWY is upholding their mission to maintain safe public roadways and facilities, while supporting population growth of the area.

5. *Substantially affects public health;*

Short-term, construction-related noise, water quality and air quality effects will occur during the project, but will be controlled and mitigated by BMPs in accordance with applicable State and County laws and regulations so that the public health will not be substantially affected. The project will improve public safety by widening the existing highway that is too narrow to support the growing traffic load, and adding travel corridors for bicyclists and pedestrians that are lacking in the current condition. The project will double the capacity of the highway between Lahainaluna and 'Aholo Roads by increasing the highway width from 2 lanes to 4 lanes consistently throughout the project length.

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

The project is not anticipated to have substantial secondary effects, such as, population impacts and effects on public facilities. However, the increased capacity of the highway will be able to support population growth in the area. The project will primarily widen a portion of an existing State highway to ease traffic congestion and provide travel corridors for bicyclists and pedestrians. Should the project necessitate the relocation of existing public facilities, the facilities will be restored to their existing conditions, or better, to meet the applicable standards by the State or County.

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

No substantial degradation of environmental quality is anticipated as a result of the project. Short-term, construction-related water quality and air quality effects, such as, increased sediment-laden runoff and dust and equipment emissions, will occur during the project, but will be controlled and mitigated by BMPs throughout the duration of the project in accordance with applicable State and County laws and regulations. The BMPs will mitigate and control the effects of construction activities so that environmental quality will not be substantially affected. Permanent BMPs in the form of native (indigenous) and/or adopted Polynesian-introduced species of plants and grass will be installed. Additionally, the project will be compliant with the State DOT-HWY & US EPA January 2006 consent decree for permanent BMPs.

The widened highway will have a larger impermeable surface area than the existing roadway, which will produce an increase in runoff from the existing condition. However, curbs, drywell catch basins and drain inlets will contain highway runoff and dispose it into the ground, unlike in the existing condition where highway runoff sheet flows into adjacent properties. Thus, the project will improve the drainage condition of the area by reducing runoff contribution to existing drainage facilities and adjacent properties.

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

The Honoapi'ilani Highway Widening Project is anticipated to have no cumulative effect on the environment. Effects on the environment and public health will be controlled and mitigated throughout the project through the use of temporary BMPs, and after the project by permanent BMPs. Effects on the environment and public health will be project-specific for the highway widening and will not combine with or exacerbate the adverse effects of other nearby projects. New structures will be of low profile and similar to existing structures. Existing highway use, drainage patterns and the local landscape will be preserved, if not slightly improved. No larger actions are required or anticipated.

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

No rare, threatened or endangered species are anticipated to be substantially affected by the project. No rare, threatened or endangered biota are known and recognized to exist in the vicinity of the project site. The highway is an existing facility that will be widened by the project. Thus, effects, if any, on existing habitats by the final, permanent structures are anticipated to be minimal. The use of temporary BMPs throughout the duration of the project and permanent BMPs after the project will control and minimize any effects on existing biota and their established habitats.

A consultation letter was sent to agencies including University of Hawai'i, Center for Conservation Research and Training, Hawai'i Natural Heritage Program (HNHP), and the US Department of the Interior, Fish and Wildlife Service (FWS). The FWS agency, who works together with the HNHP, issued a formal letter of determination that proposed project would not

affect federally listed threatened or endangered species and also stated that, "there is no critical habitat in the project area." This letter is included in the appendices of this report.

10. Detrimentally affects air or water quality or ambient noise levels;

No long-term and minimal short-term air, water quality or ambient noise effects are anticipated from the proposed project. The use of temporary and permanent BMPs will control and minimize any adverse effects that construction activities may have on ambient air and water quality during and after the project, respectively. Noise generation from construction vehicles are anticipated to be within established State Department of Health allowable thresholds. The noise from traffic along Honoapi'ilani Highway are expected to be at typical, normal levels throughout the project. Upon completion of the project, air and water qualities and ambient noise levels are expected to return to their original, preconstruction conditions.

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

The project site is not located within an environmentally sensitive location susceptible to floods, tsunamis, storms, earthquakes and erosion. Project structures will be similar to existing structures, and will not alter the area's vulnerability to tsunamis, storms, earthquakes and erosion. Drainage patterns will primarily be unaltered by the project. Effects on the environment due to natural hazards during construction work will be controlled and mitigated throughout the project through the use of temporary BMPs, and after the project by permanent BMPs. No freshwater resources or geologically hazardous land are located within or near the project site, and the shoreline is located roughly ¼ mile west past well-developed residential areas. Additionally, as mentioned in Item 7 above, the project will improve the drainage condition of the area and, as a result, decrease flooding.

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

The proposed project is not anticipated to substantially affect scenic vistas and viewplanes identified in county or state plans or studies. Any visual resource effect will be short-term construction-related, such as, mountain view blocks from construction equipment. Existing views will be restored upon completion of the project. The final widened highway and associated facilities are flat and no taller than the existing roadway and associated structures.

13. Requires substantial energy consumption.

The proposed action will not require substantial energy consumption. Energy requirements will primarily be directly related to construction activities; therefore, extra energy will not be needed upon completion of the project. The postconstruction lighting demand will be similar to the illumination requirements of the existing highway.

The draft version of this EA was submitted to the State of Hawai'i, Office of Environmental Quality Control (OEQC) on May 26, 2006, for review and comment, and public notice of the project will be printed in the semimonthly OEQC bulletin, *The Environmental Notice*, on June 8, 2006. A reminder notice that the 30-day public comment period concluded on July 10, 2006, was printed in the June 23, 2006, issue of the OEQC bulletin. The draft EA was also submitted to the Lahaina Public Library by June 8, 2006, for public review and comment. Comments on the draft EA and DOT-HWY responses to these comments are included in the appendices of this report.

CHAPTER 5—CONSULTED AGENCIES AND PARTICIPANTS DURING THE PREPARATION OF THE ENVIRONMENTAL ASSESSMENT

The following Federal, State and County agencies, as well as, private and community organizations, were informed, contacted and consulted during the preparation of this document. This environmental assessment was subject to public review for a 30-day period pursuant to HAR Chapter 11-200.

5.1 FEDERAL AGENCIES

- Advisory Council on Historic Preservation
- Department of the Interior
  - Fish and Wildlife Service, Pacific Islands Ecoregion
  - Geological Survey
  - National Park Service
- Federal Highway Administration

5.2 STATE OF HAWAI'I

- Department of Business, Economic Development and Tourism
- Department of Education
  - Public Library System
- Department of Hawaiian Home Lands
- Department of Health
  - Clean Water Branch
- Department of Land and Natural Resources
  - Aquatic Resources Division
  - Commission on Water Resource Management
  - Division of State Parks
  - Forestry and Wildlife Division
  - Land Division
  - Maui/Lāna'i Island Burial Council

- State Historic Preservation Division
- Department of Transportation
  - Highways Division
  - Structure Design (HWY-DB)
  - Design Service (HWY-DS)
  - Design Section (HWY-DD)
- Office of Environmental Quality Control
- Office of Hawaiian Affairs
- University of Hawai'i at Mānoa
  - Hawai'i Natural Heritage Program

5.3 COUNTY OF MAUI

- Arborist Advisory Committee
- Cultural Resources Commission
- Department of Civil Defense
- Department of Parks and Recreation
- Department of Planning
- Department of Public Works and Environmental Management
- Department of Transportation
- Department of Water Supply
- Lahaina Neighborhood Board

5.4 INDIVIDUAL INFORMANTS & PRIVATE AND COMMUNITY ORGANIZATIONS

- Bishop Museum
- Boys & Girls Club of Maui—West Maui Club
- Department of Hawaiian Home Lands
- Friends of Moku'ula
- Geolabs, Inc.
- Hui Mālama I Nā Kūpuna O Hawai'i Nei

- 'Iolani Palace—Friends of 'Iolani Palace
- Kā'anapali 2020 (c/o Munekiyo & Haraga, Inc.)
- Lahaina Baptist Church
- Lahaina Restoration Foundation
- Lahaina Town Action Committee
- Maria Lanakila Catholic Church and Sacred Hearts School
- Mitsunaga &Associates, Inc.
- Mr. Akoni Akana
- Mr. Charlie Makikau
- Mr. Howard Kihune
- Mr. Ke'eaumoku Kapu
- Mr. Kimokea Kapahalehua
- Mr. William Waiohu, Jr.
- Ms. Patty Nishiyama
- Munekiyo & Haraga, Inc.
- Na Hale O Waine'e
- Nā Kūpuna O Maui
- Office of Hawaiian Affairs
- Ronald N.S. Ho & Associates, Inc.
- Waiola Church
- West Maui Taxpayers Association

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FEDERAL AID PROJECTS PREVIOUSLY CONSTRUCTED OR UNDER CONSTRUCTION

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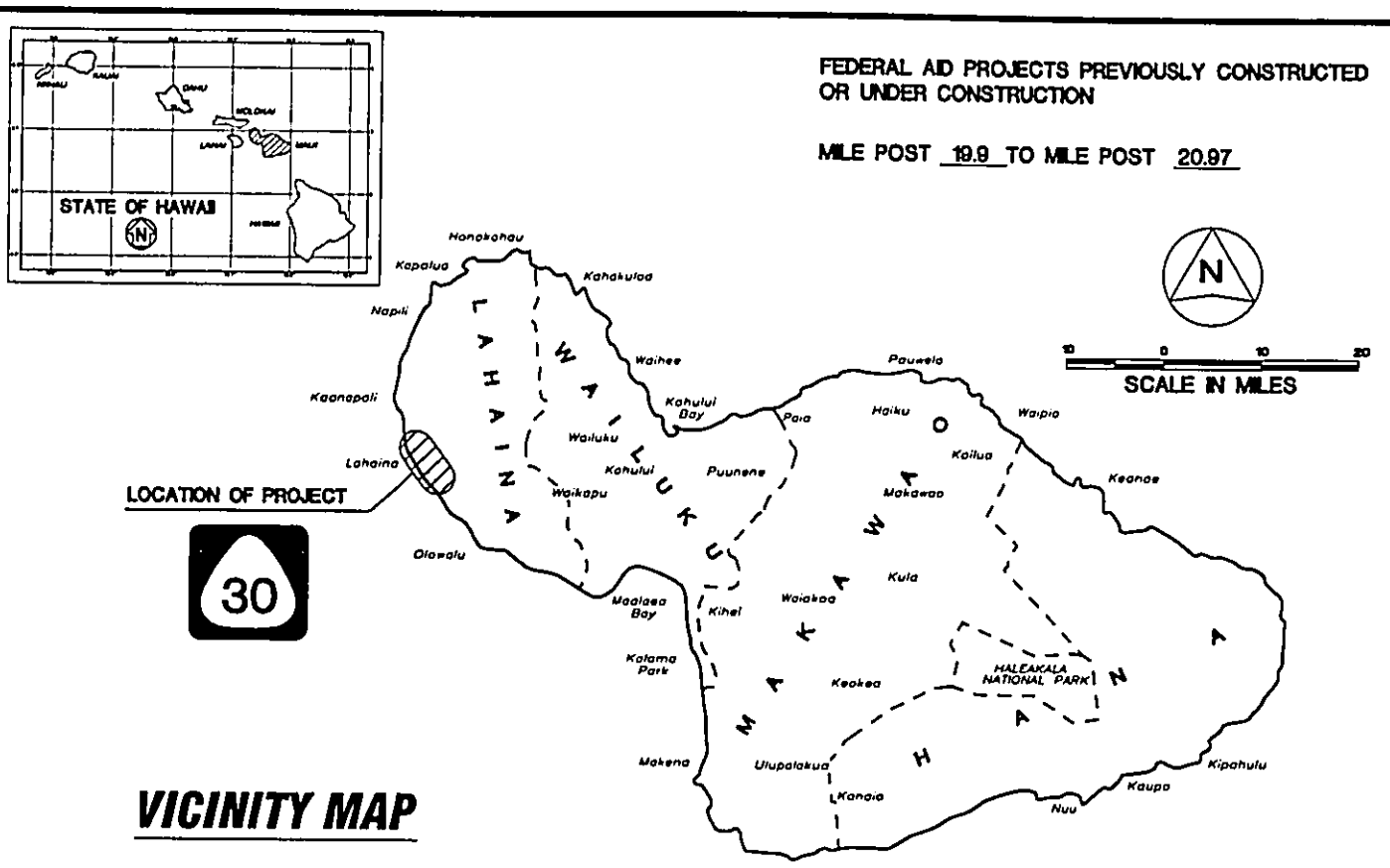
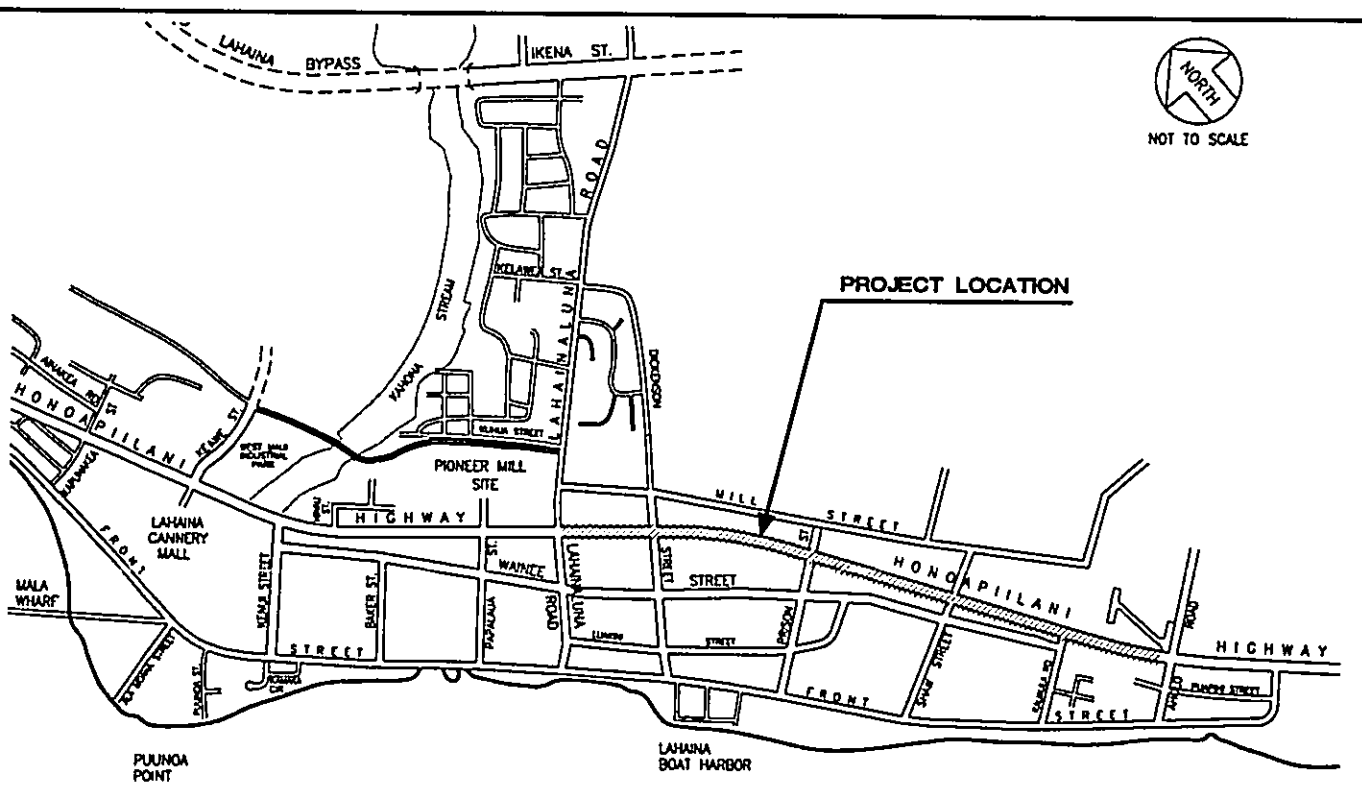
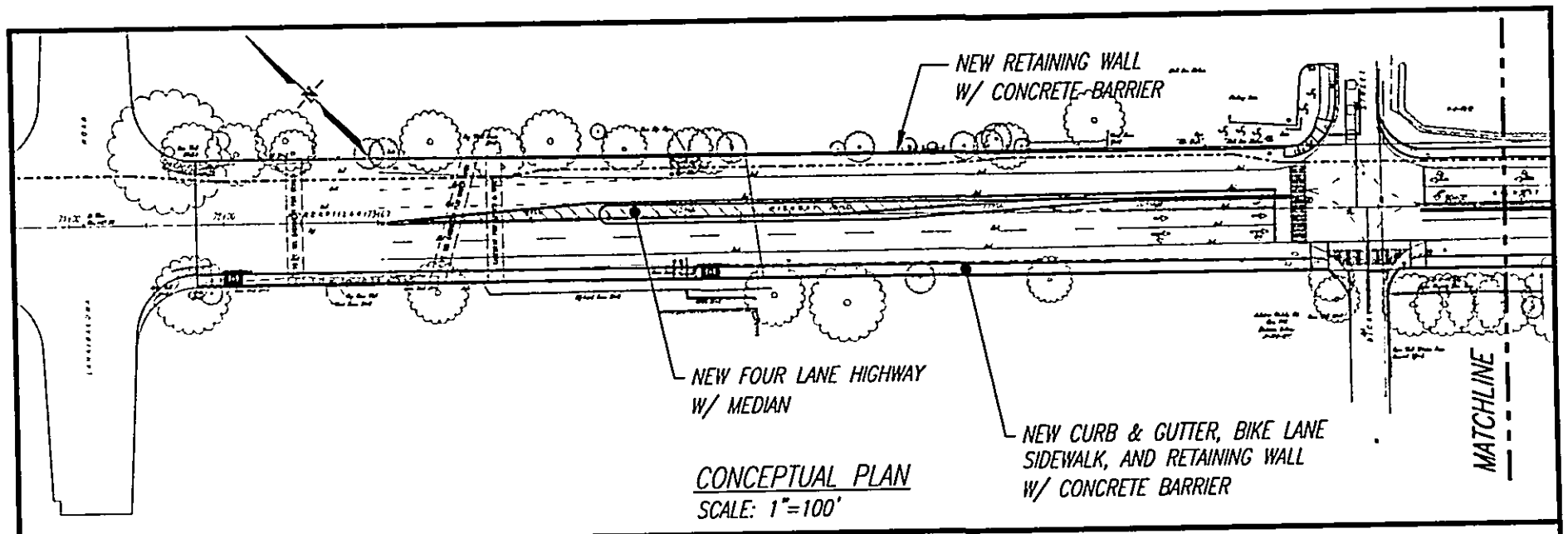
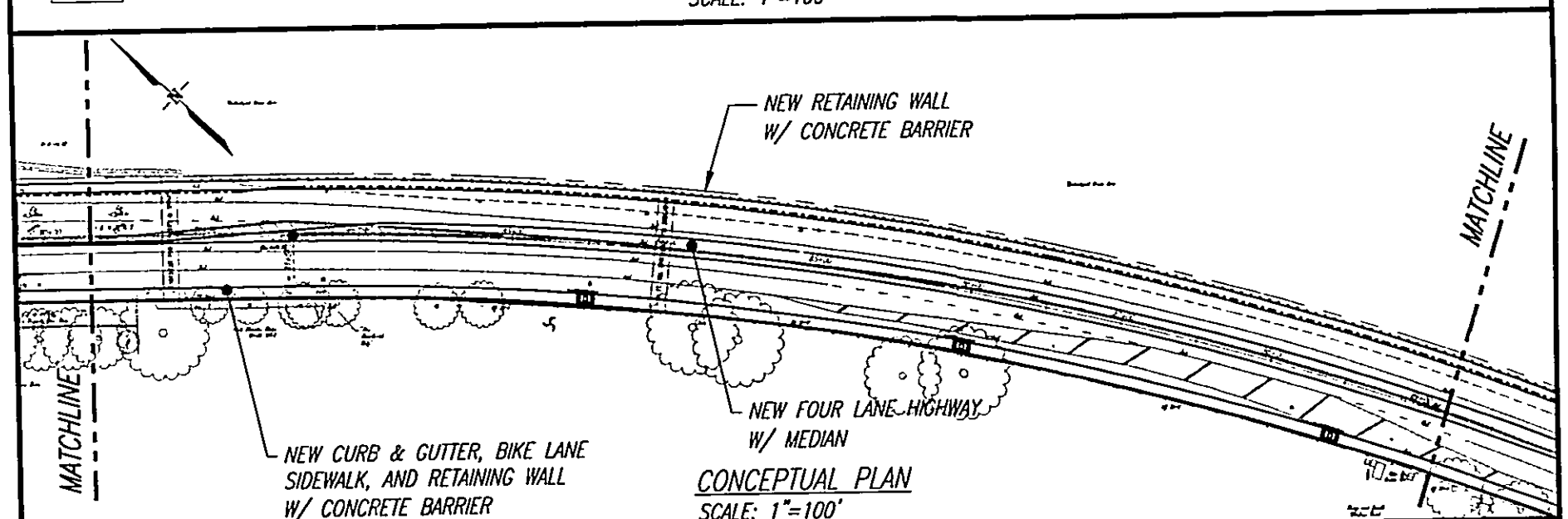


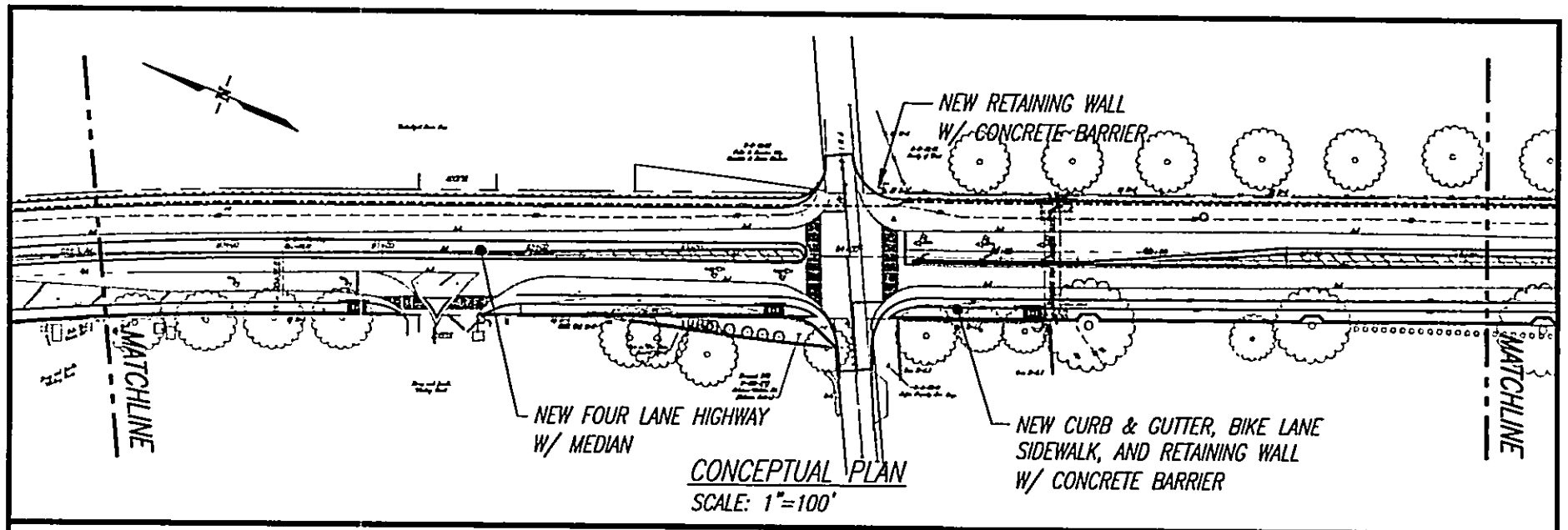


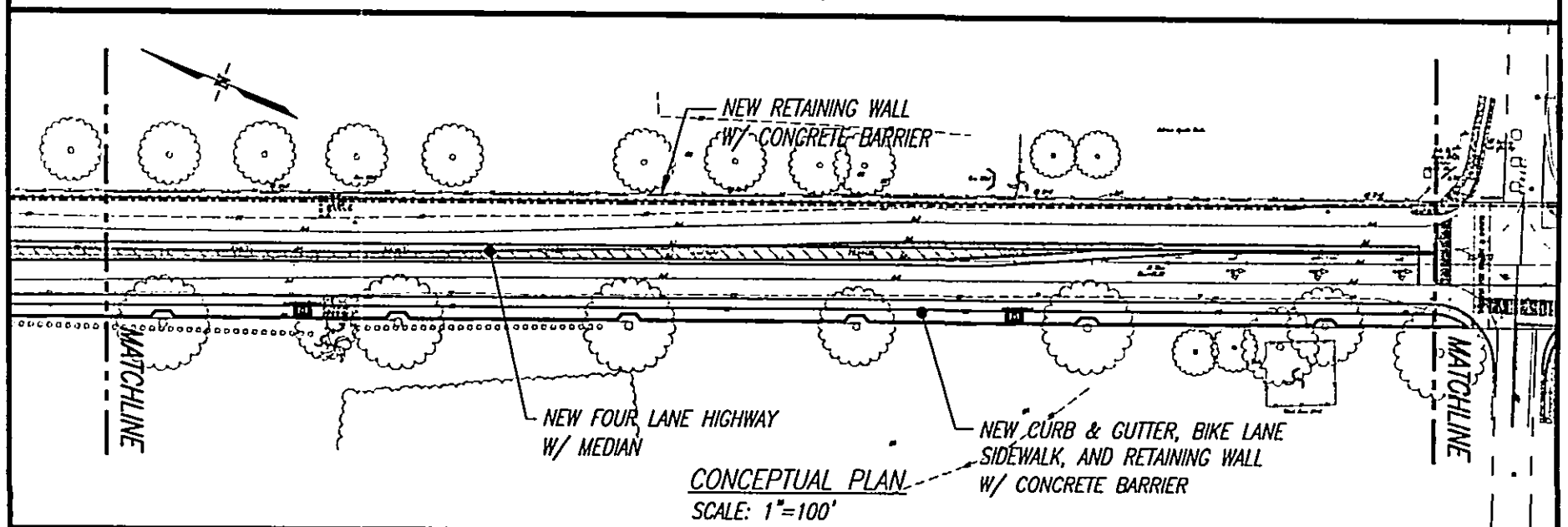
M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 1 PROJECT VICINITY & LOCATION MAPS
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007



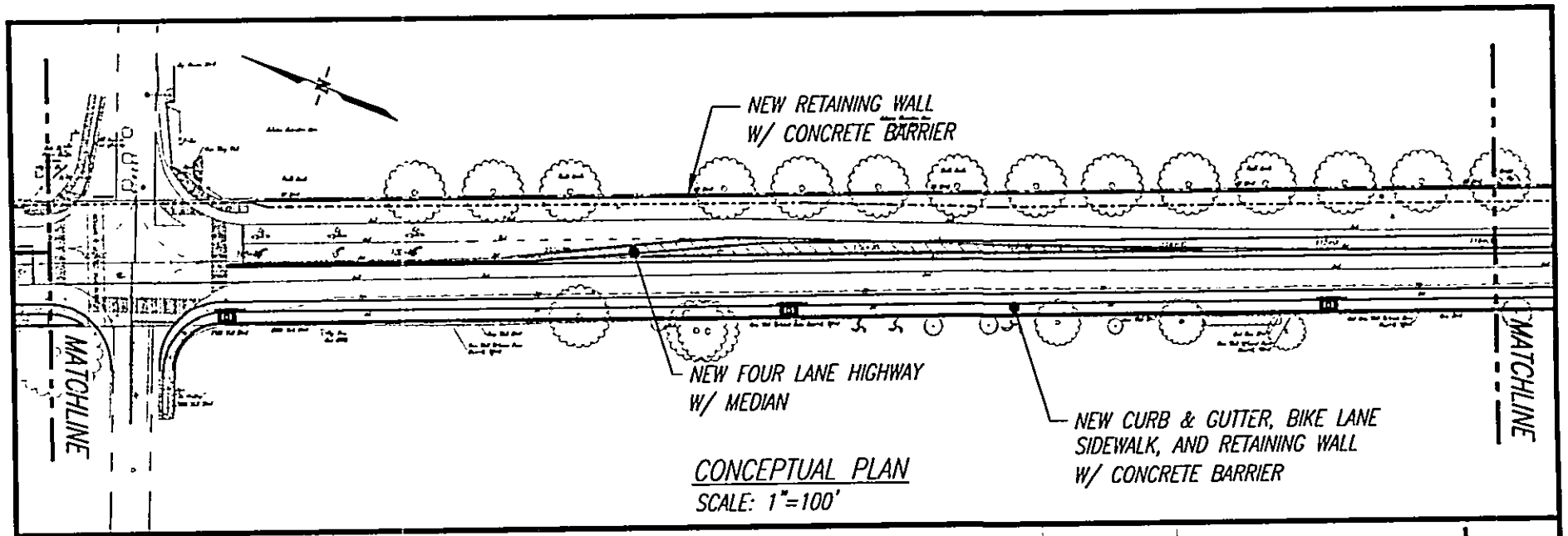


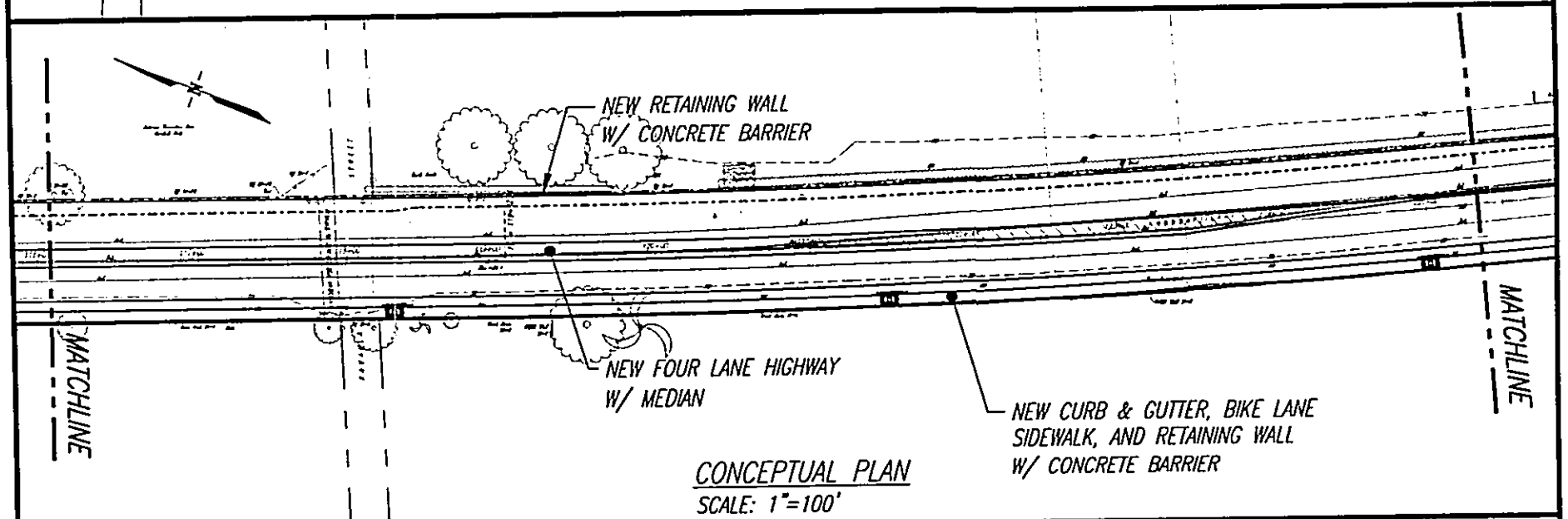
M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 2A GENERAL CONCEPTUAL PLAN 1 of 6
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007



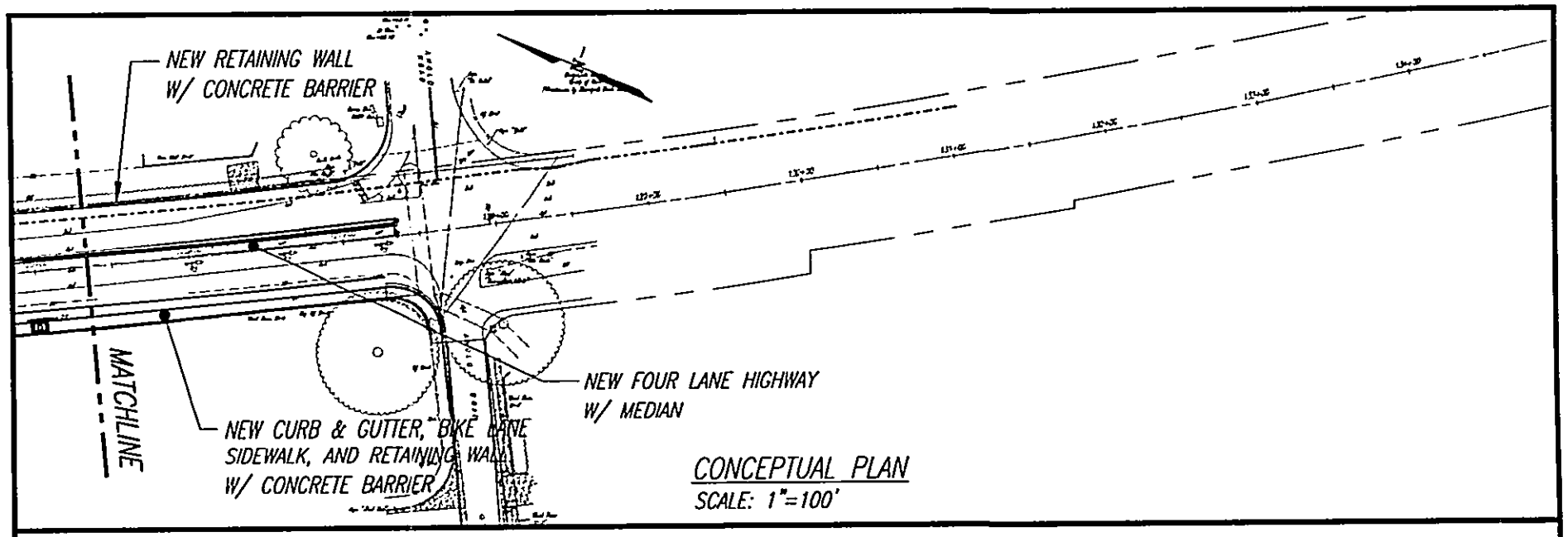


M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 2B GENERAL CONCEPTUAL PLAN 2 of 6
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007



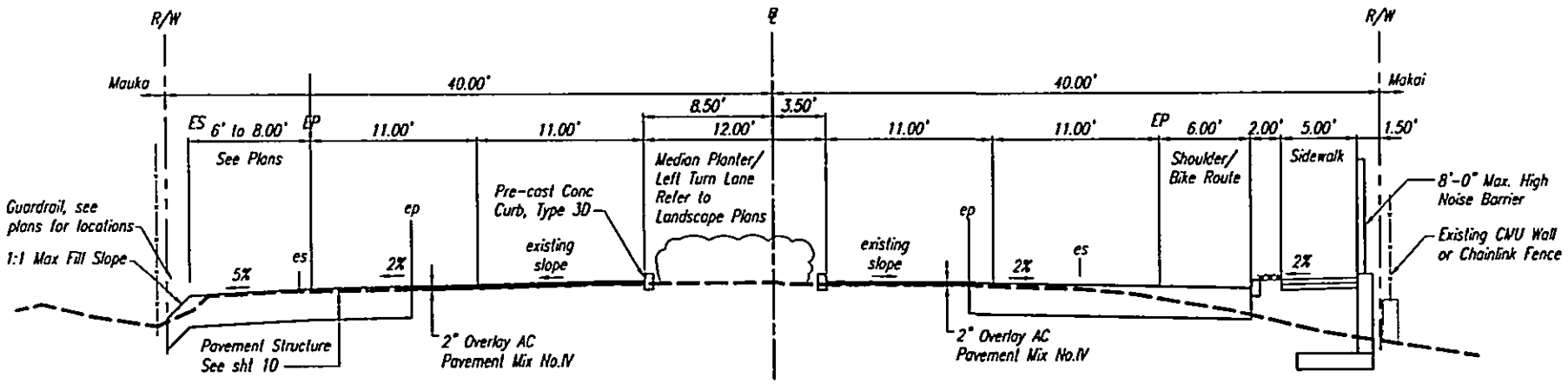


M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 2C GENERAL CONCEPTUAL PLAN 3 of 6
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007



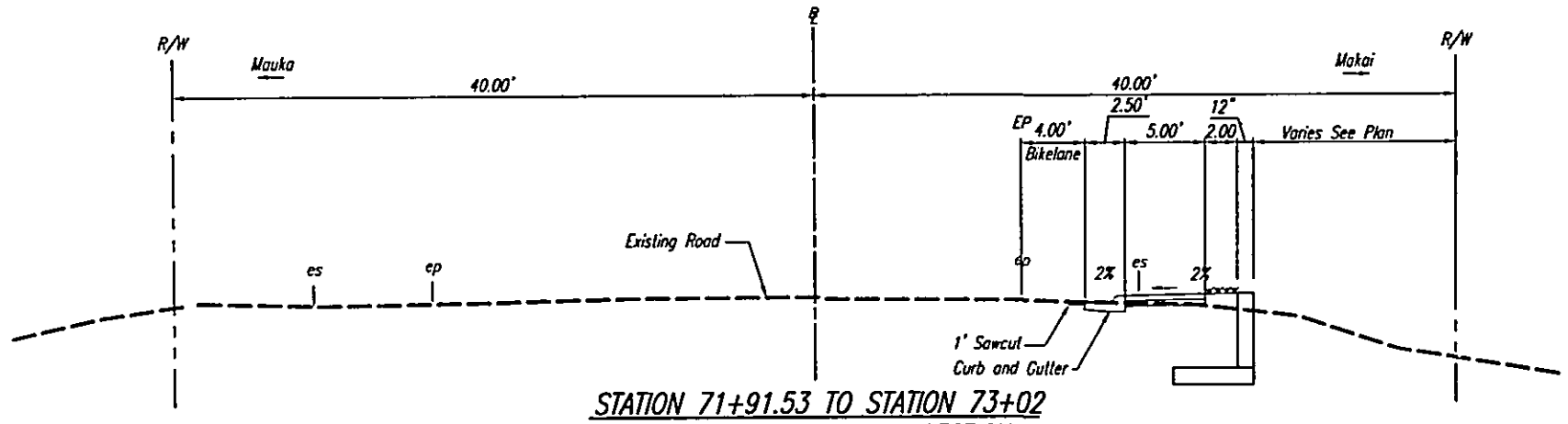
CONCEPTUAL PLAN
SCALE: 1"=100'

M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 2D GENERAL CONCEPTUAL PLAN 4 of 6
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007



STATION 73+02 TO STATION 81+50 & STATION 92+00 TO STATION 128+00
TYPICAL SECTION – NORMAL CROWN

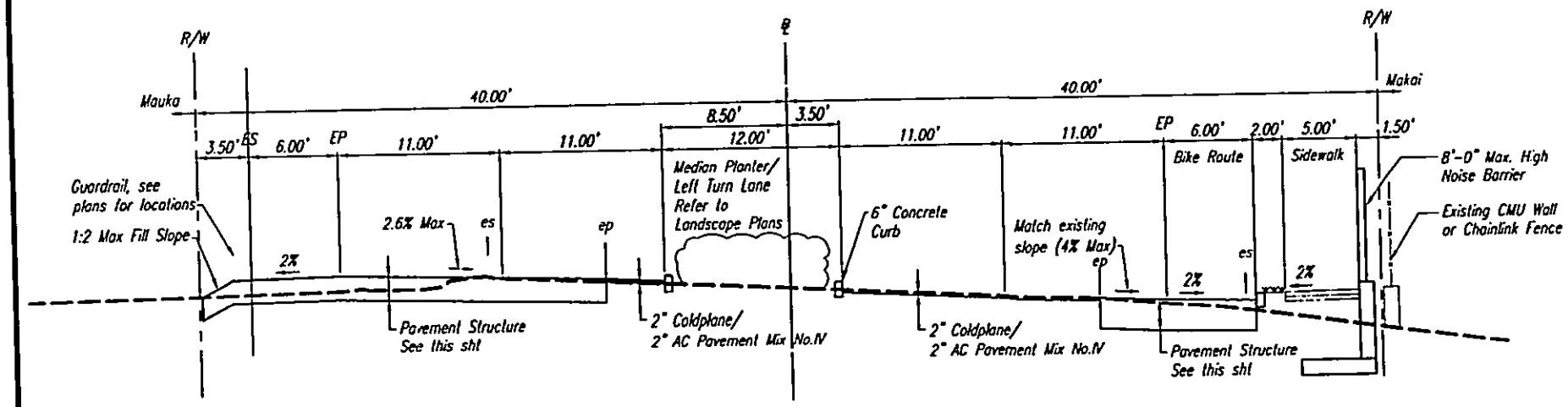
NOT TO SCALE



STATION 71+91.53 TO STATION 73+02
TYPICAL SECTION – SIDEWALK SECTION ONLY

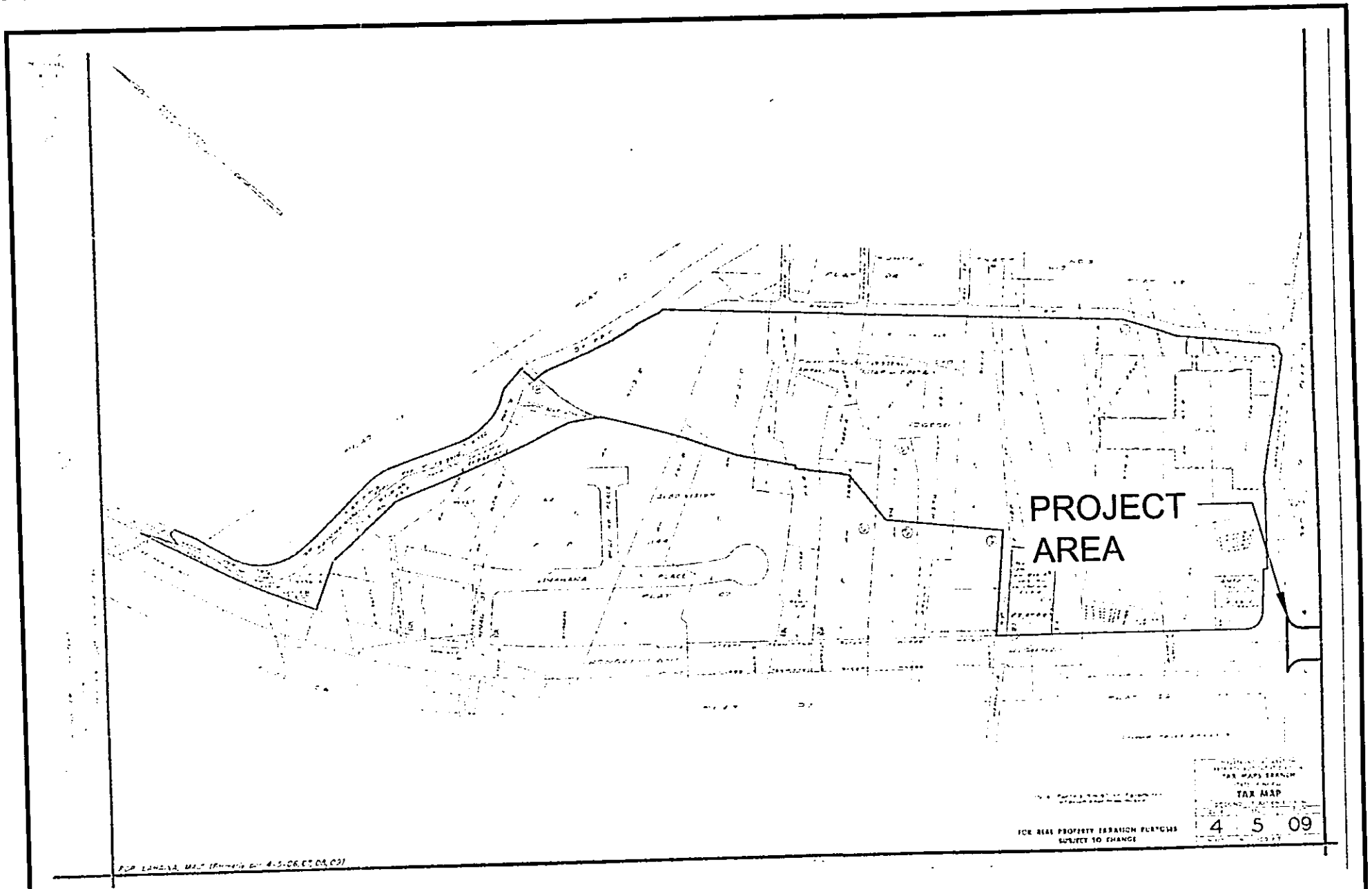
NOT TO SCALE

M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 • 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 2E GENERAL CONCEPTUAL PLAN 5 of 6
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

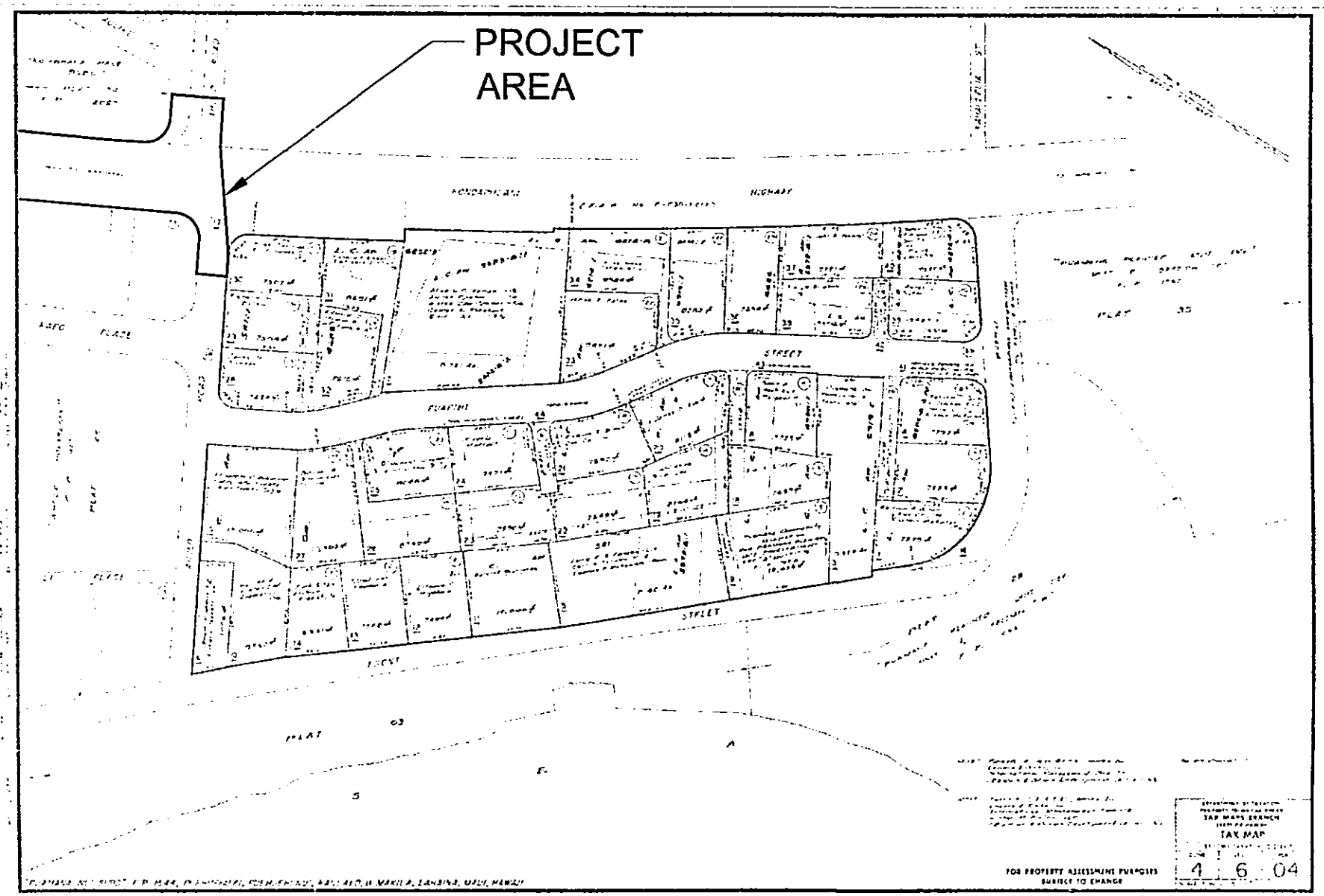


STATION 81+51 TO STATION 92+00
TYPICAL SECTION - SUPER
NOT TO SCALE

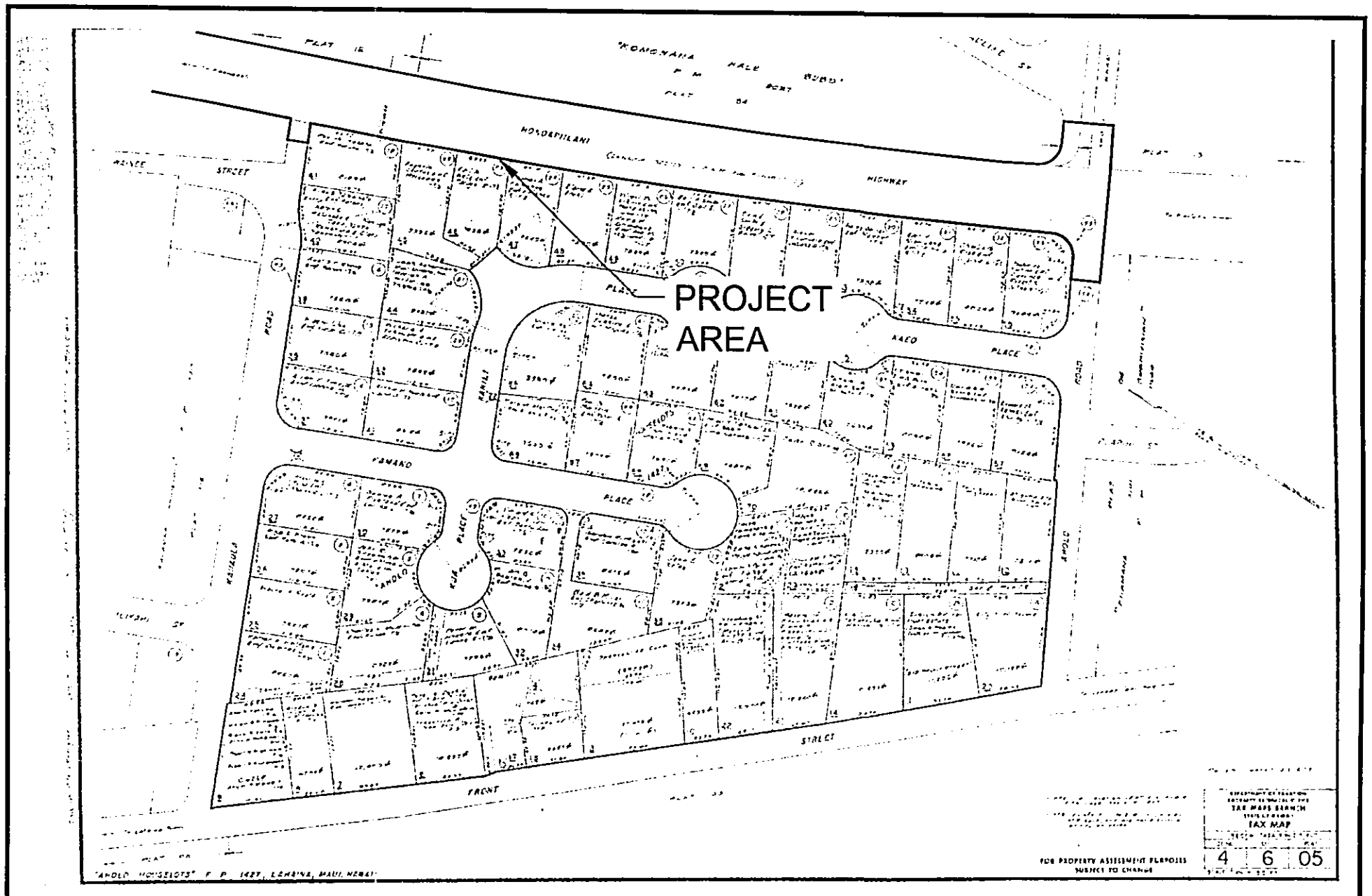
M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 2F GENERAL CONCEPTUAL PLAN 6 of 6
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007



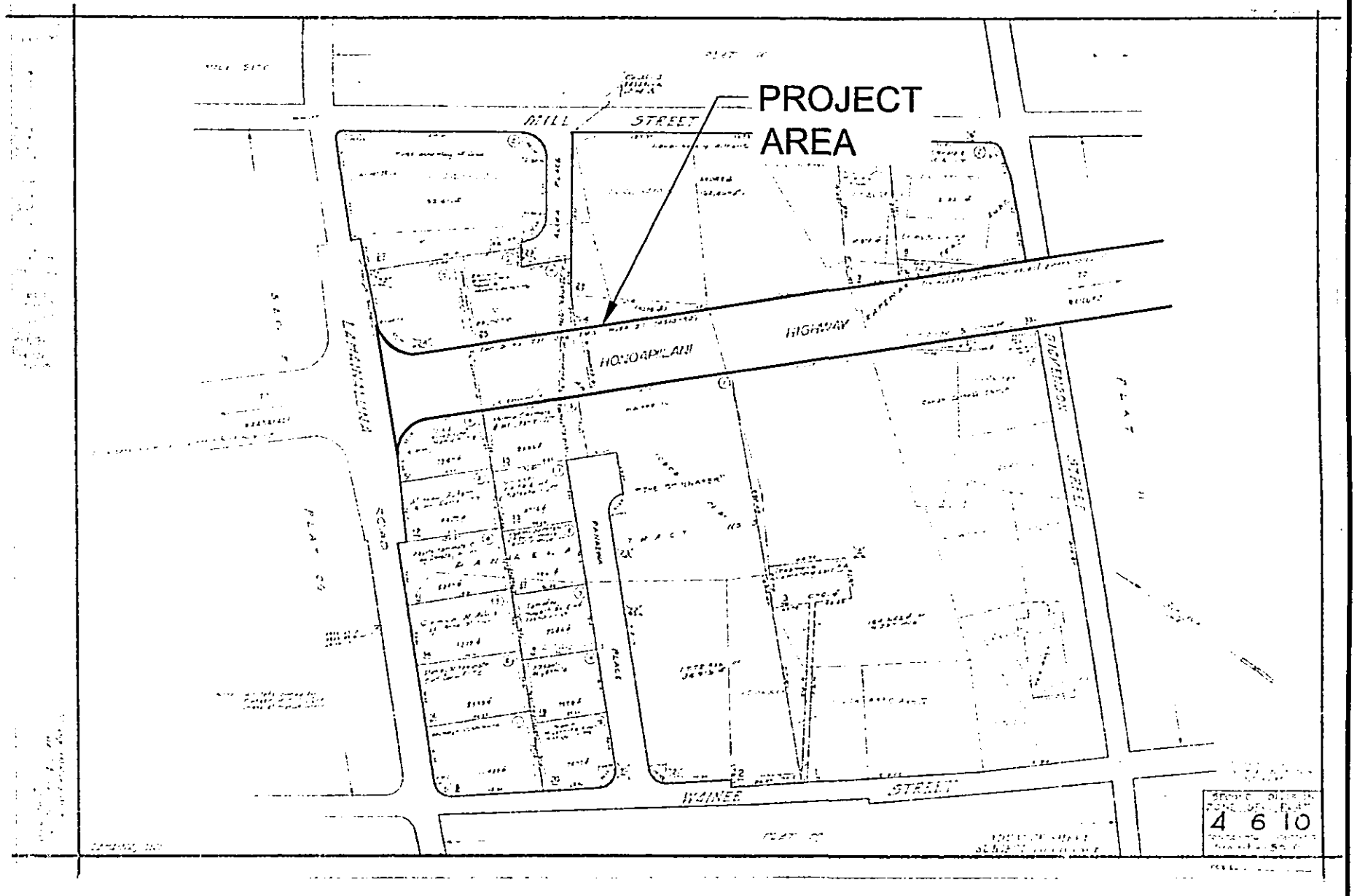
M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 3A TAX MAP KEY MAP 1 (4-5-09)
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007



M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 3B TAX MAP KEY MAP 2 (4-6-04)
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

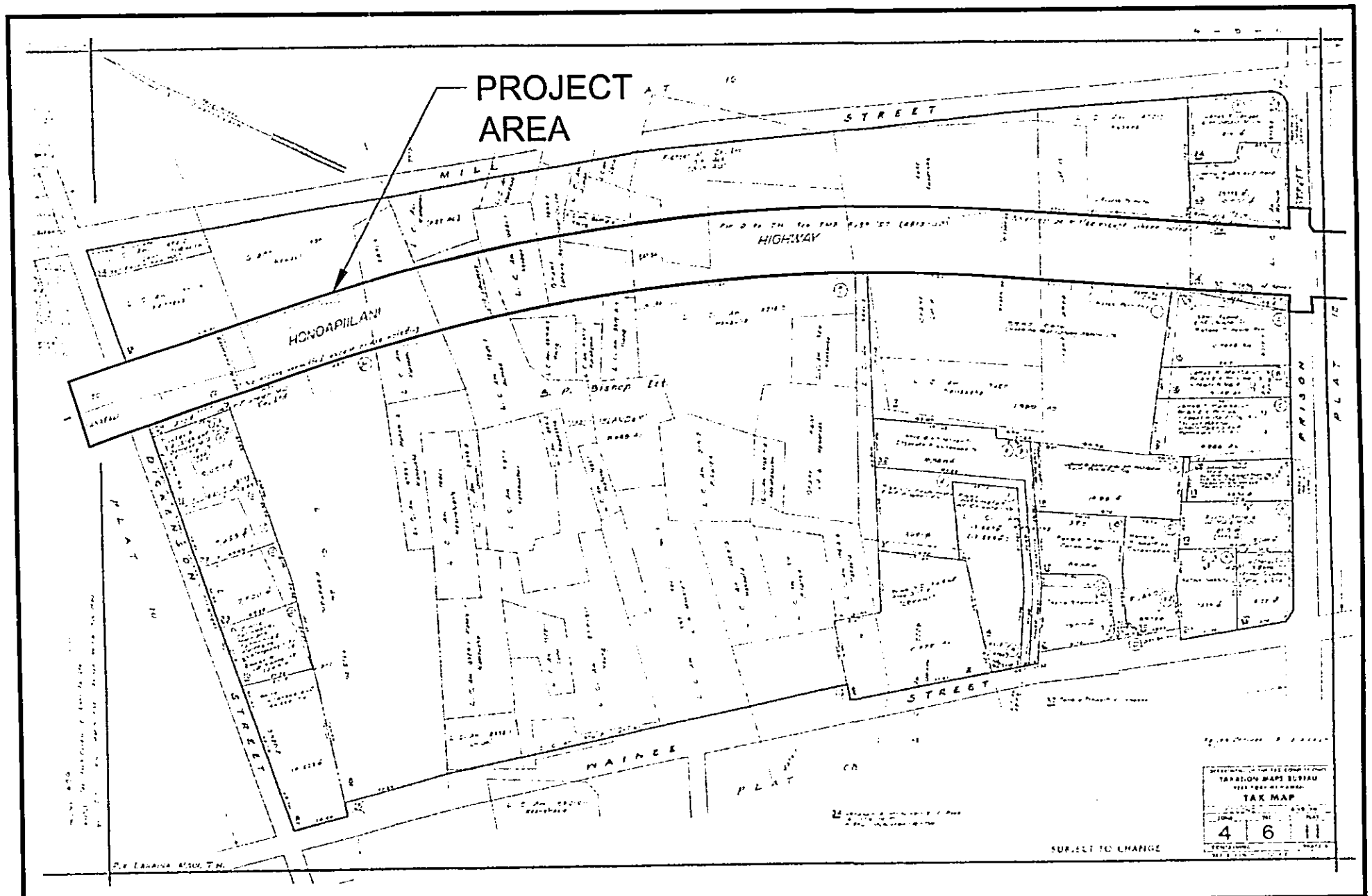


M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 3C TAX MAP KEY MAP 3 (4-6-05)
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007



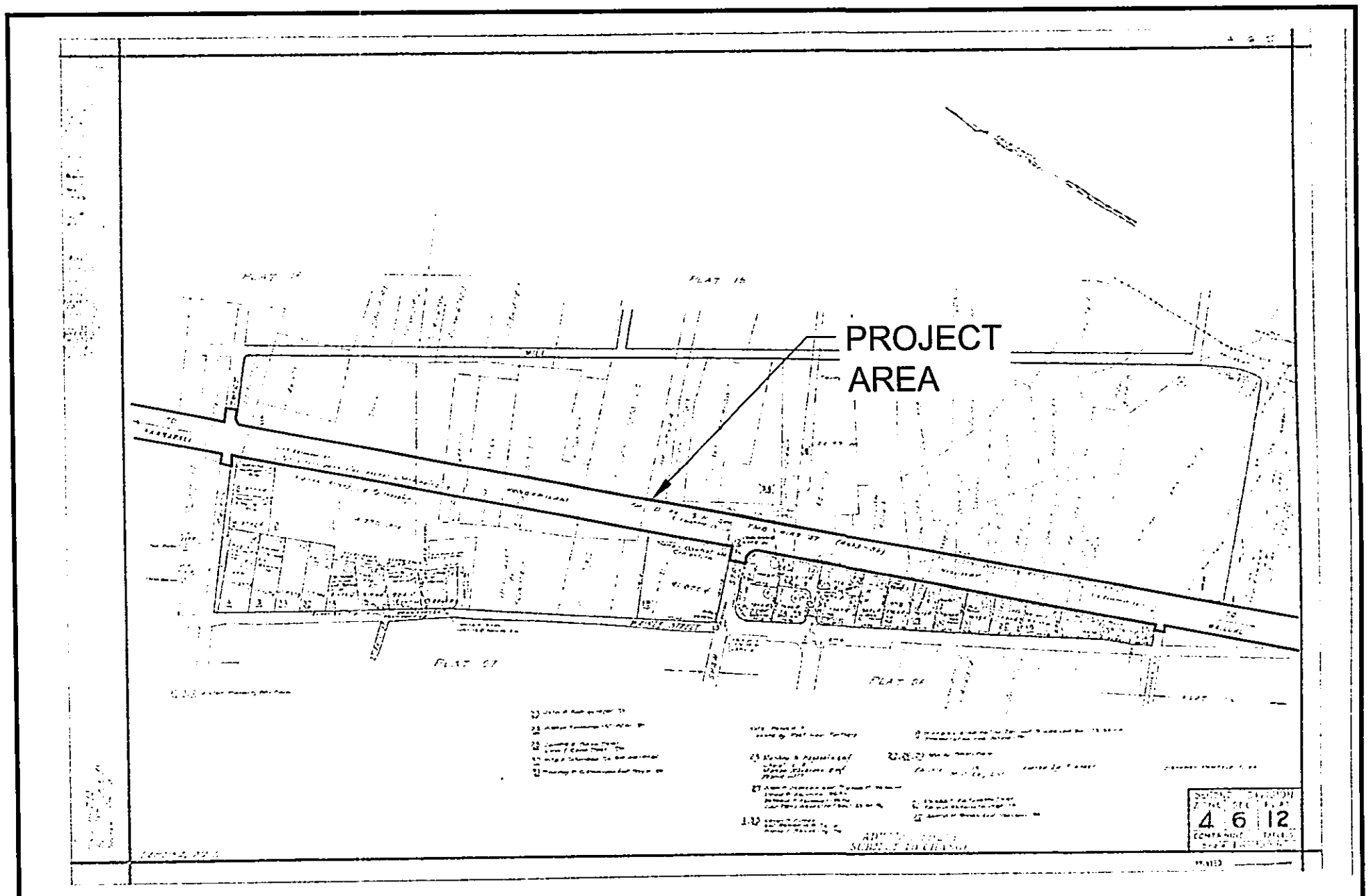
M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 3D TAX MAP KEY MAP 4 (4-6-10)
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

DOCUMENT CAPTURED AS RECEIVED



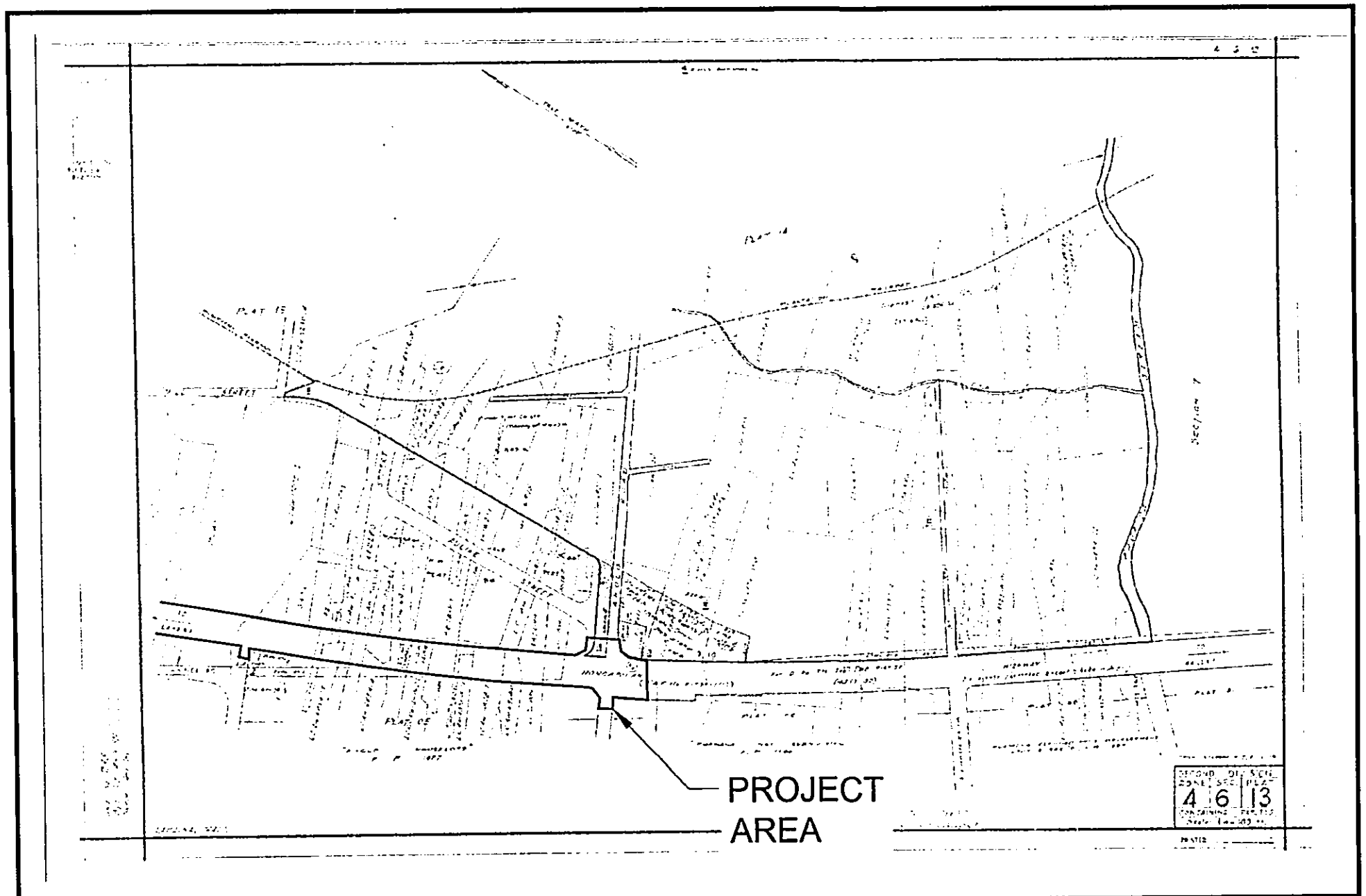
M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 3E TAX MAP KEY MAP 5 (4-6-11)
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

DOCUMENT CAPTURED AS RECEIVED



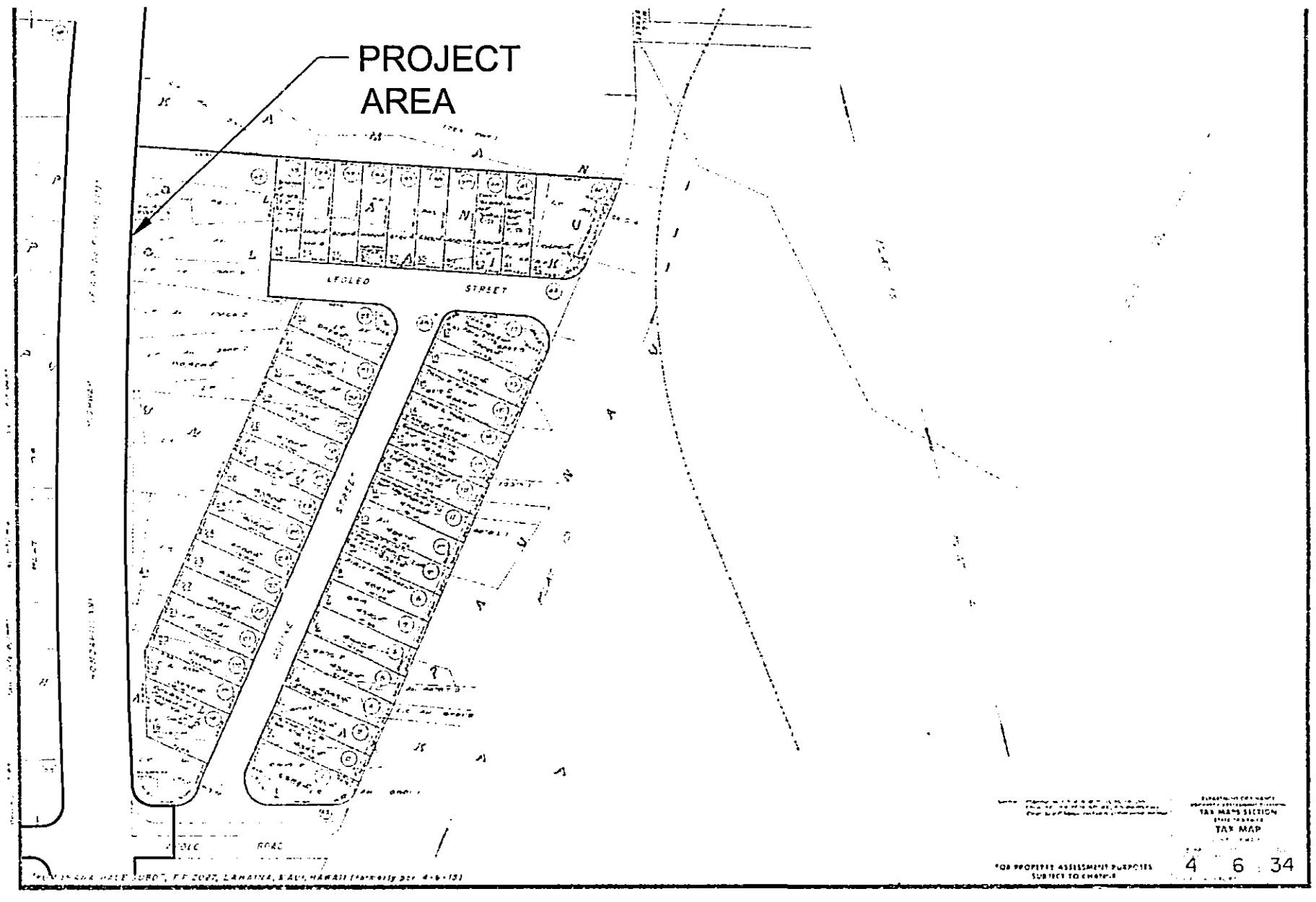
M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 • 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 3F TAX MAP KEY MAP 6 (4-6-12)
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

DOCUMENT CAPTURED AS RECEIVED



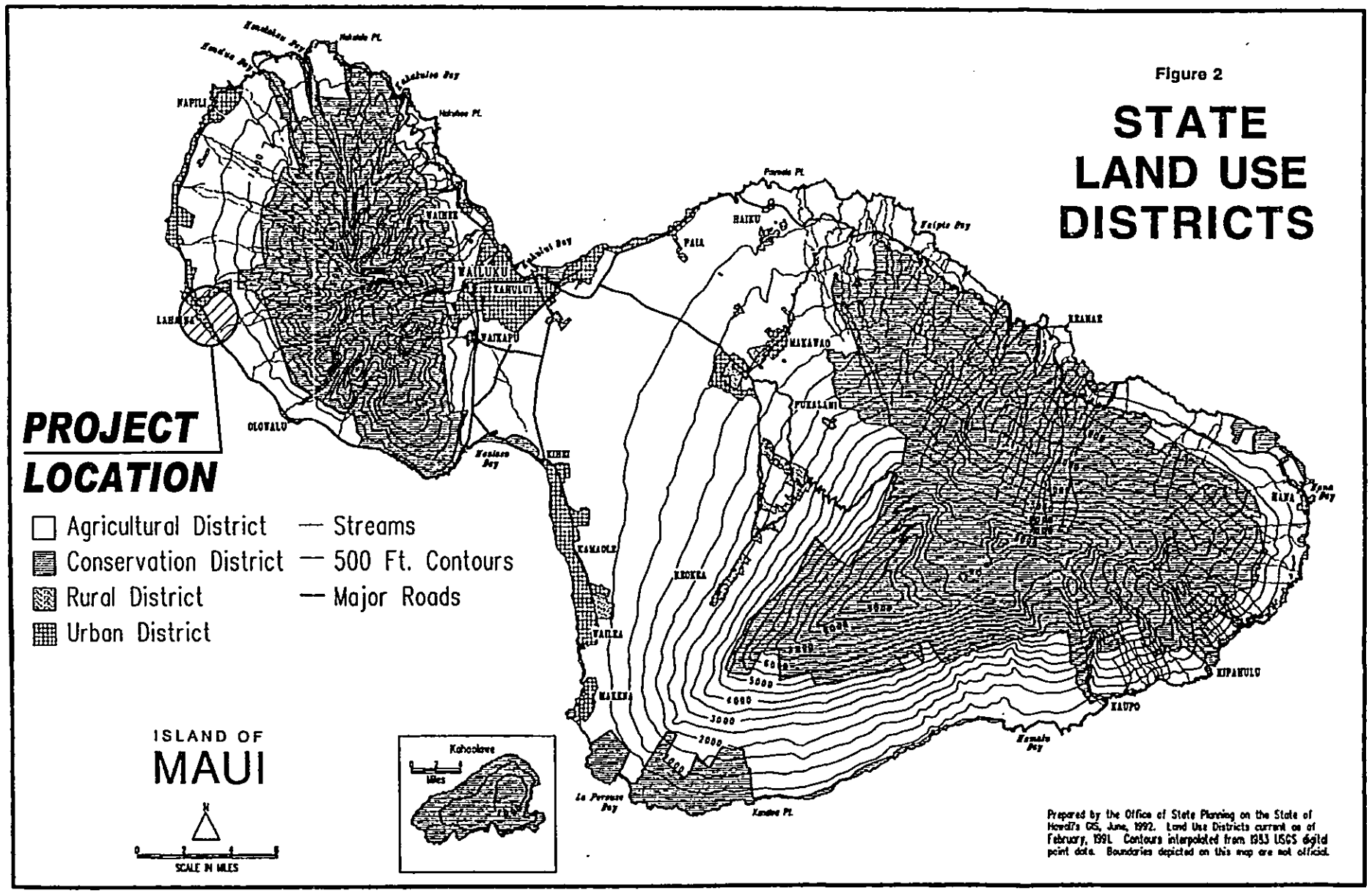
M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 3G TAX MAP KEY MAP 7 (4-6-13)
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

DOCUMENT CAPTURED AS RECEIVED



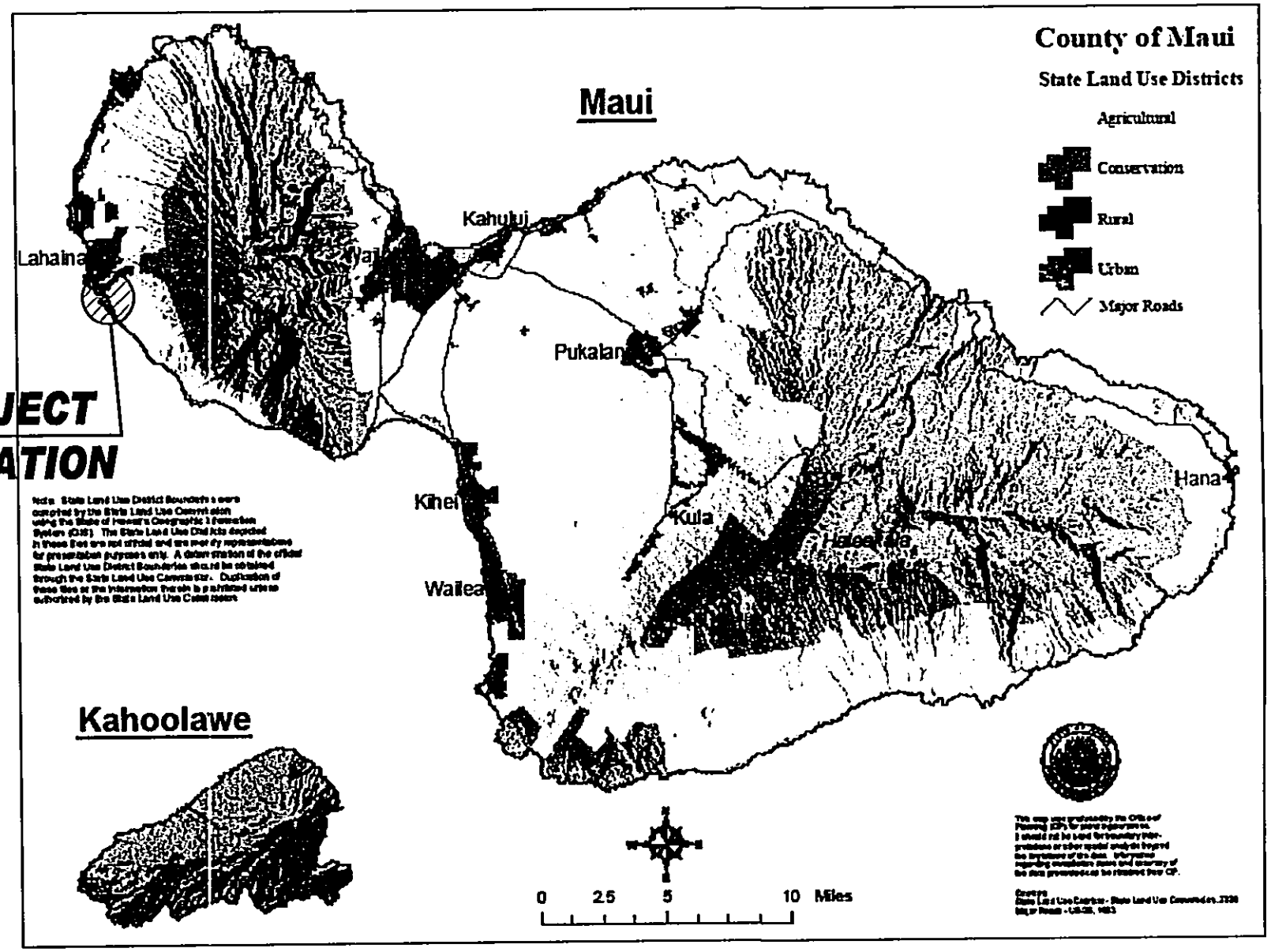
M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 3H TAX MAP KEY MAP 8 (4-6-34)
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

DOCUMENT CAPTURED AS RECEIVED



M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 4A STATE LAND USE DESIGNATION MAP 1
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

DOCUMENT CAPTURED AS RECEIVED



M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1000 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 4B STATE LAND USE DESIGNATION MAP 2
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT February 2007

DOCUMENT CAPTURED AS RECEIVED

LAND ZONING LEGEND

1. RESIDENTIAL DISTRICTS
   - A. CLASS R-1 6,000 SQ. FT.
   - B. CLASS R-2 7,500 SQ. FT.
   - C. CLASS R-3 10,000 SQ. FT.
2. APARTMENT DISTRICTS
   - A. CLASS A-2 TWO FAMILY ZONE (DUPLEX ZONE)
   - B. CLASS A-3 APARTMENT HOUSE
3. HOTEL DISTRICT
4. BUSINESS DISTRICTS
   - A. B-1 DISTRICT (NEIGHBORHOOD BUSINESS ZONE)
   - B. B-2 DISTRICT (REGIONAL BUSINESS ZONE)
   - C. B-3 DISTRICT (GENERAL BUSINESS ZONE)
5. INDUSTRIAL DISTRICTS
   - A. M-1 LIGHT INDUSTRIAL ZONE
   - B. M-2 HEAVY INDUSTRIAL ZONE
   - C. SPECIAL USE INDUSTRIAL ZONE
6. AIRPORT DISTRICT
7. AGRICULTURAL DISTRICT
9. FARMING DISTRICT
9. OFF-STREET PARKING & LOADING
10. CIVIC IMPROVEMENT DISTRICT

M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 5A ZONING MAP 1
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

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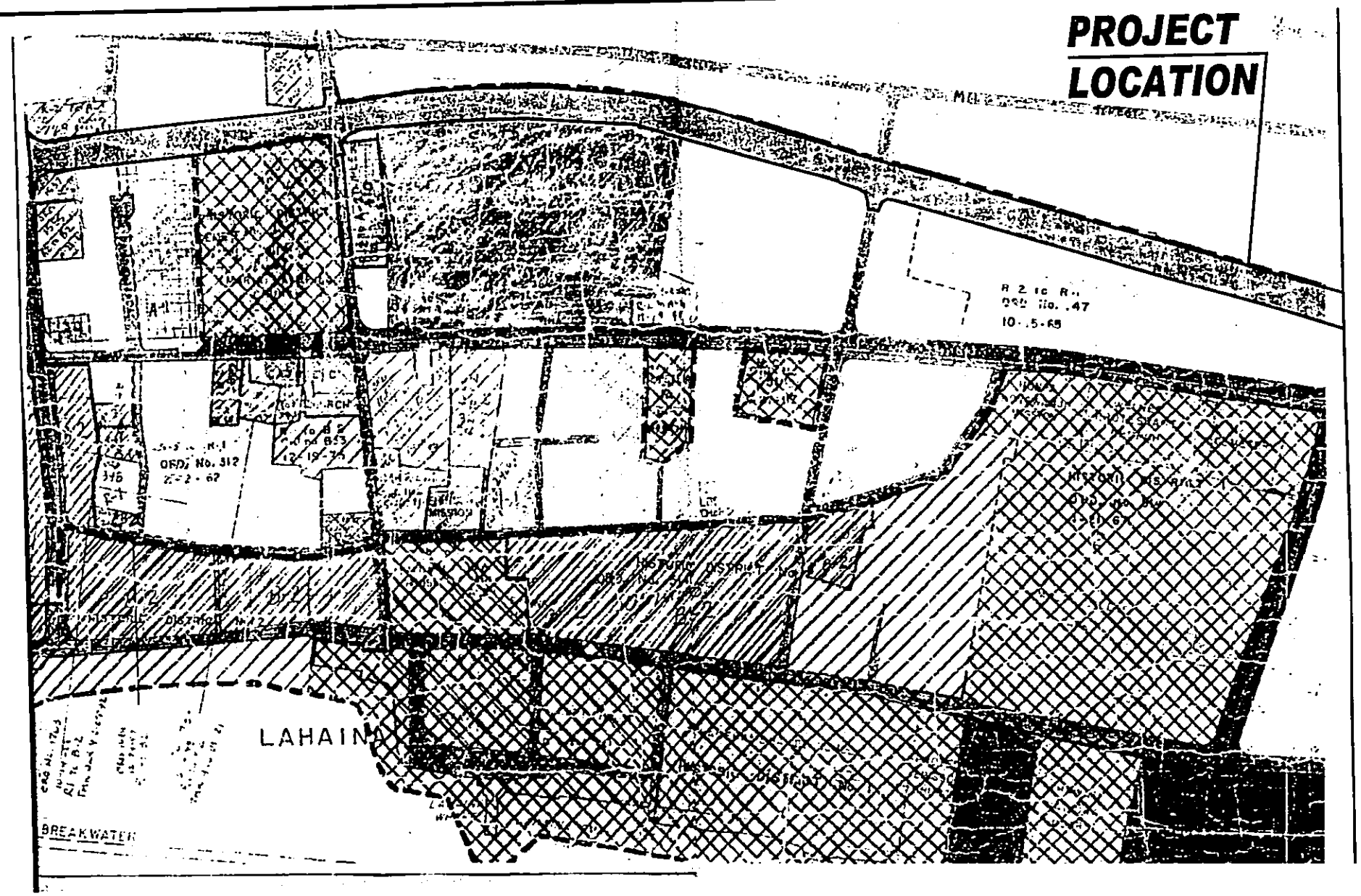

M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 • 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 5B ZONING MAP 2
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

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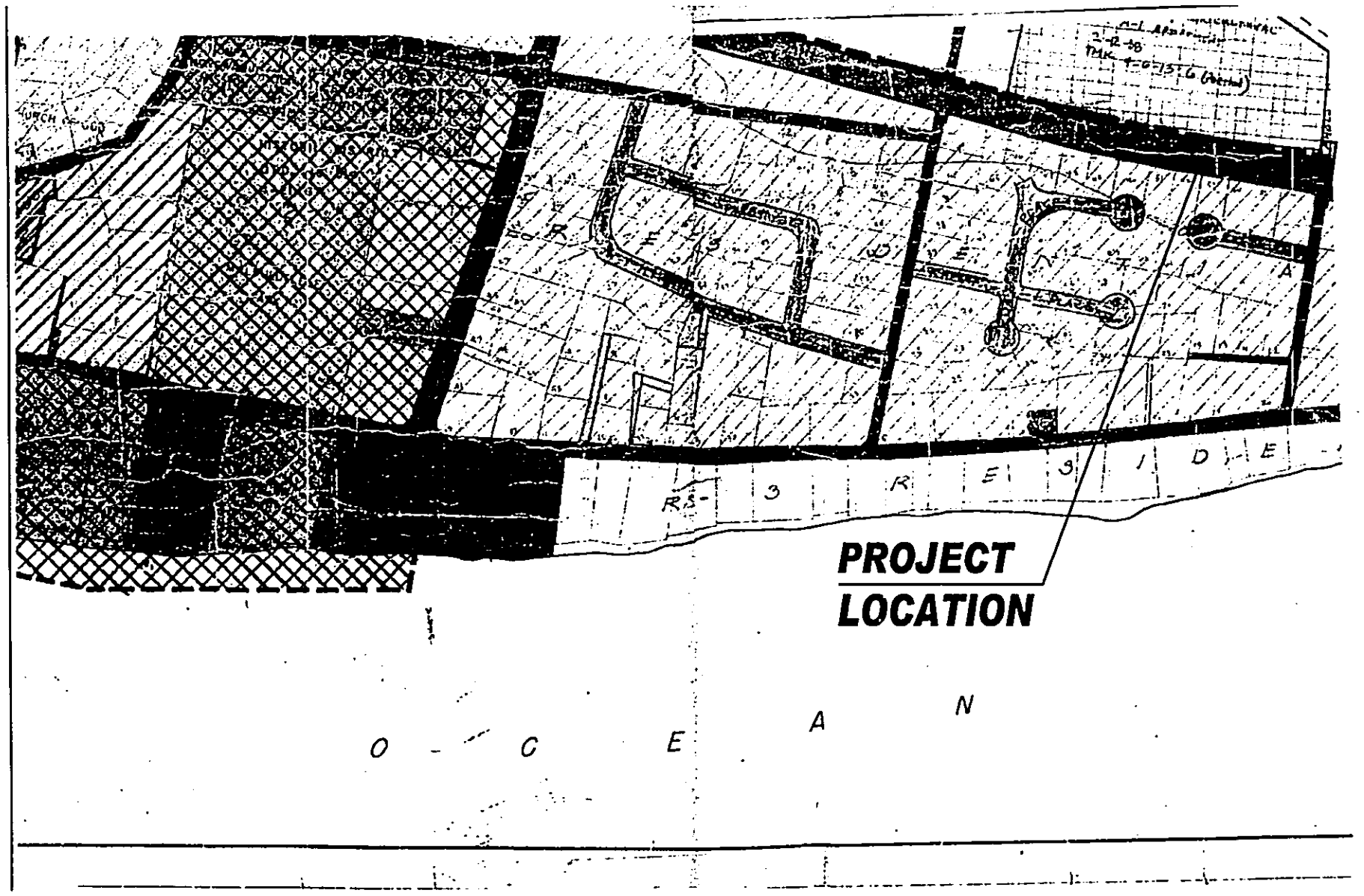
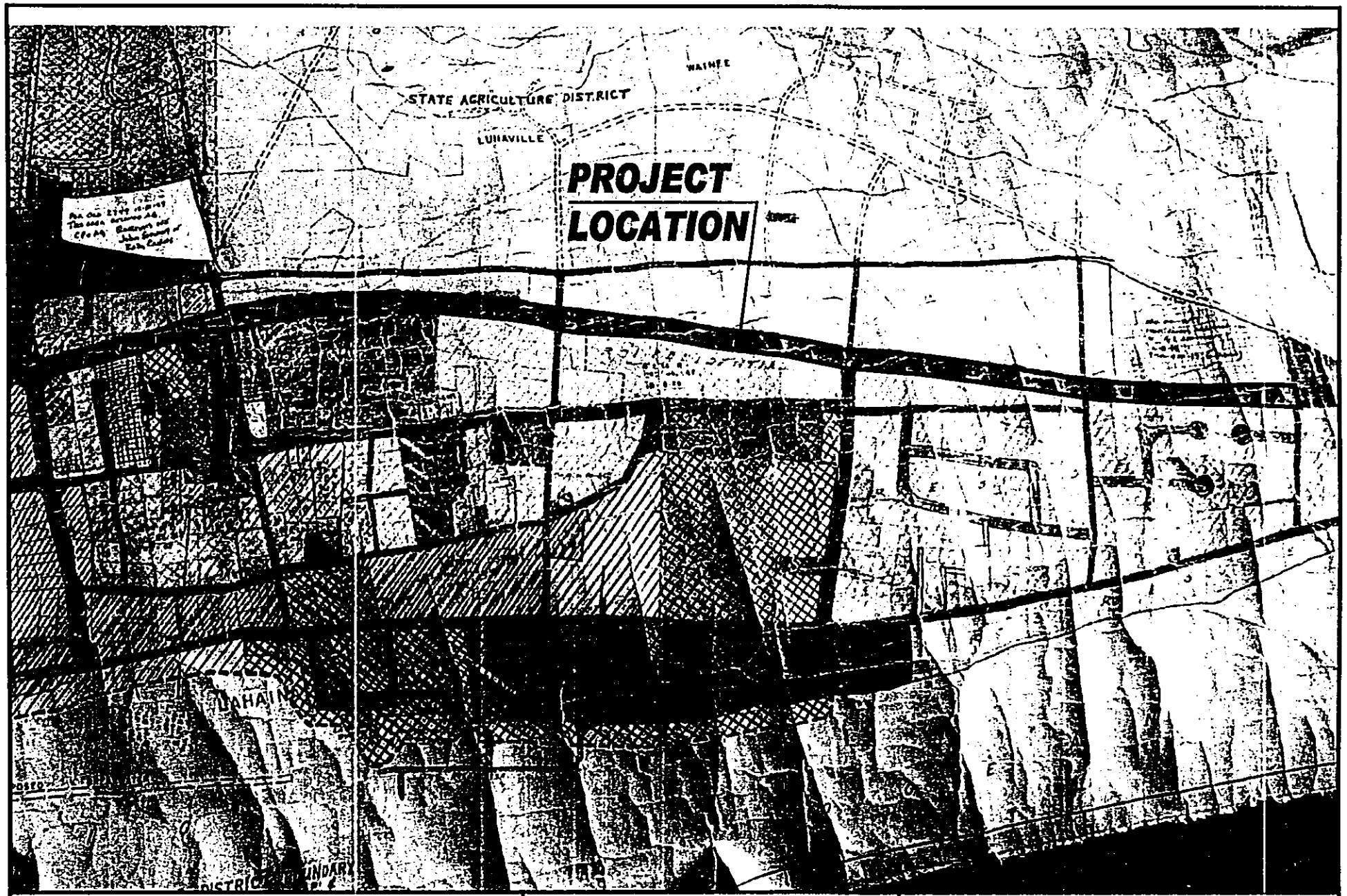


M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 5C ZONING MAP 3
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007



M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 5D ZONING MAP 4
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

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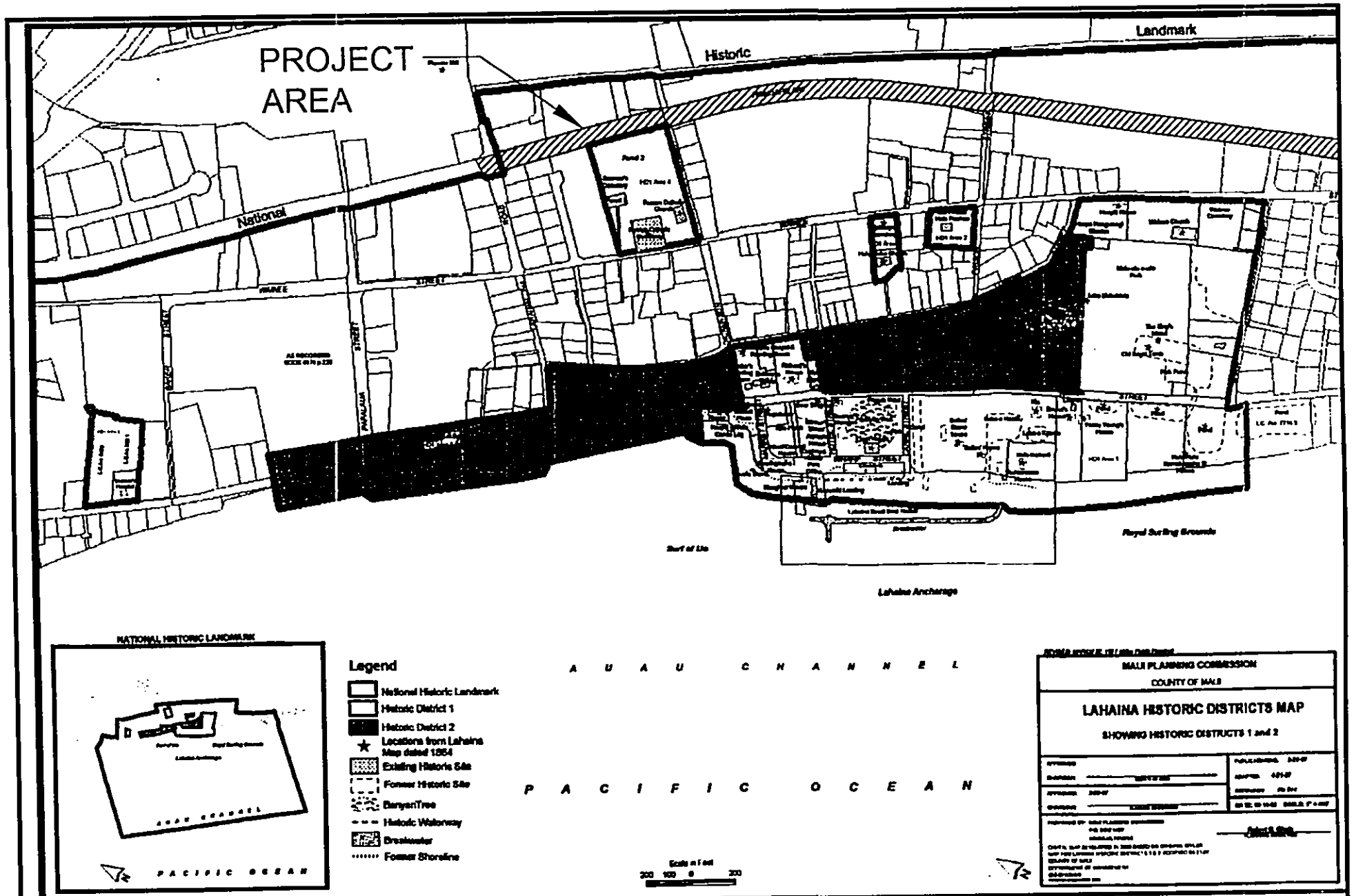

M&E Pacific, Inc. METCALF&EDDY AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	FIGURE 6 LAHAINA HISTORIC DISTRICTS MAP ENVIRONMENTAL ASSESSMENT Februay 2007

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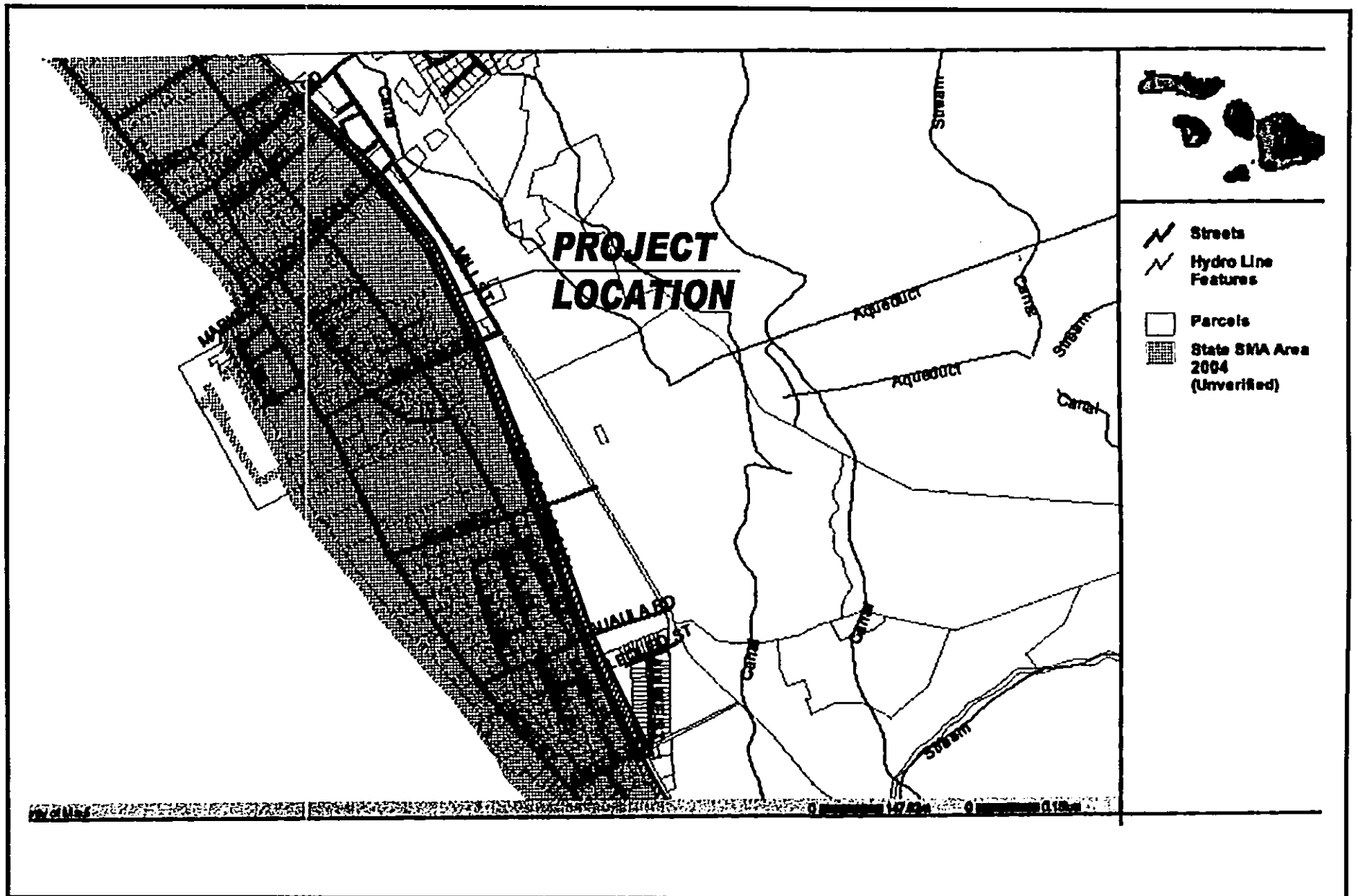

M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 • 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 7 SPECIAL MANAGEMENT AREA MAP
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

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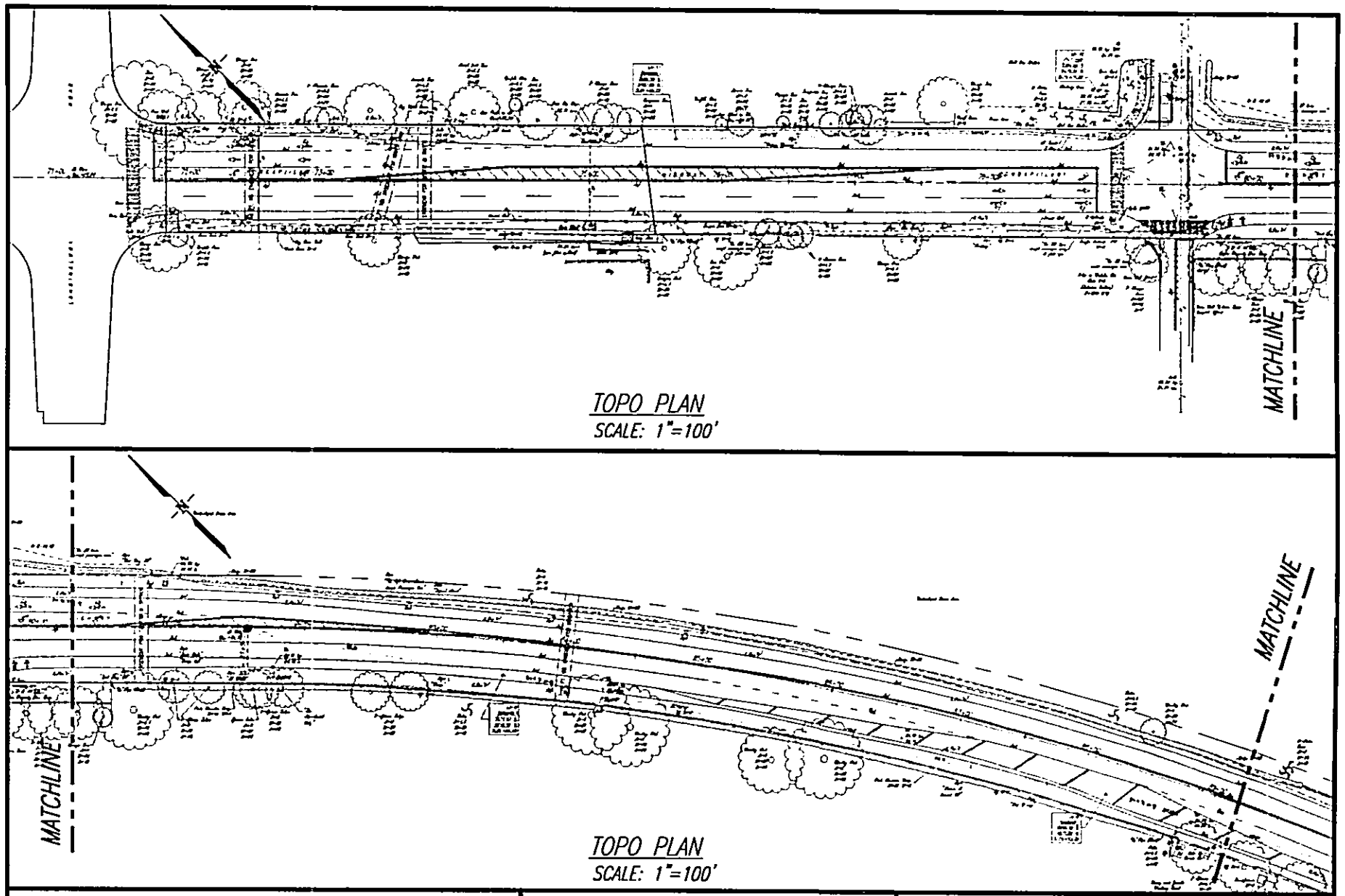

M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 8A TOPO PLAN 1 of 4
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

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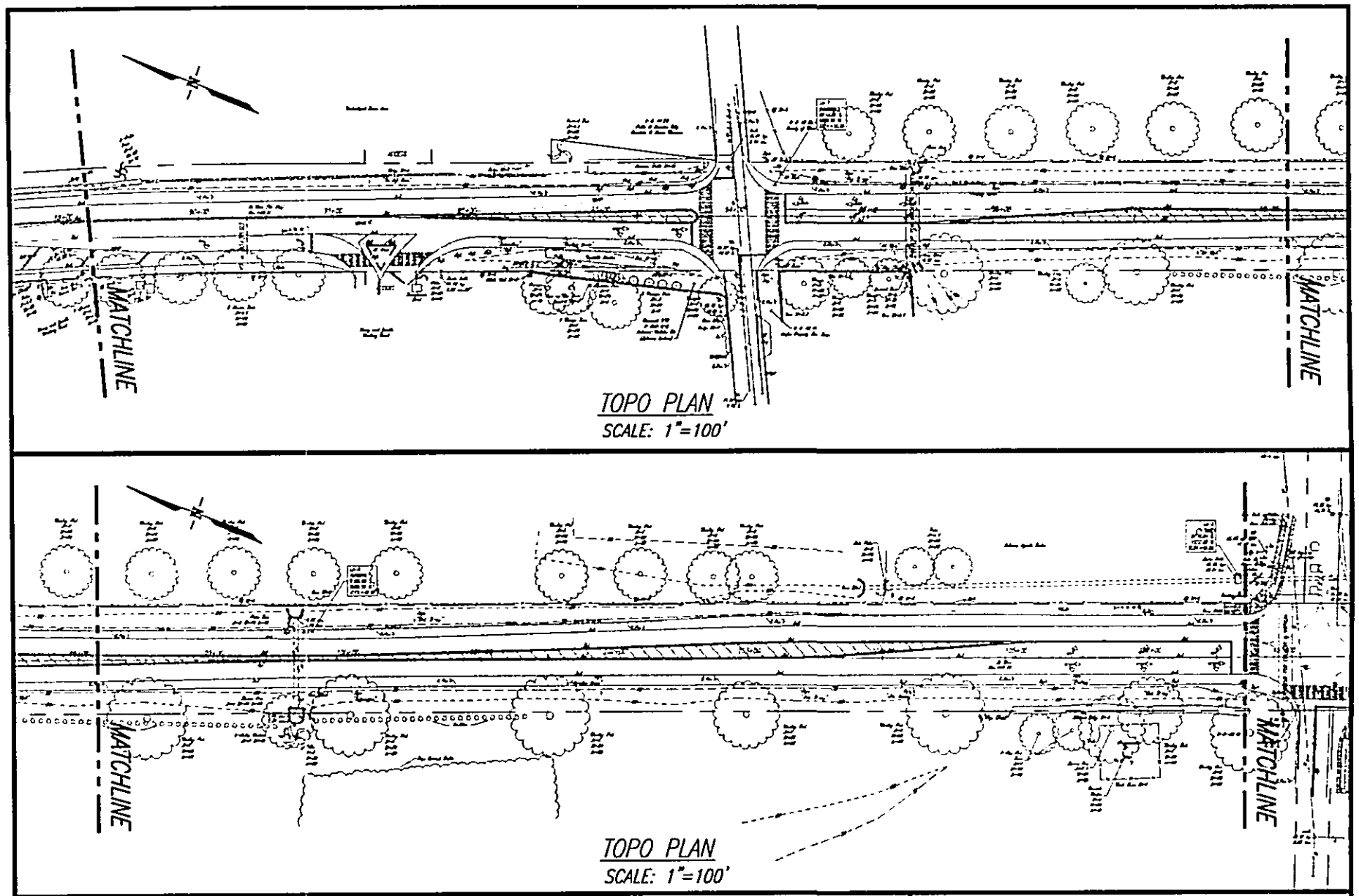

M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 8B TOPO PLAN 2 of 4
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

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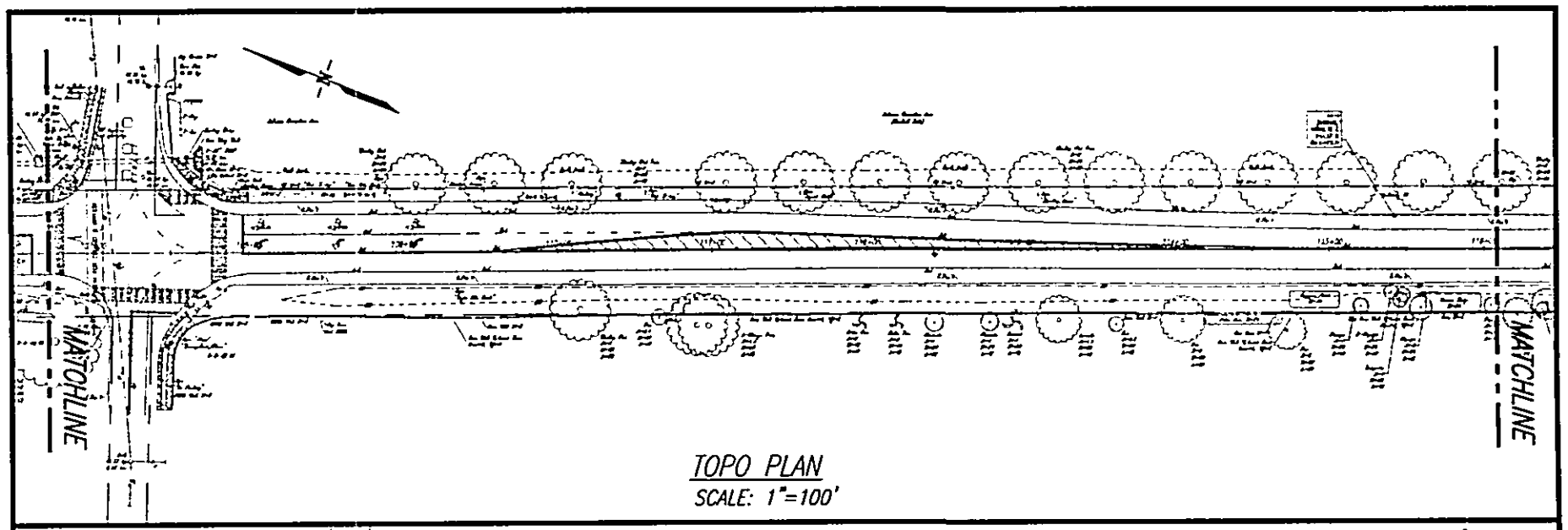
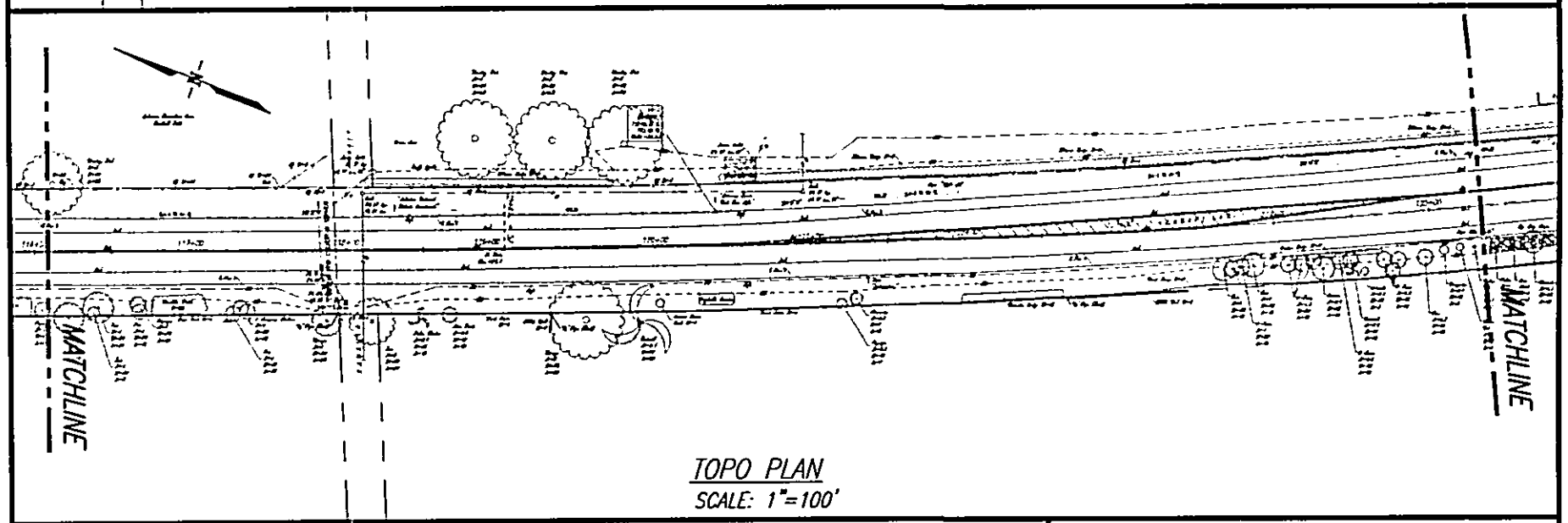


TOPO PLAN
SCALE: 1"=100'



TOPO PLAN
SCALE: 1"=100'

M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 - 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 8C TOPO PLAN 3 of 4
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

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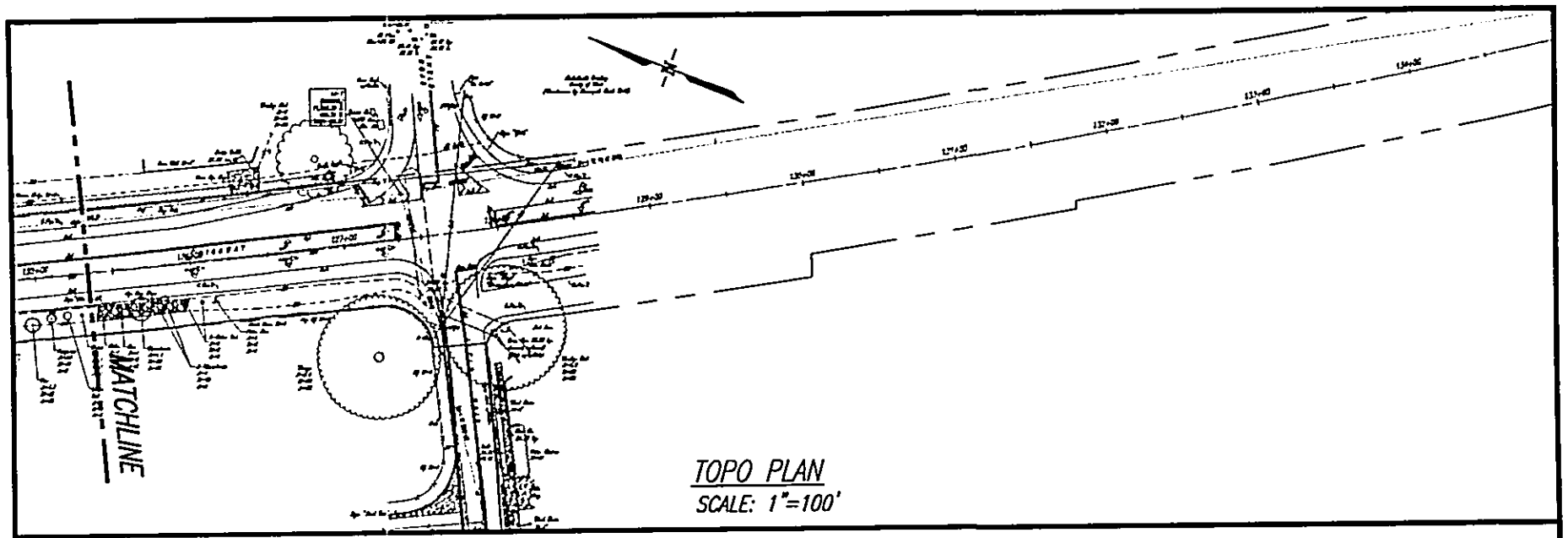

M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 8D TOPO PLAN 4 of 4
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

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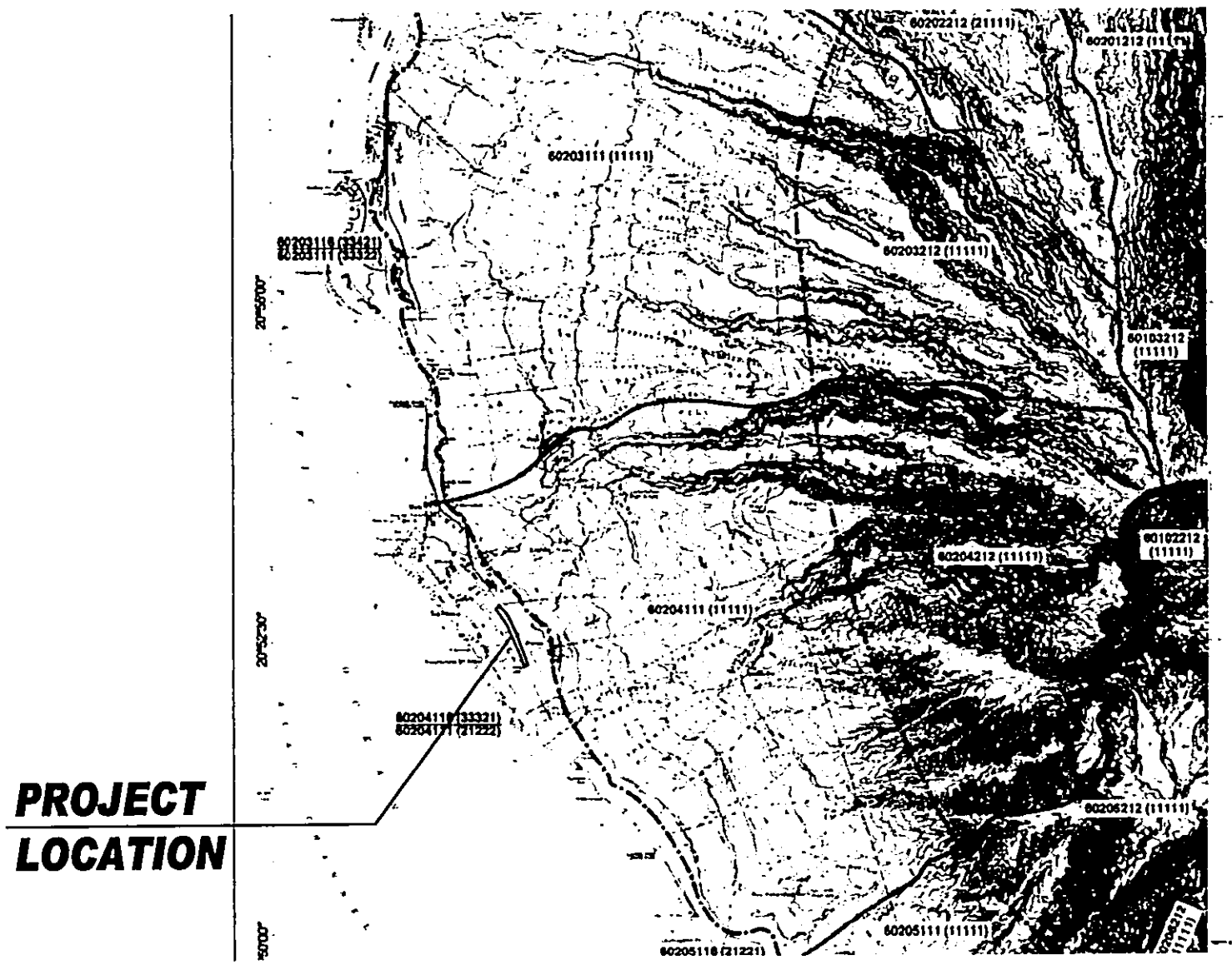

Source: Mink, John F. and Lau, L. Stephen, Aquifer Identification for Oahu: Groundwater Protection Strategy for Maui, 1990.

M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 • 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 9 AQUIFER CLASSIFICATION MAP
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

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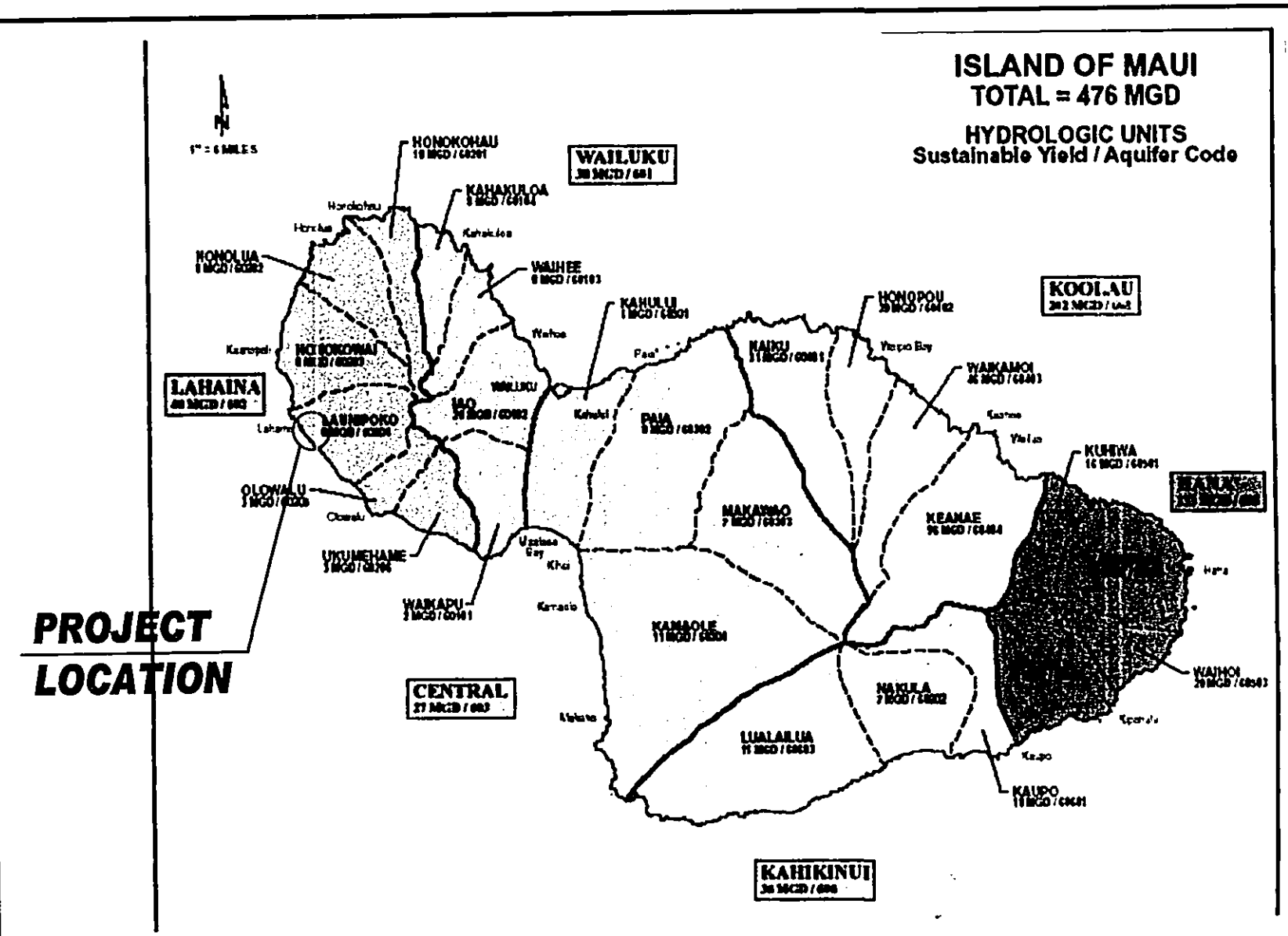

Map courtesy of Water Resource Management Division, Department of Land and Natural Resources, State of Hawaii

M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 10 HYDROLOGIC UNIT MAP
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

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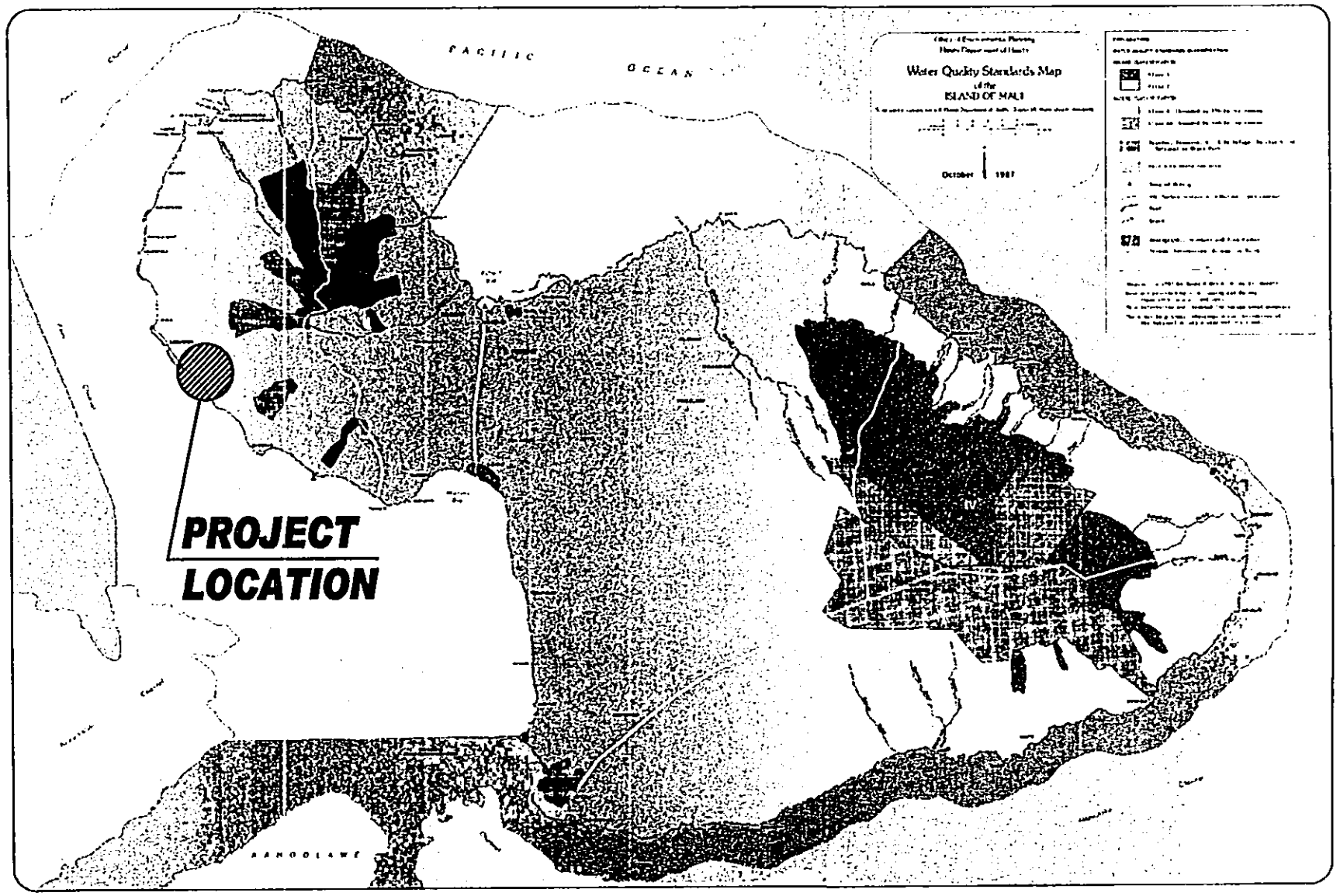
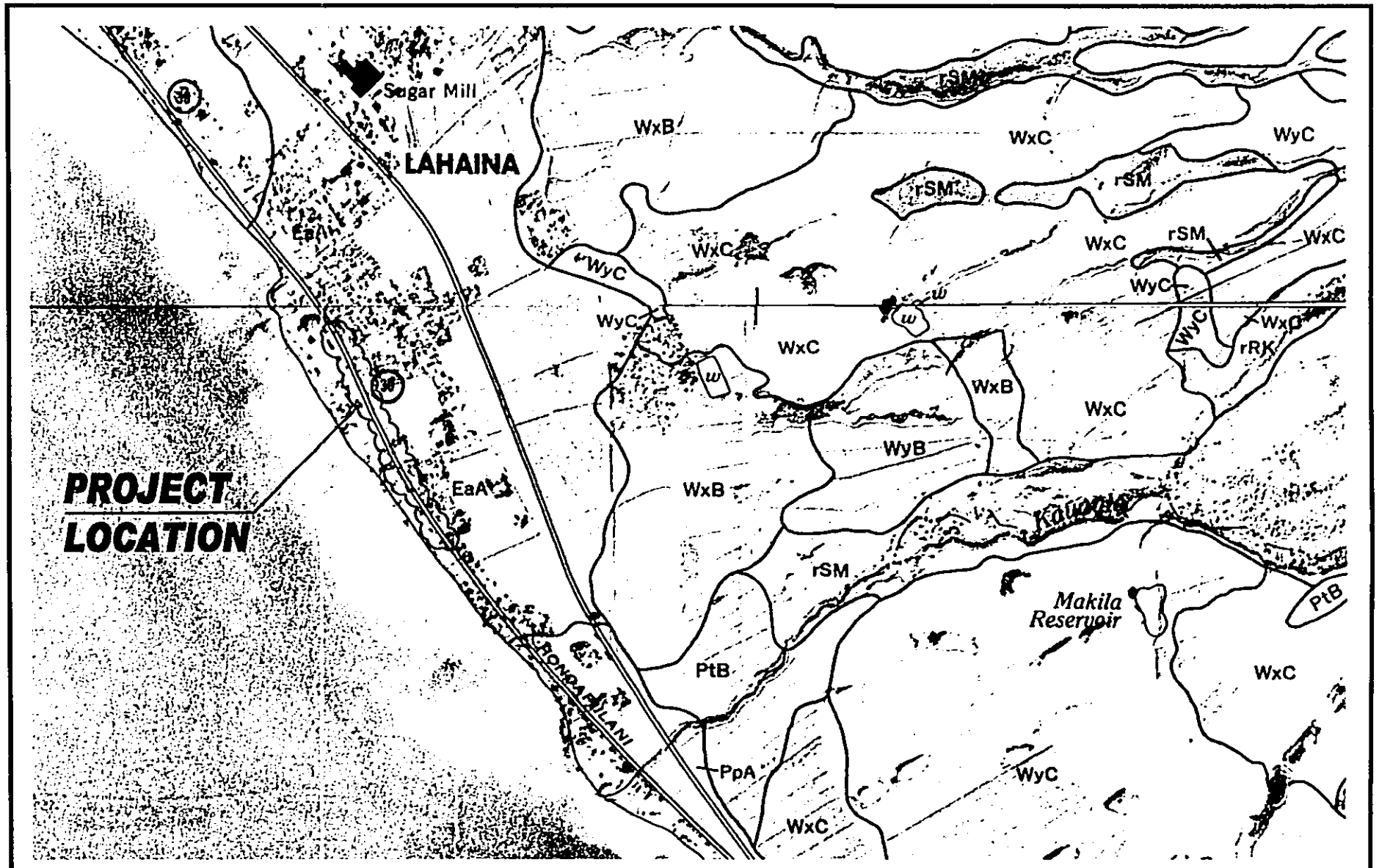


Map courtesy of State of Hawaii, Department of Health, Water Quality Standards Map of the Island of Maui, 1987.

M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 11 WATER QUALITY MAP
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

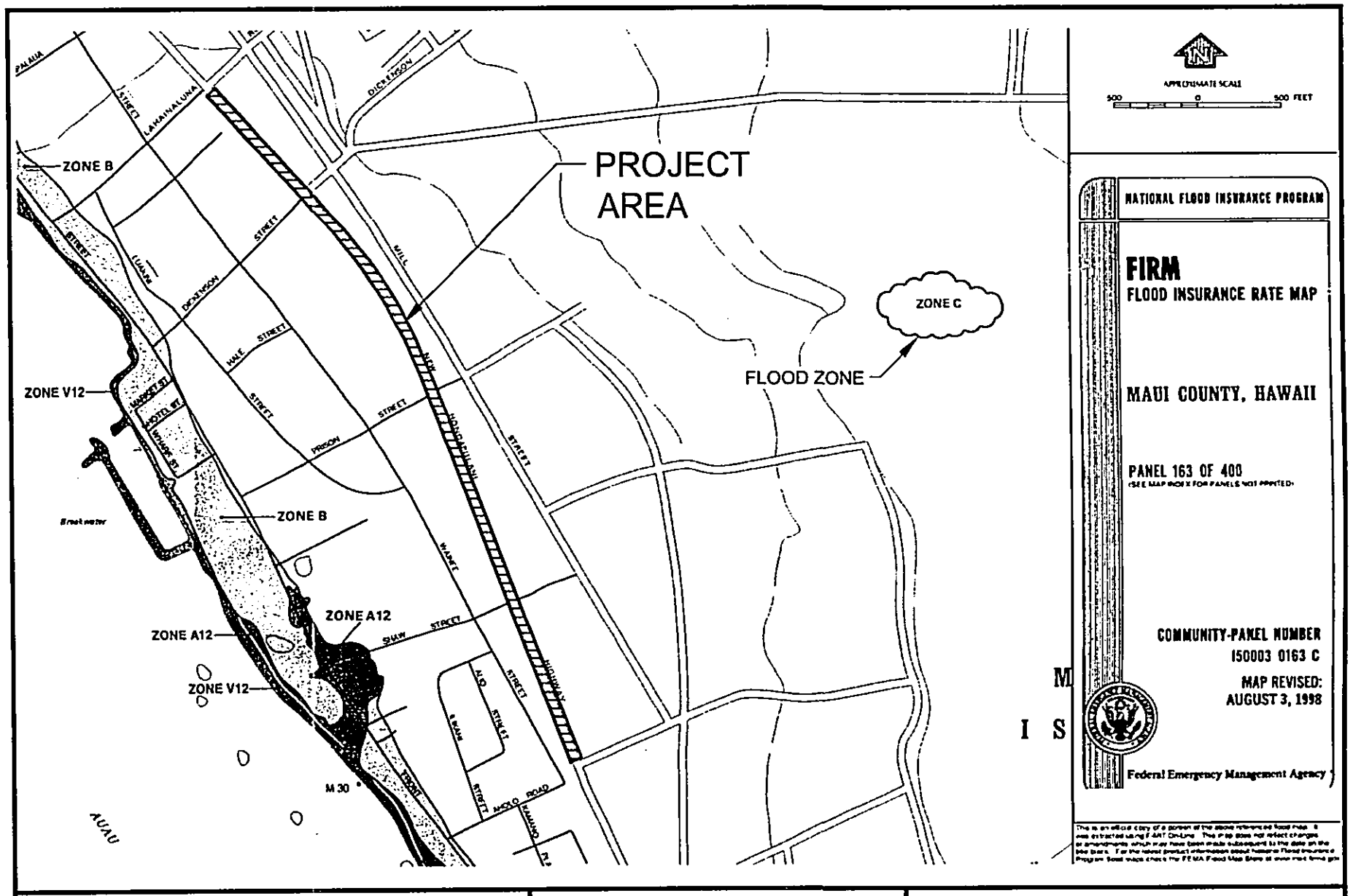
DOCUMENT CAPTURED AS RECEIVED



Soils map courtesy of USDA, Soil Conservation Service

M&E Pacific, Inc. METCALF & EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 • 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 12 SOIL DESIGNATION MAP
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

DOCUMENT CAPTURED AS RECEIVED

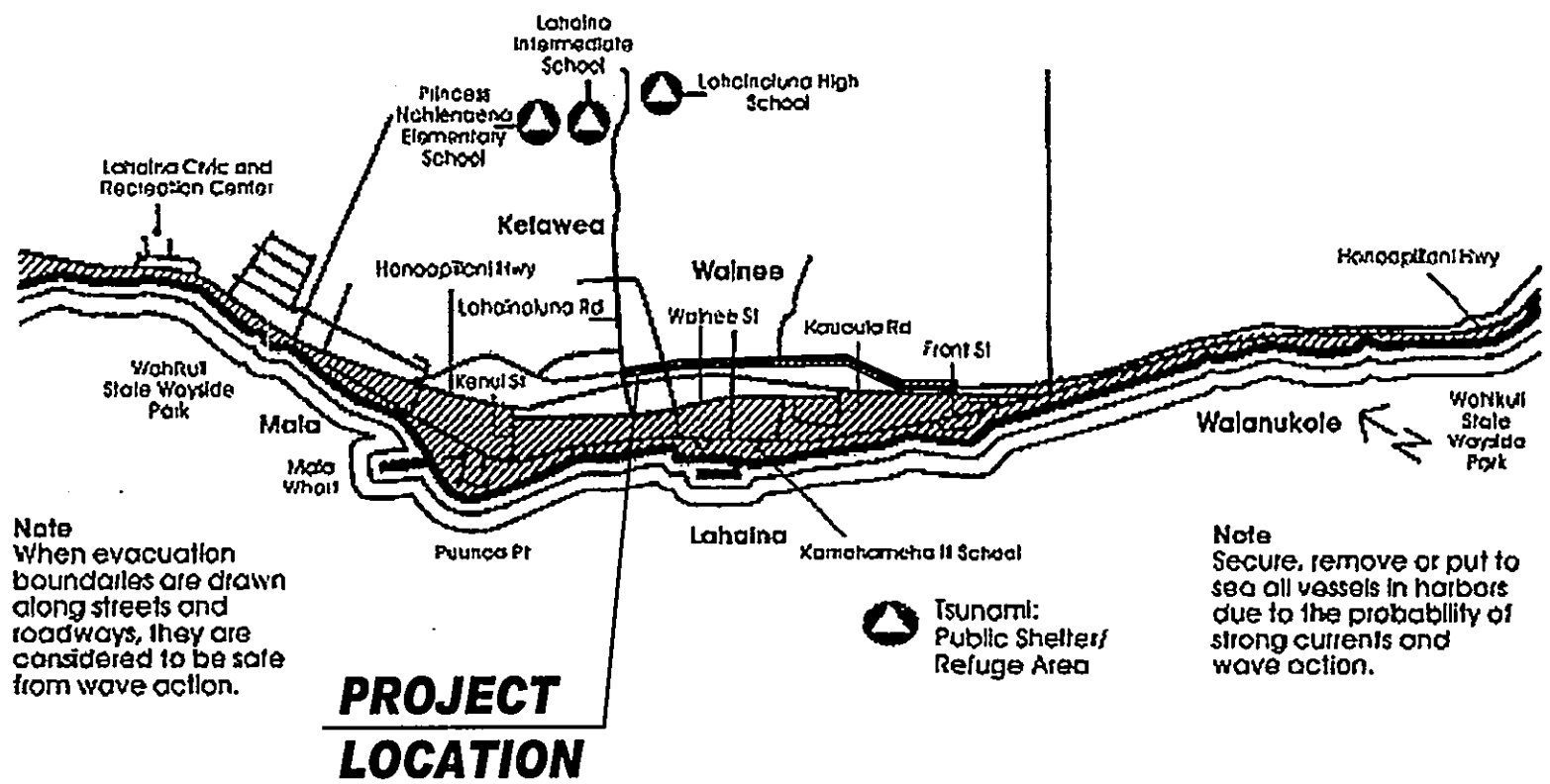


M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 13 FEMA FIRM MAP
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

DOCUMENT CAPTURED AS RECEIVED

Evacuate all shaded areas

Tsunami Evacuation Maui Map 5: Launiupoko Pt. to Wahikuli State Wayside Park

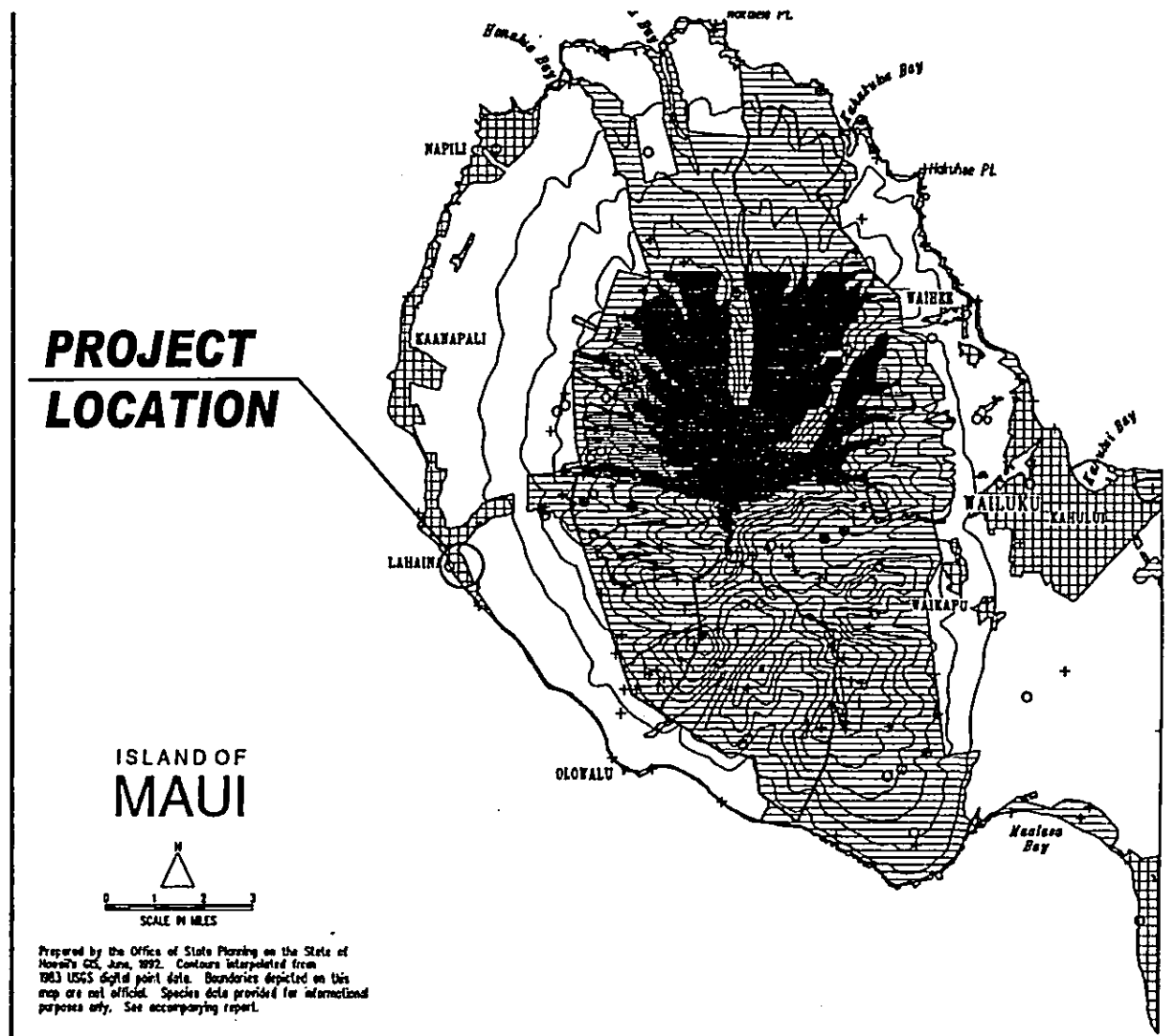


M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 • 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 14 TSUNAMI EVACUATION MAUI MAP 5
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

DOCUMENT CAPTURED AS RECEIVED

Figure 21

NATIVE ECOSYSTEM AND RARE SPECIE

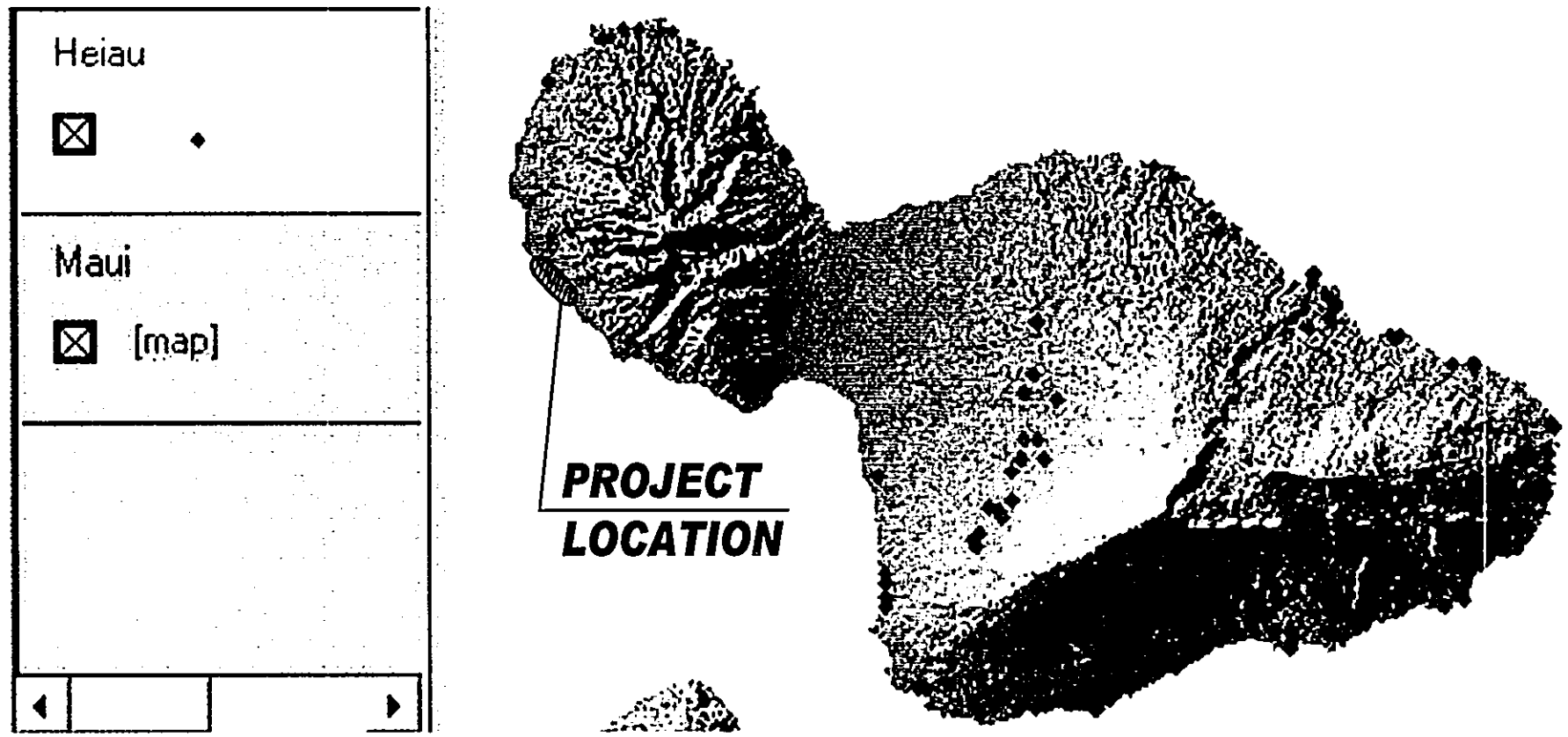


A C R
Native Vegetation
Native/Exotic Mix
Exotic Vegetation
Bare
Out of Study Area
500 Ft. Contours
Bird Habitat Ranges
Managed Areas
o Rare and Endangered sp (pre-1960) Hawaii Herita Program
+ Rare and Endangered sp (post-1960) Hawaii Herit Program

Map courtesy of State of Hawaii, Department of Health, Water Quality Standards Map of the Island of Maui, 1987.

M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 15 ENDANGERED SPECIES MAP
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

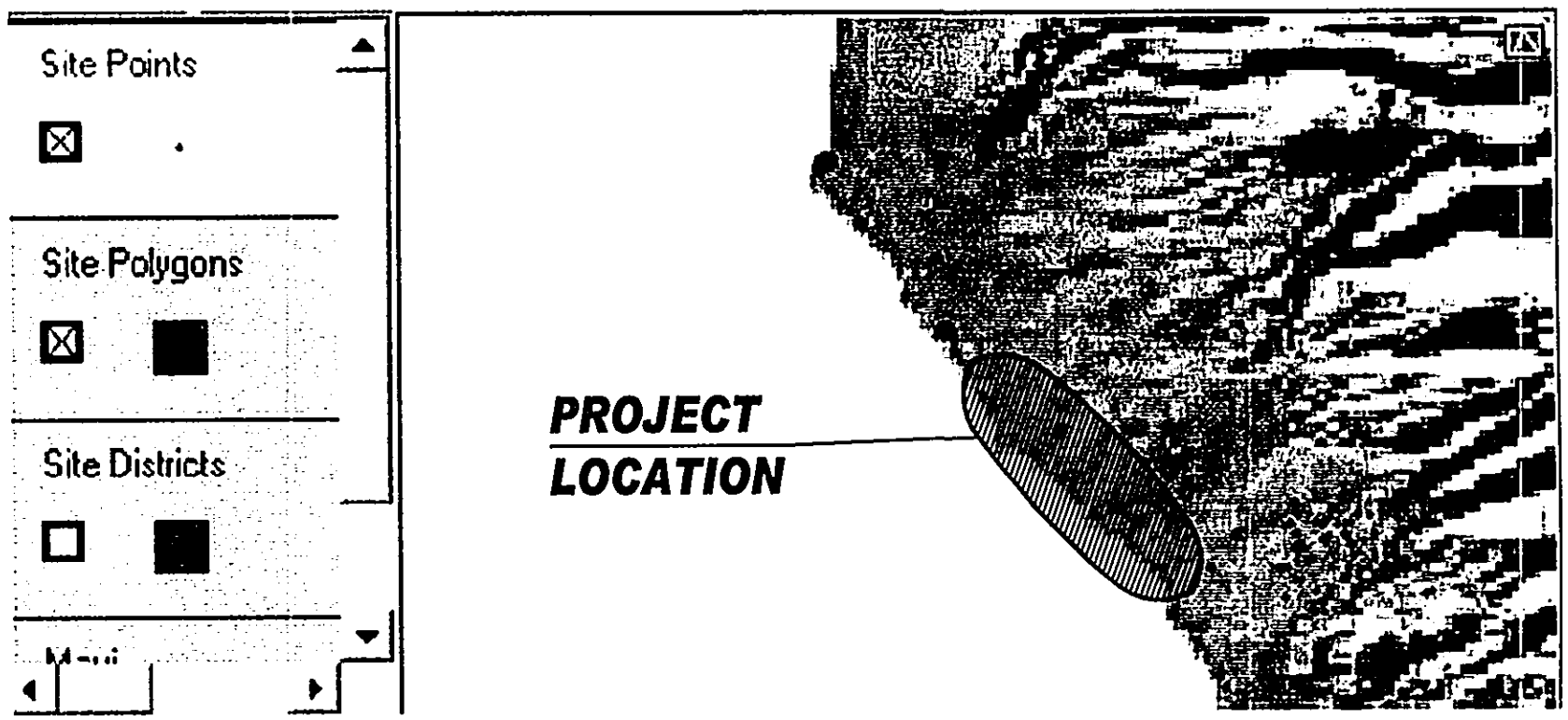
DOCUMENT CAPTURED AS RECEIVED



SOURCE: State of Hawaii, On-line Geographical Information Survey (GIS) Map of Maui
(http://mano.icsd.hawaii.gov/~ckomoek/maui/mauihei.htm)
Thursday, June 17, 2005

M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 16A GIS HISTORIC SITES MAP 1
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

DOCUMENT CAPTURED AS RECEIVED



SOURCE: State of Hawaii, On-line Geographical Information Survey (GIS) Map of Maui
(http://mano.icsd.hawaii.gov/~ckomoek/maui/mauisite.htm)
Thursday, June 17, 2005

M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 • 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 16B GIS HISTORIC SITES MAP 2
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	ENVIRONMENTAL ASSESSMENT Februay 2007

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Photo 2—Intersection of Honoapi'ilani and Lahainaluna (facing northwest) Ph-2

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Photo 4—Intersection of Honoapi'ilani and Dickenson (facing southeast) Ph-3

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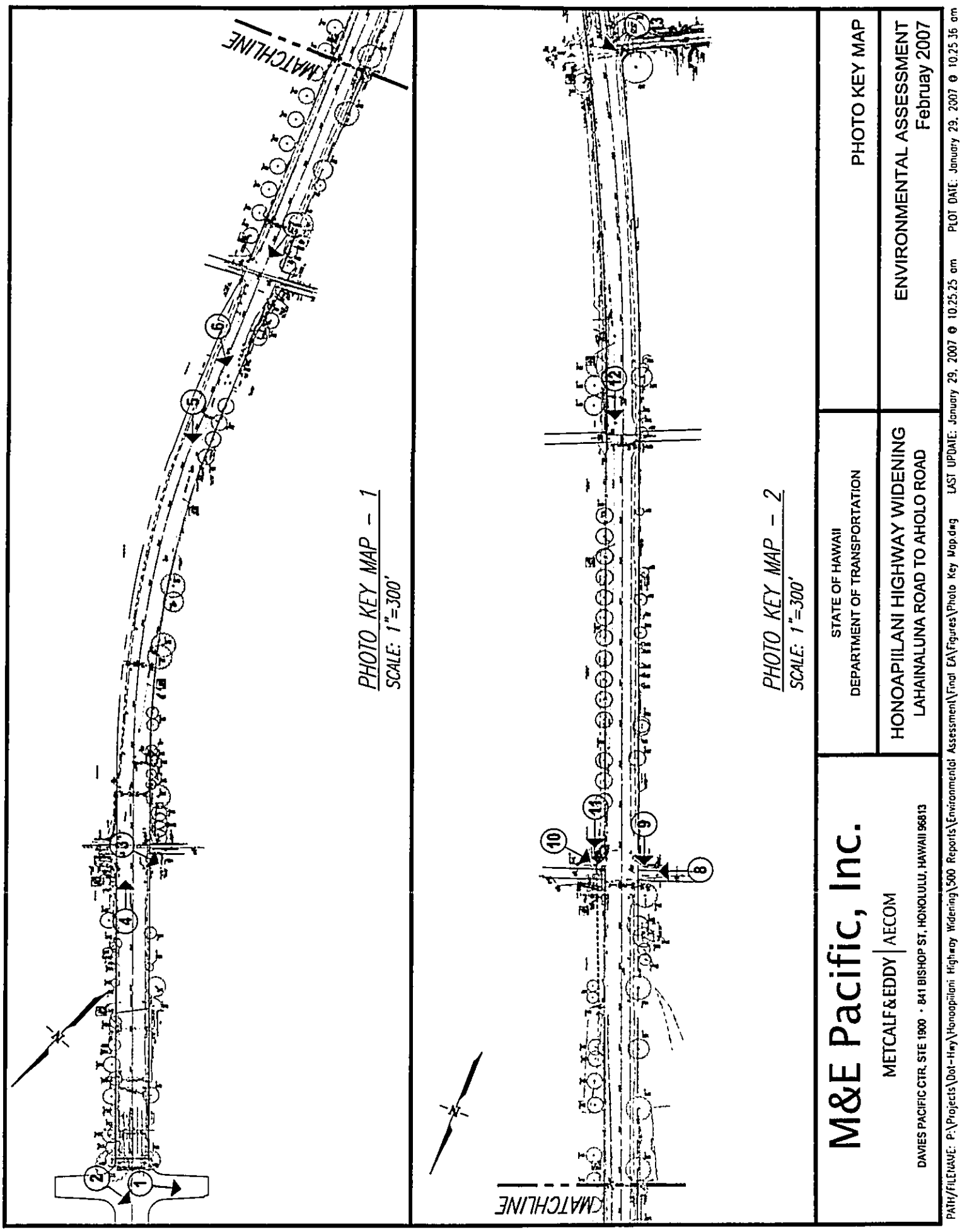
MATCHLINE
PHOTO KEY MAP - 1
SCALE: 1"=300'
MATCHLINE
PHOTO KEY MAP - 2
SCALE: 1"=300'
M&E Pacific, Inc.
METCALF & EDDY | AECOM
DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
PHOTO KEY MAP
ENVIRONMENTAL ASSESSMENT
February 2007
PATH/FILENAME: P:\Projects\Dot-Hwy\Honoapiilani Highway Widening\500 Reports\Environmental Assessment\Final EA\Figures\Photo Key Map.dwg LAST UPDATE: January 29, 2007 @ 10:25:25 am PLOT DATE: January 29, 2007 @ 10:25:36 am

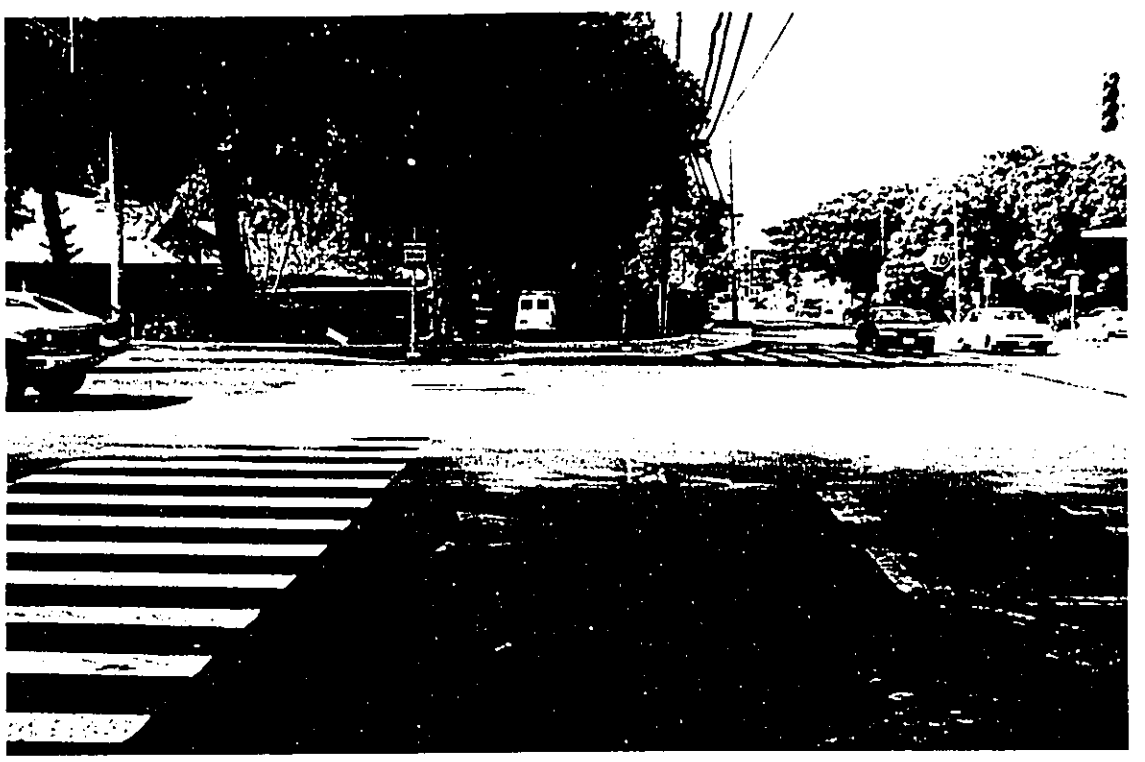

Photo 1—Intersection of Honoapi'ilani and Lahainaluna (facing southwest)

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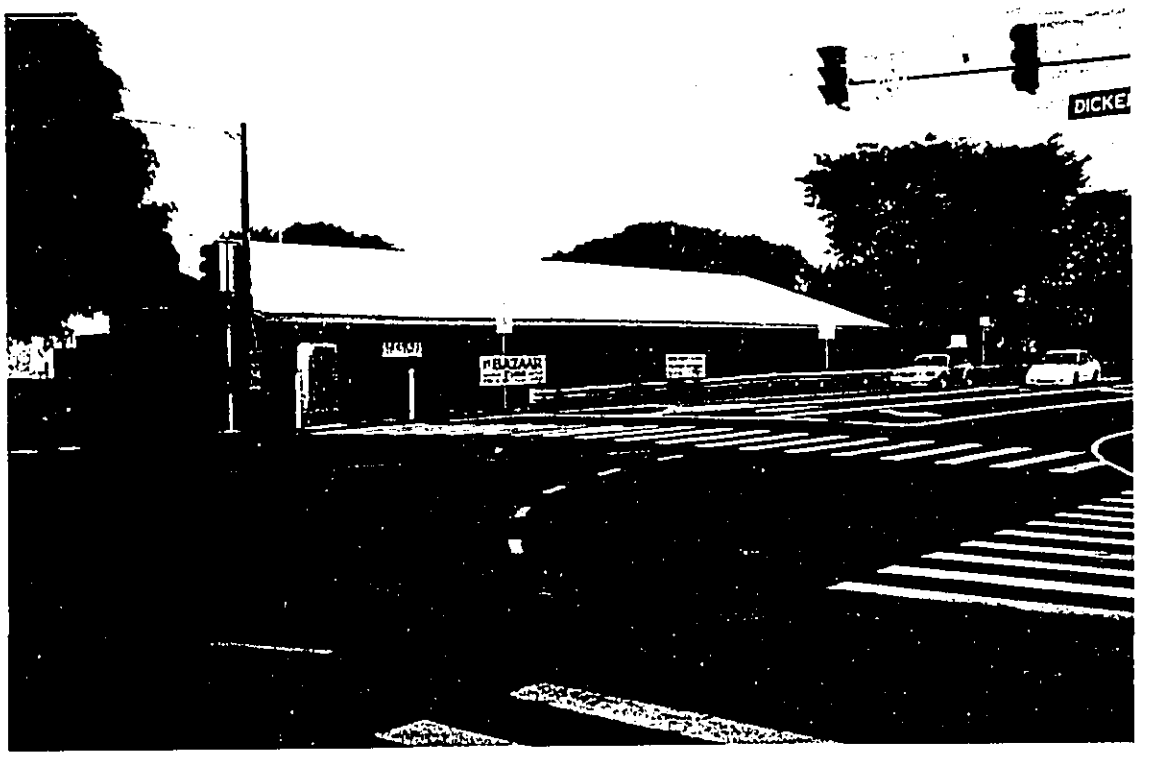

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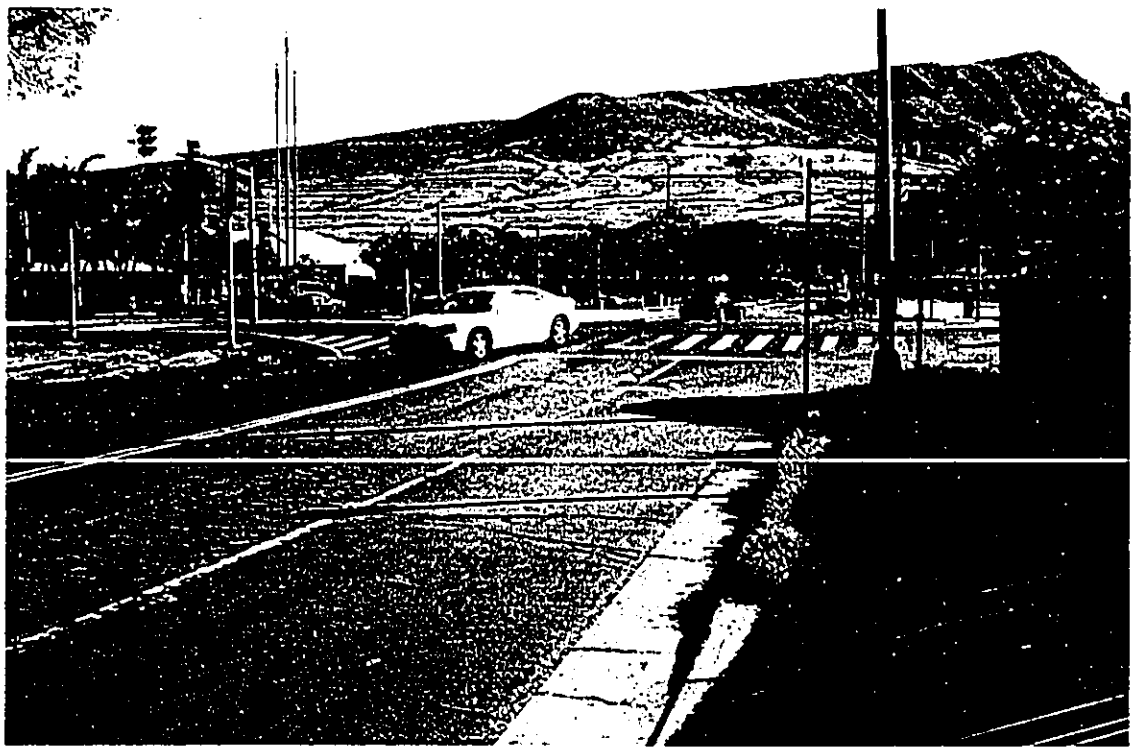


Photo 8—Intersection of Honoapi'ilani and Shaw (facing northeast)

Photo 9—Intersection of Honoapi'ilani and Shaw (facing northwest)

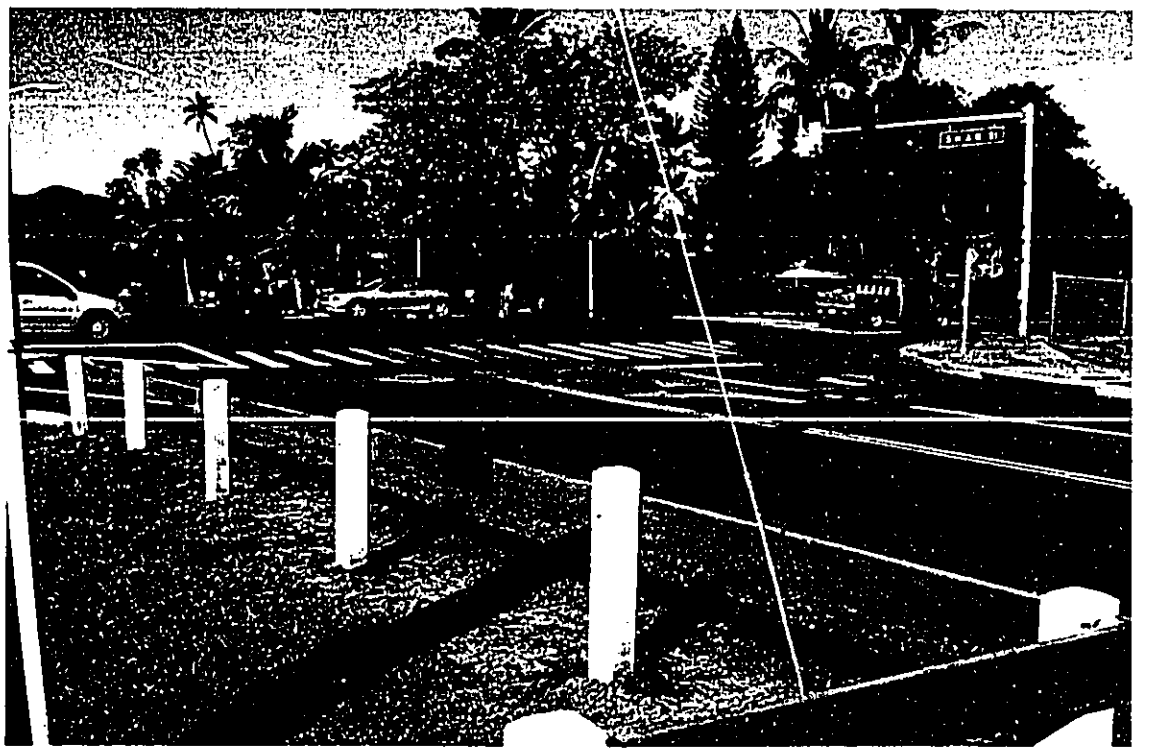
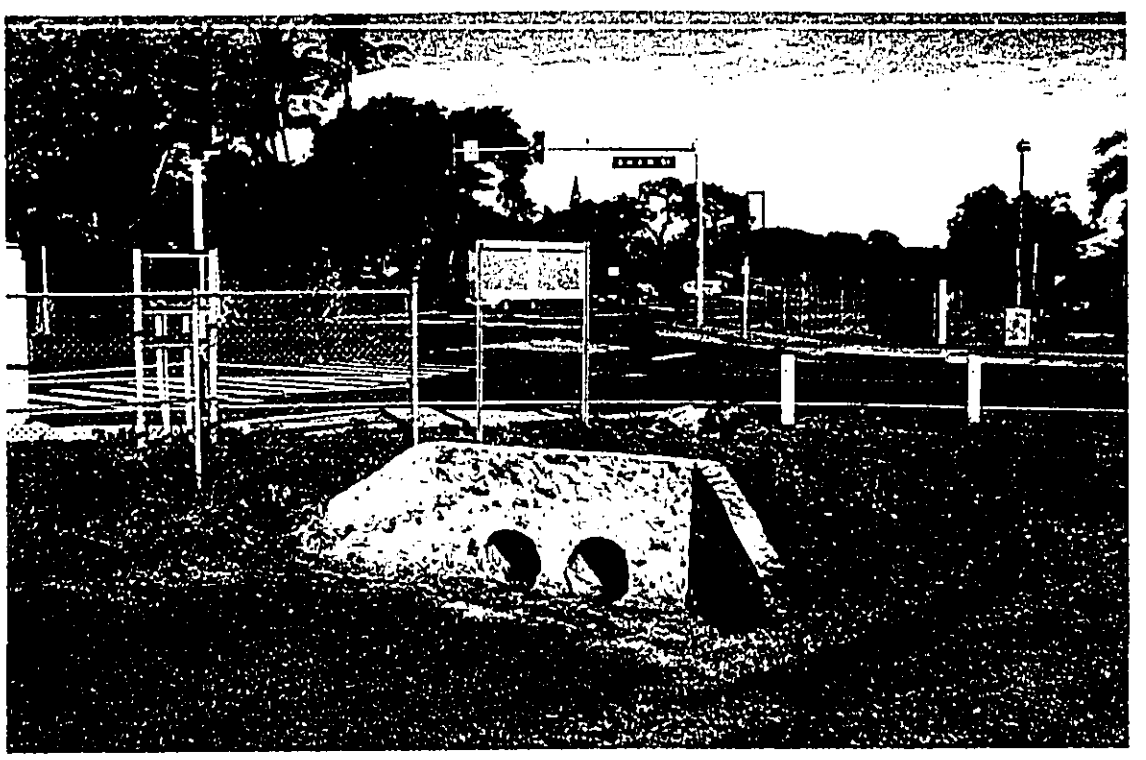


Photo 10—Intersection of Honoapi'ilani and Shaw (facing west)



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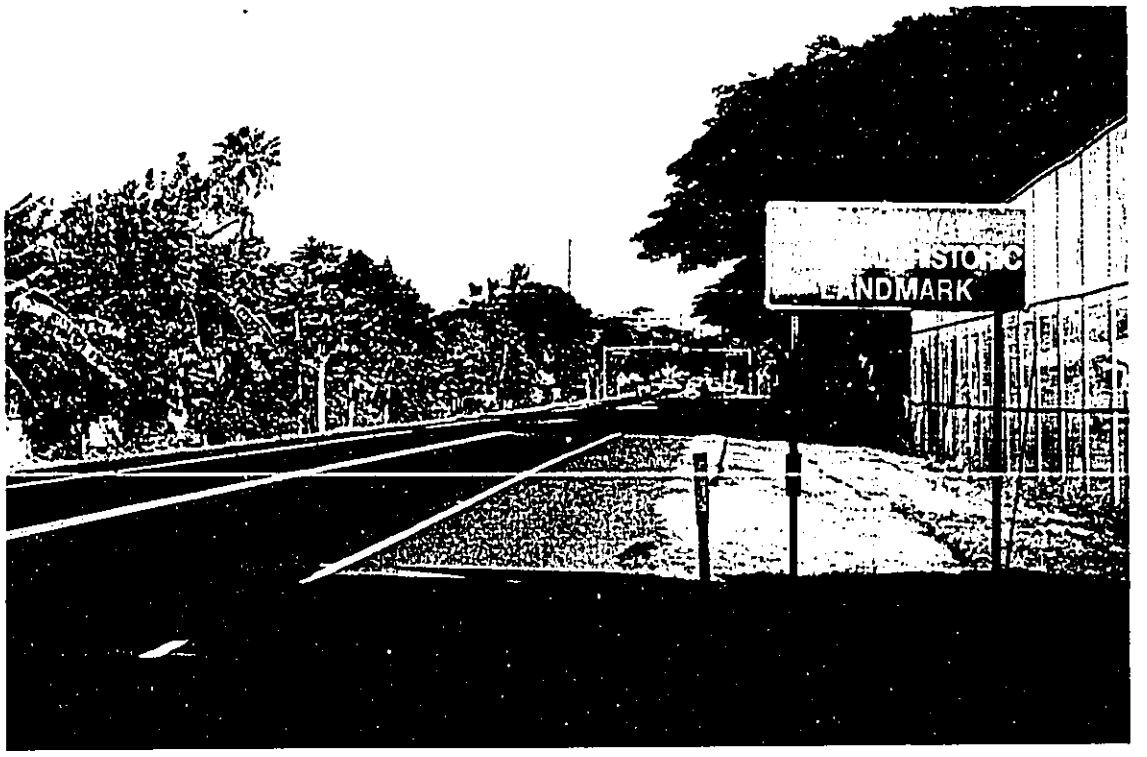

Photo 12—Approximate Baseline Station 118+50 (facing northwest)

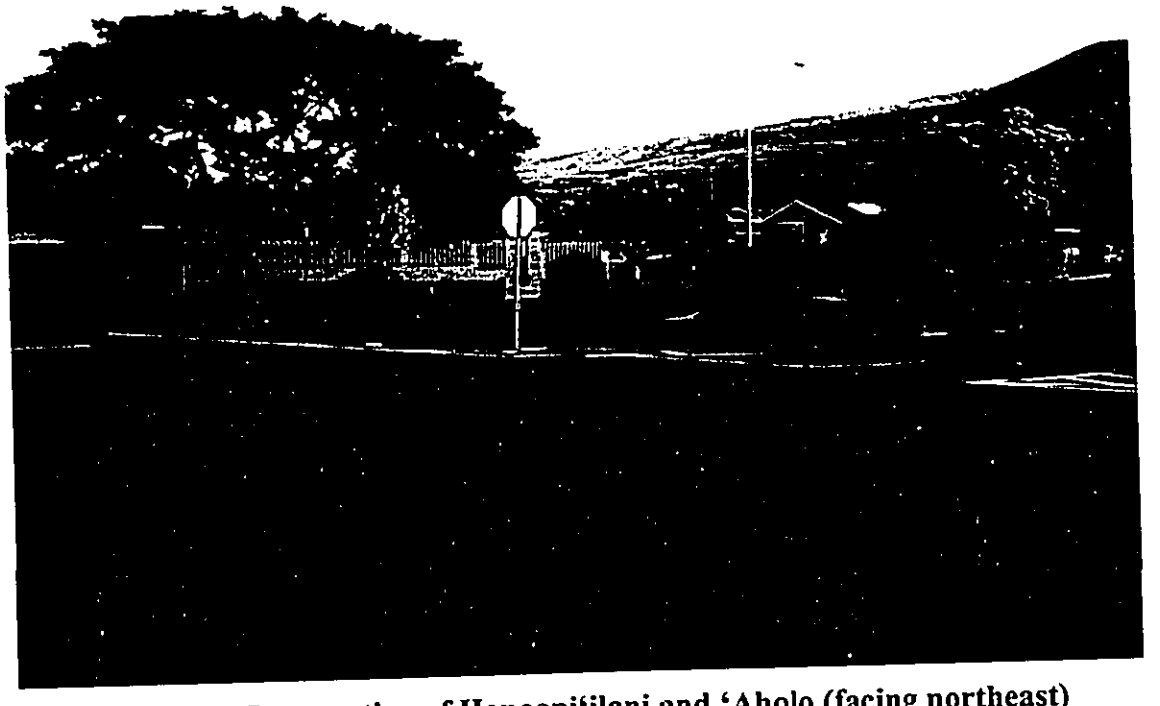

Photo 13—Intersection of Honoapi'ilani and 'Aholo (facing northeast)

APPENDICES

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B Coordination with the County of Maui

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E Land & Water Conservation Fund Section 6(f)(3) Coordination

F US Department of Transportation Act Section 4(f) Coordination

G "No Adverse Effect" Determination Letter from FWS Regarding Project Impacts on Threatened and Endangered Species

H National Historic Preservation Act Section 106 Investigatory Letters

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M Project Soils Report

N Traffic Forecast for Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road

O Noise Analysis and Abatement Study for Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road

P Draft Environmental Assessment Responses and Coordination

Q Lahaina Bypass Now Correspondence Regarding the January 2007 Public Charrette

APPENDIX A

Typical Attachments to Section 106, Public Notification & Agency Coordination Initial Correspondence

FED ROAD DIST NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HI	-	-	-	-

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION - MAUI DISTRICT

KAHULUI, MAUI, HAWAII

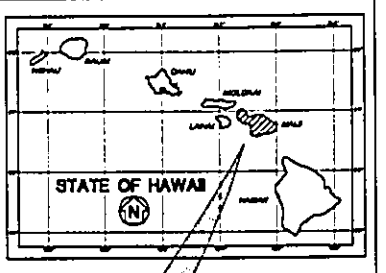
PLANS FOR

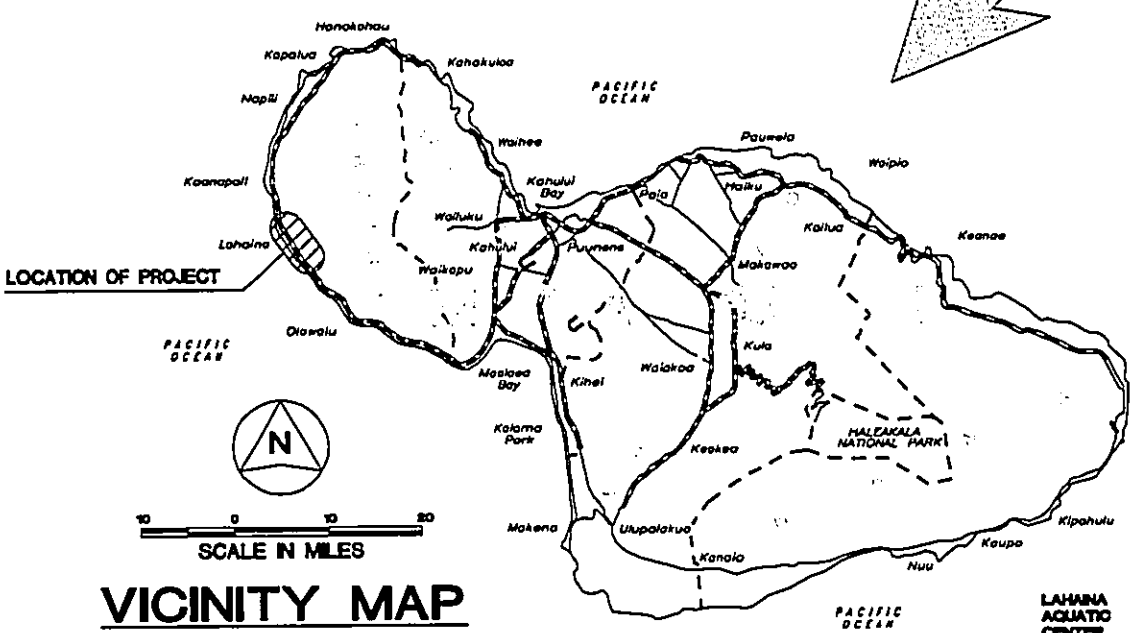
HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD

DOT-HWY JOB NUMBER 30BC-01-04

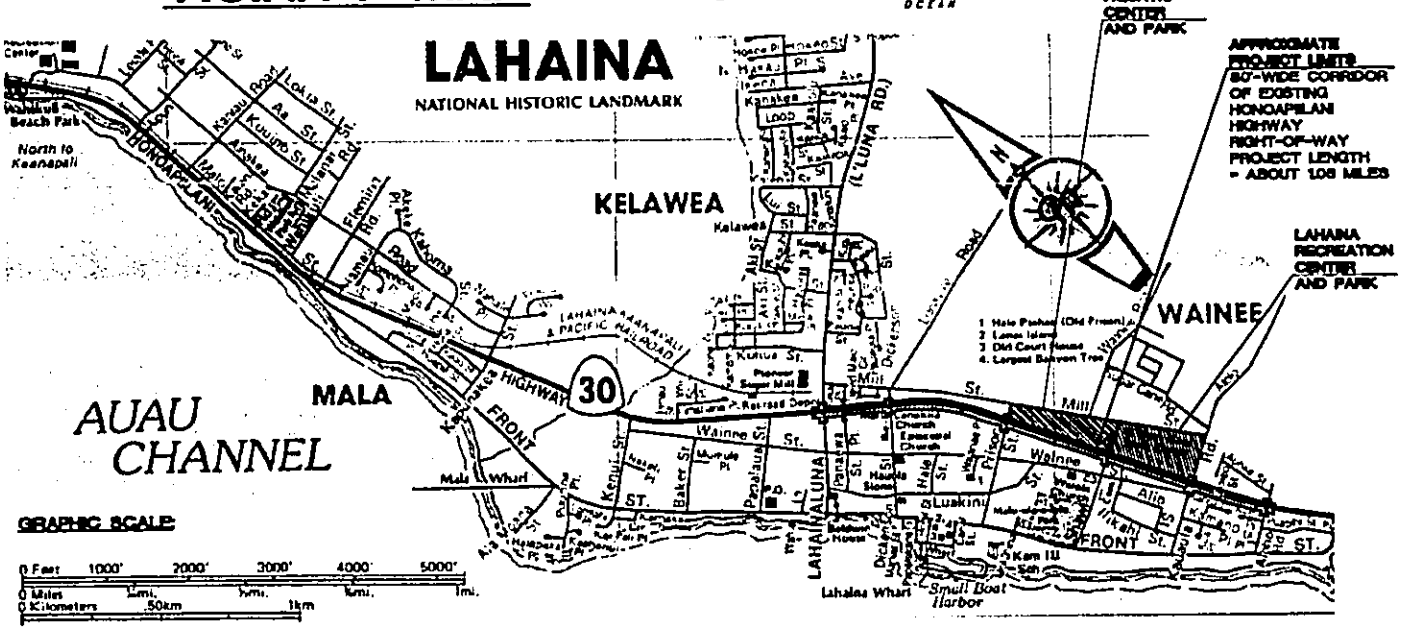
DISTRICT OF LAHAINA

ISLAND OF MAUI

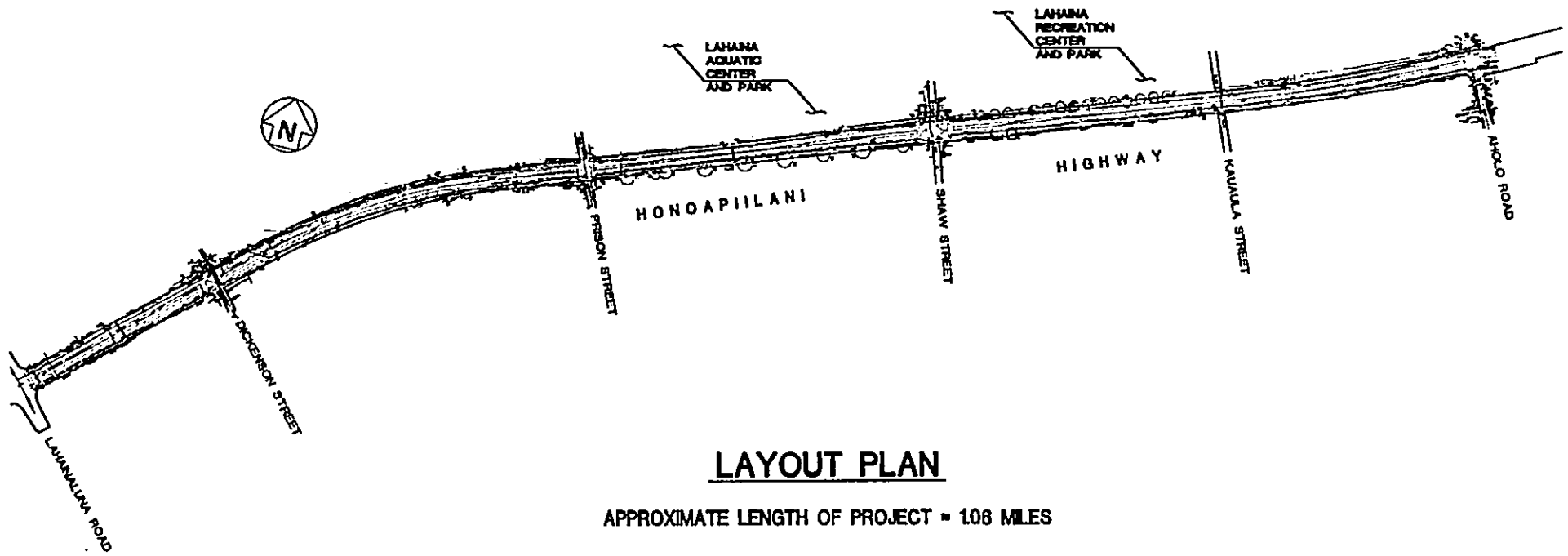




VICINITY MAP



LOCATION MAP



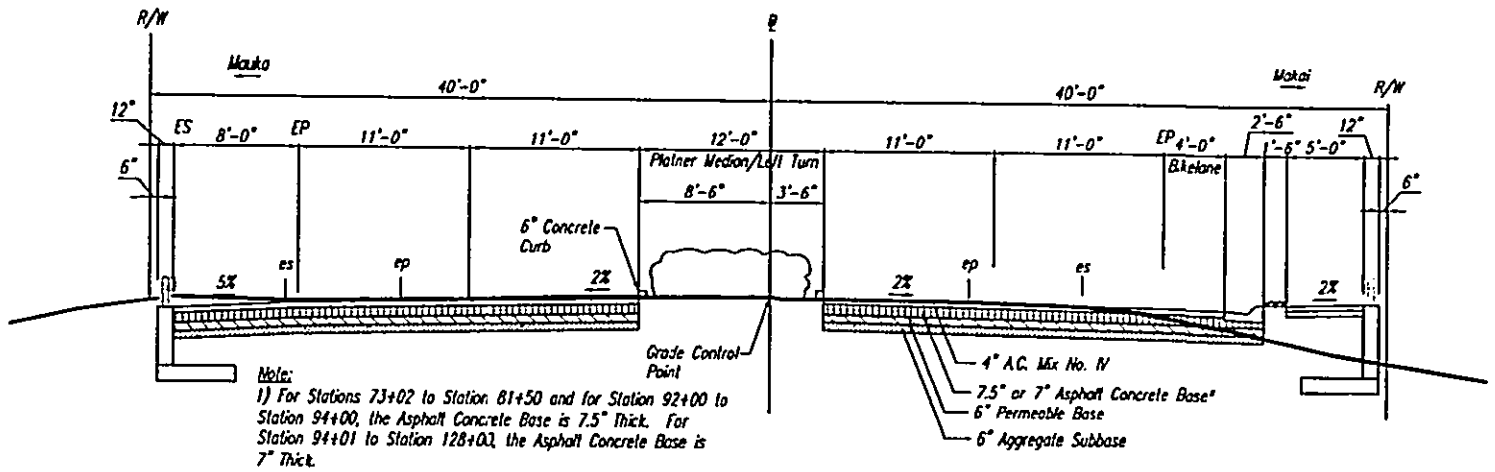
LAYOUT PLAN

APPROXIMATE LENGTH OF PROJECT = 1.06 MILES

1 0 1 2 3 4

SCALE IN HUNDRED FEET

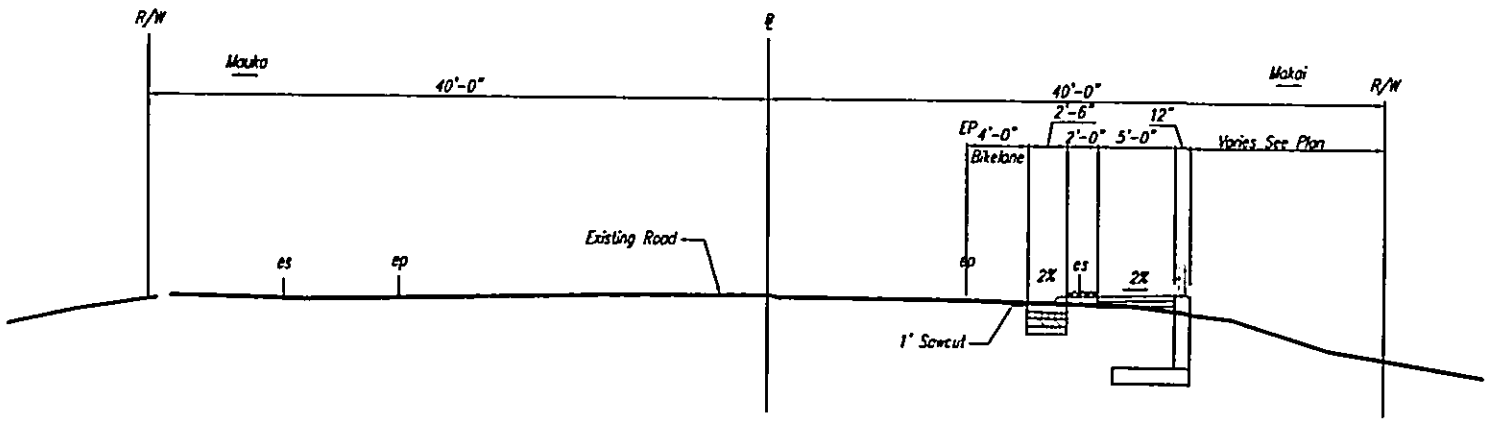
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	30BC-01-04	2005	9	95

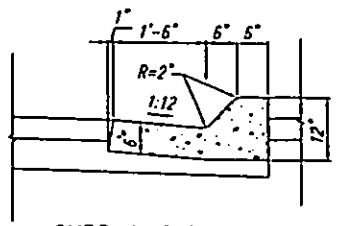


Note:
1) For Stations 73+02 to Station 81+50 and for Station 92+00 to Station 94+00, the Asphalt Concrete Base is 7.5" Thick. For Station 94+01 to Station 128+00, the Asphalt Concrete Base is 7" Thick.

STATION 73+02 TO STATION 81+50 & STATION 92+00 TO STATION 128+00
TYPICAL SECTION – NORMAL CROWN

1/4"=1'-0"





CURB & GUTTER DETAIL

~~1"=1'-0"~~ 1"=3'-0"

STATION 71+91.53 TO STATION 73+02
TYPICAL SECTION – SIDEWALK SECTION ONLY

1/4"=1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROAD TYPICAL SECTIONS

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Project No. 30BC-01-04

Scale: As Shown Date: July 2005

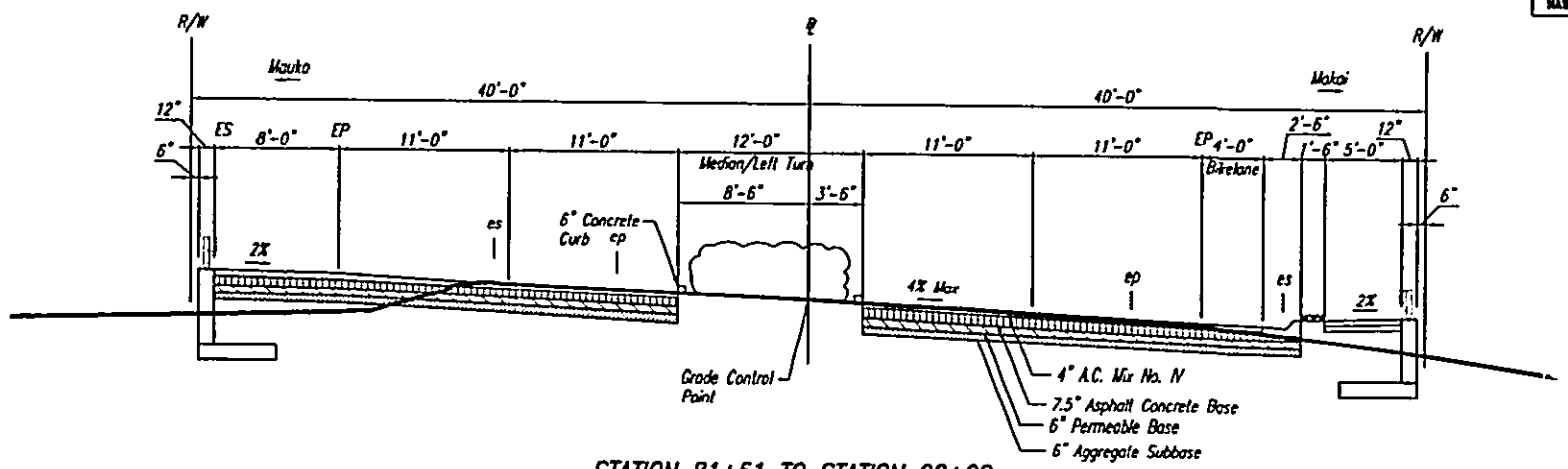
SHEET No. 1 OF 2 SHEETS

GRAPHIC SCALES:

1"=12'-0" 0 12 24 36 SCALE FEET

1"=3'-0" 0 3 6 9 SCALE FEET

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	308C-01-04	2005	10	95



STATION 81+51 TO STATION 92+00
TYPICAL SECTION 2'-0" SUPER
1/4"=1'-0"

------ 1"=12'-0"

GRAPHIC SCALES:

1"=12'-0" 0 12 24 36 SCALE FEET

1"=3'-0" 0 3 6 9 SCALE FEET

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROAD TYPICAL SECTIONS

Honoapiilani Highway Widening
Lahainaluna Road to Ahole Road
Project No. 308C-01-04

Scale: As Shown Date: July 2005

SHEET No. 2 OF 2 SHEETS

National and State Register of Historic Places

SITE NUMBER	SITE NAME	TAX MAP KEY	HAWAI'I REGISTER	NATIONAL REGISTER
50-03-1207	Honokowai Petroglyphs	4-4-02:03	5/18/81	
50-03-1596	Hale Pa'i	4-6-18:05	5/18/81	5/13/76
50-03-1615	CHINESE SOCIETY HALLS Thematic Group:			
	Wo Hing Society Hall	4-5-01:45	7/30/82	11/15/82
	Chee Kung Tong (Site removed 8/29/98)	3-4-13:40	7/30/82	11/15/82
	Ket Hing (See Quad 10)	2-2-03:36	7/30/82	11/15/82
50-03-2967	Moku'ula	4-6-07:01,02, 35,36	8/29/94	5/9/97
50-03-3001	Lahaina Historic District 60 Sites (Approximate)	Various		12/29/62 1962 NHL
50-04-592	Haleki'i-Pihana Heiau	3-4-30:04	6/29/85	11/25/85
50-04-1500	Ka'ahumanu Church	3-4-14:02	5/18/81	5/12/75
50-04-1605	Waikapu Stone Church	3-5-12:36	8/4/90	
50-04-1606	Maui Jinsha Mission	3-4-29:32	5/18/81	11/21/78
50-04-1616	Wailuku Civic Center Historic District	3-4-08:42, 3-4-07:08, 3-4-14:01	9/17/85	8/20/86
50-04-1619	Waihe'e Church	3-2-07:23	6/2/92	4/21/94

National and State Register of Historic Places

SITE NUMBER	SITE NAME	TAX MAP KEY	HAWAI'I REGISTER	NATIONAL REGISTER
50-04-1627	Iao Theater	3-4-12:22	6/24/94	2/9/95
50-04-1630	MAUI PUBLIC SCHOOLS Multiple Property:			
	Wailuku School	3-4-07:01	6/2/92	6/30/00
	Puunene School	3-8-06:08	6/2/92	8/22/00
	Henry Perrine Baldwin High School	3-8-07:04	6/2/92	6/30/00
	Paia School (See Quad 5)	2-5-05:04	6/2/92	8/22/00
	Keanae School (See Quad 7)	1-1-08:20	6/2/92	6/30/00
	Kaupo School (See Quad 16)	1-7-02:15	6/1/96	6/30/00
50-04-1631	Lufkin Residence	3-4-05:15	11/2/96	
50-04-1633	Waiale Bridge	3-4-01 (near)	7/19/97	10/30/98
50-04-3000	Hale Ho'ike'ike (Old Bailey House)	3-4-14:83	5/18/81	3/20/73
50-05-1610	Makawao Union Church	2-5-04:11	6/29/85	12/17/85
50-05-1630	Paia School (Maui Public Schools Multiple Property, see Quad 04)	2-5-05:04	6/2/92	8/22/00
50-05-1639	Gomes Residence	2-4-18:63	3/19/01	6/15/01
50-06-1493	Kauhihale Complex	2-9-12:02	5/18/81	
50-06-1551	Hardy House	2-4-18:09	8/24/84	11/8/84

National and State Register of Historic Places

SITE NUMBER	SITE NAME	TAX MAP KEY	HAWAI'I REGISTER	NATIONAL REGISTER
50-06-1567	Frank Baldwin/ H.F. Rice Residence	2-4-08:10	8/4/90	
50-06-1622	Ha'iku Mill	2-7-03:06	6/29/85	2/6/86
50-06-1637	Bank of Hawaii - Haiku Branch	2-7-20:08	8/26/00	12/4/00
50-06-1638	Hana Belt Road Also in Quads 7, 12, 13, 16 and 17	Various	3/19/01	6/15/01
50-07-1630	Keanae School (Maui Public Schools Multiple Property, see Quad 04)	1-1-08:20	6/2/92	6/30/00
50-07-1638	Hana Belt Road Also in Quads 6, 12, 13, 16 and 17	Various	3/19/01	6/15/01
50-09-1288	Kalepolepo Fishpond	3-9-01: submerged	6/1/96	12/30/96
50-10-1034	Kama'ole House Site	3-9-04:01	5/18/93	
50-10-1036	Papakea Heiau	2-2-04:36	5/18/81	
50-10-1037	Molohai Heiau	2-2-02:14	5/18/81	
50-10-1038	Ka'umi'umiua Heiau	2-2-02:14	5/18/81	
50-10-1040	Kaimupe'elua Heiau	2-2-02:14	5/18/81	

National and State Register of Historic Places

SITE NUMBER	SITE NAME	TAX MAP KEY	HAWAI'I REGISTER	NATIONAL REGISTER
50-10-1587	Kilolani Congregational Church	3-9-01:12	7/30/88	
50-10-1615	Ket Hing Society (Chinese Society Hall Thematic Group see Quad 03)	2-2-03:36	7/30/82	11/15/82
50-10-1540	Kula Sanitorium	2-2-004:034	11/22/03	
50-11-1739	Crater Historic District Haleakala National Park (Also in Quad 12)	Various		11/1/74
50-11-1239	'Alae Petroglyphs	2-2-13:10	5/18/81	
50-11-1553	Holy Ghost Catholic Church	2-3-37:02	4/29/83	8/18/83
50-12-1638	Hana Belt Road Also in Quads 6, 7, 13, 16 and 17	Various	3/19/01	6/15/01
50-12-1739	Crater Historic District Haleakala National Park (Also in Quad 11)	Various		11/1/74
50-13-100	Pi'ilanihale Heiau	1-3-02:04,39		1/29/64 1966 NHL
50-13-120	Kaluanui Heiau Complex	1-4-07:02	8/4/90	
50-13-123	Hale-o-Lono Heiau	1-4-10:3	8/4/90	

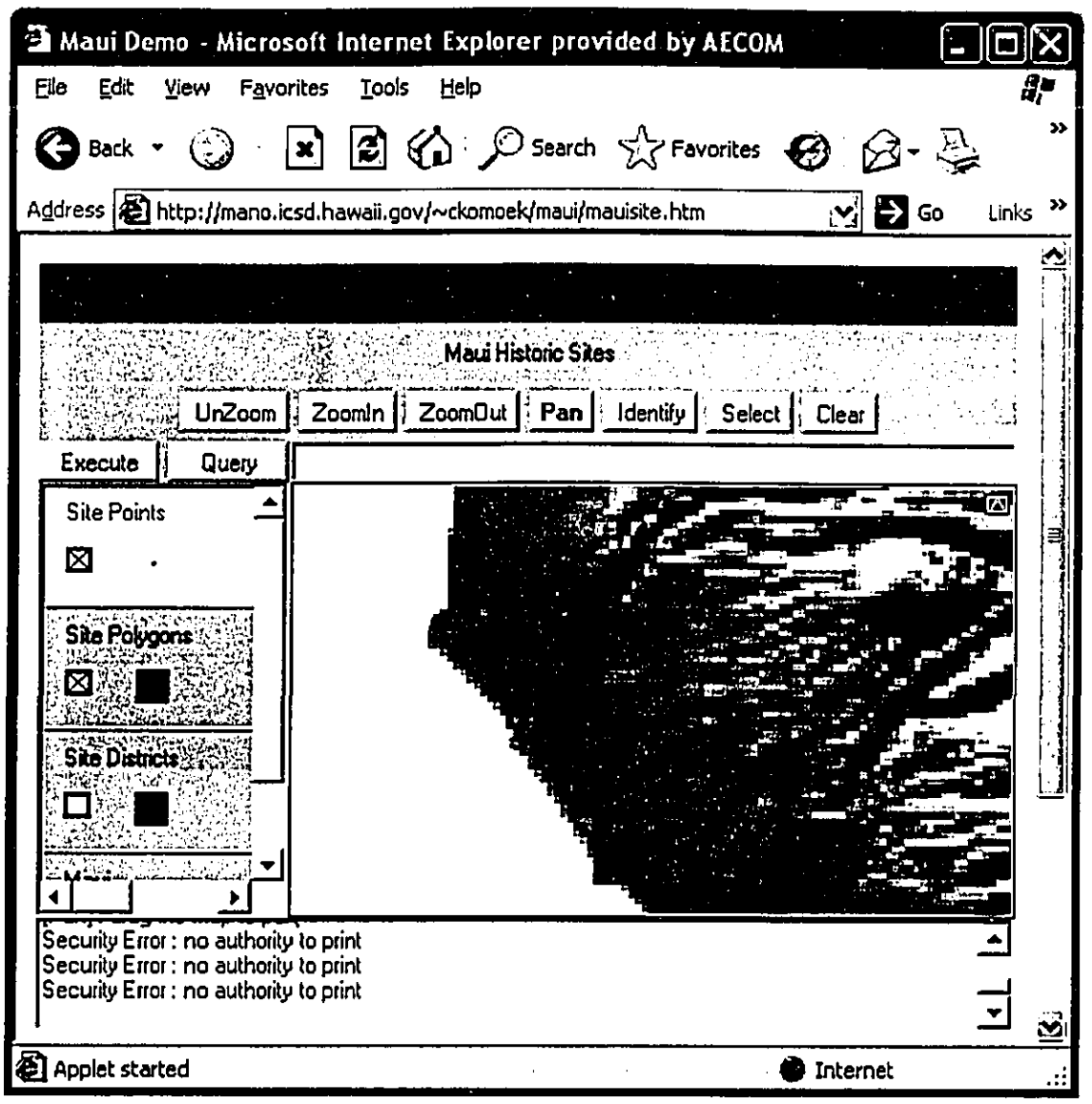
National and State Register of Historic Places

SITE NUMBER	SITE NAME	TAX MAP KEY	HAWAI'I REGISTER	NATIONAL REGISTER
50-13-1078	Kaiapuni Ko'a	1-4-05:28	5/18/81	
50-13-1230	Honokalani Village (Ka'eleku, Honokalani & Wakiu Ahupua'a) (Wai'anapanapa)	1-3-03:26 3-05:02,09 3-06:07,09	1- 6/29/85 1.	11/25/85
50-13-1484	Hamoa Complex	1-4-07:02 4-10:3	1- 8/4/90	
50-13-1521	Wananalua Congregational Church	1-4-04:19	7/30/88	11/23/88
50-13-1626	Hana District Police Station and Courthouse	1-4-13:36	7/30/88	8/27/91
50-13-1628	Hana Store	1-4-13:01	8/4/90	
50-13-1629	Hongwanji Temple	1-4-03:03	8/4/90	
50-13-1638	Hana Belt Road Also in Quads 6, 7, 12, 16 and 17	Various	3/19/01	6/15/01
50-14-1001	Wahene Platform	2-1-02:01	5/18/81	
50-14-1235	Cave of Seven Coffins	2-1-02:01	5/18/81	
50-14-1385	Keone'oio Archaeological District	2-1-04:06, 35,73,75,110, 111,114	7/30/88	
50-15-179	Alena Habitation Site	1-9-01:03	5/18/81	

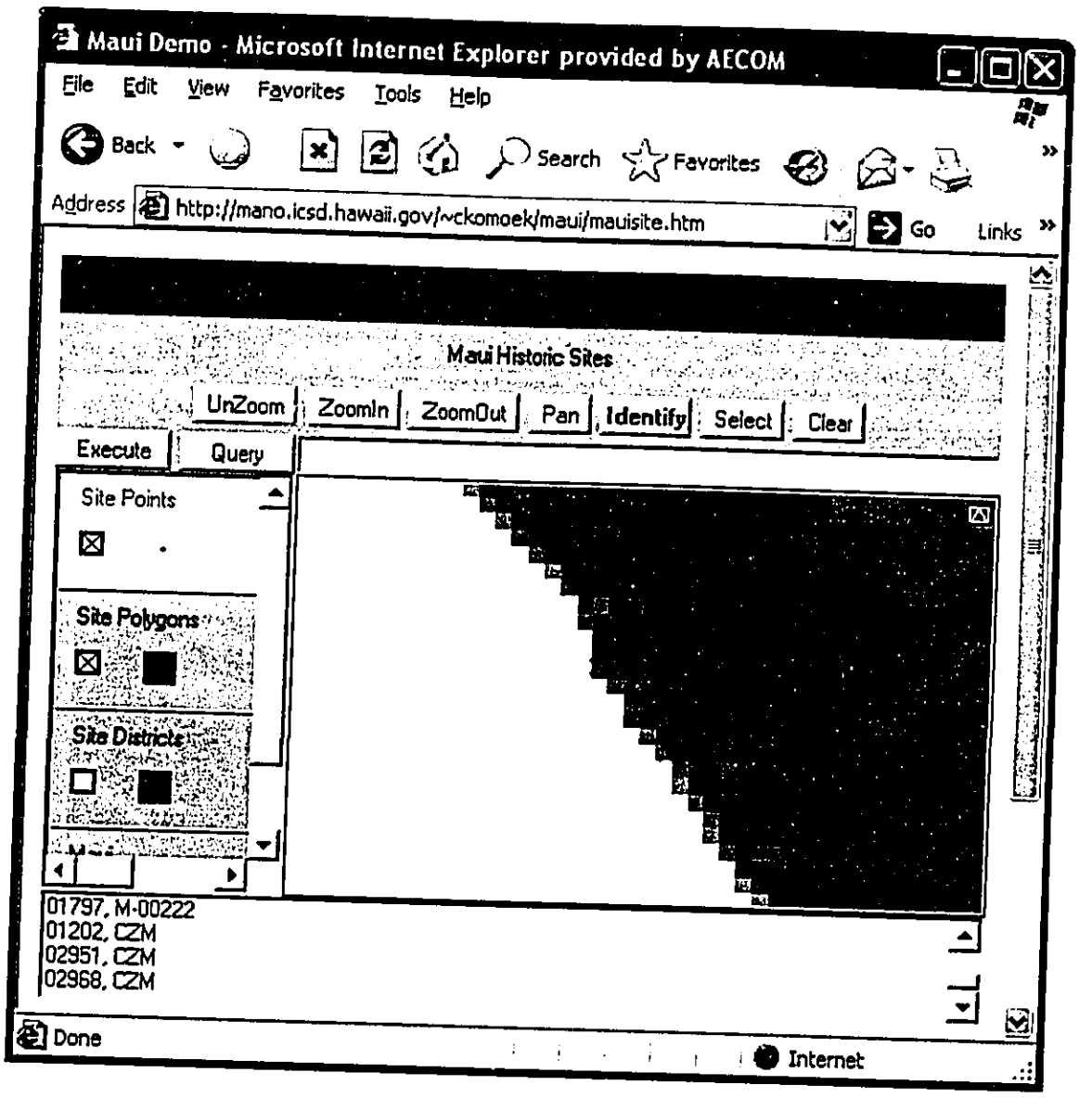
National and State Register of Historic Places

SITE NUMBER	SITE NAME	TAX MAP KEY	HAWAI'I REGISTER	NATIONAL REGISTER
50-15-182	Luala'ilua Heiau	1-9-01:03	5/18/81	
50-15-1160	Kaluakakalioa Cave	1-9-01:03	5/18/81	
50-15-1161	Luala'ilua Cave	1-9-01:03	5/18/81	
50-15-1162	Papakea Petroglyphs	1-9-01:03	5/18/81	
50-15-1164	Hanamau'uloa Complex	1-9-01:03	1/14/78	
50-15-1170	Kipapa Archaeological District	1-9-01:03	5/18/81	
50-15-1389	Luala'ilua Terrace Complex	1-9-01:03	5/18/81	
50-15-1536	Kahikinui House	1-9-01:03	5/18/81	
50-16-101	Lo'alo'a Heiau	1-7-02:12,14		12/29/62 1966 NHL
50-16-1630	Kaupo School (See Maui Public Schools, Quad 04)	1-7-02:15	6/1/96	6/30/00
50-16-1638	Hana Belt Road Also in Quads 6, 7, 12, 13 and 17	Various	3/19/01	6/15/01
50-17-299	Kipahulu Historic District	Various		1977 E
50-17-1638	Hana Belt Road Also in Quads 6, 7, 12, 13 and 16	Various	3/19/01	6/15/01

Thursday, June 17, 2005
http://mano.icsd.hawaii.gov/~ckomoek/maui/mauisite.htm



ress the CLEAR button if views get overwritten while using the PAN and ZOOM functions. Highlight one of the SITE themes on the left side of the viewer, then press the IDENTIFY button and click on the sites. Site numbers and source reference will be displayed in the lower window. Highlight a SITE theme, type "count" in the window and click on EXECUTE" to get a total for the SITE theme highlighted.

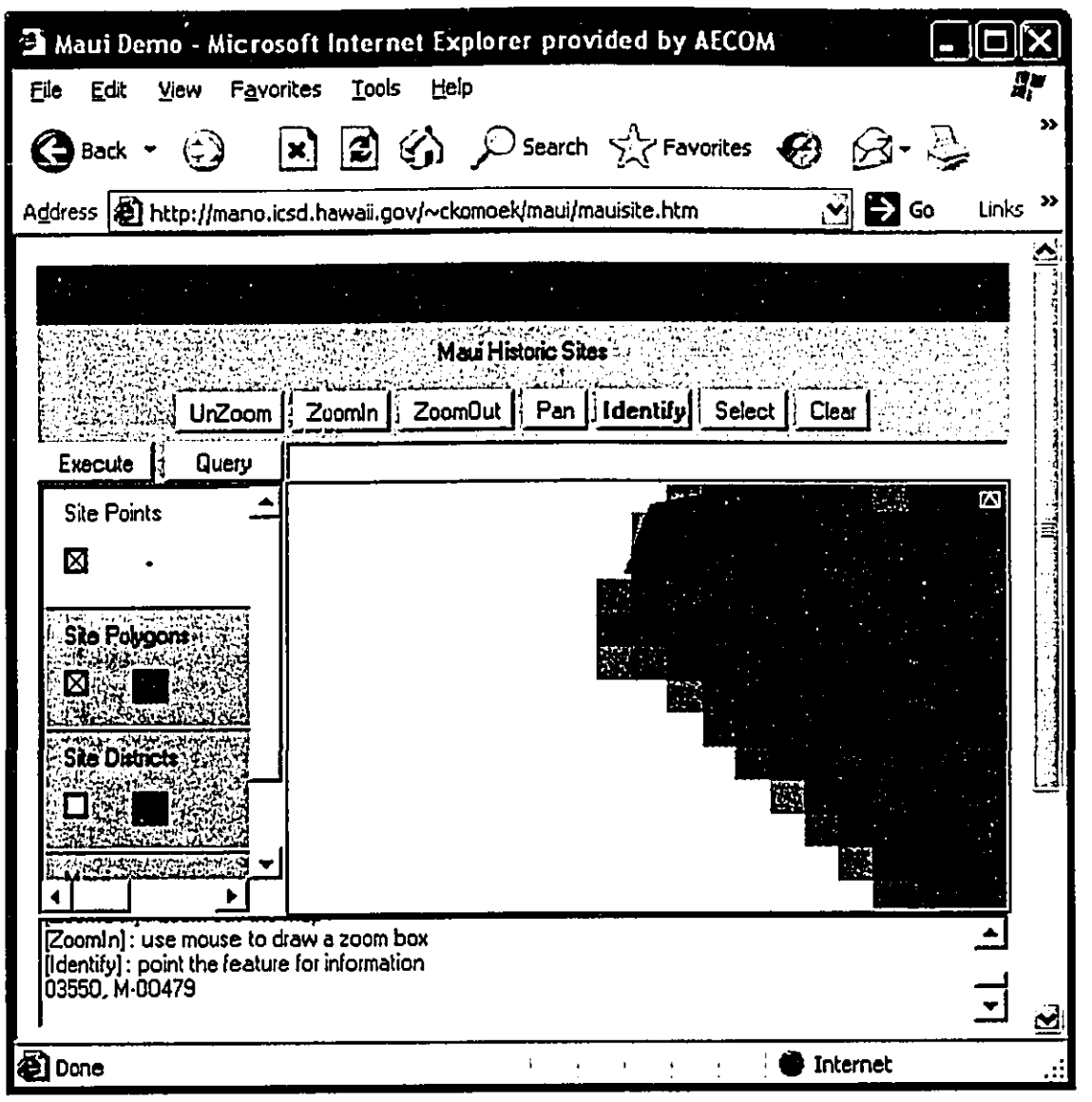


Maui Island Reports

Monday, August 23, 2004

Listed by Tax Map Key (TMK)

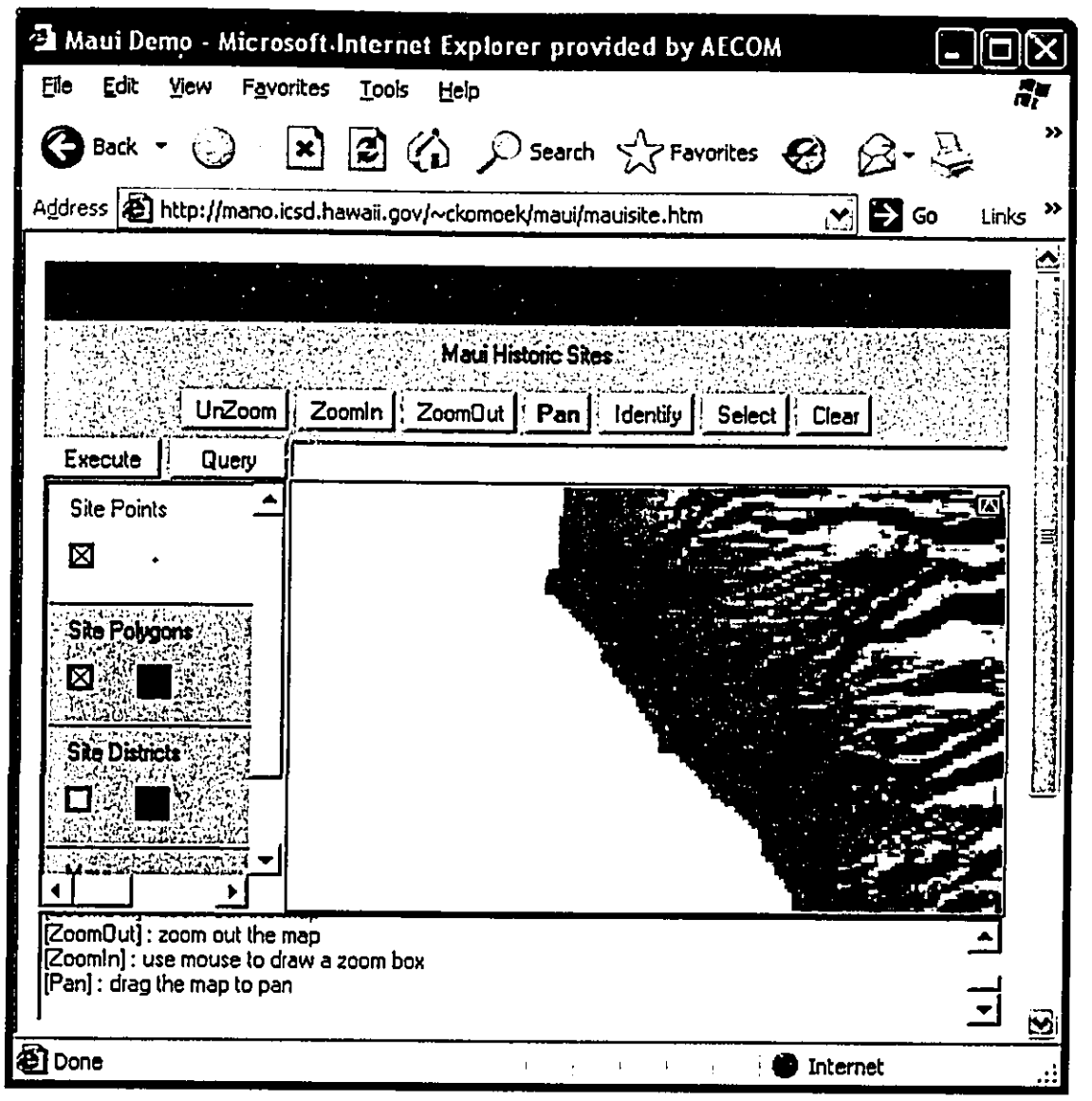
TMK	Library #	Year	Title
2-4-6-009:021	M-00222	1989	ARCHAEOLOGICAL DATA RECOVERY REPORT ON THE AUS SITE, LAHAINA, MAUI, HAWAI`I.

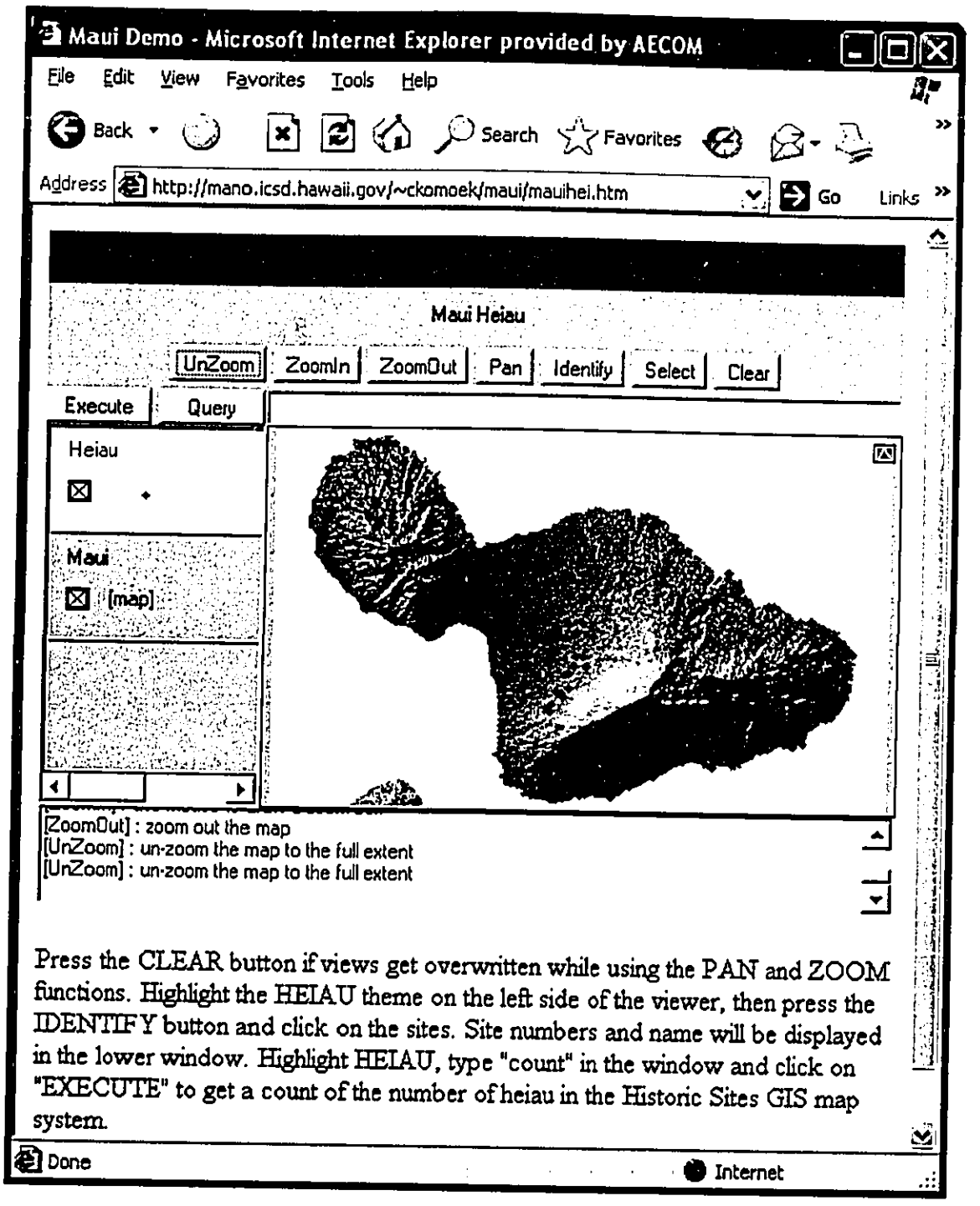


Maui Island Reports Monday, August 23, 2004

Listed by Tax Map Key (TMK)

TMK	Library #	Year	Title
-4-5-003:012	M-00479	1994	An Archaeology Inventory Survey of a 8.8 Acre Parcel in Land of Kainehi, District of Lahaina, Paunau Ahupua`a, Island of Maui.


Maui Demo - Microsoft Internet Explorer provided by AECOM
File Edit View Favorites Tools Help
Back
Search
Favorites
Address
http://mano.icsd.hawaii.gov/~ckomoek/maui/mauisite.htm
Go
Links
Maui Historic Sites
UnZoom
ZoomIn
ZoomOut
Pan
Identify
Select
Clear
Execute
Query
Site Points
Site Polygons
Site Districts
[ZoomOut] : zoom out the map
[ZoomIn] : use mouse to draw a zoom box
[Pan] : drag the map to pan
Done
Internet


Maui Demo - Microsoft Internet Explorer provided by AECOM
File Edit View Favorites Tools Help
Back Search Favorites
Address http://mano.icsd.hawaii.gov/~ckomoek/maui/mauihei.htm
Go Links
Maui Heiau
UnZoom ZoomIn ZoomOut Pan Identify Select Clear
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Heiau
Maui
[map]
[ZoomOut] : zoom out the map
[UnZoom] : un-zoom the map to the full extent
[UnZoom] : un-zoom the map to the full extent
Press the CLEAR button if views get overwritten while using the PAN and ZOOM functions. Highlight the HEIAU theme on the left side of the viewer, then press the IDENTIFY button and click on the sites. Site numbers and name will be displayed in the lower window. Highlight HEIAU, type "count" in the window and click on "EXECUTE" to get a count of the number of heiau in the Historic Sites GIS map system.
Done
Internet

APPENDIX B

Coordination with the County of Maui

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

June 29, 2005

State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawai'i 96707

Attn: Ms. Melanie A. Chinen, Administrator

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [por each]
DOT-HWY Project Number 30BC-01-04

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (Highways Division) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway, adverse impacts on wildlife habitats are anticipated to be small, if any. The project will be contained entirely within the existing 80′ State right-of-way dedicated for the highway.

A description of the project is as follows:

"The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The existing highway between Lahainaluna and 'Aholo Roads (project limits) varies in width, but is primarily comprised of two 11′ asphaltic concrete (AC)-paved lanes and 9′ paved

shoulders without curbs or gutters. Approaches to intersections with cross streets transition up to four 11' lanes—one lane in each direction for traffic straight through the intersection and outside lanes for right turns. Distinct lanes for bicyclists and pedestrians have not been established.

The State of Hawai'i DOT, Highways Division (HWY) proposes to increase the width of Honoapi'ilani Highway to four 11' vehicular travel lanes with 10' median (shared left-turn corridor) consistently throughout its length from Lahainaluna Road to 'Aholo Road. In normally crowned areas, the highway will also have a 4' bikelane, curb and gutter, 5' sidewalk, and 12"-thick concrete retaining wall along its *mauka* edge, and 6' paved shoulder and earthen drainage swale along its *makai* edge. In superelevated reaches, the highway will have the same structures as the normally crowned locations on its *mauka* side; however, it will have a 6'-8" paved shoulder and 12"-thick concrete retaining wall along its *makai* edge. All finished structures will be within the existing 80'-wide ROW."

The project will be funded entirely by the State with no contribution from the federal government. The project manager at the DOT-HWY is:

Ms. Charlene Shibuya
DOT-HWY, Maui District, 650 Palapala Drive, Kahului, Hawai'i 96732
Telephone: (808) 873-3535, Fax: (808) 873-3544, Email: Charlene.Shibuya@Hawaii.Gov

A few maps and sketches of the current design for the subject project are enclosed for your use. The area of potential effect is contained to the entire area within the existing 80'-wide highway right-of-way for the length of the project. Please review these enclosures and provide us with any information on identified or potential historic and archaeological properties known or assumed to exist within or near the project area that may be impacted by the project undertaking. In using DLNR-SHPD's online Hawai'i Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area.

Should you have any questions or more information is required, please call Ms. Diane Kodama or myself at 521-3051. Our email addresses are Diane.Kodama@M-E.AECOM.Com and Mike.Nishimura@M-E.AECOM.Com, respectively.

Very truly yours,

Michael S. Nishimura, P.E.
Project Engineer

msn

METCALF & EDDY | AECOM

M & E Pacific, Inc.
[illegible]

August 15, 2005

Advisory Council on Historic Preservation
Office of Federal Agency Programs
12136 West Bayaud Avenue, Suite 330
Lakewood, Colorado 80228

Attn: Mr. Don Klima, OFAP Director

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [por each]
DOT-HWY Project Number 30BC-01-04
ACHP Opportunity to Provide Archaeological and Historical Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (Highways Division) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on archaeological and historical properties are anticipated to be small, if any. The project will be contained entirely within the existing 80′ State ROW dedicated to the highway.

A description of the project is as follows:

"The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The existing highway between Lahainaluna and 'Aholo Roads (project limits) varies in width, but is primarily comprised of two 11′ asphaltic concrete (AC)-paved lanes and 9′ paved shoulders without curbs or gutters. Approaches to intersections with cross streets transition up to

four 11′ lanes—one lane in each direction for traffic straight through the intersection and outside lanes for right turns. Distinct lanes for bicyclists and pedestrians have not been established.

The State of Hawai'i DOT. Highways Division (HWY) proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The highway will also have an AC-paved bikelane and shoulder, in addition to, concrete curb and gutter, sidewalk, and retaining walls along its edges with guardrails. All finished structures will be within the existing 80′-wide ROW."

Although no work is anticipated to occur within the property of the parks, widening of Honoapi'ilani Highway may require work to be performed on a single row of large (roughly 3′-diameter trunks, 50′ tall, and 40′ canopy spreads), existing monkeypod trees located along the ROW within the park properties. This work may involve cutting roots and installing root barriers to protect new roadway structures from root growth damage, or tree relocation further away (*mauka*) from the highway. A total of about 17 trees may be affected by the project along the Lahaina Recreation Center & Park property line, while approximately 14 trees may be affected along the property line of the Lahaina Aquatic Center & Park. About three 50′–60′ palm trees may also be affected.

Additionally, due to widening of the highway, existing culverts beneath the road may be extended, and land may need to be acquired upstream and downstream of the inlets and outlets for maintenance access easements. No culvert extensions would be performed near the Lahaina Recreation Center & Park; however, two culvert extensions may be required between Shaw and Prison Streets next to the Lahaina Aquatic Center & Park.

The project will be funded by both the State and federal government. The project manager at the DOT-HWY is:

Ms. Charlene Shibuya
DOT-HWY, Maui District, 650 Palapala Drive, Kahului, Hawai'i 96732
Telephone: (808) 873-3535, Fax: (808) 873-3544, Email: Charlene.Shibuya@Hawaii.Gov

An Environmental Assessment is currently being developed for the project and National Historic Preservation Act Section 106 requirements are being completed.

A few maps and sketches of the current design for the subject project are enclosed for your review and use. The area of potential effect is contained primarily to the entire area within the existing 80′-wide highway right-of-way for the length of the project. Please review these enclosures and provide us with a formal decision on whether the ACHP would like to participate as a consultant on archaeological and historical properties for this project, or would like to decline this opportunity.

Project information has been sent to the local State Historic Preservation Officer (State of Hawai'i, Department of Land and Natural Resources [DLNR], State Historic Preservation Division [SHPD]), and their review is still on-going. In using DLNR-SHPD's online Hawai'i

Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area. A copy of the DLNR-SHPD GIS printout encompassing the project region is enclosed for your review and use.

Project reviews are also on-going by the DLNR Division of State Parks and the US National Park Service for Land and Water Conservation Act Section 6(f)(3) compliance and the US Department of Transportation (DOT), Federal Highway Administration for DOT Act Section 4(f) compliance. A determination has been received from the US Fish and Wildlife Service that, in accordance with their Endangered Species Act Section 7 review, no endangered, threatened, or candidate plant and animal species occurs in the project area. In addition, no proposed or final critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your review and use.

Should you have any questions or more information is required, please call Ms. Diane Kodama or myself at 521-3051. Our email addresses are Diane.Kodama@M-E.AECOM.Com and Mike.Nishimura@M-E.AECOM.Com, respectively.

Very truly yours,

Michael S. Nishimura, P.E.
Project Engineer

msn

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.2051 F 808.521.0246 www.m-e.com

January 4, 2006

Nā Kūpuna O Maui
320 Kā'eo Place
Lahaina, Hawai'i 96761

Attn: Aunty Patty Nishiyama / Kupuna William Waiohu, Jr.

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Archaeological & Historic Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on archaeological and historic properties are anticipated to be minor, if any. In the unlikely event that archaeological or historic material is encountered during project activities, work will cease immediately and the State of Hawai'i, Department of Land and Natural Resources (DLNR), Historic Preservation Division (SHPD) will be notified. The DLNR-SHPD and identified familial descendants will be consulted for the appropriate treatment of the find. This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for clarification. The area of potential impact is contained primarily to within the existing 80' wide highway right-of-way for the length of the project.

At this early stage in project development, we are evaluating the opinions and concerns of the public that occupy the surrounding areas of the aforementioned project. We are also in the process of discerning whether the project will affect any historic properties, as outlined by Section 106 of the National Historic Preservation Act. It will be greatly appreciated if all feedback can be provided within the thirty (30)-day public review and comment period (starting from the date of this letter) so that all comments can be properly addressed while meeting the established project schedule.

The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a

southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides mostly by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The State of Hawai'i DOT-HWY proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The project will also add a bikelane, shoulder, and sidewalk. All finished structures will be within the existing 80'-wide ROW.

Two public recreational facilities border the *mauka* edge of the project site—(1) Lahaina Aquatic Center and Park, which is located primarily between Prison and Shaw Streets; and the adjacent (2) Lahaina Recreation Center and Park, which is located predominantly between Shaw and Kaua'ula Streets. Although no work is anticipated to occur within the park properties, widening of Honoapi'ilani Highway may require protective measures (root cutting, root barrier installation, and/or tree removal or *mauka* relocation) to be performed on approximately 32 large (30'–50'± tall), existing monkeypod and 50'–60'± tall palm trees located along the *mauka* ROW in the parks. Consultation with arborists are planned to ascertain viable options for the treatment of the trees. Additional trees (monkeypod, banyan, avocado, mango, plumeria, fruit, palm, etc.), bushes and hedges along the edges of the project alignment may be similarly affected by the project, including a row of narrow 20'± tall Wiliwili trees along the *mauka* edge of the ROW between Dickenson and Prison Streets. A landscaped highway median may be considered in the project design.

Grading, temporary construction and maintenance easements may be required outside of the highway ROW for drainage management, especially near the upstream and downstream ends of three existing culverts beneath the road. One of these culverts is located at midway between Lahainaluna Road and Dickenson Street. The other two culverts are located roughly 135' and 560' east of Prison Street.

The project is currently under review by the local State Historic Preservation Officer—the DLNR-SHPD—for potential impacts to archaeological and historic properties. In using DLNR-SHPD's online Hawai'i Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area. A copy of the DLNR-SHPD GIS printout encompassing the project region is enclosed for your reference, along with a listing of identified historic sites for the island of Maui.

A determination has been received from the US Fish and Wildlife Service (FWS) that, in accordance with their Endangered Species Act Section 7 review, no endangered, threatened, or candidate plant and animal species exists in the project area. In addition, no proposed or final

critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your reference.

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

M&E Pacific, Inc.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawai'i 96813
Telephone: (808) 521-3051
Fax: (808) 524-0246

Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,

M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures:
(1) Project Maps and Sketches
(2) DLNR-SHPD GIS Printout of Historic and Archaeological Properties in the Project Region and Listing of Identified Historic Sites for the Island of Maui
(3) Letter of Determination from the US FWS

cc: Project File

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

January 5, 2006

State of Hawai'i, Historic Preservation Division
Burials Program (Maui / Lanai Island)
MAUI / LĀNA'I ISLAND BURIAL COUNCIL
150 Mahalani Street
Wailuku, Hawai'i 96793

Attn: Mr. Charles K. Maxwell, Sr., Chair / Ms. Dana Naone Hall, Vice-Chair

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
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At this early stage in project development, we are evaluating the opinions and concerns of the public that occupy the surrounding areas of the aforementioned project. We are also in the process of discerning whether the project will affect any historic properties, as outlined by Section 106 of the National Historic Preservation Act. It will be greatly appreciated if all feedback can be provided within the thirty (30)-day public review and comment period (starting from the date of this letter) so that all comments can be properly addressed while meeting the established project schedule.

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Grading, temporary construction and maintenance easements may be required outside of the highway ROW for drainage management, especially near the upstream and downstream ends of three existing culverts beneath the road. One of these culverts is located at midway between Lahainaluna Road and Dickenson Street. The other two culverts are located roughly 135' and 560' east of Prison Street.

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650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

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Sincerely,

M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
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Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808 521 3051 F 808 524 0246 www.m-e.com

January 5, 2006

Hui Mālama I Nā Kūpuna O Hawai'i Nei
Maui Office
157 Alea Place
Pukalani, Hawai'i 96768

Attn: Kahu Charles Kauluwehi Maxwell Sr., Po'o / Kahu Edward Halealoha Ayau, Luna Ho'okō

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Archaeological & Historic Consultation

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January 6, 2006

Friends of Moku'ula
505 Front Street
Suite 234
Lahaina, Hawai'i 96761

Attn: Kahu Jerry Kunimoto, Po'o / Kahu Akoni Akana, Luna Ho'okō

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
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January 6, 2006

'Iolani Palace—Friends of 'Iolani Palace
PO Box 2259
Honolulu, Hawai'i 96804-9983

Attn: Kahu Alice F. Guild, Po'o

Subject: State of Hawai'i, Department of Transportation, Highways Division
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Waine'e, Lahaina, Maui, Hawai'i
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January 6, 2006

Department of Hawaiian Home Lands
Office of the Chairman
1099 Alakea Street
Suite 2000
Honolulu, Hawai'i 96813

Attn: Mr. Micah Kane, Chairman

Subject: State of Hawai'i, Department of Transportation, Highways Division
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Waine'e, Lahaina, Maui, Hawai'i
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M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

January 6, 2006

Department of Hawaiian Home Lands
MAUI DISTRICT OFFICE
655 Kaumuali'i Street
Suite 1
Wailuku, Hawai'i 96793

Attn: Maui District Manager

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Archaeological & Historic Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on archaeological and historic properties are anticipated to be minor, if any. In the unlikely event that archaeological or historic material is encountered during project activities, work will cease immediately and the State of Hawai'i, Department of Land and Natural Resources (DLNR), Historic Preservation Division (SHPD) will be notified. The DLNR-SHPD and identified familial descendants will be consulted for the appropriate treatment of the find. This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for clarification. The area of potential impact is contained primarily to within the existing 80' wide highway right-of-way for the length of the project.

At this early stage in project development, we are evaluating the opinions and concerns of the public that occupy the surrounding areas of the aforementioned project. We are also in the process of discerning whether the project will affect any historic properties, as outlined by Section 106 of the National Historic Preservation Act. It will be greatly appreciated if all feedback can be provided within the thirty (30)-day public review and comment period (starting from the date of this letter) so that all comments can be properly addressed while meeting the established project schedule.

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of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides mostly by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The State of Hawai'i DOT-HWY proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The project will also add a bikelane, shoulder, and sidewalk. All finished structures will be within the existing 80'-wide ROW.

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Grading, temporary construction and maintenance easements may be required outside of the highway ROW for drainage management, especially near the upstream and downstream ends of three existing culverts beneath the road. One of these culverts is located at midway between Lahainaluna Road and Dickenson Street. The other two culverts are located roughly 135' and 560' east of Prison Street.

The project is currently under review by the local State Historic Preservation Officer—the DLNR-SHPD—for potential impacts to archaeological and historic properties. In using DLNR-SHPD's online Hawai'i Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area. A copy of the DLNR-SHPD GIS printout encompassing the project region is enclosed for your reference, along with a listing of identified historic sites for the island of Maui.

A determination has been received from the US Fish and Wildlife Service (FWS) that, in accordance with their Endangered Species Act Section 7 review, no endangered, threatened, or candidate plant and animal species exists in the project area. In addition, no proposed or final

critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your reference.

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
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Mike.Nishimura@M-E.AECOM.Com

Sincerely,

M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures:
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January 6, 2006

Bishop Museum
1525 Bernice Street
Honolulu, Hawai'i 96817

Attn: Dr. Bill Brown, Director

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
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January 6, 2006

Office of Hawaiian Affairs
Washington, DC Bureau NCAI HDQTRS
1301 Connecticut Avenue NW
Suite 200
Washington, DC 20036

Attn: Mr./Ms. Chairperson

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
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January 6, 2006

Office of Hawaiian Affairs
MAUI OFFICE
140 Ho'ohana Street
Suite 206
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Attn: Mr./Ms. Chairperson

Subject: State of Hawai'i, Department of Transportation, Highways Division
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January 17, 2006

State of Hawai'i, Historic Preservation Division
Burials Program (Maui / Lāna'i Island)
MAUI LĀNA'I ISLANDS BURIAL COUNCIL
2087 Wells Street
Wailuku, Hawai'i 96793

Attn: Ms. Dana Naone Hall, Vice-Chair

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
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This information and request letter was sent to Kahu Charles Maxwell (Po'o of the Hui Mālama I Nā Kūpuna O Hawai'i Nei and Chair of the Maui Lāna'i Islands Burial Council) on Thursday, January 5, 2006, and is being copied to you at his request.

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At this early stage in project development, we are evaluating the opinions and concerns of the public that occupy the surrounding areas of the aforementioned project. We are also in the process of discerning whether the project will affect any historic properties, as outlined by Section 106 of the National Historic Preservation Act. It will be greatly appreciated if all feedback can be provided within the thirty (30)-day public review and comment period (starting from the date of this letter) so that all comments can be properly addressed while meeting the established project schedule.

The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides mostly by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The State of Hawai'i DOT-HWY proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The project will also add a bikelane, shoulder, and sidewalk. All finished structures will be within the existing 80'-wide ROW.

Two public recreational facilities border the *mauka* edge of the project site—(1) Lahaina Aquatic Center and Park, which is located primarily between Prison and Shaw Streets; and the adjacent (2) Lahaina Recreation Center and Park, which is located predominantly between Shaw and Kaua'ula Streets. Although no work is anticipated to occur within the park properties, widening of Honoapi'ilani Highway may require protective measures (root cutting, root barrier installation, and/or tree removal or *mauka* relocation) to be performed on approximately 32 large (30'–50'± tall), existing monkeypod and 50'–60'± tall palm trees located along the *mauka* ROW in the parks. Consultation with arborists are planned to ascertain viable options for the treatment of the trees. Additional trees (monkeypod, banyan, avocado, mango, plumeria, fruit, palm, etc.), bushes and hedges along the edges of the project alignment may be similarly affected by the project, including a row of narrow 20'± tall Wiliwili trees along the *mauka* edge of the ROW between Dickenson and Prison Streets. A landscaped highway median may be considered in the project design.

Grading, temporary construction and maintenance easements may be required outside of the highway ROW for drainage management, especially near the upstream and downstream ends of three existing culverts beneath the road. One of these culverts is located at midway between Lahainaluna Road and Dickenson Street. The other two culverts are located roughly 135' and 560' east of Prison Street.

The project is currently under review by the local State Historic Preservation Officer—the DLNR-SHPD—for potential impacts to archaeological and historic properties. In using DLNR-SHPD's online Hawai'i Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area. A copy of the DLNR-SHPD GIS printout encompassing the project region is enclosed for your reference, along with a listing of identified historic sites for the island of Maui.

A determination has been received from the US Fish and Wildlife Service (FWS) that, in accordance with their Endangered Species Act Section 7 review, no endangered, threatened, or candidate plant and animal species exists in the project area. In addition, no proposed or final critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your reference.

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

M&E Pacific, Inc.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawai'i 96813
Telephone: (808) 521-3051
Fax: (808) 524-0246

Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,

M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures: (1) Project Maps and Sketches
(2) DLNR-SHPD GIS Printout of Historic and Archaeological Properties in the Project Region and Listing of Identified Historic Sites for the Island of Maui
(3) Letter of Determination from the US FWS

cc: Project File

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Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

January 17, 2006

State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
MAUI OFFICE
150 Mahalani Street
Wailuku, Hawai'i 96793

Attn: Mr. Hīnano Rodrigues, Cultural Specialist

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Request for Archaeological and Historic Sites Review

This information and request letter was originally sent to your Kapolei, O'ahu office on Wednesday, June 29, 2005, and was subsequently forwarded to Ms. Melissa Kirkendall of your Maui office for review. As of the date of this letter, review of the project is still on-going by Ms. Kirkendall. In the interim, this project information is being copied to you for assistance in your survey of the community to ascertain and identify any potential families and descendants with knowledge of historic properties within or near the project area that may be potentially affected by the project undertaking. Again, thank you very much for your help.

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on archaeological and historic properties are anticipated to be minor, if any. In the unlikely event that archaeological or historic material is encountered during project activities, work will cease immediately and the State of Hawai'i, Department of Land and Natural Resources (DLNR), Historic Preservation Division (SHPD) will be notified. The DLNR-SHPD and identified familial descendants will be consulted for the appropriate treatment of the find. This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for clarification. The area of potential impact is contained primarily to within the existing 80' wide highway right-of-way for the length of the project.

At this early stage in project development, we are evaluating the opinions and concerns of the public that occupy the surrounding areas of the aforementioned project. We are also in the

process of discerning whether the project will affect any historic properties, as outlined by Section 106 of the National Historic Preservation Act. It will be greatly appreciated if all feedback can be provided within the thirty (30)-day public review and comment period (starting from the date of this letter) so that all comments can be properly addressed while meeting the established project schedule.

The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides mostly by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The State of Hawai'i DOT-HWY proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The project will also add a bikelane, shoulder, and sidewalk. All finished structures will be within the existing 80'-wide ROW.

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The project is currently under review by the local State Historic Preservation Officer—the DLNR-SHPD—for potential impacts to archaeological and historic properties. In using

DLNR-SHPD's online Hawai'i Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area. A copy of the DLNR-SHPD GIS printout encompassing the project region is enclosed for your reference, along with a listing of identified historic sites for the island of Maui.

A determination has been received from the US Fish and Wildlife Service (FWS) that, in accordance with their Endangered Species Act Section 7 review, no endangered, threatened, or candidate plant and animal species exists in the project area. In addition, no proposed or final critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your reference.

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535; Fax: (808) 873-3544; Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

M&E Pacific, Inc.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawai'i 96813
Telephone: (808) 521-3051; Fax: (808) 524-0246

Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,
M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures:
(1) Project Maps and Sketches
(2) DLNR-SHPD GIS Printout of Historic and Archaeological Properties in the Project Region and Listing of Identified Historic Sites for the Island of Maui
(3) Letter of Determination from the US FWS

cc: Project File

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu Hawaii 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

January 30, 2006

Office of Hawaiian Affairs
MAUI OFFICE
140 Ho'ohana Street
Suite 206
Kahului, Hawai'i 96732

Attn: Ms. Thelma Shimaoka, Community Resource Coordinator

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Archaeological & Historic Consultation

This information and request letter was originally sent to both your Washington, DC and Maui offices on Friday, January 6, 2006, for review, and last Friday, January 27, 2006, we received a response letter from Mr. Clyde W. Nāmu'o, Administrator, of your Honolulu office, that requested that we contact you for historic sites consultation and assistance. A copy of this response letter is attached for your reference. Also requested in this letter was that we contact Ms. Pam Nishiama [Ms. Patty Nishiyama] of Nā Kūpuna O Maui, which has been done. We are awaiting response from them. We have received a tentative verbal response from Ms. Melissa Kirkendall of the State Historic Preservation Division—Maui Office that no adverse effects on historic sites is anticipated by the project. A record of this telephone conversation with Ms. Kirkendall is attached for your reference. Lastly, the Advisory Council on Historic Preservation (ACHP) has declined the opportunity to be historic consultants on this project. A record of telephone conversation with the ACHP is attached for your reference.

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on archaeological and historic properties are anticipated to be minor, if any. In the unlikely event that archaeological or historic material is encountered during project activities, work will cease immediately and the State of Hawai'i, Department of Land and Natural Resources (DLNR), Historic Preservation Division (SHPD) will be notified. The DLNR-SHPD and identified familial descendants will be consulted for the appropriate treatment of the find. This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for clarification. The area of potential impact is contained primarily to within the existing 80′ wide highway right-of-way for the length of the project.

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archaeological properties and sites are identified to exist within or near the project area. A copy of the DLNR-SHPD GIS printout encompassing the project region is enclosed for your reference, along with a listing of identified historic sites for the island of Maui.

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The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535; Fax: (808) 873-3544; Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

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Telephone: (808) 521-3051; Fax: (808) 524-0246

Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures:
(1) Project Maps and Sketches
(2) DLNR-SHPD GIS Printout of Historic and Archaeological Properties in the Project Region and Listing of Identified Historic Sites for the Island of Maui
(3) Letter of Determination from the US FWS
(4) Letter of Determination from the OHA (Honolulu Office)
(5) Record of Telephone Conversation with the SHPD (Maui Office)
(6) Record of Telephone Conversation with the ACHP

cc: Project File

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M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808 521.3051 F 808.524 0246 www.m-e.com

July 19, 2005

County of Maui
Department of Planning
250 South High Street, 2nd Floor
Wailuku, Hawai'i 96793

Attn: Ms. Kievette Caigoy

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [por each]
DOT-HWY Project Number 30BC-01-04

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (Highways Division) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway, adverse impacts on existing historic properties are not anticipated. The project will be contained entirely within the existing 80′ State right-of-way dedicated for the highway.

A description of the project is as follows:

"The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The existing highway between Lahainaluna and 'Aholo Roads (project limits) varies in width, but is primarily comprised of two 11′ asphaltic concrete (AC)-paved lanes and paved and unpaved shoulders without curbs or gutters. Approaches to intersections with cross streets transition up to four 11′ lanes—one lane in each direction for traffic straight through the intersection and outside lanes for right turns. Distinct lanes for bicyclists and pedestrians have not been established.

The State of Hawai'i DOT, Highways Division (HWY) proposes to increase the width of Honoapi'ilani Highway to four 11' vehicular travel lanes with 12' median (shared left-turn corridor at intersections and landscaped median in other locations) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The highway will also have a 4' bikelane, 2½' curb and gutter, 2' grass strip, 5' sidewalk, and 12"-thick concrete retaining wall with guardrail along its *makai* edge, and 8' paved shoulder and 12"-thick concrete retaining wall with guardrail along its *mauka* edge. Low shrubs or hedges may be planted behind the *mauka* guardrail. New catchbasins with 100'-deep drywells will be installed along the *makai* side of the highway to accommodate roadway runoff, while the finished drainage patterns on the *mauka* side of the highway will be similar to the sheet flow patterns of the existing condition. All finished structures will completely occupy and be entirely within the existing 80'-wide ROW."

The project will be funded entirely by the State with no contribution from the federal government. The project manager at the DOT-HWY is:

Ms. Charlene Shibuya
DOT-HWY, Maui District, 650 Palapala Drive, Kahului, Hawai'i 96732
Telephone: (808) 873-3535, Fax: (808) 873-3544, Email: Charlene.Shibuya@Hawaii.Gov

A few maps and sketches of the current design for the subject project are enclosed for your use. The area of potential effect is contained to the entire area within the existing 80'-wide highway right-of-way for the length of the project. Please review these enclosures and provide us with any information on identified or potential historic and archaeological properties known or assumed to exist within or near the project area that may be impacted by the project undertaking. In using the State of Hawai'i, Department of Land and Natural Resources (DLNR), State Historic Preservation Division's (SHPD's) online Hawai'i Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area. A letter similar to this one and its attachments was sent to the DLNR-SHPD on June 29, 2005, for consultation. Their review is on-going.

Should you have any questions or more information is required, please call Ms. Diane Kodama or myself at 521-3051. Our email addresses are Diane.Kodama@M-E.AECOM.Com and Mike.Nishimura@M-E.AECOM.Com, respectively.

Very truly yours,

Michael S. Nishimura, P.E.
Project Engineer

msn

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

July 29, 2005

RECEIVED
AUG - 3 2005
M & E PACIFIC, INC.

Mr. Michael S. Nishimura
M&E Pacific
Davies Pacific Center, Suite 1900
Honolulu, Hawaii 96813

Dear Mr. Nishimura:

RE: Preconsultation Comments in Preparation of the Draft Environmental Assessment for the Honoapiilani Highway Widening, Lahainaluna Road to 'Aholo Road, Lahaina, Island of Maui, Hawaii (LTR 2005/2023)

The Maui Planning Department (Department) is in receipt of your letter dated July 19, 2005, requesting comments on the Draft Environmental Assessment (EA) prepared for the proposed widening of Honoapiilani Highway from Lahainaluna Road to 'Aholo Road in Lahaina, Maui.

The proposed action involves work on the existing highway between mileposts 19.90 and 20.97. Widening activities include: widening to four (4) 11' vehicular travel lanes with 12' median (shared left-turn corridor at intersections and landscaped median in other locations); 4' bikelane; 2.5' curb and gutter; 2' grass strip; 5' sidewalk and 12"-thick concrete retaining wall with guardrail along the makai edge; 8' paved shoulder and 12"-thick concrete retaining wall with guardrail along the mauka edge; low shrubs or hedges along mauka edge; and new catchbasins with 100'-deep drywells along makai side of highway.

Based on the foregoing and additional information obtained from a meeting on July 21, 2005, the Department provides the following comments:

1. The proposed action may require a Special Management Area (SMA) Use Permit and Historic District Approval. The Department will confirm upon review of the additional figures provided in the Draft EA.

2. The Department recommends review by the Cultural Resources Commission (CRC) relative to potential impacts to cultural, historic, or archaeological sites in the area. Please contact Ms. Kivette Caigoy or Ms. Robyn Loudermilk, of my office, at 270-7735 for scheduling.

250 SOUTH HIGH STREET, WAILUKU, MAUI, HAWAII 96793
PLANNING DIVISION (808) 270-7735; ZONING DIVISION (808) 270-7253; FACSIMILE (808) 270-7634

3. The Department recommends further consultation with the following agencies/organizations:

   - Lahaina Town Action Committee
   - West Maui Taxpayers Association
   - Na Kapuna O Maui
   - Friends of Mokoula
   - Maria Lanakila Catholic Church and Sacred Hearts School

4. Discuss proposed traffic mitigation measures implemented during construction activities. Will construction occur in the evening hours? Will traffic be detoured?

5. Discuss and provide landscape planting plans for the proposed action. Identify significant trees, if any, along the corridor which may be impacted by the proposed action.

6. Provide cross-sectional plans. Discuss whether raised sidewalks and delineated bike paths will be provided.

7. Address safety concerns for children and pedestrians crossing the highway especially near the Lahaina Recreation Center. Consult with the Boys and Girls Club located in the Lahaina Recreation Center.

8. Discuss whether additional land will be needed for the proposed action.

9. Discuss the anticipated construction schedule.

Thank you for the opportunity to comment. Please include the Department on the distribution list for the Draft EA. Should you require further clarification, please contact Ms. Kivette Caigoy, Environmental Planner, at 270-7735.

Sincerely,

MICHAEL W. FOLEY
Planning Director

MWF:KAC:lar
c: Wayne Boteilho, Deputy Planning Director
Clayton Yoshida, Planning Program Administrator
Kivette Caigoy, Environmental Planner
Robyn Loudermilk, Staff Planner
Stanley Solamillo, Staff Planner
Charlene Shibuya, DOT
OEQC
DPWEM
General File
K:\WP_DOCS\PLANNING\EA\PreConComments\2005\2023_HPiilaniHwyWidening.wpd

LINDA LINGLE
GOVERNOR

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

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:
HWY-M 2.027-07

February 5, 2007

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

Dear Mr. Hunt:

SUBJECT: RESPONSE TO COMMENTS DURING PRECONSULTATION FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for Mr. Michael W. Foley's letter dated July 29, 2005, commenting on preconsultation for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following responses to his comments in the same order as they appear in his letter.

1) **The proposed action may require a Special Management Area (SMA) Use Permit and Historic District Approval. The Department will confirm upon review of the additional figures provided in the Draft EA.**

   Subsequent coordination with the County of Maui, Department of Planning, has determined that an SMA Use Permit is not required; however, an SMA Use Permit is currently being processed to cover some pavement transitioning that will occur *makai* into the side roads: 'Aholo Road, Shaw Street, Prison Street, and Dickenson Street. DOT has elected to file a formal SMA application to insure that all property owners within 500 feet of the project receive notice of the project and have an opportunity to express concerns at a public hearing tentatively planned for April 2007.

2) **The Department recommends review by the Cultural Resources Commission (CRC) relative to potential impacts to cultural, historic, or archaeological sites in the area. Please contact Ms. Kivette Caigoy or Ms. Robyn Loudermilk, of my office, at 270-7735 for scheduling**

The project was brought before the Maui County Cultural Resources Commission on March 2, 2006. A follow-up presentation is planned for the CRC later as the project develops.

3) **The Department recommends further consultation with the following agencies/organizations:**

- **Lahaina Town Action Committee**
- **West Maui Taxpayers Association**
- **Na Kupuna O Maui**
- **Friends of Mokoula**
- **Maria Lanakila Catholic Church and Sacred Hearts School**

Project information and a request for review and comment were submitted via letter dated January 4, 2006, to the above agencies/organizations. Subsequent consultation with some of the entities was conducted and discussions of the consultation will be included in the final version of the Environmental Assessment.

4) **Discuss proposed traffic mitigation measures implemented during construction activities. Will construction occur in the evening hours? Will traffic be detoured?**

Any work performed at night will be coordinated with interested and regulating parties. Temporary lighting for the project work area will be provided as required, and the brightness of the lights will not exceed that of existing lighting so as not to disorient any wildlife. The temporary lights will be turned off when not in use. Shielding nearby residences and businesses from lighting will be evaluated.

One lane in both directions of Honoapi'ilani Highway will be open throughout project construction. Approaches to traffic control during construction of the project will be coordinated with agencies and the public. The feasibility of temporary use of Mill Street will also be evaluated for traffic detour from the highway.

5) **Discuss and provide landscape planting plans for the proposed action. Identify significant trees, if any, along the corridor which may be impacted by the proposed action.**

Trees adjacent to but outside of the ROW will remain, while shrubbery and small trees within the ROW will be removed. A landscaping plan (including trimming of some ROW-adjacent trees) will be included in the final version of the Environmental Assessment and construction documents. The landscaping plan will be discussed with the County of Maui, Department of Planning, and Department of Parks and Recreation and the Arborists Advisory Committee.

6) **Provide cross-sectional plans. Discuss whether raised sidewalks and delineated bike paths will be provided.**

Cross-sectional plans of the widened highway were provided in the Draft Environmental Assessment. Revised cross sections will be provided in the final version of the Environmental Assessment.

A typical concrete sidewalk is proposed for the highway. There is insufficient room within the roadway right-of-way to fit an ADA-compliant dedicated pedestrian access—such as an overpass—across Honoapi'ilani Highway near the Lahaina Aquatic Center and Park. Pedestrian and children safety improvements will be provided via safe and adequate pedestrian crossing times at the signalized intersection. Pedestrians will cross Honoapi'ilani Highway similarly to the signalized crossings at Lahainaluna Road, Papalaua Street, Hinau Street, Keawe Street/Lahaina Cannery, and Kapunakea Street. Pedestrian crossing enhancements will be 16'-wide marked crosswalks versus the existing 10'-wide markings, and provision for a landscape median. Bike routes will be maintained for the project length of highway.

7) **Address safety concerns for children and pedestrians crossing the highway especially near the Lahaina Recreation Center. Consult with the Boys and Girls Club located in the Lahaina Recreation Center.**

Pedestrian and children safety will be improved for highway crossing with the installation of a crossing refuge at the highway median in the marked crosswalk, including at the signalized intersection near the Lahaina Recreation Center. The highway widening project will not alter the outdoor recreation use of the Lahaina Recreation Center and Park. Access to the park and its facilities will be maintained throughout the project construction, and the widened highway will allow increased use of and access to the park.

Project information and a request for review and comment were submitted via letter dated January 5, 2006 to the Boys & Girls Club of Maui—West Maui located at the Lahaina Recreation Center. No response was received; thus, a follow-up telephone call was made on Thursday, January 11, 2007, and the Boys & Girls Club expressed concern about the safety of the children crossing the widened highway. Coordination with the club is on-going.

8) **Discuss whether additional land will be needed for the proposed action.**

All finished highway structures will be within the ROW; thus, additional ROW on the *makai* side of the highway is not anticipated. As mentioned previously, an SMA Use Permit is currently being processed to cover side road transitional work that will occur *makai* of the ROW.

9) **Discuss the anticipated construction schedule.**

Construction work is tentatively anticipated to begin in late 2007 and last approximately 18 months.

Again, thank you for your department's comments and participation in the project's preconsultation review and comment process.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

Very truly yours,

for BRENNON T. MORIOKA, Ph.D., P.E.
Deputy Director-Highways

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

January 5, 2006

County of Maui
Department of Parks and Recreation
275D Uhu Street
Kahului, Hawai'i 96732

Attn: Ms. Tamara Horcajo, Chief of Recreation

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Arboral Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), project impacts will be on mostly landscaped locations rather than natural areas. This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for clarification. The area of potential impact is contained primarily to within the existing 80' wide highway right-of-way for the length of the project.

At this early stage in project development, we would like to familiarize you with the project, address any concerns or issues that may be involved with the project, and coordinate potential design resolutions that would be acceptable to the County of Maui.

The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides mostly by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of

the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The State of Hawai'i DOT-HWY proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The project will also add a bikelane, shoulder, and sidewalk. All finished structures will be within the existing 80'-wide ROW.

Two public recreational facilities border the *mauka* edge of the project site—(1) Lahaina Aquatic Center and Park, which is located primarily between Prison and Shaw Streets; and the adjacent (2) Lahaina Recreation Center and Park, which is located predominantly between Shaw and Kaua'ula Streets. Although no work is anticipated to occur within the park properties, widening of Honoapi'ilani Highway may require protective measures (root cutting, root barrier installation, and/or tree removal or *mauka* relocation) to be performed on approximately 32 large (30'–50'± tall), existing monkeypod and 50'–60'± tall palm trees located along the *mauka* ROW in the parks. Consultation with arborists are planned to ascertain viable options for the treatment of the trees. Additional trees (monkeypod, banyan, avocado, mango, plumeria, fruit, palm, etc.), bushes and hedges along the edges of the project alignment may be similarly affected by the project, including a row of narrow 20'± tall Wiliwili trees along the *mauka* edge of the ROW between Dickenson and Prison Streets. A landscaped highway median may be considered in the project design.

Grading, temporary construction and maintenance easements may be required outside of the highway ROW for drainage management, especially near the upstream and downstream ends of three existing culverts beneath the road. One of these culverts is located at midway between Lahainaluna Road and Dickenson Street. The other two culverts are located roughly 135' and 560' east of Prison Street.

Project review and coordination are on-going with the DLNR Division of State Parks (DSP) and the US National Park Service (NPS) for Land and Water Conservation Act Section 6(f)(3) compliance and the US DOT, Federal Highway Administration (FHWA) for DOT Act Section 4(f) compliance. An interim determination has been received from the DLNR-DSP stating that they have no immediate concerns with the preliminary project design. A copy of this interim determination letter is enclosed for your review and use. Coordination with the DLNR-DSP will be maintained as project design develops.

A determination has been received from the US Fish and Wildlife Service (FWS) that, in accordance with their Endangered Species Act Section 7 review, no endangered, threatened, or candidate plant and animal species exists in the project area. In addition, no proposed or final critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your reference.

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

M&E Pacific, Inc.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawai'i 96813
Telephone: (808) 521-3051
Fax: (808) 524-0246

Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,

M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures: (1) Project Maps and Sketches
(2) Interim Letter of Determination from the DLNR-DSP
(3) Letter of Determination from the US FWS

cc: Project File

METCALF & EDDY | AECOM

ALAN M. ARAKAWA
Mayor

GLENN T. CORREA
Director

JOHN L. BUCK III
Deputy Director

(808) 270-7626
Fax (808) 270-7934

DEPARTMENT OF PARKS & RECREATION
COUNTY OF MAUI, RECREATION DIVISION

TAMARA HORCAJO, CHIEF of RECREATION
275-D UHU STREET, KAHULUI, HI 96732

(808) 270-7383
FAX (808) 872-5627

February 9, 2006

Michael S. Nishimura, P.E.
M & E Pacific, Inc.
841 Bishop St.
Honolulu, Hawai'i 96813

Dear Mr. Nishimura,

Subject: State of Hawai'i; Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004-013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Arboral Consultation

Thank you for the information you sent to our Department regarding the widening of Honoapi'ilani Highway. After reviewing the information included in your correspondence, we are requesting additional sketches regarding the impact this project will have on the Lahaina Recreation Center Park.

Please include a detailed description of the road impact on our park–with sketches of the existing park fence line and tree line. In addition, provide elevations of the highway and park boundary to include the development of the transition of the highway's edge. This information should be directed to:

Mr. Patrick Matsui
County of Maui Parks & Recreation
Planning & Development Division
700 Hali'ia Nakoa Street
Wailuku, HI 96793

Our Department will respond after receiving the required information.

Sincerely,

Tamara Horcajo
Chief of Recreation

cc: Glenn Correa
John Buck
Patric Matsui
Jeff Anderson

Tamara Horcajo, Chief of Recreation
DEPARTMENT OF PARKS AND RECREATION
COUNTY OF MAUI
RECREATION & SUPPORT DIVISION
275-D UHU STREET, KAHULUI, HI 96732

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Mr. Michael S. Nishimura, P.E.
M & E Pacific, Inc.
841 Bishop St.
Honolulu, HI 96813

METCALF & EDDY | AECOM

M & E Pacific, Inc.
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January 12, 2007

County of Maui
Department of Parks and Recreation
Planning & Development Division
700 Hali'ia Nakoa Street
Wailuku, Hawai'i 96793

Attn: Mr. Patrick Matsui

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Arboral Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project that involves widening Honoapi'ilani Highway (Route 30) in the District of Lahaina on the western coast of the Island of Maui. The site is located approximately ¼-mile inland of the Pacific Ocean shoreline, roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway is bordered on both sides mostly by private residential subdivisions. The highway is proposed to be widened from 2 vehicular travel lanes to 4 with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road (approximately between mileposts 19.90 and 20.97). The project will also add a marked bikelane, shoulder, and dedicated sidewalk along this stretch of highway. A half-size drawing set of the latest preliminary design for the subject project is enclosed for your reference. Also enclosed is an overall map of the proposed landscaping design. The area of potential impact is contained primarily to within the existing 80′ wide highway right-of-way (ROW) for the length of the project.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui. The project will also provide an aesthetic gateway into Lahaina.

Adverse impacts on the environment, archaeological and historic properties, and adjoining areas are not anticipated for the project. Adverse impacts are not anticipated because the project occurs in a well-developed area and involves widening an existing roadway within an existing established ROW.

Project effects on endangered/threatened animals and plants, historic and archaeological properties, and cultural resources have been determined to be unlikely through coordination and discussion with

governing agencies and knowledgeable individuals. Project coordination with the following agencies and organizations has also either been completed or is on-going:

1. Bishop Museum
2. Boys & Girls Club of Maui—West Maui Club
3. Friends of Moku'ula
4. Hui Mālama I Nā Kūpuna O Hawai'i Nei
5. 'Iolani Palace—Friends of 'Iolani Palace
6. Kā'anapali 2020 (c/o Munekiyo & Haraga, Inc.)
7. Lahaina Baptist Church
8. Lahaina Restoration Foundation
9. Lahaina Town Action Committee
10. Maria Lanakila Catholic Church and Sacred Hearts School
11. Maui County Arborist Advisory Committee (AAC)
12. Maui County Cultural Resources Commission (CRC)
13. Maui County Department of Parks and Recreation
14. Maui County Department of Planning
15. Maui County Department of Public Works and Environmental Management
16. Maui County Maui/Lāna'i Islands Burial Council
17. Na Hale O Waine'e
18. Nā Kūpuna O Maui
19. Office of Hawaiian Affairs
20. State Department of Hawaiian Homelands
21. State Department of Health
22. State DLNR-Division of State Parks
23. US Advisory Council on Historic Preservation
24. US Department of the Interior, National Park Service
25. US Department of Transportation, Federal Highway Administration
26. US Environmental Protection Agency
27. West Maui Taxpayers Association

Responses received thusfar from these agencies, discussions with Cultural Impact Assessment interviewees (local residents knowledgeable of the history and cultural practices of the project site and its surrounding areas), and coordination with Maui County CRC has generally been in favor of the project. The DOT-HWY is currently in contact with the Maui County AAC regarding the project at the time this letter is written.

This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment (EA), which is currently being developed. The draft version of this EA was filed for public review and comment at the Lahaina Public Library since the beginning of June 2006, and notice of the project was published in the June 8, 2006, edition of the *Environmental Notice*—the bi-monthly publication for the State of Hawai'i, Department of Health, Office of Environmental Quality Control (OEQC). This document summarizes project coordination with the aforementioned agencies and organizations, as well as, discussions about potential project impacts and mitigation measures. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. The final version of the EA is currently being drafted at the time this letter is written.

As per the request of Ms. Tamara Horcajo, DPR Chief of Recreation (see attached 2/9/06 response letter), we are presenting you with project information and drawings for review, consultation and coordination. Please note that the design of the project is still in its preliminary stage, and subject to change through coordination with regulating agencies and public input.

The highway project will involve the construction of structures up to the existing Honoapi'ilani Highway ROW; however, no existing trees in Lahaina Recreation Center Park will be removed, as finished structures will be located inside of the ROW. Some grading out from the new highway structures may need to occur slightly into the park, which will be grassed immediately for erosion control. The existing park chain link fence and any other existing structures will be restored to their original conditions, or better, if affected, otherwise they will be left unaltered in-place. Nonetheless, the desired design approach current at the time this letter is written is to complete all construction work without affecting any park trees, chain link fence, or other structures.

Should you have any questions or concerns about the proposed undertaking, please contact the project manager at the State of Hawai'i DOT-HWY:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

It will be greatly appreciated if all feedback, if any, can be provided in a timely manner so that all comments can be properly addressed while meeting the established project schedule.

Sincerely,

M & E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures: (1) Preliminary Project Drawings
(2) Overall Landscaping Plan
(3) Maui County DPR Response Letter (2/9/06) from Ms. Tamara Horcajo

cc: Project File

LINDA LINGLE
GOVERNOR

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

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:
HWY-M 2.025-07

February 5, 2007

Ms. Tamara Horcajo, Chief of Recreation
Department of Parks & Recreation
Recreation Division
County of Maui
275-D Uhu Street
Kahului, Hawaii 96732

Dear Ms. Horcajo:

SUBJECT: RESPONSE TO COMMENTS DURING PRECONSULTATION FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for your letter dated February 9, 2006, commenting on preconsultation for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following response to your comment as it appears in your letter.

1) **After reviewing the information included in your correspondence, we are requesting additional sketches regarding the impact this project will have on the Lahaina Recreation Center Park.**

   Please include a detailed description of the road impact on our park—with sketches of the existing park fence line and tree line. In addition, provide elevations of the highway and park boundary to include the development of the transition of the highway's edge. This information should be directed to:

   Mr. Patrick Matsui
   County of Maui Parks & Recreation
   Planning & Development Division
   700 Hali'ia Nakoa Street
   Wailuku, HI 96793

   Our Department will respond after receiving the required information.

   Finished project structures will be located within the existing 80' Honoapi'ilani Highway right-of-way (ROW). All trees in the Lahaina Recreation Center Park along the highway

are outside of our ROW and will remain in place. A sketch of the latest project design approach next to the park is attached for your reference.

The requested sketches and information were sent to Mr. Matsui on Friday, January 12, 2007, for your Department's review and comment.

Again, thank you for your comments and participation in the project's preconsultation review and comment process.

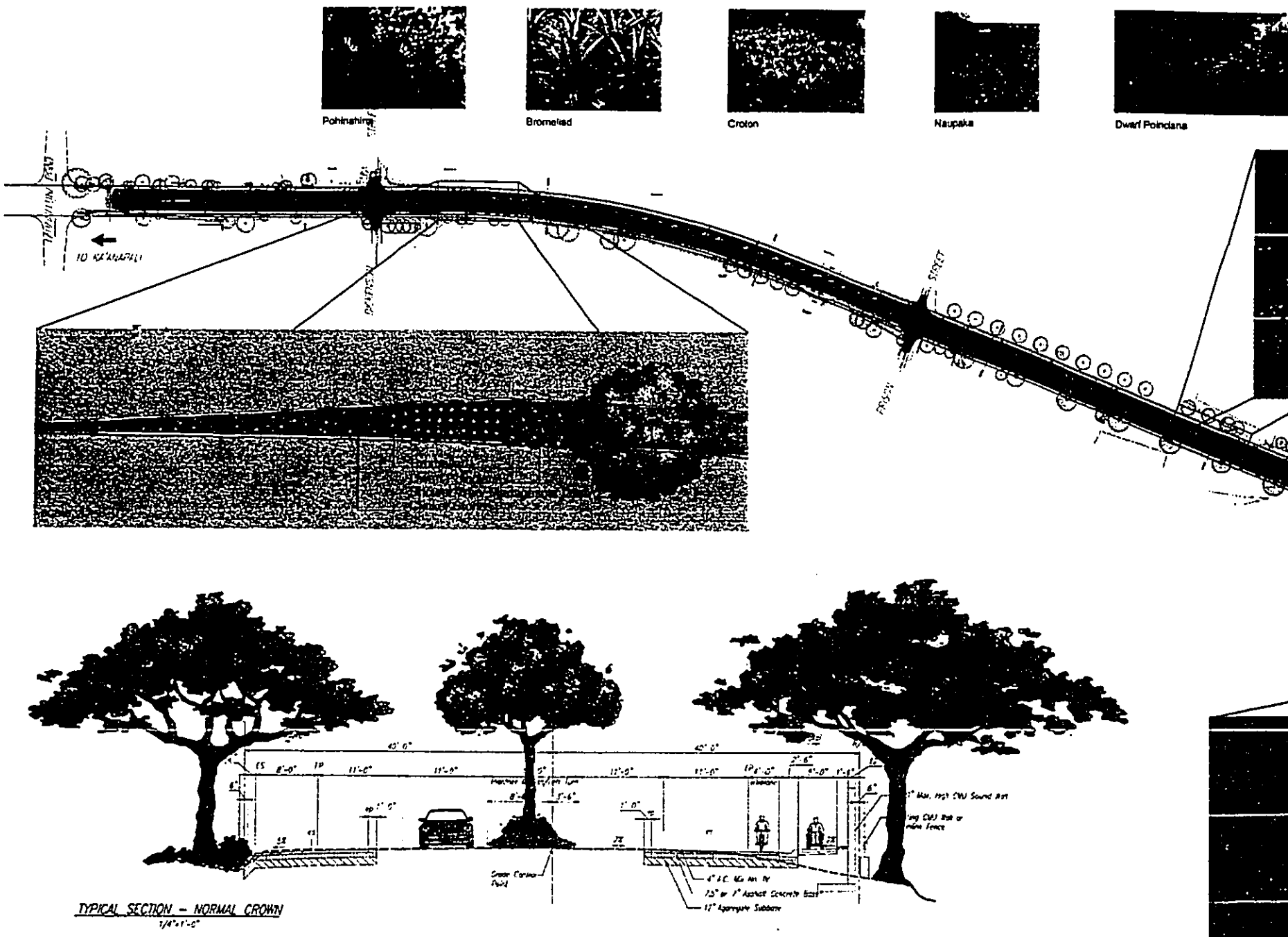
If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

Very truly yours,

for BRENNON T. MORIOKA, Ph.D., P.E.
Deputy Director-Highways

Enclosures

DOCUMENT CAPTURED AS RECEIVED



Honoapiilani Highway Expansion

December '06

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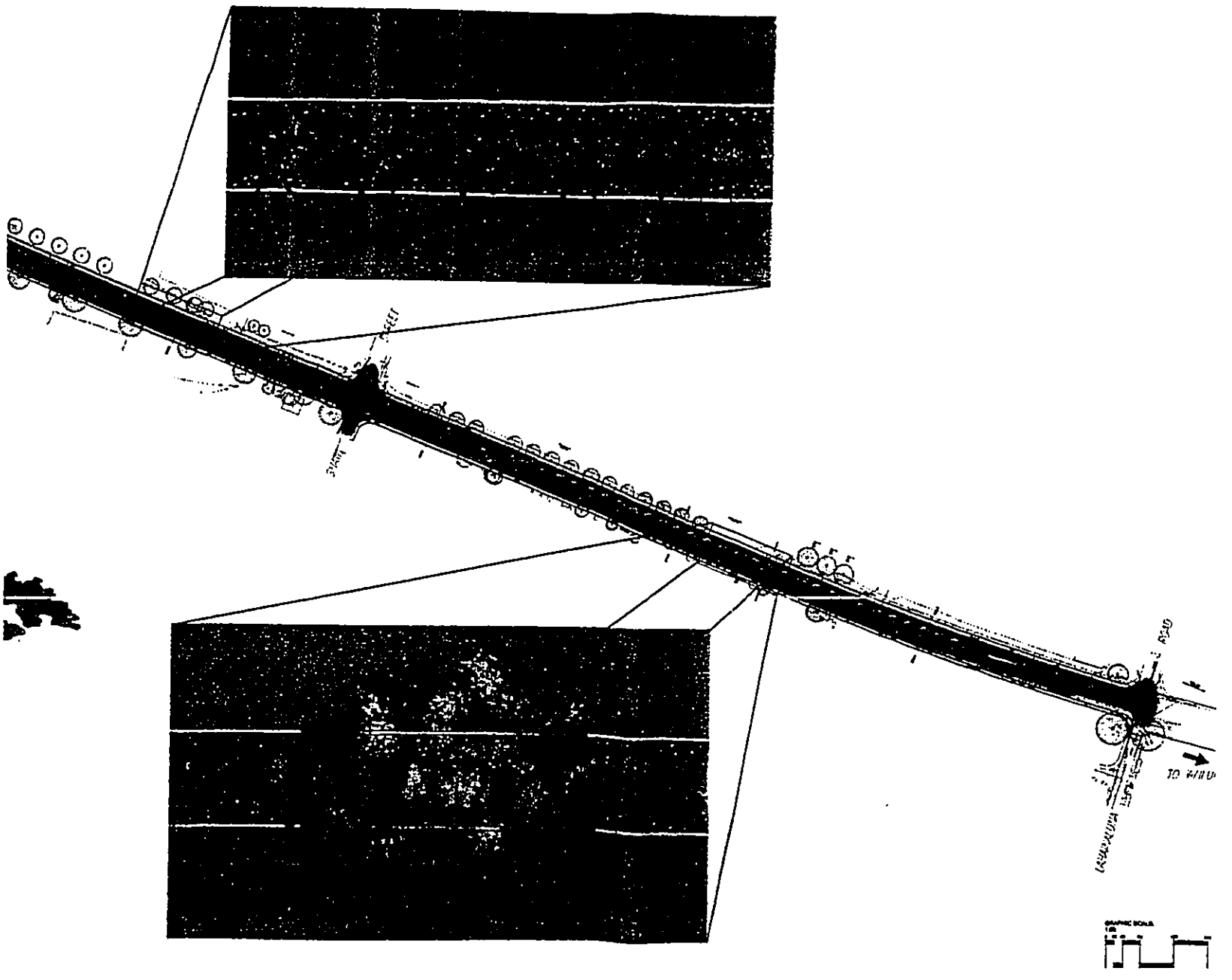
Dwarf Poinciana

Shower Tree

Madagascar Olive

Loulu Palm



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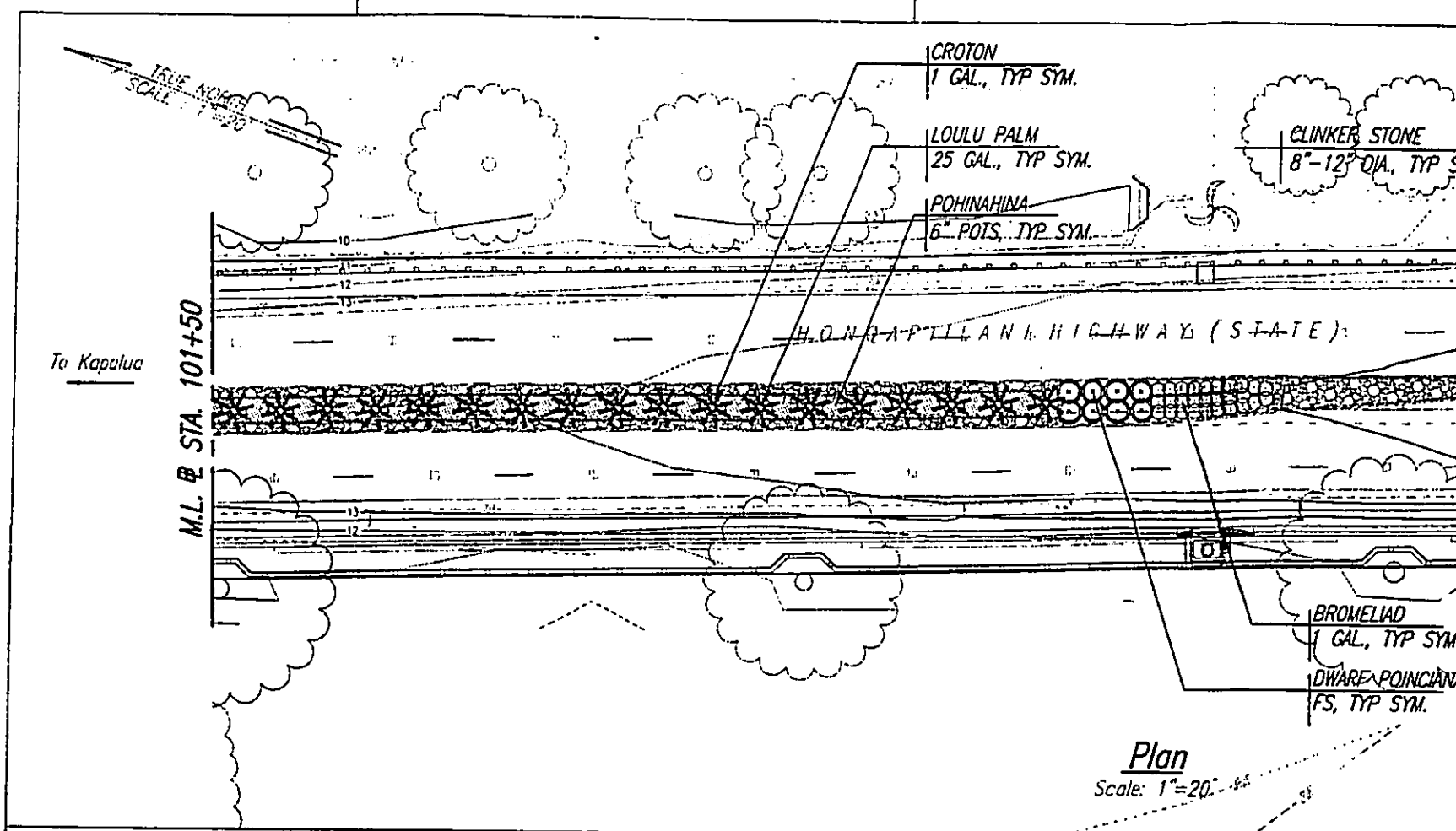

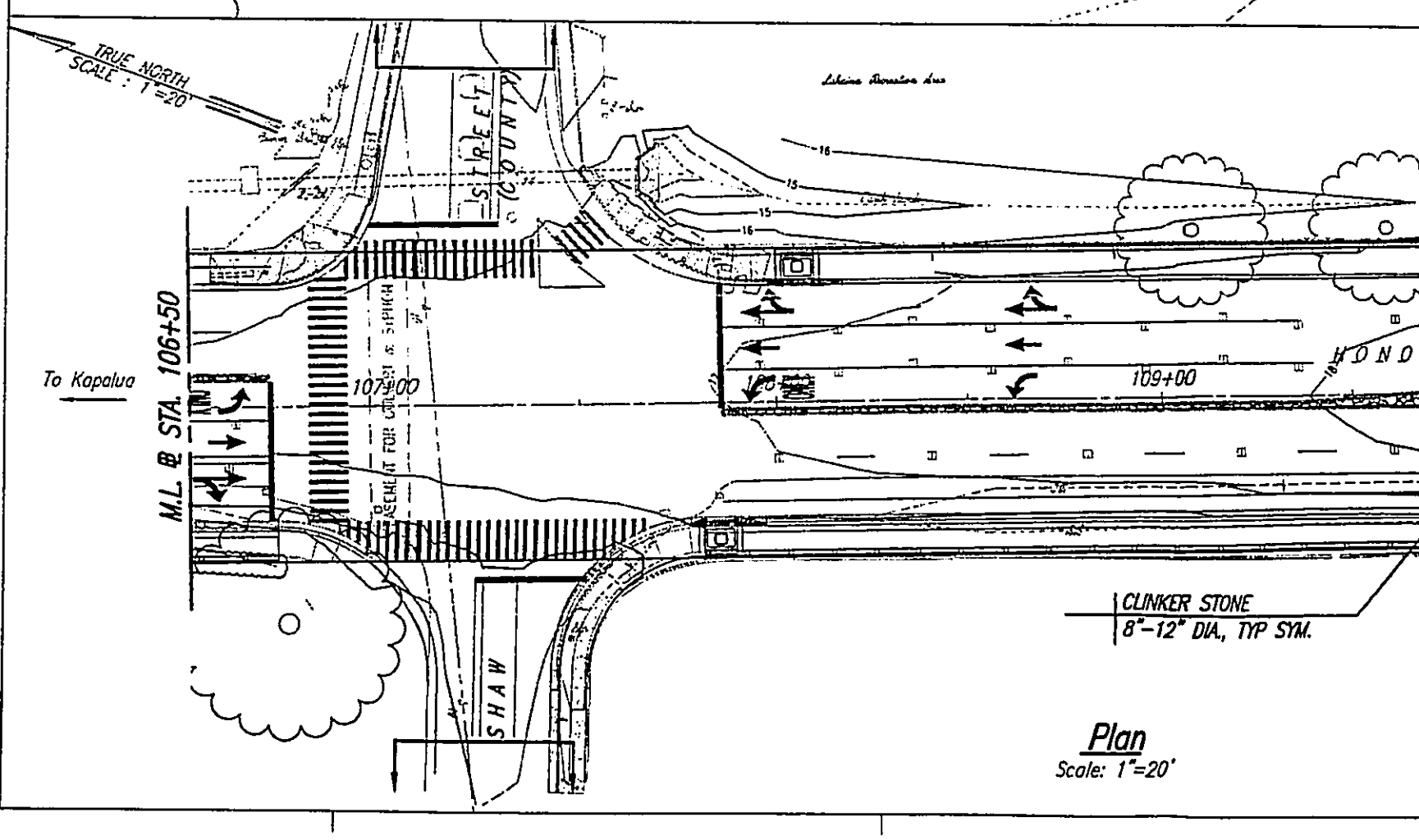

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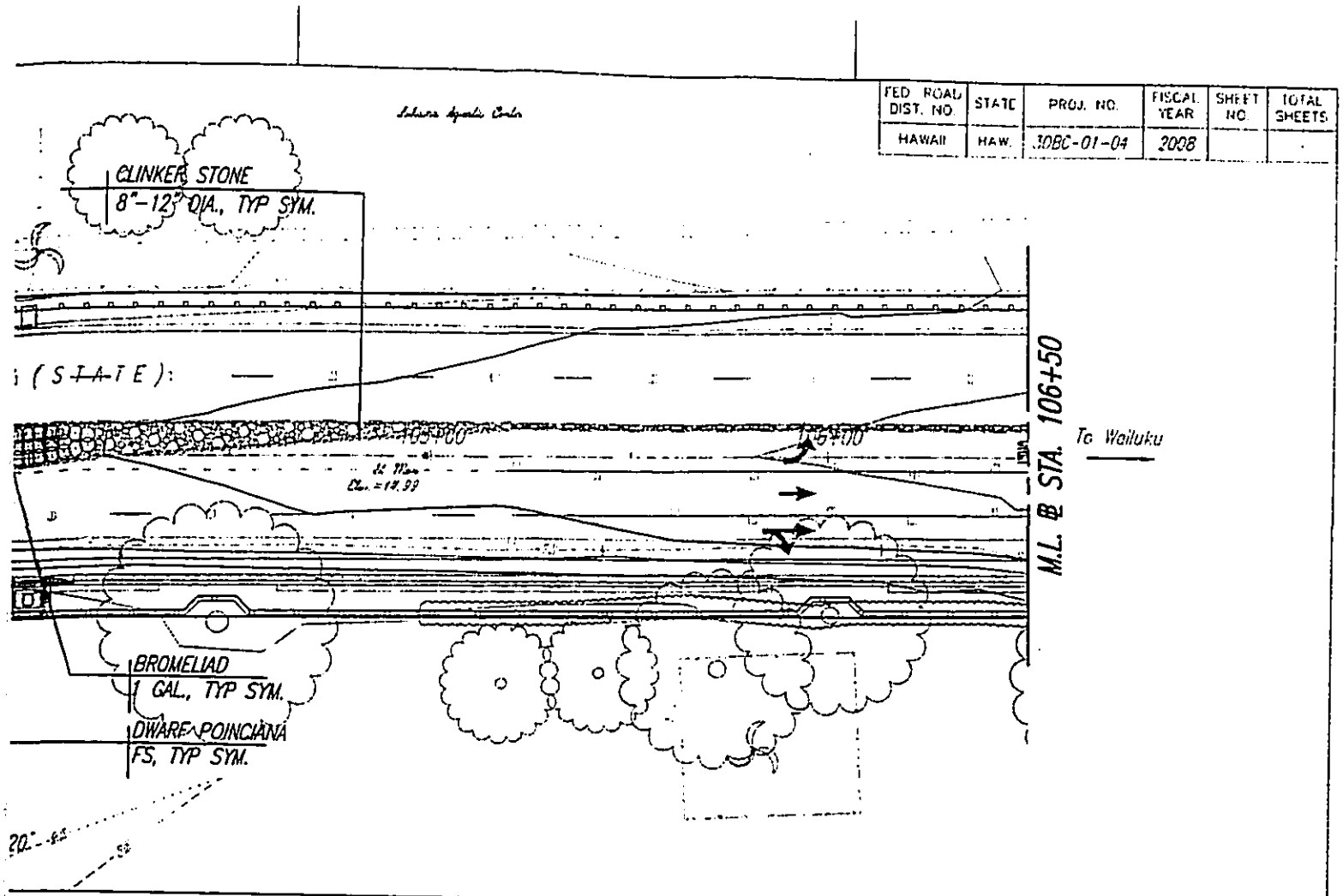

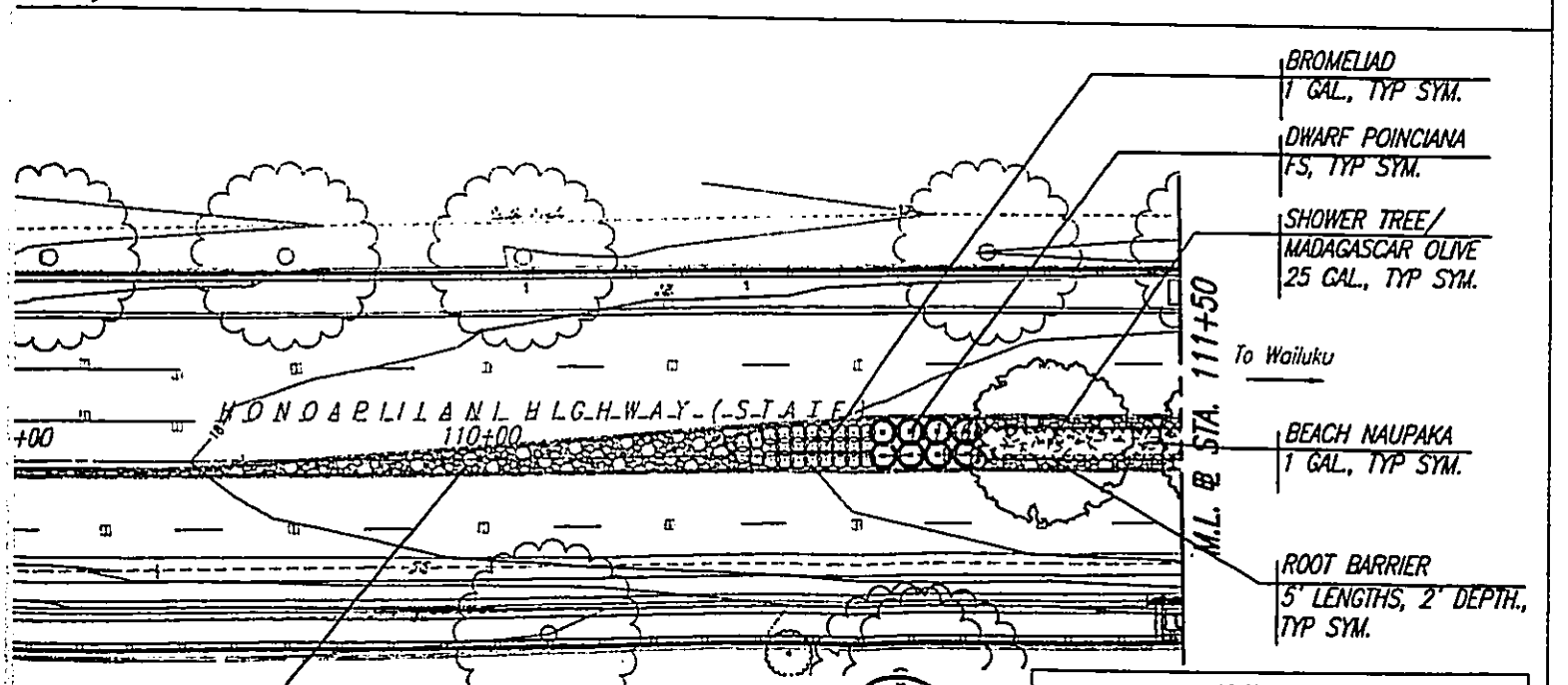

RUSSELL T.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6078
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HONOAPIILANI HIGHWAY
PLANTING PLAN

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Project No. 30BC-01-04

Scale: As Shown Date: January 2007

SHEET No. L-4 OF · SHEETS

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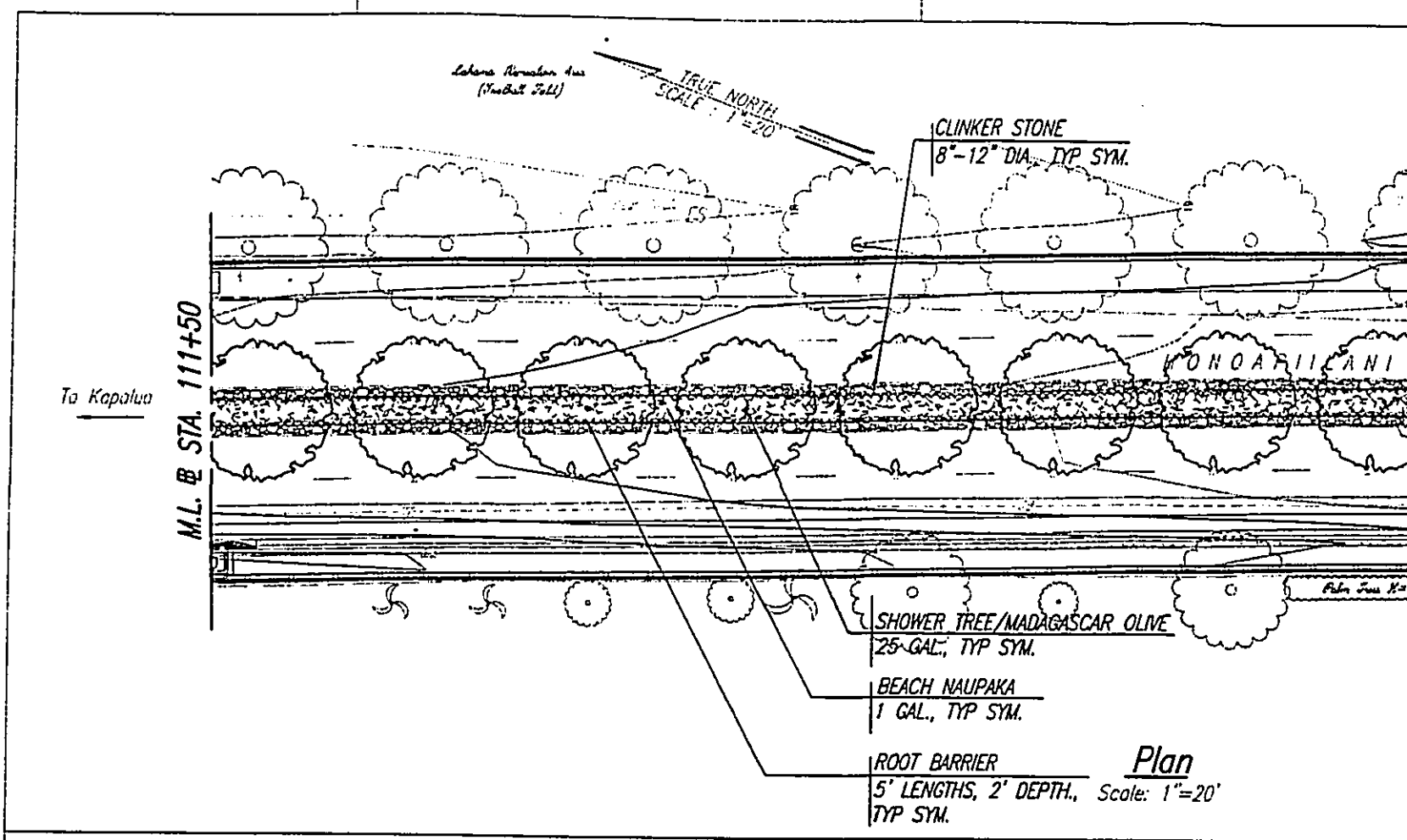

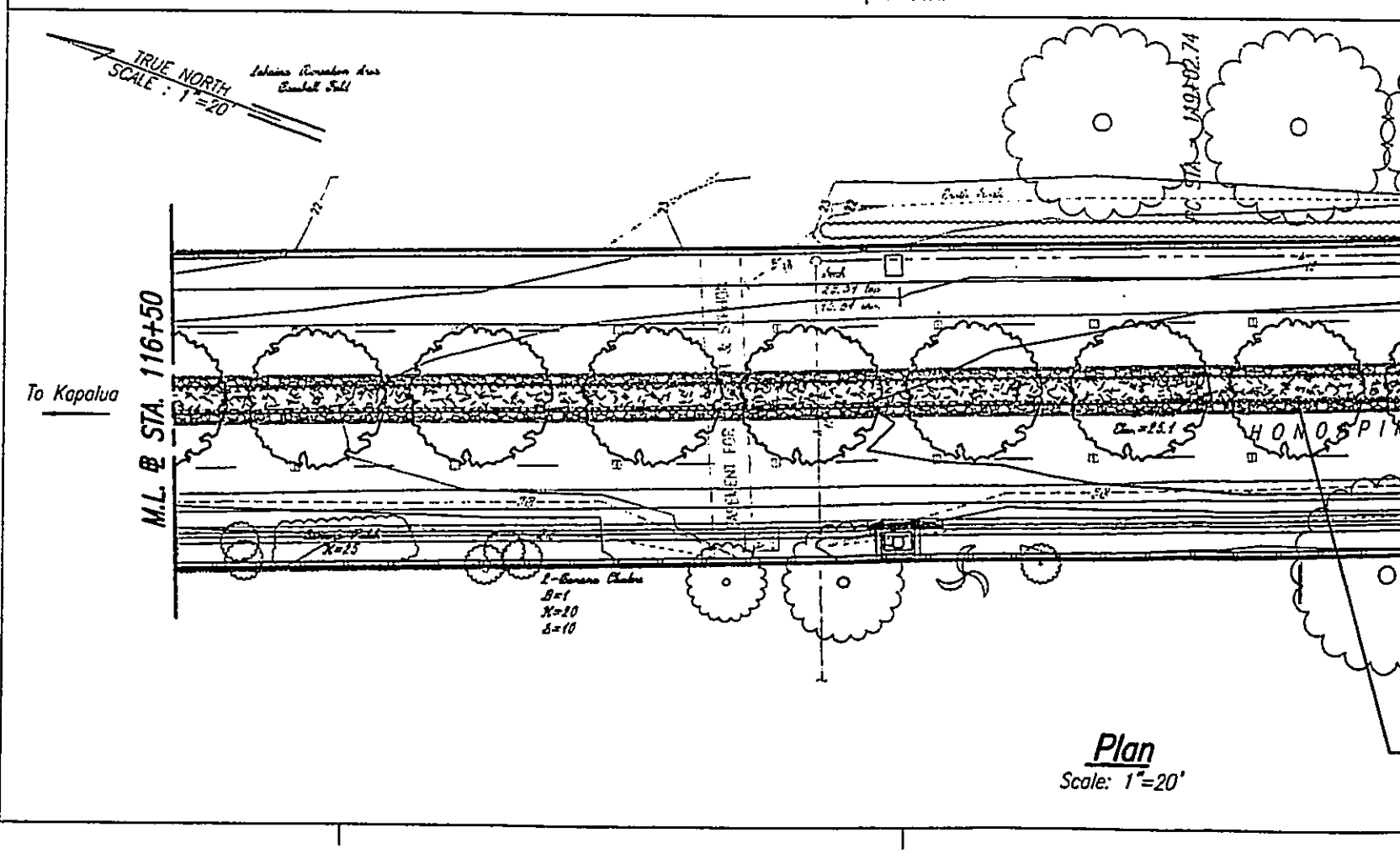

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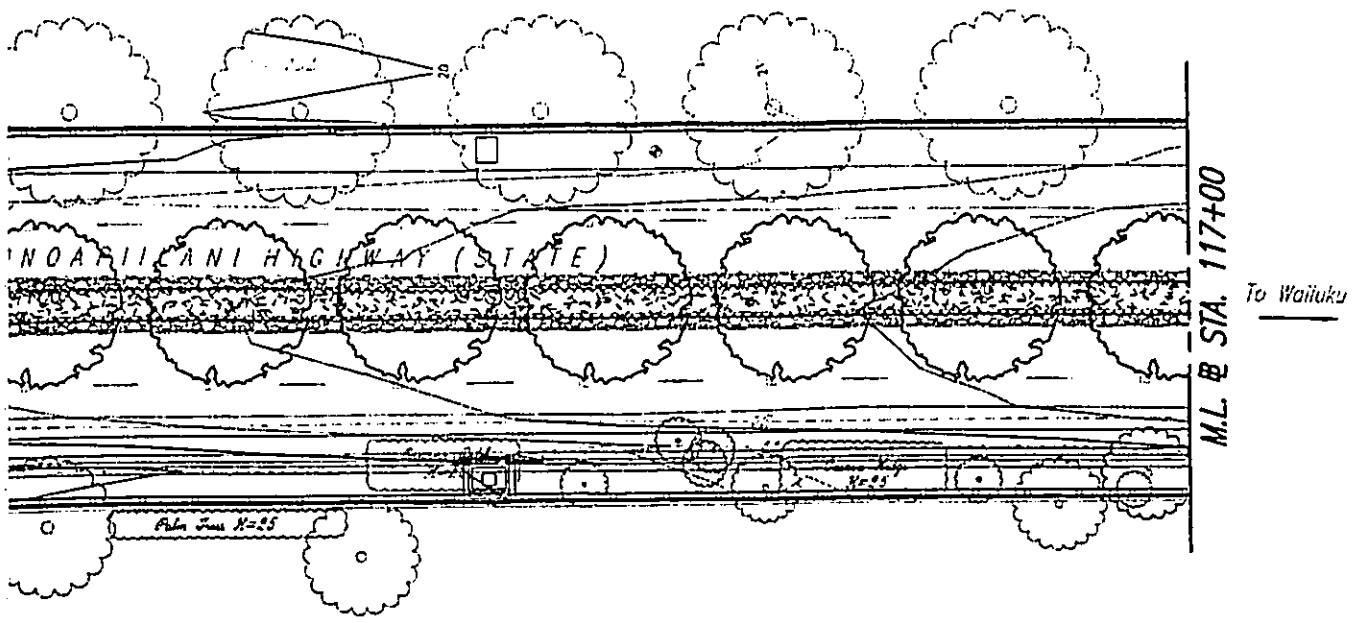
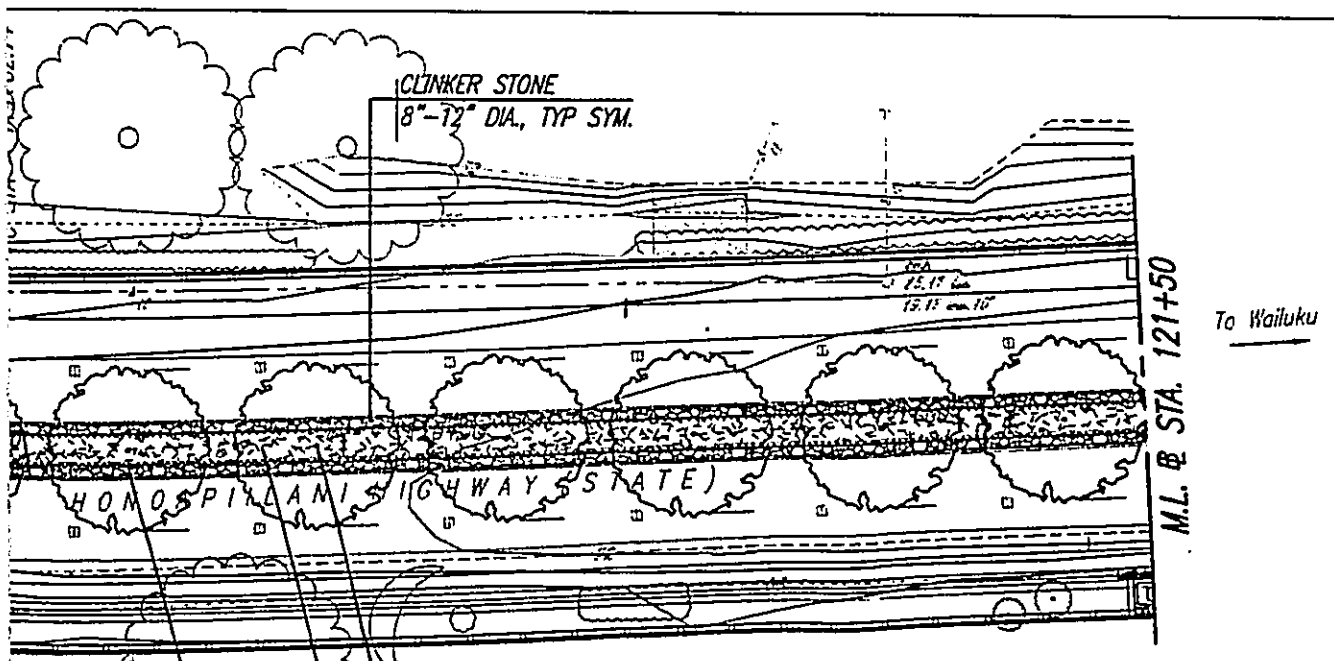
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	30BC-01-04	2008		





SHOWER TREE/MADAGASCAR OLIVE
25 GAL., TYP SYM.

BEACH NAUPAKA
1 GAL., TYP SYM.

ROOT BARRIER
5' LENGTHS, 2' DEPTH., TYP SYM.

RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6076
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HONOAPIILANI HIGHWAY

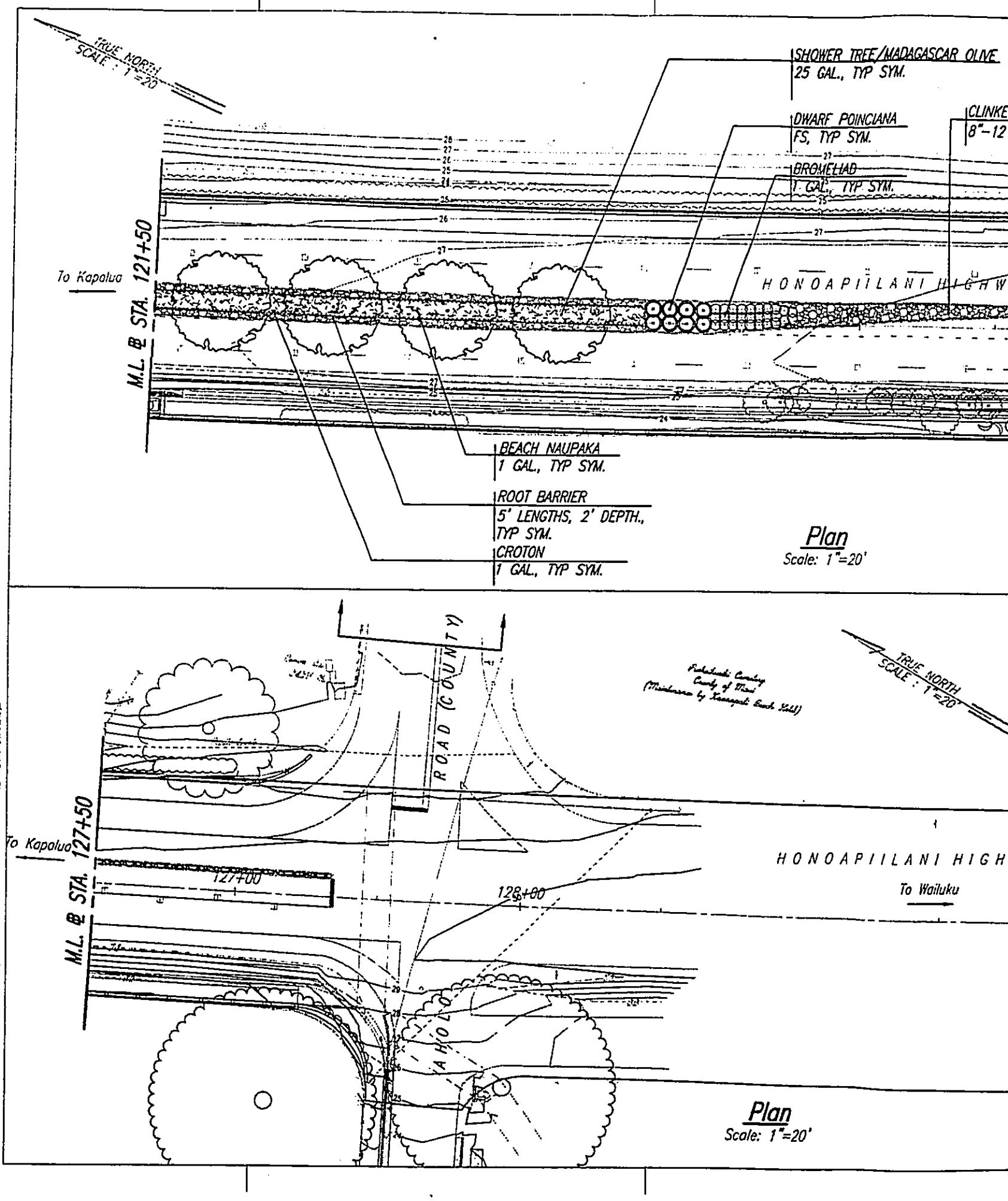
PLANTING PLAN

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Project No. 30BC-01-04

Scale: As Shown Date: January 2007

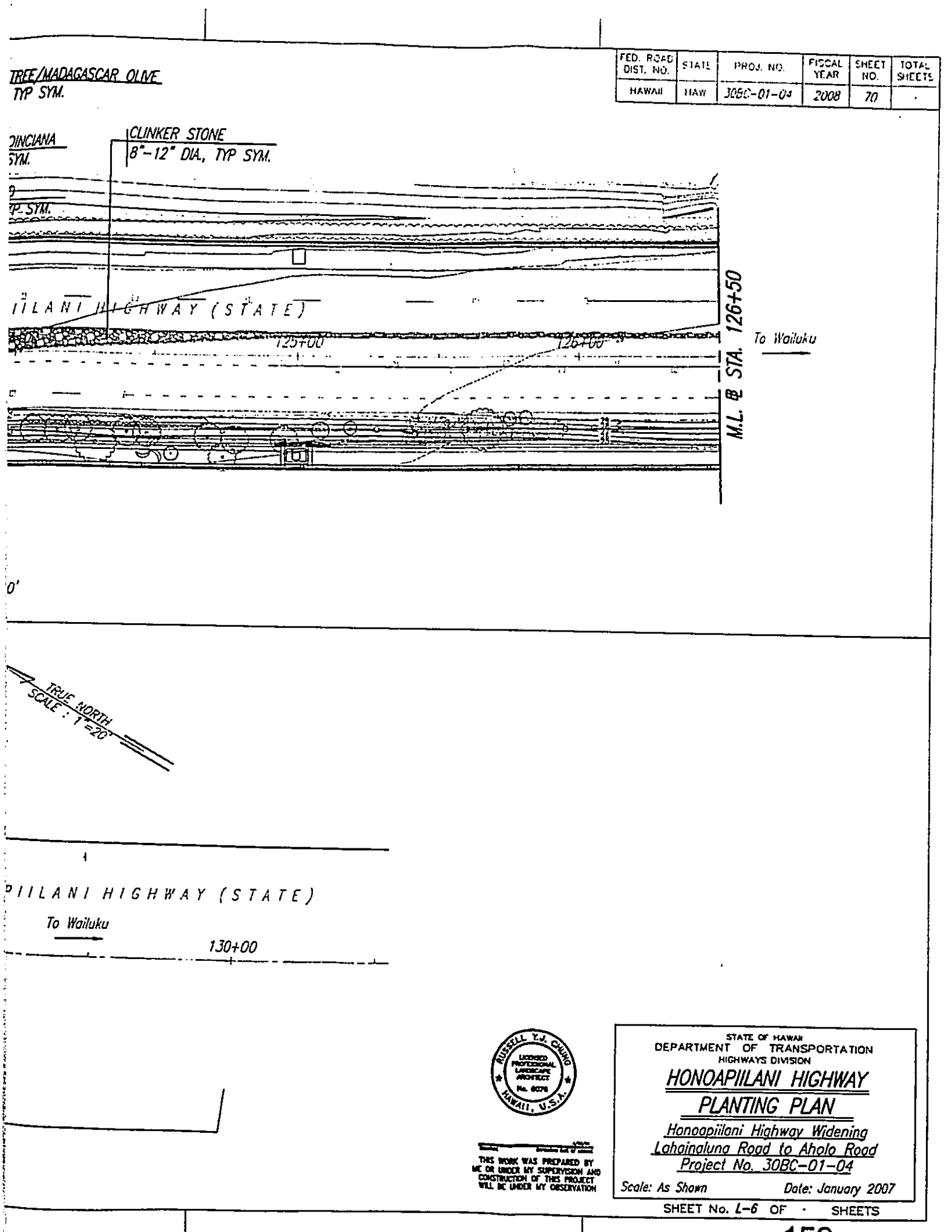
SHEET No. L-5 OF · SHEETS

DOCUMENT CAPTURED AS RECEIVED



DOCUMENT CAPTURED AS RECEIVED

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	30BC-01-04	2008	70	·



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HONOAPIILANI HIGHWAY

PLANTING PLAN

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Project No. 30BC-01-04

Scale: As Shown Date: January 2007

SHEET No. L-6 OF · SHEETS

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

January 5, 2006

County of Maui
Department of Parks and Recreation
1840 Honoapi'ilani Highway
Lahaina, Hawai'i 96761

Attn: Mr. Jeff Anderson, West District Supervisor

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Arboral Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), project impacts will be on mostly landscaped locations rather than natural areas. This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for clarification. The area of potential impact is contained primarily to within the existing 80' wide highway right-of-way for the length of the project.

At this early stage in project development, we would like to familiarize you with the project, address any concerns or issues that may be involved with the project, and coordinate potential design resolutions that would be acceptable to the County of Maui.

The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides mostly by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of

the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The State of Hawai'i DOT-HWY proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The project will also add a bikelane, shoulder, and sidewalk. All finished structures will be within the existing 80'-wide ROW.

Two public recreational facilities border the *mauka* edge of the project site—(1) Lahaina Aquatic Center and Park, which is located primarily between Prison and Shaw Streets; and the adjacent (2) Lahaina Recreation Center and Park, which is located predominantly between Shaw and Kaua'ula Streets. Although no work is anticipated to occur within the park properties, widening of Honoapi'ilani Highway may require protective measures (root cutting, root barrier installation, and/or tree removal or *mauka* relocation) to be performed on approximately 32 large (30'–50'± tall), existing monkeypod and 50'–60'± tall palm trees located along the *mauka* ROW in the parks. Consultation with arborists are planned to ascertain viable options for the treatment of the trees. Additional trees (monkeypod, banyan, avocado, mango, plumeria, fruit, palm, etc.), bushes and hedges along the edges of the project alignment may be similarly affected by the project, including a row of narrow 20'± tall Wiliwili trees along the *mauka* edge of the ROW between Dickenson and Prison Streets. A landscaped highway median may be considered in the project design.

Grading, temporary construction and maintenance easements may be required outside of the highway ROW for drainage management, especially near the upstream and downstream ends of three existing culverts beneath the road. One of these culverts is located at midway between Lahainaluna Road and Dickenson Street. The other two culverts are located roughly 135' and 560' east of Prison Street.

Project review and coordination are on-going with the DLNR Division of State Parks (DSP) and the US National Park Service (NPS) for Land and Water Conservation Act Section 6(f)(3) compliance and the US DOT, Federal Highway Administration (FHWA) for DOT Act Section 4(f) compliance. An interim determination has been received from the DLNR-DSP stating that they have no immediate concerns with the preliminary project design. A copy of this interim determination letter is enclosed for your review and use. Coordination with the DLNR-DSP will be maintained as project design develops.

A determination has been received from the US Fish and Wildlife Service (FWS) that, in accordance with their Endangered Species Act Section 7 review, no endangered, threatened, or candidate plant and animal species exists in the project area. In addition, no proposed or final critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your reference.

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

M&E Pacific, Inc.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawai'i 96813
Telephone: (808) 521-3051
Fax: (808) 524-0246

Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,

M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures: (1) Project Maps and Sketches
(2) Interim Letter of Determination from the DLNR-DSP
(3) Letter of Determination from the US FWS

cc: Project File

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

January 5, 2006

Maui County Arborist Advisory Committee
Kalana Pāku'i Building
250 South High Street
Wailuku, Hawai'i 96793

Attn: Mr. Kelvin Nelson, Chair

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
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A determination has been received from the US Fish and Wildlife Service (FWS) that, in accordance with their Endangered Species Act Section 7 review, no endangered, threatened, or candidate plant and animal species exists in the project area. In addition, no proposed or final critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your reference.

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
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Mike.Nishimura@M-E.AECOM.Com

Sincerely,

M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures: (1) Project Maps and Sketches
(2) Interim Letter of Determination from the DLNR-DSP
(3) Letter of Determination from the US FWS

cc: Project File

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawaii 96813
T 808.521.2051 F 808.524.0246

February 6, 2006

Maui County Cultural Resources Commission
Department of Planning
Kalana Pakui Building
250 South High Street
Wailuku, Hawai'i 96793

Attn: Mr. Samuel Kalalau III (Hāna), Chair / Ms. Dorothy Pyle (Lahaina), Vice-Chair

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Archaeological & Historic Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on archaeological and historic properties are anticipated to be minor, if any. In the unlikely event that archaeological or historic material is encountered during project activities, work will cease immediately and the State of Hawai'i, Department of Land and Natural Resources (DLNR), Historic Preservation Division (SHPD) will be notified. The DLNR-SHPD and identified familial descendants will be consulted for the appropriate treatment of the find. This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for clarification. The area of potential impact is contained primarily to within the existing 80' wide highway right-of-way for the length of the project.

At this early stage in project development, we are evaluating the opinions and concerns of knowledgeable agencies and the public that occupy the surrounding areas of the aforementioned project. We are also in the process of discerning whether the project will affect any historic properties, as outlined by Section 106 of the National Historic Preservation Act. It will be greatly appreciated if all feedback can be provided within the thirty (30)-day public review and comment period (starting from the date of this letter) so that all comments can be properly addressed while meeting the established project schedule.

The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest

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The project is currently under review by the local State Historic Preservation Officer—the DLNR-SHPD—for potential impacts to archaeological and historic properties. In using DLNR-SHPD's online Hawai'i Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area. A copy of the DLNR-SHPD GIS printout encompassing the project region is enclosed for your reference, along with a listing of identified historic sites for the island of Maui. Additionally, a record of telephone conversation with the DLNR-SHPD is attached for your reference.

A determination has been received from the US Fish and Wildlife Service (FWS) that, in accordance with their Endangered Species Act Section 7 review, no endangered, threatened, or candidate plant and animal species exists in the project area. In addition, no proposed or final critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your reference.

Formal responses have also been received from the following agencies and organizations, and copies of their responses are enclosed for your reference:

1. Advisory Council on Historic Preservation (ACHP)
2. Bishop Museum
3. Maria Lanakila Catholic Church and Sacred Hearts School
4. State of Hawai'i, Department of Hawaiian Homelands (DHHL)
5. State of Hawai'i, Office of Hawaiian Affairs (OHA)

The Nā Kūpuna O Maui, Maui County Maui/Lāna'i Islands Burial Council, and Hui Mālama I Nā Kūpuna O Hawai'i Nei have all been contacted, and their reviews of the project are on-going. Coordination is also on-going with the Maui County Department of Planning; US Department of the Interior National Park Service and DLNR-Division of State Parks (DSP) regarding Land and Water Conservation [Fund, LWCF] Act Section 6(f) requirements; and US Department of Transportation Federal Highway Administration (FHWA) regarding Department of Transportation Act [DOTA 1966 & as amended] Section 4(f) regulations.

Project information and request for review and comment were also sent to the following agencies and organizations, and no response has been received as of the date of this letter:

1. Boys & Girls Club of Maui—West Maui Club
2. Friends of Moku'ula
3. 'Iolani Palace—Friends of 'Iolani Palace
4. Lahaina Town Action Committee
5. Maui County Arborist Advisory Committee
6. Maui County Department of Parks and Recreation
7. West Maui Taxpayers Association

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

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Suite 1900
841 Bishop Street
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Telephone: (808) 521-3051
Fax: (808) 524-0246

Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,

M & E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures:
(1) Project Maps and Sketches
(2) DLNR-SHPD GIS Printout of Historic and Archaeological Properties in the Project Region and Listing of Identified Historic Sites for the Island of Maui
(3) Record of Telephone Conversation with the SHPD (Maui Office)
(4) Letter of Determination from the US FWS
(5) Record of Telephone Conversation with the ACHP
(6) Letter of Determination from the Bishop Museum
(7) Record of Telephone Conversation with the Maria Lanakila Catholic Church and Sacred Hearts School
(8) Letter of Determination from the DHHL
(9) Letter of Determination from the OHA (Honolulu Office)

cc: Project File

PURSUANT TO CHAPTER 92, PART I, HAWAI'I REVISED STATUTES AS AMENDED, NOTICE IS HEREBY GIVEN OF THE REGULAR MEETING OF THE MAUI COUNTY CULTURAL RESOURCES COMMISSION

RECEIVED
FEB 24 AM 8: 44
THE
COUNTY CLERK

AGENDA

Members: Sam Kalalau III, Chair, Dorothy Pyle, Vice-Chair, J. Ke`eaumoku Kapu, Lisa Rotunno-Hazuka, Lon Whelchei, Perry Artates, Deldrine K. Kapuni, Nani Watanabe, Lee Kalei Moikeha.

DATE: **March 2, 2006 (Thursday)**
TIME: **9:00 a.m.**
PLACE: **Planning Department Conference Room Kalana Pakui Building, 250 South High Street, Wailuku, Maui, Hawaii**

Public testimony will be taken at the start of the meeting on any agenda item in order to accommodate those individuals who cannot be present at the meeting when the agenda item(s) is (are) considered by the Cultural Resources Commission. Public testimony will also be taken when the agenda item is taken up by the Cultural Resources Commission. Maximum time limits on individual testimony may be established by the Cultural Resources Commission. A person testifying at the beginning of the meeting will not be allowed to testify again when the agenda item comes up before the Cultural Resources Commission, unless new or additional information will be offered.

A. CALL TO ORDER

B. RESOLUTION FOR OUTGOING MEMBER DELDRINE "KAUI" KAPUNI

C. APPROVAL OF THE MINUTES OF THE FEBRUARY 2, 2006 MEETING

D. PERMIT REVIEW

1. HISTORIC DISTRICT APPLICATIONS

   a. MS. CRYSTAL ALBORO, on behalf of LAHAINALUNA 175TH ANNIVERSARY, requesting Historic District Approval for the 175th Anniversary Parade, on April 7, 2006, along Front Street from Shaw Street to Prison Street, Lahaina, Maui, Hawaii. (HDC 2006/0002) (L. Callentine)

2. ADVISORY REVIEW

   a. MICHAEL S. NISHIMURA, P.E., of M & E PACIFIC, INC., on behalf of the STATE DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION, requesting comments on the proposed Honoapi'ilani Highway Widening, Lahainaluna Road to `Aholo Road Project, TMK: 4-5-006 & 009, and 4-6-004:013 & 034 (portion of each), Waine`e, Lahaina, Maui, Hawaii. (R. Loudermilk)

RECEIVED
FEB 28 2006
M & E PACIFIC, INC.

3. DEMOLITION PERMITS - None

E. PLANNING DEPARTMENT WORKSHOP - PRESENTATIONS FROM THE GENERAL PLAN UPDATE

1. Traditional Land Tenure and Use (S. Solamillo)

2. Maui Settlement Patterns (S. Solamillo)

F. COMMUNICATIONS

G. UNFINISHED BUSINESS - none

H. NEW BUSINESS - none

I. SIGN ENFORCEMENT PROGRAM IN THE LAHAINA HISTORIC DISTRICTS - none

J. DIRECTOR'S REPORT

1. April 6, 2006 meeting agenda
2. Administrative Permit Reports
   a. Demolition Permits
   b. Historic District Approvals Report - none

K. COMMISSIONER'S ANNOUNCEMENTS

L. NEXT MEETING DATE: April 6, 2006

M. ADJOURNMENT

EACH APPLICANT IS REQUESTED TO PROVIDE RESPONSIBLE REPRESENTATION AT THE MEETING.

ANY PETITION TO INTERVENE AS A FORMAL PARTY IN THE PROCEEDINGS BEFORE THE MAUI COUNTY CULTURAL RESOURCES COMMISSION MUST BE FILED WITH THE COMMISSION AND SERVED UPON THE APPLICANT NO LESS THAN TEN DAYS BEFORE THE FIRST PUBLIC HEARING DATE. (Note: The compilation of time for deadlines 10-days or less excludes weekends and State recognized holidays.) THE ADDRESS OF THE COMMISSION IS C/O THE MAUI PLANNING DEPARTMENT, 250 S. HIGH STREET, WAILUKU, MAUI, HAWAI'I 96793.

AGENDA ITEMS ARE SUBJECT TO CANCELLATION.

ORAL OR WRITTEN TESTIMONY WILL BE RECEIVED ON EACH ANY AGENDA ITEM SUBJECT TO THE PROVISIONS OF CHAPTER 92, HAWAII REVISED STATUTES. WRITTEN TESTIMONY SHOULD BE SUBMITTED AT LEAST TWO BUSINESS DAYS BEFORE THE MEETING TO INSURE DISTRIBUTION TO THE BOARD. FIFTEEN (15) COPIES OF WRITTEN TESTIMONY ARE NEEDED IF TESTIMONY IS PRESENTED IMMEDIATELY PRIOR TO OR AT THE MEETING.

IT IS FURTHER REQUIRED THAT THE APPLICANT OR HIS (HER) REPRESENTATIVE BE PRESENT AT THE MEETING.

ANY PERSONS REQUESTING ACCOMMODATION DUE TO DISABILITIES, PLEASE CALL THE MAUI PLANNING DEPARTMENT AT 270-7735, OR NOTIFY THE MAUI PLANNING DEPARTMENT IN WRITING AT 250 S. HIGH STREET, WAILUKU, MAUI, HAWAII 96793 OR BY FAX NUMBER 270-7634, AT LEAST TWO (2) DAYS BEFORE THE SCHEDULED MEETING.

*An Executive Session may be called in order for the Commission to consult with their attorney on questions and issues pertaining to the Commission's powers, duties, privileges, immunities and liabilities.

PLEASE NOTE: If any member of the Commission is unable to attend the scheduled meeting, please contact the Planning Department at least **TWO days prior to the meeting date. Thank you for your cooperation.
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DEPARTMENT OF PLANNING
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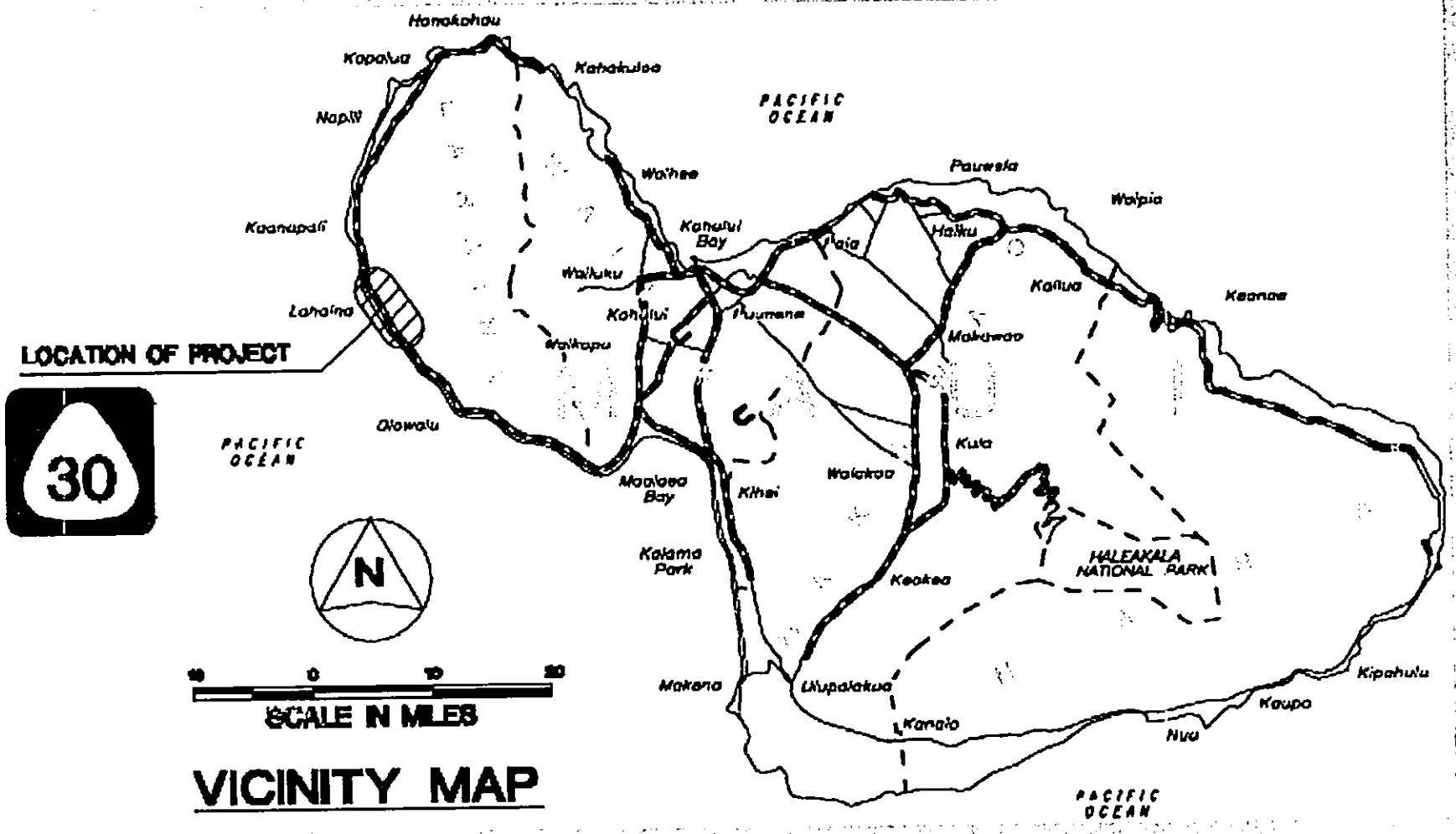
State of Hawaii
Department of Transportation
Highways Division – Maui District
Kahului, Maui, Hawaii

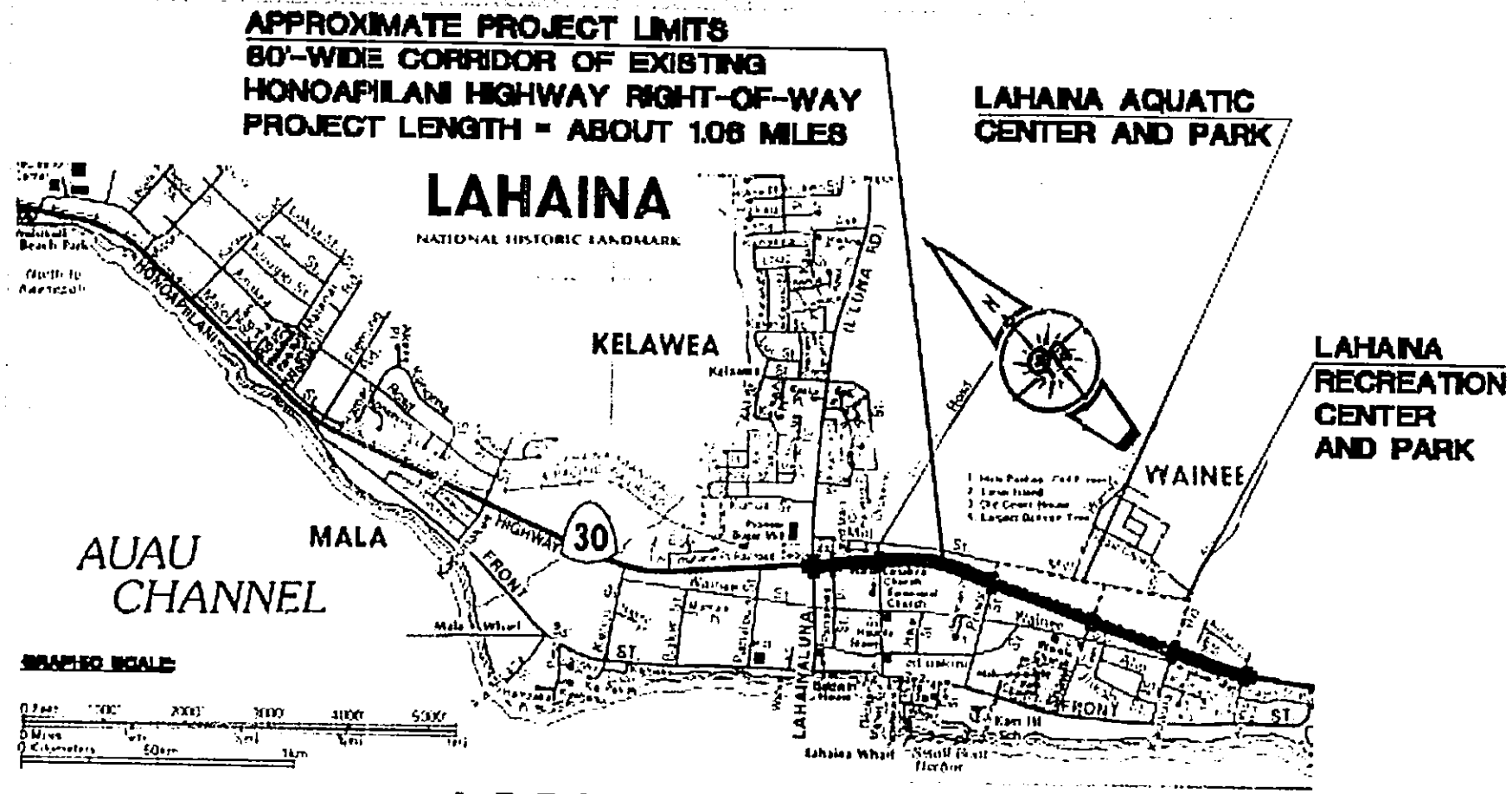
Job No. 30BC-01-04

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road

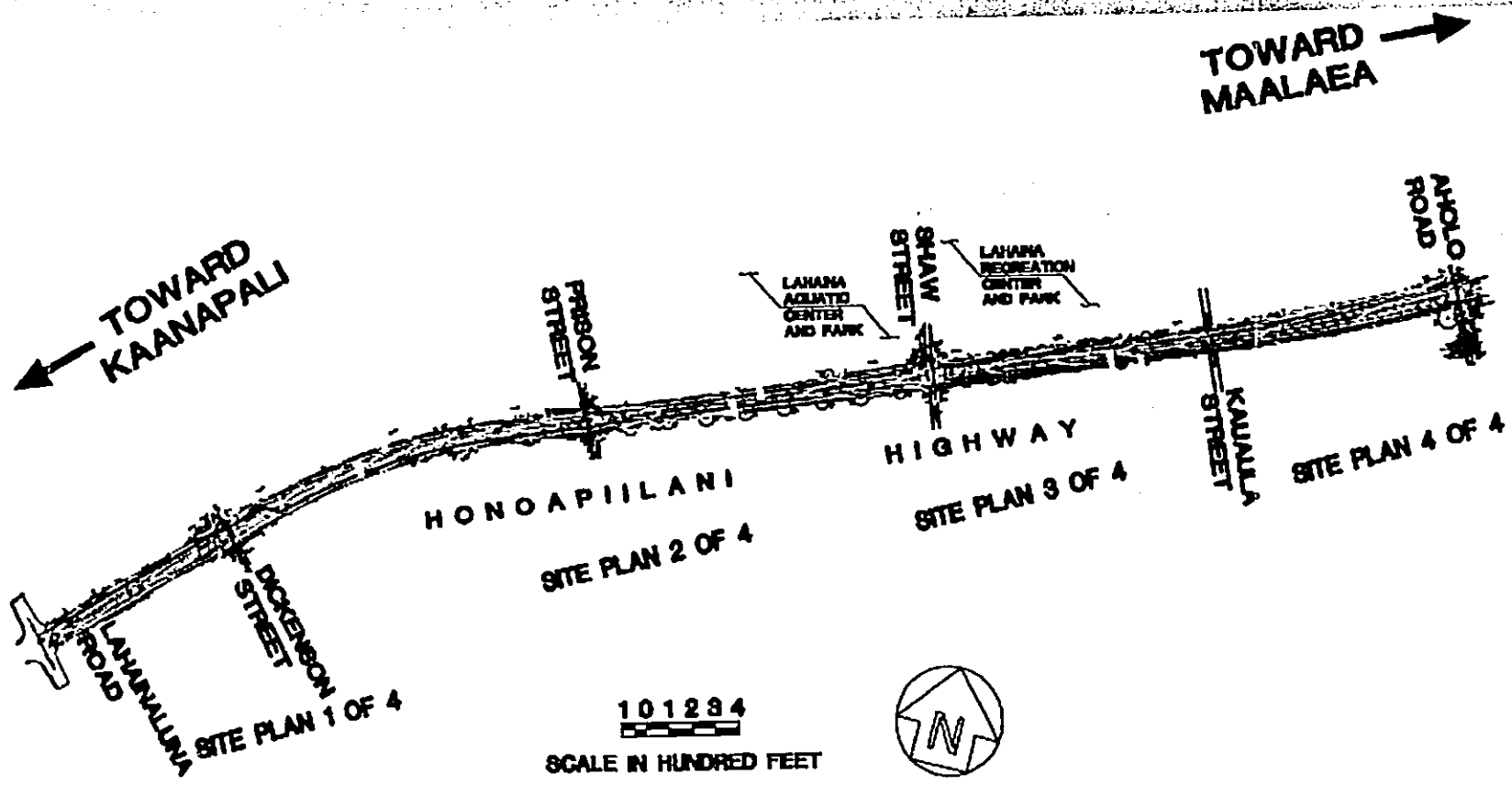
District of Lahaina
Island of Maui



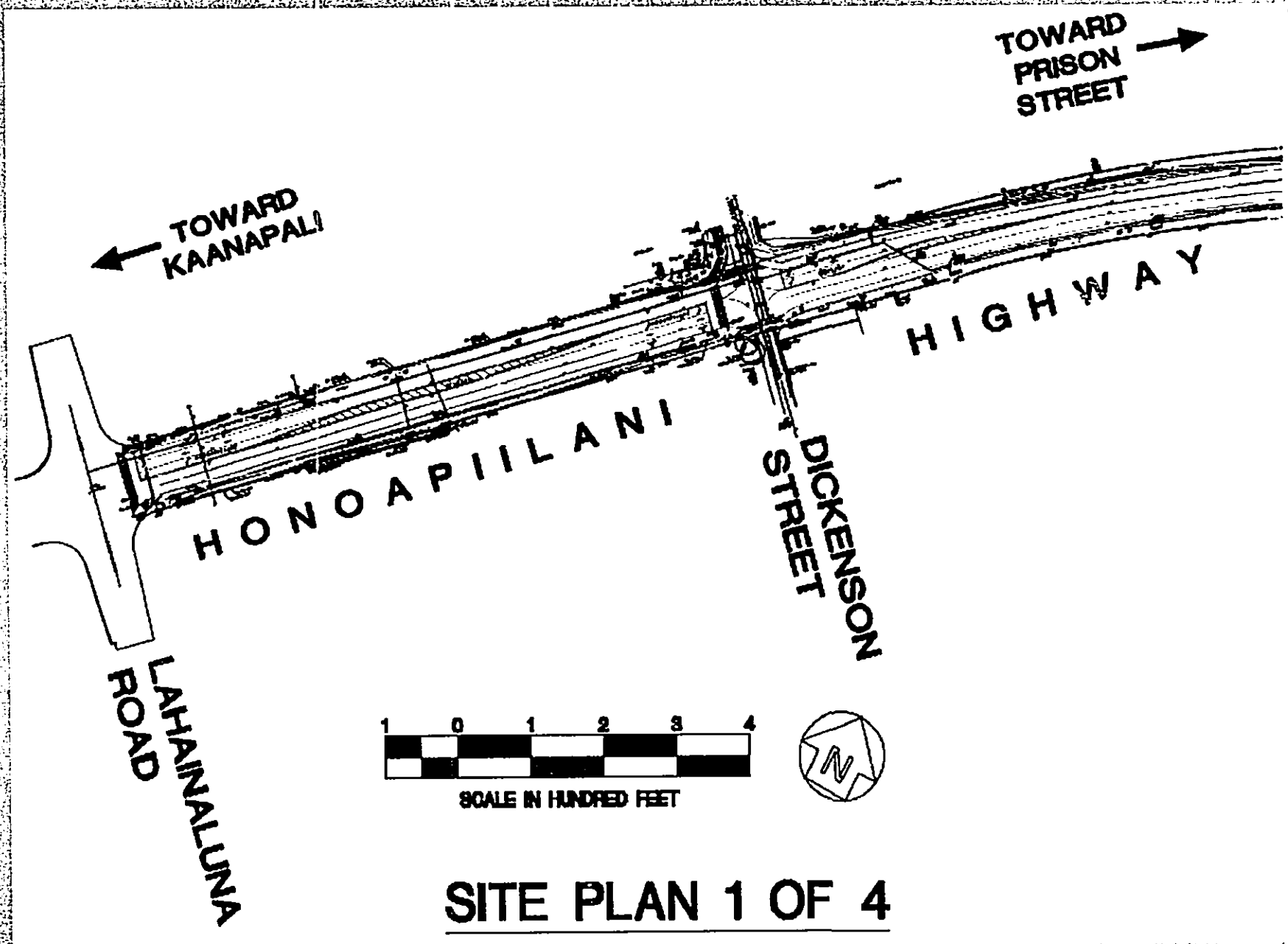
VICINITY MAP



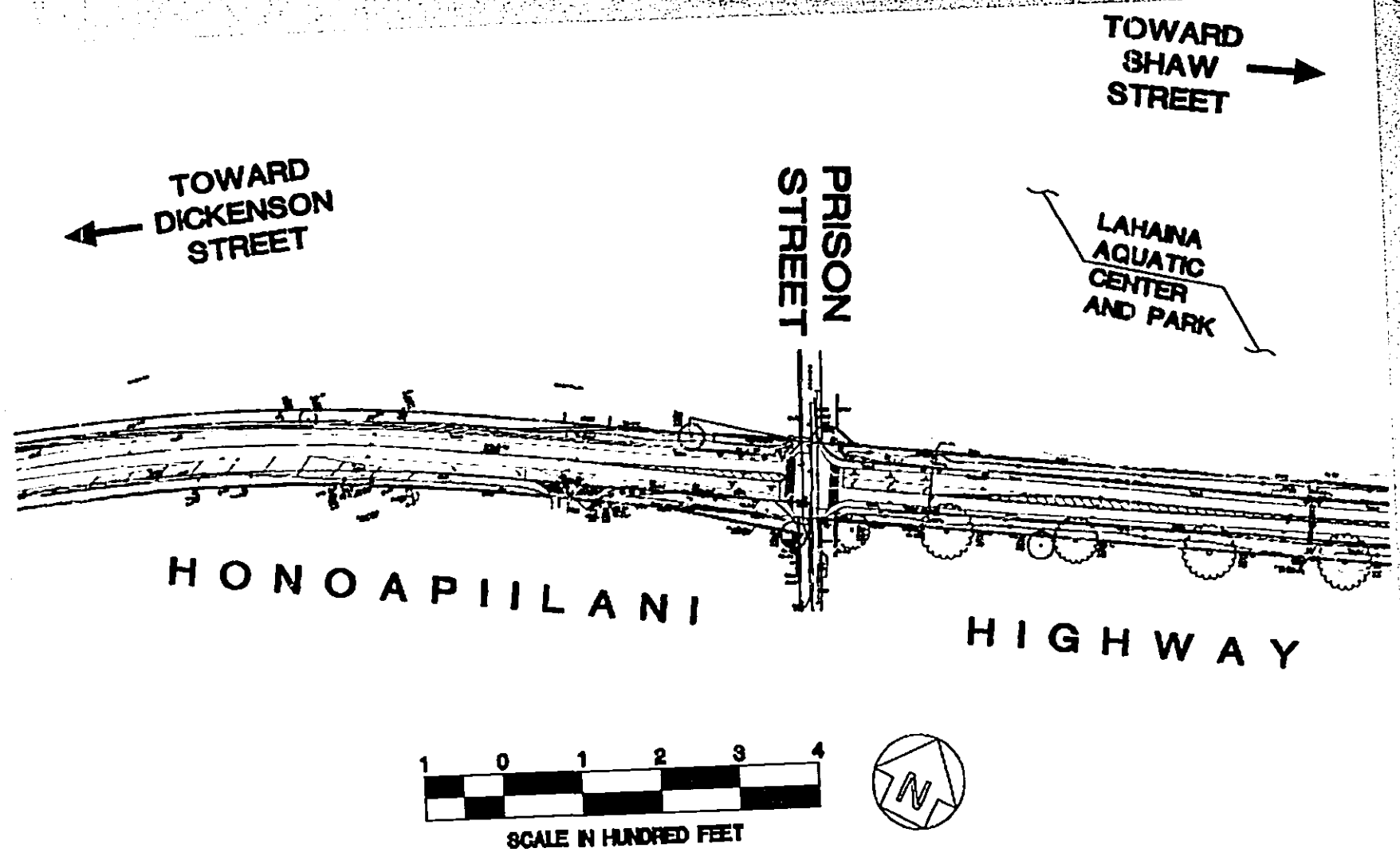
LOCATION MAP



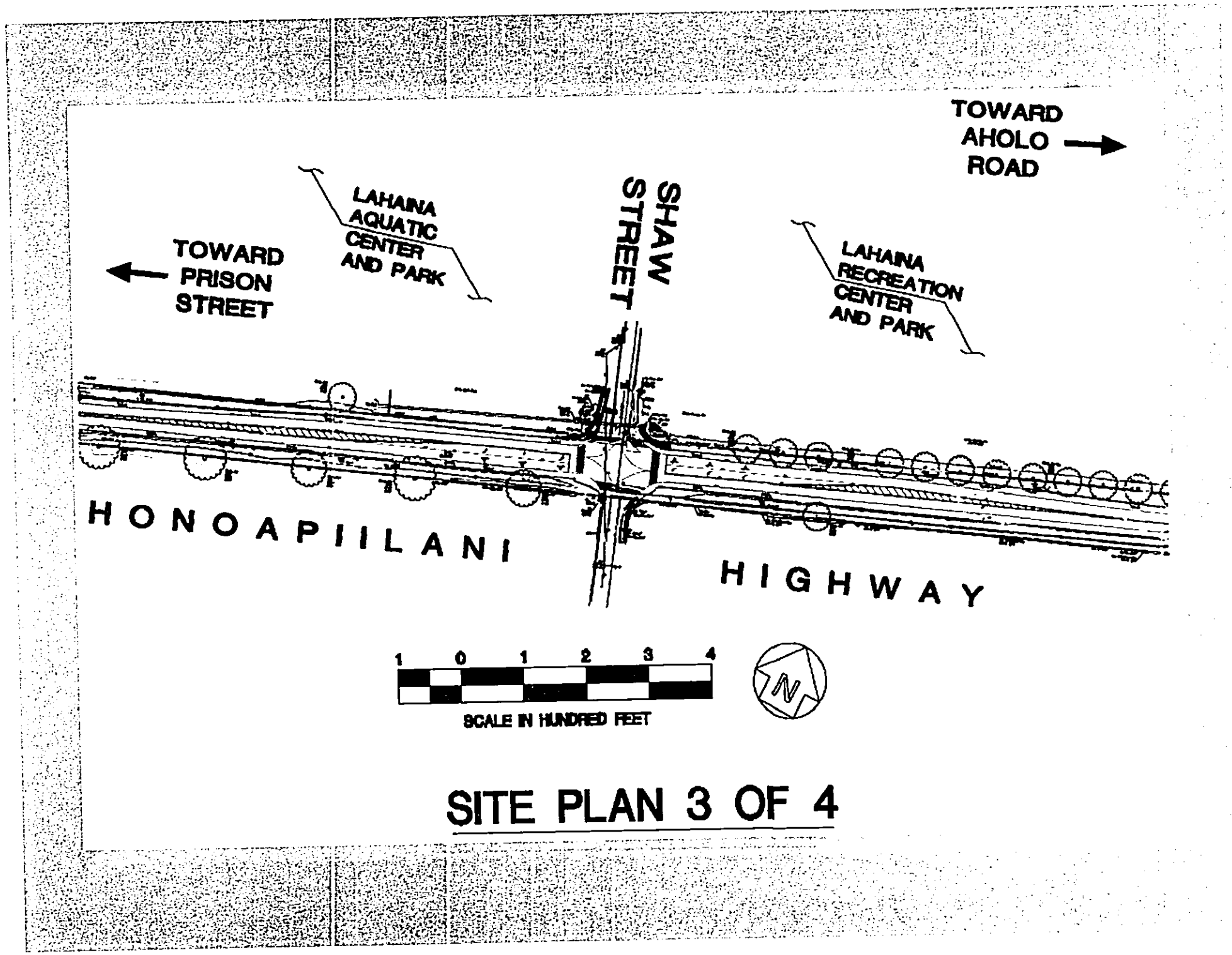
PROJECT PLAN & KEY MAP



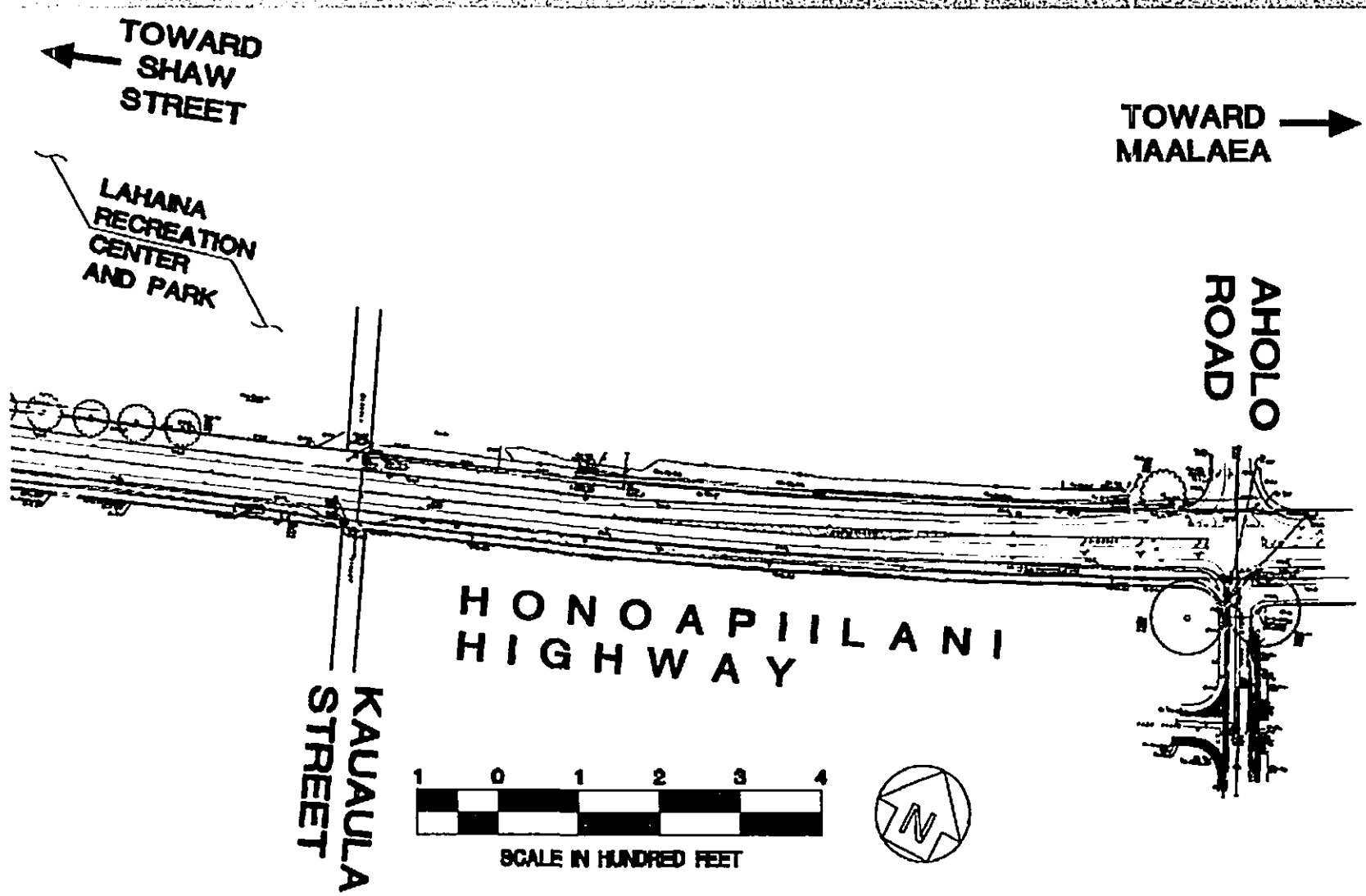
SITE PLAN 1 OF 4



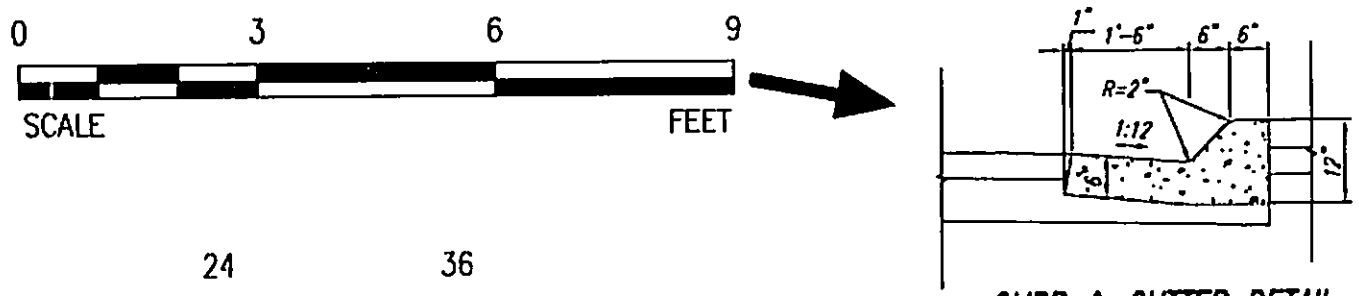
SITE PLAN 2 OF 4



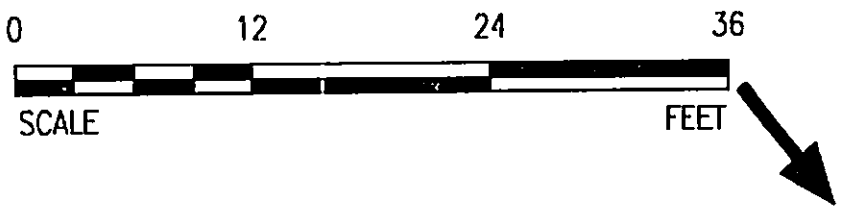
SITE PLAN 3 OF 4

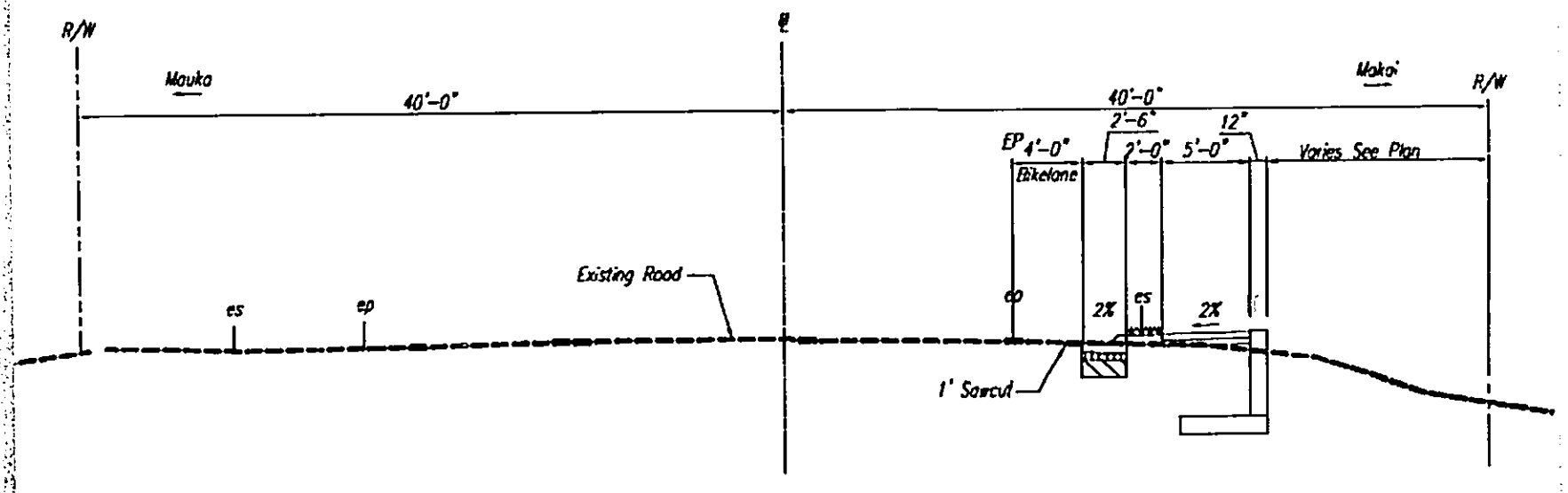


SITE PLAN 4 OF 4

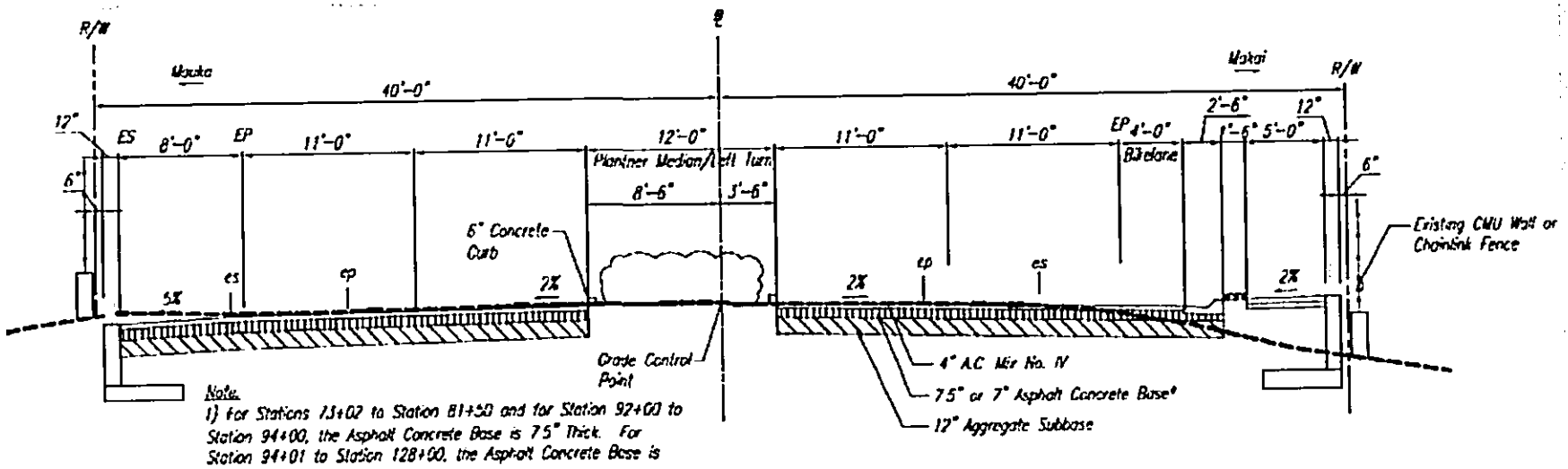


CURB & GUTTER DETAIL





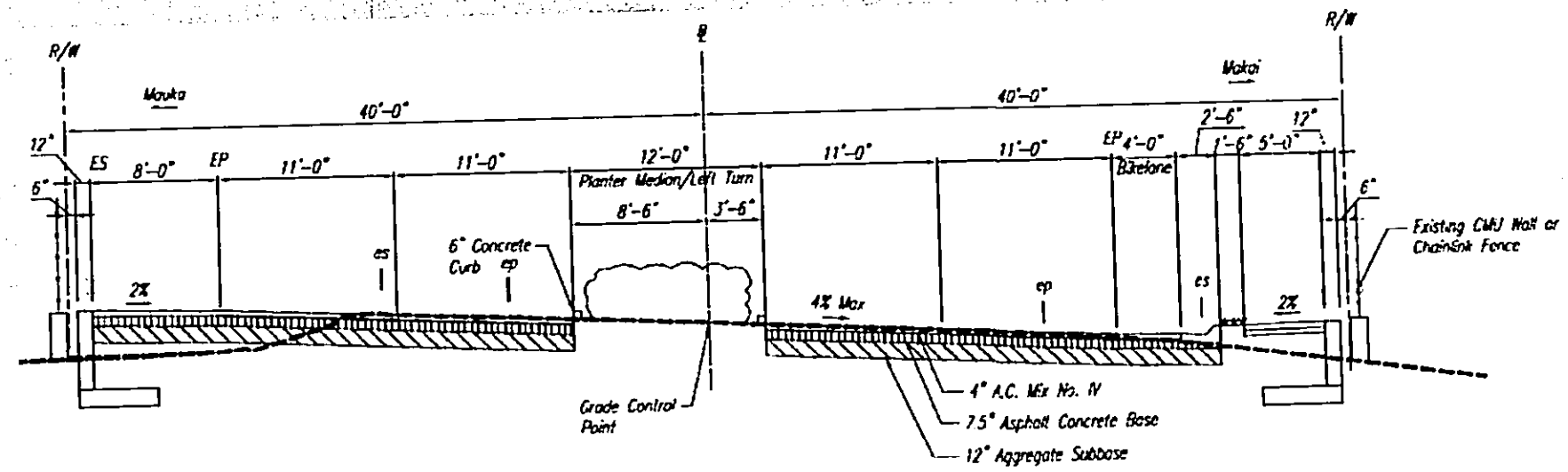
STATION 71+91.53 TO STATION 73+02



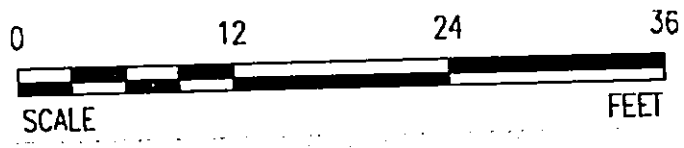
Note:
1) For Stations 73+02 to Station 81+50 and for Station 92+00 to Station 94+00, the Asphalt Concrete Base is 7.5" Thick. For Station 94+01 to Station 128+00, the Asphalt Concrete Base is 7" Thick.

STATION 73+02 TO STATION 81+50 & STATION 92+00 TO STATION 128+00
TYPICAL SECTION – NORMAL CROWN

0 12 24 36
SCALE FEET



STATION 81+51 TO STATION 92+00
TYPICAL SECTION – SUPER



Approved 04/06/06

And No. 5, that as represented by the applicant, no food or merchandise shall be sold or displayed at the event;

And then No 6, that all -- that full compliance with all other applicable governmental requirements shall be rendered. Okay.

Mr. Kalalau: Is there any questions? Okay, Kalei?

Mr. Moikeha: So I'm assuming then the, as you got the times here from 5 to 7, with road closure from 4 to 6, that they'll be off the road at 6 because you're holding -- you said, you know, it's from 5 to 7?

Ms. Callentine: Yeah, I had a question about that as well and I didn't have a chance to go over that and clarify that with the applicant, so if we could ask Crystal to come back up and just clarify on that one?

Ms. Alboro: Thank you. We're going to try again to start closing the road at 4, starting at the beginning of the parade, we don't close the whole road but just at the beginning, and open it up as we go. That starts at 4 for the staging. Parade time is precisely at 5. We hope the parade to be ended at 6. Everyone to disburse at Shaw Street at 6. There is some dignitaries expected, the Governor, Department of Education, who will be giving some opening speeches at Kamehameha Iki Park. We anticipate them to leave no later than 7, to leave the park no later than 7, so the street will be opened up after 6 but there will be some activity in the park. Thank you.

Mr. Kalalau: Okay, anymore questions?

Ms. Callentine: I might suggest in that -- in that case that the Condition No. 1 be modified to say that the "event" shall be held rather than the "parade" since the parade is actually only from 5 to 6.

Mr. Aratates: Okay, Mr. Chair, I make a motion to adopt the recommendation as stated on Page 3 with the modifications which has been presented to the committee.

Ms. Pyle: Second.

Mr. Kalalau: Okay, we have a motion on the floor. Is there any discussion?

Ms. Pyle: Only to say that this is a wonderful idea and that I hope you get lots of publicity and lots of people to come.

There being no further discussion, the motion was put to a vote.

It has been moved by Mr. Artates, seconded by Ms. Pyle, then unanimously

VOTED: to adopt the Planning Department's recommendations as modified.

Mr. Kalalau: Motion carried.

Mr. Artates: Good luck.

Mr. Moikeha: Wear red.

Mr. Solamillo: Under Item No. 2, Advisory Review.

2. ADVISORY REVIEW

a. MICHAEL S. NISHIMURA, P.E., of M & E PACIFIC, INC., on behalf of the STATE DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION, requesting comments on the proposed Honoapi`ilani Highway Widening, Lahainaluna Road to `Aholo Road Project, TMK: 4-5-006 & 009, and 4-6-004: 013 & 034 (portion of each), Waine`e, Lahaina, Maui, Hawaii. (R. Loudermilk)

Ms. Robyn Loudermilk: Good morning, commissioners. We're here today to get preliminary comments for an environmental assessment that is being developed for this particular project. We are one of many agencies in which the State Department of Transportation and their consultants are requesting information. Basically, I'd just like to point out two things, generally, and then I have Ms. Charlene Shibuya here, from the State DOT, to go through the specifics of the project. Two things that were not listed or identified in the document as part of the preliminary research and which why we're here today is that, first of all, the entire project is located in the National Historic Landmark District, and then, secondly, a portion of the project is adjacent to Historic District No. 2, which is the Maria Lanakila Church, and the Planning Department has provided that information to the State DOT, and, right now, I'd like to bring up Ms. Charlene Shibuya to go through the specifics of the project, and then have any question or answers, and then any additional comments that you'd like for us to provide. Charlene?

Ms. Charlene Shibuya: Thank you, Robyn, and good morning, commissioners. My name is Charlene Shibuya. I actually wear a number of hats at the Department of Transportation but, today, I'm going to be the -- represented as the project manager for this particular project, and my consultants they're all on Oahu so I told them, you know, it was too expensive to pay their way so I'll just present the project myself.

But, anyway, I don't know if some of you recall that, you know, like somewhere back in about 2001, I forget the date of the document, but there was like a committee set up to come up with some, you know, like some short-range projects that could address immediate traffic and one of the -- actually it affected the whole island, but then one of the ideas for Lahaina, because you know that north-bound traffic, every afternoon, it backs up Puamana and beyond, that one of the ideas was this, basically, to extend that four lanes from Dickenson Street back. You know, of course, they investigated different alternatives to take it, you know, different points and then there's a bridge near Puamana that, you know, kicks up the cost a lot, so one of the selected alternatives we thought was that would, you know, at least benefit -- benefit the area was really to carry the widening from Dickenson, Oni to Aholo, and that would kind of be a cost effective improvement.

You know, I guess everybody kinda knows DOT has this old-fashion mentality of, you know, putting in just pavement and nothing else. With this project, we wanna really take a different approach and because we don't wanna impact the adjacent properties, we wanna try to establish four lanes, from right-of-way to right-of-way, so we don't have to impact any mauka/makai lands. And I kinda wanted to point out that, you know, this project is not really to address immediate congestion. What we're trying to look at is really, when you think about it, you know, some people would think, oh, once the Lahaina Bypass goes in, you know, we may not need this four lanes, but then, when you think about it, you know, got a lot of projects that's planning in the Wainee area and so even with the bypass in the future, you would still need four lanes to really be able to circulate that local traffic. And then the other thing, we find this as an opportunity to really create a, you know, like a gateway kinda look to this corridor and so it's, you know, really not only looking at congestion, but, in the long-term, as a gateway as well as being able to have some capacity in the future for all the future housing that's planned in the Wainee area.

So if you kinda look at exhibit, oh, I guess don't have exhibit numbers, but the location map, which is I guess shortly after the narrative portion, that kinda gives you an overview of the project limits, which is -- you know, the project limits shows from Lahainaluna to Aholo, but, essentially, it actually kinda really start from Dickenson because Dickenson is, you know when you're going south-bound, Dickenson is where the four lanes kind of merges back to one lane, yeah, if you're going outbound so -- and then if you look at the next page, well it's kinda small but, yeah, it's kinda hard to see, but if you can kinda see, it kinda, if you look at it really good, like really good with a magnifying glass, essentially, what it is is really extending the four lanes that exist between Lahainaluna Road and Dickenson, and extending it, actually according to this arrow, I'm kinda referring to the wrong directions but I guess that would be more like eastbound or towards Puamana. So what happens is if you come into Lahaina Town, you'll have a added lane picked up after Aholo Road. And when you're going the other way, your lane will drop off at Aholo Road, so that's -- as you kind of picture that. And, you know, basically, what we're trying to do is, if I can illustrate with a piece of string, okay, right now, the back up, if this is Shaw Street

over here, the Shaw Street people right now is actually the -- one of the, yeah, I guess one of your ...(inaudible)... essentially what happens is the circulation in Lahaina Town goes beyond to the point where no matter how much you picked up those signals, there's a geometric limitation, I don't know if you can hear me, I'll just talk loud, so this is the Shaw Street intersection, this is Puamana back here or maybe beyond, okay, and then so, right now, what's happening is this one lane is going this way and this stops; one lane going this way and then it stops; now if you actually add another lane, we actually have this back up but, at the same time, we also make it more efficient because you can actually ...(inaudible)... if you think about it, less green time and you know how the cars kinda go slow and then stop ...(inaudible)... process this much traffic in maybe half the time or less because now, all of a sudden, you ...(inaudible)... but I mean just to kinda visualize but, you know, the stupid traffic engineers, you know, they do these studies that say Level of Service D, Level of Service F, I mean I think the average driver they don't care what kind of level of service you have, you know, it's like I just don't wanna be here and I wanna be here, right, I mean, you know, so that's what they're trying to do. And, you know, it's -- we intend to have it Federal aid so we will have eighty percent participation and, as I said, the Feds -- the Feds, which is good, that they're really into context sensitive solutions. In other words, flexible highway designs. In fact, the Legislature just passed a law that actually mandates, mandates the State to actually incorporate flexible designs. And then, of course, and that's not to compromise safety, you know, it's still -- but, you know, allowing at least, you know us to really get community input and really design the highway according to what fits into the community and what really they want, and that's why if you look at your exhibits, sorry I'm kind of fumbling through this, this is the first -- I only saw this stuff this morning, if you look at the next page, this is kinda like a section of the highway that, you know, we intend to look at to kinda get it to four lanes so, in other words, widening it to four lanes and, of course, kinda preserve a median for the left-turn pocket. And if you can kinda see, there's like a really ugly bushy line, what we wanted to do was put some kind of a low planting in the median to kinda have a good look, but the other thing is I think you kinda know how DOT maintain their -- maintains their landscaping is, you know, we're really looking for low-maintenance and also low water cause water is such a, you know, rare -- I guess a valuable commodity that's not really available. I don't think they have reclaimed water available in Lahaina at this point, so we're kinda looking at that kind of landscaping. And I guess, let me see, going back to the other exhibit, it's kinda hard, but you see there's some -- a lot of banyan trees, I mean not banyan trees, monkeypod trees that line the highway which is either just inside of the right-of-way or straddling the right-of-way, we're trying to preserve as many trees as we can. My kind of rough count was like there were like twenty-nine monkeypod trees and had some palm trees and, of course, there's a bunch of them that's in the park, pretty much were monkeypod trees. Our preliminary design, what we're trying to do is preserve a lot of them so -- but there's at least five, well, three monkeypod trees, no two monkeypod trees and three palm trees that we actually have to remove because they're just too close and, as I said, I mentioned before, we're trying to develop everything within the right-of-way so we don't have to impact mauka

or makai properties. So, as far as keeping the trees, we'll not really have them in median cause we don't want trees in the median cause people, you know, crash into them, but at least to maintain whatever is on the side and maintaining that corridor. So, at this point, I kind of informally taken this project to the Arborist Committee cause I really wanted some thought as to, you know, perhaps what kind of planting would be appropriate for that median and that's why we're coming in early and trying to get everybody's -- people's minds going. And then, as you can see on the summary of the report, my consultant has so far consulted with a lot of agencies and that's a mandate for Federal aid projects, you gotta go through the 106 ...(inaudible)... process so that's why we're doing the environmental assessment, you have to go through a State and Federal environmental assessment as well as, you know, all the 106 reviews.

So I guess the other thing I wanted to stress is that, you know, this project is basically -- we needed to provide at least a baseline, so this is just a preliminary design and until we get all the input from all the agencies, we will not finalize the design. So if I can entertain any questions?

Mr. Kalalau: Questions, commissioners? Okay, Dorothy?

Ms. Pyle: I noticed that in this packet of information there's copies of letters and things, and emails that have gone back and forth, and one of the letters was, I guess it was to Carol Legard who's at the Advisory Council on Historic Preservation, it's kind of one of the, I don't know, it's in the middle of the letters back here, and there's a comment that this is to confirm that the advisory council isn't really concerned about this particular thing and doesn't want to comment on it, but they -- the letter goes on further to say that they need to be notified by the Federal Highways Administration before they can actually get involved, and I'm just wondering if the Federal Highways Administration is actually aware that this project is in a National Historic Landmark?

Ms. Shibuya: As far as early on, you know, when I had my consultant onboard, I did -- I don't know what happened, you know, why they kinda overlooked it, but I provided them an SMA map and a historic district map, and then I've been talking to Federal Highways about this project, I guess from -- I guess for the past year and a half, you know, to introduce them to this project, and we have like, you know, the STIP programs where we have projects all listed --

Ms. Pyle: Right, sure.

Ms. Shibuya: So it's on the STIP, yeah, but as far as I never really told Federal Highways point blank that it is in the National Historic area but I told them that we have to go through all this environmental permitting stuff, we have to coordinate with, you know, SHPD and

all this stuff so they -- and I, informally, told them that, yeah, we believe it's in the SMA so, you know, all these things would get revealed as we go along.

Ms. Pyle: But that's a different thing because the Federal Highways Administration needs to notify the Advisory Council on Historic Preservation if there is any concerns about this being a historical landmark. And since Lahaina is a historic landmark, it has far more extensive, I don't know how to put it, it's one of only twenty-two places in the entire State of Hawaii.

Ms. Shibuya: Yeah, probably the requirements -- there are probably requirements, right. Yeah, and that's --

Ms. Pyle: Yeah, and so I'm not sure because this is unclear whether all of those things have actually been met.

Ms. Shibuya: Yeah, so what I can do is I can point out to my consultant if he can actually get a formal, I guess, communication from Federal Highways to them because, you know, as I said, we're kind of in the formulating stage of the EA.

Ms. Pyle: Okay, that would be really important.

Ms. Shibuya: No, but that's a good point.

Ms. Pyle: If they need to comment, even if they comment no comment --

Ms. Shibuya: Yeah, they need to know.

Ms. Pyle: It needs to be clearly stated that they recognize from the national ...(inaudible)...

Ms. Shibuya: Yeah.

Ms. Loudermilk: ...(inaudible)...

Ms. Pyle: Yeah, please do.

Ms. Loudermilk: ...(inaudible)...

Ms. Pyle: Yeah. Right.

Ms. Shibuya: Yeah, and we gotta go through a Federal EA process which we actually formally gotta submit this to Federal Highways.

Ms. Pyle: I just wanted to be sure the trail wouldn't ...(inaudible)...

Ms. Shibuya: Yeah, and then at that point, they would formally see.

Ms. Pyle: Can you explain if most of the widening going to be on the mauka side or is it going to be equally on the mauka/makai side?

Ms. Shibuya: Actually, it's both sides cause we're really --

Ms. Pyle: Hard to say ...(inaudible)...

Ms. Shibuya: We only got like a eighty-foot right-of-way so we really have to use right-of-way to right-of-way, and I guess I should point out again, if you can look at that section, because it was limited, but we felt that, to some degree, we needed to address at least pedestrian and bicycles, so we felt that because, you know, the park, the regional park and whatnot, and the subdivisions are typically on the makai side so we -- what we tried to do is put a sidewalk on the makai side to allow all the subdivisions to kinda get onto the sidewalk and then they would go to Shaw Street and cross at the signal. The mauka side, we feel that like, there's that apartment, I don't know what the name of the apartment, they would have no street to actually go through the park and not have to walk within our highway because within our highway, the mauka side, we're only gonna have a paved shoulder available for the cyclist. On the makai side will be a separate sidewalk for the peds and then a separate space for the bicycles cause we felt that mixing bicycles and pedestrians wasn't a good idea cause, typically, the bikeways on -- the cyclists, most of the cyclists they're like sport cyclists, and they just zip by and it's very unsettling for mostly senior pedestrians and little children.

Ms. Pyle: I think the reason I ask that is is that because of the historic nature of old Lahaina, there's a lot of burials that are unmarked and unknown about and that they probably would be more likely on the makai side than on the mauka side, and so if there is going to be kind of an extensive disturbance on that side, there would really need to be a lot of monitoring in that area.

Ms. Shibuya: Yeah, and that, typically, what will happen in the contract documents, there'll be a standard contractual requirement that they actually do archaeological monitoring and have a person on staff every time they do digging.

Ms. Pyle: Yeah.

Ms. Shibuya: Yeah.

Mr. Kalalau: Anymore questions? Okay, Lon?

Mr. Whelchel: Is this new profile -- does it comply with FEMA and the flood plain maps? They have a minimum elevation that houses are supposed to be set. Does that apply to the highway also?

Ms. Shibuya: Actually, I didn't see anything mentioned about FEMA in the drainage report but, as far as I know, the drainage scheme complies with, you know, all the drainage master plans and standard way that they calculate drainage flow and make sure it's addressed. I looked at, basically, when I talked to my consultant, they said they had talked to the County Public Works, you know, for the possibility of using that pond to retain some of the additional flow that would be as a result of the added hard surfaces, and that wasn't an option, and so what we're also incorporating in this project is sixteen dry wells to kinda take some of the new flow plus a little bit of the existing, but I can follow up on that item, on the FEMA item, that I cannot answer.

Mr. Whelchel: If we have a tsunami, does the highway get washed away?

Ms. Shibuya: And, well, as far as the EA, they would have to check that, what zone it is in, and, you know, pretty much see what that elevation is, and, as I said, in the documents I have so far, I don't see any mention of, specific mention of, you know, what flood zones they were in and whatnot, so I can follow up with that.

Mr. Whelchel: If they're handling that situation between Kihei and Kahului, I was wondering if they were handling it in Lahaina.

Ms. Shibuya: Well, that would be a standard because one of the analysis that goes into that, they gotta explore what flood plain they're in and then address it accordingly, yeah.

Mr. Whelchel: Okay.

Ms. Shibuya: I guess, you know, but the lucky think is, well if you're looking at South Kihei Road, you know, that's a lot lower than Honoapiilani Highway, you know, relative to the ocean and stuff. But I'll follow up. I'll jot that down. If I could add one more thing, I know one of the concerns awhile back was, you know, whether it would be safe for kids to cross, you know, at the signal at Shaw Street with additional lanes and, you know, I feel it's going to be safer than Kaahumanu, between, well I shouldn't say our Kaahumanu is dangerous but actually Kaahumanu has actually seven lanes that people have to cross to get to the park, whether they're at Keopuolani or Mahalani-Kanaloa so, you know, it functions with a signal, we feel that it's fairly safe, you know, to get across with the signal. If it was unsignalized, of course, you know, there would be no question that it would not be safe. But just to kinda clarify, you know, if there were any reservations as far as widening that crossing point. But I guess my hopes is if we can get some really good input so we can

really, you know, as I said, kinda create a project that might be a little bit out of the normal to kinda give some character to that particular gateway. Got anymore questions?

Mr. Artates: I get one.

Mr. Kalalau: Okay, Perry?

Mr. Artates: It was mentioned that eighty percent participation from Federal aid, yeah, is there a time frame where you need to utilize these funds?

Ms. Shibuya: What we're looking at is using it in Federal Fiscal Year, that would make it, well the EA will take us to the, you know, at least to the end of '06, so we're looking at Federal year, Fiscal Year '07 or '08 cause we have to come up with the twenty percent matching too, but we're looking in that time frame. And the STIP, the Statewide Transportation Improvement Program, is actually constrained so, you know, every year it's kinda of, how you say, like a very -- it always changes and then, you know, we have projects fall through and we got these projects that come in, and so -- and then for Maui, we actually get, you know, considering that Oahu is like, what, there are, I don't know, like ten million and we're like only one million, we actually get a pretty share, and then the way we try to do it is just try to get projects ready, you know, and ready to go cause when somebody falls out, then we can get in, yeah, and that's how, you know, we're getting like Mokulele Highway, we got Haleakala Highway widening, and then the Lahaina Bypass Increment I. I mean, you know, relatively speaking, it's like we're fairly small Statewide but, you know, we're capturing a lot of funds and that's why when we have opportunities like this to capture eighty percent, it would be stupid for us not to pursue it.

Mr. Artates: Right, that's what, maybe it's not the appropriate question for me to ask but --

Ms. Shibuya: Oh no, no, but that's a good question.

Mr. Artates: Cause what I'm saying is that we shouldn't be relaxed and then these funds are gonna be taken somewhere else so now, like you mentioned, the time is to grab it so grab it now.

Ms. Shibuya: Yeah, and that's why I was kinda pushing my consultant. I was trying to get them to actually finish the EA last year but, you know, a lot of things came into play and then, of course, you know the State -- because the State has to come in with their local share, they have other large projects that we needed to, you know, I guess you know earmark that funds and then like we had Mokulele and all that stuff. So, you know, timing wise, you know, it seems okay yet, you know, the way the EA is going, and then we try to shoot to get a, you know, like a construction plan out, you know, somewhere in Fiscal Year '07, '08.

Mr. Artates: Thank you.

Ms. Shibuya: And, of course, we don't wanna speed it up too much to come out with a kinda, you know, design that doesn't have the proper input and then, all of a sudden, you know, we get a lot of opposition. We kinda want it to run smoothly.

Mr. Moikeha: Mr. Chair? Actually, this is just a comment, since you brought it up, as you compared Honoapiilani and Kaahumanu. I thought it was real strange, I mean my children all went to Baldwin, I have one that still goes there, and when you take your driver's license, it's twenty miles within a school zone, you go up to King Kekaulike you gotta, you know, come to that twenty miles, but Kaahumanu, right next to Baldwin, you can just blaze on through. That is amazing to me. You know, I mean this is just a comment.

Ms. Shibuya: Yeah, no, no.

Mr. Moikeha: You know, since you're at the department, maybe you can bring it up to the Police Department why Baldwin is looked at less than any other school district. I mean it's just amazing to me, and you talk about how dangerous, you're saying that this will be safer than Kaahumanu, I have children that go there.

Ms. Shibuya: Yeah, no --

Mr. Moikeha: To me, it just bothers me that this happens.

Ms. Shibuya: No, but I --

Mr. Moikeha: It's just a comment, you know. I just wanna comment. In some way, form, or another, I think we should take a look at that in some way, form, or another.

Ms. Shibuya: Yeah, like perhaps where we can do like a --

Mr. Moikeha: Now there's a lot of kids crossing over there. I take my son there and I see them crossing.

Ms. Shibuya: Yeah, I've actually seen -- I've actually seen kids walk in the roadway, yeah, in the bikeway, yeah, but I know what you're but, no, that's something we can look at, you know, because the traffic goes slow anyway, right?

Mr. Moikeha: But what's wrong with that school zone?

Ms. Shibuya: I mean it gets congested so it goes slow so --

Mr. Moikeha: That's true but --

Ms. Shibuya: I don't think you would get any opposition to lower the speed limit there.

Mr. Moikeha: Well, it was my daughter that brought that up that ---

Ms. Shibuya: No, but good point, yeah.

Mr. Moikeha: I mean it's just a comment. I went t Kamehameha so it doesn't matter. Just teasing.

Ms. Shibuya: Yeah, but I know a lot of times, you know, drivers get so annoyed when we lower the speed limit but, as I said, over there is so congested anyway, they would have to go slow.

Mr. Kalalau: Okay, Dorothy?

Ms. Pyle: I just -- I kind of like have three little things I just wanted to tell you or say. One of them is is that because it is a landmark and we will follow up on all of the proper procedures because we don't want this project to get stalled because it hasn't done all of its homework --

Ms. Shibuya: Yeah.

Ms. Pyle: And so that's one of the reasons that I brought all that up and so -- and I --

Ms. Shibuya: No, but that's -- and I think the process, you know, the process has all these checks and balances that we would not ...(inaudible)...

Ms. Pyle: And that's why we're here, you know --

Ms. Shibuya: Correct.

Ms. Pyle: Because we're supposed to be looking at the cultural and historical resources. The second thing that I wanted to say is that I really am so delighted to hear you say that the State is finally looking at flexible highway planning because that will help us preserve our historic roadways in Hawaii, not just this big highway over there, but Hana Highway, any other --

Ms. Shibuya: Yeah, it's supposed to apply to every place, you know.

Ms. Pyle: Who now have flexible possibilities. We didn't do that until now and so I think I'm just congratulating the department for doing that.

Ms. Shibuya: Yeah, and, actually, I wouldn't give the credit to the department --

Ms. Pyle: Well whoever.

Ms. Shibuya: But credit the Federal Highways and the Legislature.

Ms. Pyle: Whoever did it, that it finally got done so -- yeah, and she used to be here too, so that's really, really good. And also the third thing is that I just wanted to tell you that I really appreciate your openness with us. Many times people come as, you know, to talk about projects and they're so hang-back with information that it drives me crazy. I -- thank you.

Ms. Shibuya: Yeah, maybe cause I've only been with the department three years and I used to be with the County. Yeah, we'll change their thinking. Give us some time.

Mr. Moikeha: Just a question. And so, you know, it talks about formal responses have been received by, I guess, five agencies and you're waiting on the rest, I guess it's that third page, when --

Ms. Shibuya: Yeah, seems like got some smaller agencies but --

Mr. Moikeha: Yeah, so I guess the question would be when was, I mean I didn't look at the date as far as when it was sent out, but when do you kinda expect those responses to come back and if -- will you do a follow up to those?

Ms. Shibuya: Yeah, they'll probably do some follow up but, you know, usually they kinda like expect something, you know, maybe within thirty days unless -- unless their group is, you know, the type that might meet once a month or something, but I'm pretty sure I can remind them to follow up because I think by the time they finalize the EA, you know, you would probably at least want some -- some kind of a formal comment, yeah, but, you know, if it even means, you know, just getting something by email or telephone, I think that would be --

Mr. Moikeha: Yeah, I was just interest on the Burial Council as far as, you know, what their thoughts are on this. That would really interest me that's why.

Ms. Shibuya: Yeah, and they may be back-logged too, yeah, because I know sometimes they have a lot of projects to look at, but that would be really important, the Burial Council should, you know, we should get their comments.

Mr. Kalalau: Anymore questions? This is just preliminary, it's before us, you know, we're gonna have the original plans and design stuff later on because it's hard to make, you know, some comments or decisions on what we have here before us today. So just keep in mind though that this project is coming up and it's going to come before us again.

Mr. Solamillo: Okay, under Item 3, Demolition Permits, there --

Mr. Kalalau: Oh, wait, wait, wait. We gotta have staff, yeah.

Mr. Solamillo: Oh, I'm sorry. Okay.

Mr. Kalalau: Okay, staff, give us your comments.

Ms. Loudermilk: No, no, no. Your comments to what you want me -- what do you want me to write? One, that it's in a National Historic Landmark District?

Ms. Pyle: Well, assure us that the Federal Highways Administration understands that.

Mr. Kalalau: Yeah, cause we're going to have to have some comments from them too.

Ms. Pyle: Yes.

Mr. Kalalau: Cause it's a national --

Ms. Pyle: Pursuing comments, perhaps, from the Burial Council or other cultural organizations about the sensitivity of burials and other historical artifacts or building remains that may be in that road right-of-way.

Ms. Loudermilk: Okay, consultation with the Maui/Lanai Burial Council. Are there any other organizations that they do not have listed at this time that members here feel that they should contact? And, just for the record, Uncle Charlie did contact M&E, okay, Uncle Charlie did contract M&E, the consultants, that projects may have impacts.

Ms. Pyle: Right.

Ms. Loudermilk: So we'll just make it formal that the -- they should have the consultation with the Maui/Lanai Burial Council, Lahaina Restoration Foundation, cause actually this is a good opportunity to make a gateway in that area.

Ms. Pyle: Yeah, oh yeah. There may be historical maps available, I'm not sure where they might be located, but I think there might be historical maps that would show or indicate historical buildings, burials, cemeteries, other things in that -- this is a really important area

of Lahaina, and I'm sure it expanded beyond where the highway is, the highway just got put there, so there could be some stuff there.

Ms. Loudermilk: Okay.

Mr. Solamillo: Didn't you say you wanted the Advisory Council? Didn't you said you wanted the Advisory Council?

Ms. Pyle: Well I think that what, if she goes through the Federal Highways Administration--

Mr. Solamillo: There would be an automatic comment.

Ms. Pyle: Should go ...(inaudible)...

Mr. Solamillo: Okay, it would be a trigger?

Ms. Loudermilk: Charlene just found some information on FEMA comments so would it be okay for her to relay the information?

Ms. Shibuya: I'm sorry I didn't look at the drainage report thoroughly but they do have a -- indicated that it's a flood hazard designation of a Zone C area of minimal flooding and I guess what happens in the EA, they'll have that Appendix E to show, you know, where it is in relation to that particular zone.

Ms. Pyle: They have checked that is what ...(inaudible)...

Ms. Shibuya: Yeah, yeah. Yeah, that was standard. That was my fault.

Ms. Loudermilk: Even though we do know that's probably inaccurate. If it's raining hard, you get flooded anyways, right?

Ms. Pyle: ...(inaudible)... more concrete there is ...(inaudible)...

Ms. Loudermilk: Yeah, yeah, yeah, since the sugar is out and it doesn't absorb all the water, you know, a million gallons per pound makes a big difference. Okay, so so far two comments: project is located in a National Historic Landmark District, make sure Federal Highways knows; and then, secondly, consultation with Maui/Lanai Burial, and Lahaina Restoration Foundation. Anything else?

Ms. Pyle: Any kind of maps that you could try to find, historical maps --

Ms. Loudermilk: Okay.

Ms. Pyle: As they're doing this project.

Ms. Loudermilk: We can ask them to provide the County --

Ms. Pyle: State Historic Preservation office might have maps; Lahaina Restoration might have maps. Who probably used to have is Pioneer Mill.

Ms. Loudermilk: Okay.

Mr. Kalalau: Okay, Kalei?

Mr. Moikeha: I mean I would like to include also whatever agencies that they contacted here that have, you know, if they can do a follow up letter and either which way. I think it protects everybody.

Ms. Loudermilk: Yeah, and, as Charlene indicated, an EA will be coming out. It'll come back before you. What the Department also relayed to the DOT is that for any reason, if they have to go outside the highway right-of-way for design considerations and it goes into the makai side, then they gotta come back in for a special management area permit major. But as long as they keep everything within the existing right-of-way, then they will not have to come in but -- and that's just for your information. At this point in time, they will not need any discretionary permits from the County for this project. Anything else? Okay, and then I'll cc this letter to the, in addition to SHPD, Maui/Lanai, Lahaina Restoration, Federal Highways. Anybody else you can think of, just to give some heads up? Anymore comments? Questions?

Mr. Whelchel: I have a question for Michael Nishimura.

Ms. Loudermilk: No, that's Glenn Tadaki. Michael's not here. Charlene is Michael today, and Diane, and Charlene.

Mr. Whelchel: He's an engineer.

Ms. Pyle: Ask your question.

Ms. Loudermilk: What's your question?

Mr. Whelchel: The question has to do with pedestrian traffic. There was a concern over the highways. Is the pedestrian bridge work prohibitive due to handicap requirements?

Ms. Loudermilk: Charlene would be the person.

Ms. Shibuya: The experience with DOT with these pedestrian bridges, you know, the ADA aspects are challenging to create some of these ramps. I don't know if you've seen some of them, like on Oahu on Likelike, over like the freeways, and then they have these switchbacks, the structures are very costly and depending upon, you know, like say, for example, on Likelike Highway, it's almost impossible to cross at grade even if you wanted to skirt, you know, skirt the pedestrians, so they actually use the pedestrian overpass, but the experience is sometimes you put these overpasses where, you know, you still -- you can still somewhat cross at grade and they'll just cross at grade and so, in those situations, we find it safer to actually put in a signal and at least be, you know, not so cost prohibitive. But, on Kauai, they have some old, old overpasses that actually work because it's just the way it is, you know, you have like a old -- was a plantation subdivision up here, there's a grade change, and a shopping center, they actually use it, you know.

Mr. Kalalau: Okay, Dorothy?

Ms. Pyle: I just wanted to also comment that since this is in a National Landmark that is because of its historical nature in the 19th Century, putting in a big huge overpass would be not really very appropriate, so thank you.

Ms. Shibuya: Yeah, but that's a good question cause, you know --

Ms. Pyle: It is but it's just not appropriate.

Ms. Shibuya: Those overpasses on Kauai, they're like over fifty years old, you know, and just because of the terrain, they actually use it, you know, but it's actually gotten to the point where, you know, well one of them is, you know, getting kind of old and its metal is getting rusted and, you know, there's going to come a point when DOT probably will replace it because it actually makes sense because of the grade difference, you know, people would have a hard time walking anyway, but some how, on a human nature, there's like --

Ms. Pyle: But even if it was a grade difference or whatever --

Ms. Shibuya: Yes.

Ms. Pyle: I would have a severe challenge to think that we should put something like that in the National Historic Landmark.

Mr. Moikeha: It probably have to be like a swinging bridge?

Ms. Pyle: Or something like that. Exactly. So glad you're not doing it.

Ms. Shibuya: Okay, yeah, yeah, that helps cause, as I said, that keeps the cost from being -- but that's a really good question. We get that question all the time.

Mr. Whelchel: Thank you.

Mr. Kalalau: Anymore questions?

Ms. Loudermilk: Thank you.

3. DEMOLITION PERMITS - None

Mr. Solamillo: Okay, under Item 3, Demoltion Permits, none are being presented before the Commission today. Two were withdrawn at the eleventh-hour before the mailout and will appear on next month's agenda.

Ms. Pyle: Hopefully, not demolished by then.

E. PLANNING DEPARTMENT WORKSHOP - PRESENTATIONS FROM THE GENERAL PLAN UPDATE

1. Traditional Land Tenure and Use (S. Solamillo)

Mr. Solamillo: No. Under Item E, at the request of Vice-Chair Ms. Pyle for information pertaining to the general plan update, we're going to present two presentations which were made to the general plan advisory committee, the workshop on February 11. The first one will deal with traditional land tenure and use, and the second will deal with Maui settlement patterns, and I think both of which are of importance to this Commission.

This presentation was made by Julie Cachola of Plan Pacific at the first all-day workshop for the general plan advisory committee, so what I'm going to do, because she has a different presenting style than mine, we developed the powerpoint in-house and she did the presenting, so what I'm going to do is paraphrase some of what she sent me via email. She has a preamble, and I think it's important, so I'll begin by reading that to you all.

The opportunities that would be involved in the revision of Maui's General Plan is a great responsibility that we do not take lightly. As we make these presentations to the community, to organizations, and other committees directly involved in the revision efforts, like the general plan advisory committee among others, we'd like to start everyone on the same footing. Context, we believe, is important. So while we may all come from different backgrounds with different interests and visions for the future, we hope we can at least emerge in this discussion from a common starting point.

Ms. Cachola recalled that I go back fifteen years ago when I first decided to become a planner and my father, in all of his wisdom, smiled at me and said, "Always remember that the first planners of this land were the Hawaiians and they had the benefit of hundreds of years of keen observation." So when I start a planning project, I always take that into consideration.

She concluded, as we proceed together to consider our future opportunities, know that we stand high on the shoulders of hundreds of years of appropriate land use management our parents and grandparents look to their future and gave us what we have today. Now we must look to our future and consider what we will pass on to our children and grandchildren. With these concepts as context for our work, we have a powerpoint presentation that has been developed by the Planning Department that provides a great summary of traditional land use concepts, land tenure patterns, as well as important historical highlights all of which provide a foundation and help to set our feet on from ground.

The history of land uses and land tenure in Hawaii, not only provides us a common footing, but also acknowledges important issues that we are facing now and will continue to deal with as Hawaiian claims to land and water take their due course. For instance, this map identifies lands that were ceded to the United States when the Kingdom of Hawaii was overthrown. They include Hawaiian Homelands, the State of Hawaii, sometimes called ceded lands, and Federal lands. Together, they comprise of approximately a hundred and fifty-seven thousand acres or thirty-four percent of the island of Maui. As we look into the next twenty-five years, Hawaiian sovereignty issues will certainly come into play and these lands will probably be most affected.

If we look at the traditional land use pattern, we look first at the moku, which is essentially a large land unit, like a district. As the slide indicates, Maui was divided into twelve districts. Interestingly, Maui's moku apparently started with eight districts but, for some reason, perhaps population growth, the moku were expanded to the twelve shown here. This is unlike other islands, like Oahu and the Big Island, whose traditional moku remain unchanged. One thing Ms. Cachola wanted to add was that these districts functioned as resource management units and while they were further subdivided into ahupua`a and `ili, the moku remains an important regional unit. For instance, the Wailuku moku encompasses nawaieha, the four waters or major streams in the area, Waihe`e, Waikapu, Iao, and Waiehu. So the moku helps us to understand regional relationships.

In 1838, we have the first map that identified the ahupua`a of Maui. As indicated in this slide, ahupua`a boundaries were natural boundaries that extended from the mountain to the ocean in roughly triangular shape, which is the description we all know and it is a description that is true; however, it is important to note that the concept of the ahupua`a

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

March 17, 2006

Mr. Michael S. Nishimura, P.E.
M & E Pacific, Inc.
Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawaii 96813

Dear Mr. Nishimura:

RE: Honoapi'ilani Highway Widening, Lahainaluna Road to Aholo Road Wainee, Lahaina, Located Within the Existing Highway Right-of-Way and Maui TMKs: 4-5-006 & 009, and 4-6-004:013 Por. & 034 Por., Waine'e, Lahaina, Island of Maui, Hawaii (DOT-HWY Project Number 30BC-01-04)

The Maui County Cultural Resources Commission (Commission) reviewed the proposed project at its regular meeting held on March 2, 2006, and has the following comments to offer:

1. That the proposed project is located in the Lahaina National Historic Land Mark District. This designation occurred in December of 1962. As federal fund will be utilized, the proposed project is subject to the Section 106 Review pursuant to the National Historic Preservation Act. It is the Commission's understanding that the local office of the Federal Highways Administration is the Federal agency required to initiate the Section 106 Review and invite formal comments from the Advisory Council on Historic Preservation;

2. That the Maui/Lanai Burial Council and the Lahaina Restoration Foundation be formally consulted on the proposed project;

3. That follow up letters be provided to those agencies who have provided pre-consultation comments on archaeological and historic issues. And that these letters be incorporated into the draft environmental assessment of the proposed project; and

4. Lastly, that any historical maps reflecting settlement patterns along the proposed project route be provided to the Commission.

Thank you for the opportunity to comment. The Commission looks forward to reviewing the draft environmental impact statement.

Should you require clarification, please contact Ms. Robyn Loudermilk, Staff Planner, of this office at 270-7180.

Sincerely,

FOR SAMUEL KALALAU III, Chair
Maui County Cultural Resources Commission

SK:RL:bv
c: Wayne A. Boteilho, Deputy Planning Director
Clayton I. Yoshida, Planning Program Administrator
Robyn L. Loudermilk, Staff Planner
Cultural Resources Commission
Charlene Shibuya, DOT-Highways Maui Office
Maui/Lanai Burial Council
Lahaina Restoration Foundation
Federal Highways Administration-Honolulu Office
Project File
General File
K:\WP_DOCS\PLANNING\RFC\2006\0008_HonoapiilaniHwy\Prelim_CRC.wpd

LINDA LINGLE
GOVERNOR

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

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:
HWY-M 2.032-07

February 5, 2007

Mr. Samuel Kalalau III, Chair
Maui County Cultural Resources Commission
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

Dear Mr. Kalalau:

SUBJECT: RESPONSE TO COMMENTS DURING PRECONSULTATION FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for your letter dated March 17, 2006, commenting on DOT-HWY's presentation at your regular meeting held on March 2, 2006, and preconsultation for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following responses to your comments in the order as they appear in your letter.

1) **That the proposed project is located in the Lahaina National Historic Land Mark District. This designation occurred in December of 1962. As federal fund will be utilized, the proposed project is subject to the Section 106 Review pursuant to the National Historic Preservation Act. It is the Commission's understanding that the local office of the Federal Highways Administration is the Federal agency required to initiate the Section 106 Review and invite formal comments from the Advisory Council on Historic Preservation:**

The National Historic Preservation Act (NHPA) Section 106 process is complete. Project consultation was held with the State Historic Preservation Officer (SHPO, Mr. Peter Young, Chair, of the State of Hawai'i, Department of Land and Natural Resources, State Historic Preservation Division, the local delegate for historic matters), and a formal finding of "no historic properties will be affected" by the project undertaking was issued via letter dated February 3, 2006. A copy of this letter is attached for your reference.

An invitation was extended to the Advisory Council on Historic Preservation (ACHP) via letter and project information on August 15, 2005 that presented the ACHP with the opportunity to provide archaeological and historical consultation for the subject project. During a follow-up call on January 6, 2006, the ACHP verbally and formally opted not to

participate as a historic preservation consultant for the project, and had no comments to offer. A record of this telephone conversation is attached for your reference.

A Cultural Impact Assessment (CIA) has been completed for the project as part of the environmental assessment process, and discussion on the CIA will be included in the final version of the Environmental Assessment.

A U.S. Federal Highways Administration (FHWA) Categorical Exclusion for Department of Transportation Act (DOTA) Section 4(f) evaluation is currently being processed.

2) **That the Maui/Lanai Burial Council and the Lahaina Restoration Foundation be formally consulted on the proposed project;**

Project information and a request for review and comment were submitted via letters dated January 5, 2006, and January 17, 2006, to the Maui/Lāna'i Island Burial Council (MLIBC). As indicated in the February 3, 2006, SHPO Section 106 response determination letter, the MLIBC expressed no concerns with the project regarding effects on historic properties.

Project information and a request for review and comment were submitted via letter dated February 13, 2006, to the Lahaina Restoration Foundation (LRF). No response was received; thus, a follow-up letter/telephone call will be made.

3) **That follow-up letters be provided to those agencies who have provided pre-consultation comments on archaeological and historical issues. And that these letters be incorporated into the draft environmental assessment of the proposed project; and**

No comments related to archaeological and historical issues have been received. Follow-up letters will be sent to organizations and agencies that have participated in the preconsultation process for the project. Copies of these letters and any responses received will be included in the final version of the Environmental Assessment.

Also, as previously mentioned, a Cultural Impact Assessment (CIA) has been completed for the project as part of the environmental assessment process, and discussion on the CIA will be included in the final version of the Environmental Assessment.

4) **Lastly, that any historical maps reflecting settlement patterns along the proposed project route be provided to the Commission.**

Two historical maps reflecting settlement patterns in the region of the project are attached for your reference.

Again, thank you for your comments and participation in the project's preconsultation review and comment process.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

Very truly yours,

for BRENNON T. MORIOKA, Ph.D., P.E.
Deputy Director-Highways

Enclosures

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

February 3, 2006

Mr. Michael Nishimura, P.E.
M & E Pacific, Inc
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawaii 96813

LOG NO: 2006.0046
DOC NO: 0601MK22
Archaeology

Dear Mr. Nishimura:

SUBJECT: **National Historic Preservation Act (NHPA) Section 106 Review**
[State/Highways] –
Honoapi'ilani Highway Widening, Lahainaluna Road to Aholo Road
Waine'e Ahupua'a, Lahaina District, Island of Maui
TMK: (2) 4-5-006 & 009 and 4-6-004: 013, 034

The proposed widening projects to occur within the existing established right-of-way (ROW), will effectively convert the highway from two (2) to four (4) lanes. The existing road is constructed on fill. The widening will include fill importation to meet the existing highway grade. The proposed DOT project is partially federally funded.

We believe that **"no historic properties will be affected"** by this undertaking 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) this project has gone through the historic review process, and mitigation has been completed
- ☒ f) other: *The project will occur within existing highway ROW, and will not include excavation below original grade. Feedback was solicited by your firm to the Maui/Lana'i Islands Burial Council Chair and Vice-Chair, Mr. Charles Maxwell and Ms. Dana Naone Hall who expressed no concerns at this time since the project is located within the existing ROW in which no known historic properties exist.*

In the event that historic resources, including human skeletal remains, are identified during routine 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 Division, Maui Section, needs to be contacted immediately at (808) 243-5169.

Aloha,

Peter Young, Chair
State Historic Preservation Officer

MK:kf

cc: Bert Ratte, DPWEM, County of Maui
Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Res. Commission, Dept. of Planning, 250 S. High Street, Wailuku, HI 96793

M&E Pacific, Inc.

METCALF & EDDY | AECOM

Record of Telephone Conversation

DATE:	January 6, 2006	**TIME:**	12:30–13:00
PERSON CALLED/ CALLING:	Ms. Carol Legard (CL, 202-606-8522)		
FIRM/ AGENCY:	Advisory Council on Historic Preservation (ACHP)		
PROJECT:	State of Hawai'i, Department of Transportation, Highways Division, Maui District *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* Waine'e, Lahaina, Maui, Hawai'i DOT Job Number 30BC-01-04		
PROJECT NUMBER:	36802576.00370		
SUBJECT:	**ACHP Participation in Historic Preservation Consultation for the Project**		
COPIES:	Mich Hirano (*Munekiyo & Haraga, Inc.*); AYT, DYK(*M&E*); Project File		

DISCUSSION ITEMS:

Carol mentioned that if the request letter was mailed over 2 weeks ago, it may be assumed that the ACHP will not participate in consultation. CL added that she currently has no Hawai'i project on her "radar screen." It was mentioned that the original request letter was sent to the ACHP back in August 2005. **CL confirmed that the ACHP opts not to participate as a historic preservation consultant for the subject project: State of Hawai'i, Department of Transportation, Highways Division, Maui District, Job Number 30BC-01-04, *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road*, Waine'e, Lahaina, Maui, Hawai'i.** She requested that a record of this telephone conversation be documented in the Environmental Assessment (EA) as the final, formal decision by the ACHP to not participate.

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ACTION(S) REQUIRED & TAKEN:

This record of telephone conversation will be documented in the Environmental Assessment.

FOLLOW-UP:

None.

SIGNED: _____ 1/6/06

Mike S. Nishimura **DATE**

Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawai'i 96813

Voice: (808) 521-3051, Extension 228
Fax: (808) 524-0246

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

February 3, 2006

Mr. Michael Nishimura, P.E.
M & E Pacific, Inc
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawaii 96813

LOG NO: 2006.0046
DOC NO: 0601MK22
Archaeology

Dear Mr. Nishimura:

SUBJECT: National Historic Preservation Act (NHPA) Section 106 Review [State/Highways] –
Honoapi'ilani Highway Widening, Lahainaluna Road to Aholo Road
Waine'e Ahupua'a, Lahaina District, Island of Maui
TMK: (2) 4-5-006 & 009 and 4-6-004: 013, 034

The proposed widening projects to occur within the existing established right-of-way (ROW), will effectively convert the highway from two (2) to four (4) lanes. The existing road is constructed on fill. The widening will include fill importation to meet the existing highway grade. The proposed DOT project is partially federally funded.

We believe that **"no historic properties will be affected"** by this undertaking 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) this project has gone through the historic review process, and mitigation has been completed
- ☒ f) other: *The project will occur within existing highway ROW, and will not include excavation below original grade. Feedback was solicited by your firm to the Maui/Lana'i Islands Burial Council Chair and Vice-Chair, Mr. Charles Maxwell and Ms. Dana Naone Hall who expressed no concerns at this time since the project is located within the existing ROW in which no known historic properties exist.*

In the event that historic resources, including human skeletal remains, are identified during routine 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 Division, Maui Section, needs to be contacted immediately at (808) 243-5169.

Aloha,

Peter Young, Chair
State Historic Preservation Officer

MK:kf

cc: Bert Ratte, DPWEM, County of Maui
Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Res. Commission, Dept. of Planning, 250 S. High Street, Wailuku, HI 96793

M&E Pacific, Inc.

METCALF & EDDY

Record of Telephone Conversation

DATE:	January 6, 2006	**TIME:**	12:30–13:00
PERSON CALLED/ CALLING:	Ms. Carol Legard (CL, 202-606-8522)		
FIRM/ AGENCY:	Advisory Council on Historic Preservation (ACHP)		
PROJECT:	State of Hawai'i, Department of Transportation, Highways Division, Maui District *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* Waine'e, Lahaina, Maui, Hawai'i DOT Job Number 30BC-01-04		
PROJECT NUMBER:	36802576.00370		
SUBJECT:	**ACHP Participation in Historic Preservation Consultation for the Project**		
COPIES:	Mich Hirano (*Munekiyo & Haraga, Inc.*); AYT, DYK(*M&E*); Project File		

DISCUSSION ITEMS:

Carol mentioned that if the request letter was mailed over 2 weeks ago, it may be assumed that the ACHP will not participate in consultation. CL added that she currently has no Hawai'i project on her "radar screen." It was mentioned that the original request letter was sent to the ACHP back in August 2005. **CL confirmed that the ACHP opts not to participate as a historic preservation consultant for the subject project: State of Hawai'i, Department of Transportation, Highways Division, Maui District, Job Number 30BC-01-04, *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road*, Waine'e, Lahaina, Maui, Hawai'i.** She requested that a record of this telephone conversation be documented in the Environmental Assessment (EA) as the final, formal decision by the ACHP to not participate.

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ACTION(S) REQUIRED & TAKEN:

This record of telephone conversation will be documented in the Environmental Assessment.

FOLLOW-UP:

None.

SIGNED: _____ 1/6/06

Mike S. Nishimura **DATE**

Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawai'i 96813

Voice: (808) 521-3051, Extension 228
Fax: (808) 524-0246

DOCUMENT CAPTURED AS RECEIVED

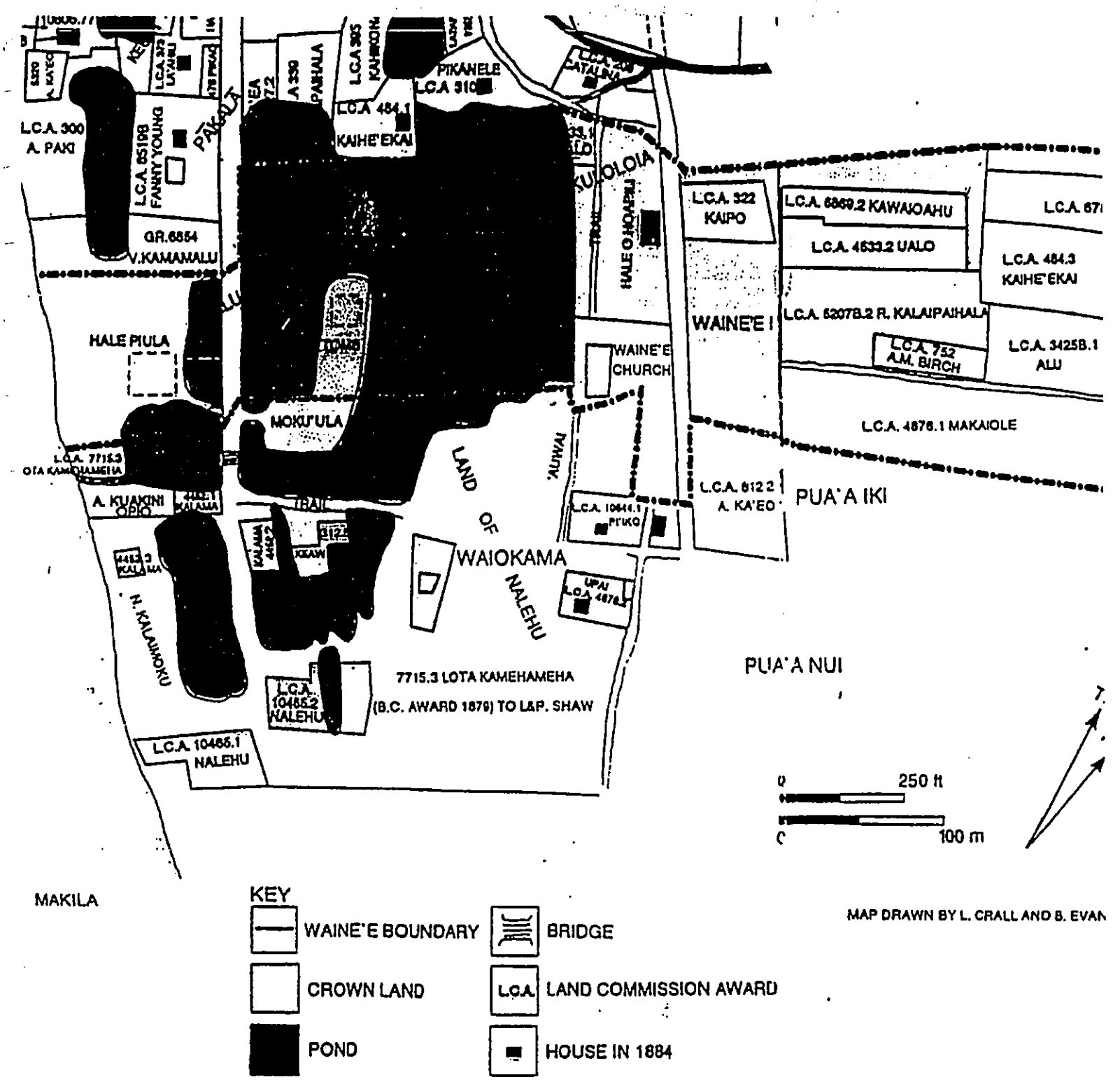
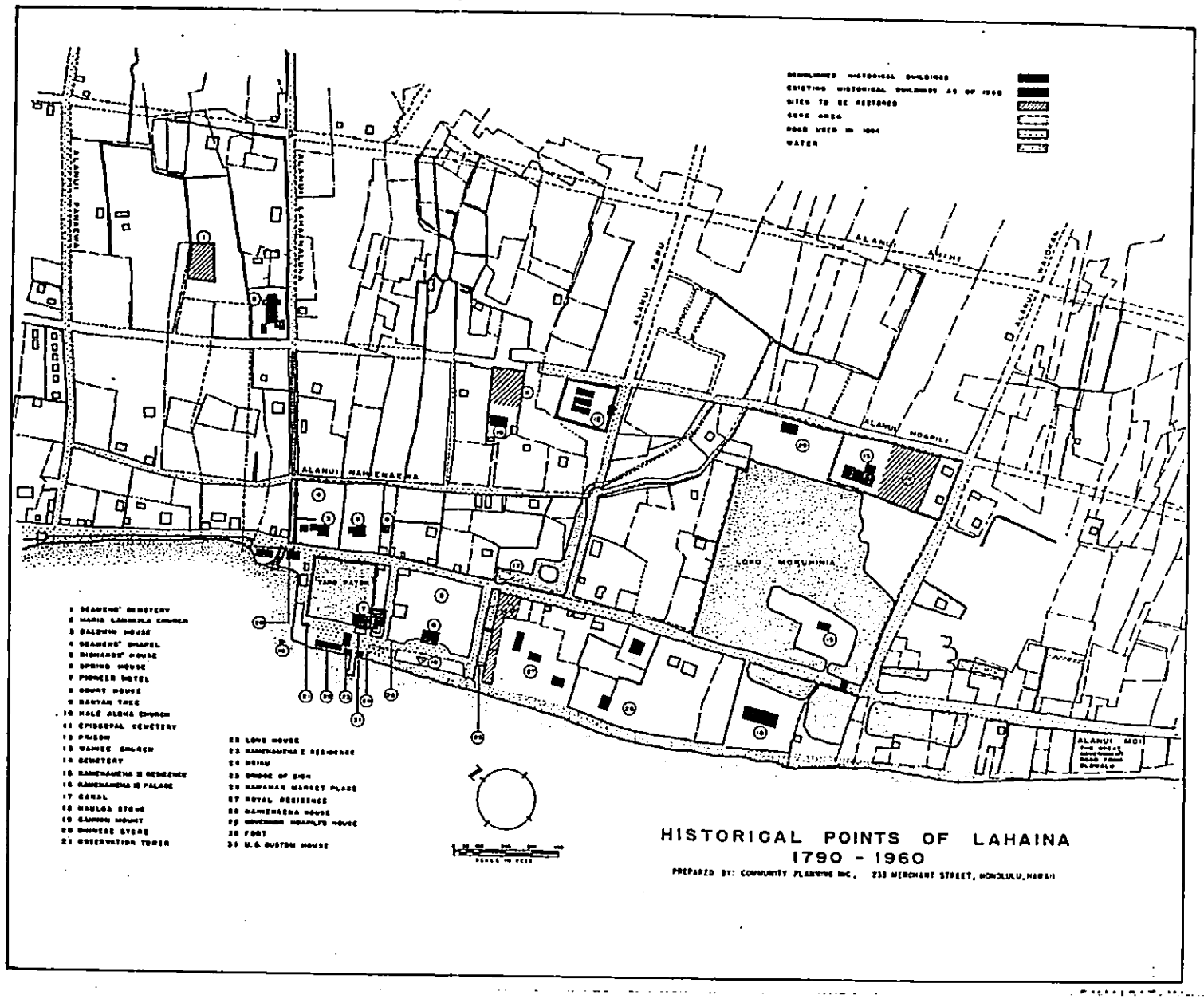


Figure 16. Lower Waine'e Ahupua'a in 1848, showing the large Loko o Mokuhinia. Reconstructed from documents of the Great Māhele, S. E. Bishop survey of 1884.

DOCUMENT CAPTURED AS RECEIVED



ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

February 9, 2006

RECEIVED
FEB 14 2006
M & E PACIFIC, INC.

Mr. Michael S. Nishimura
M&E Pacific, Inc.
METCALF & EDDY/AECOM
841 Bishop Street, Suite 1900
Honolulu, Hawaii 96814

Dear Mr Nishimura:

RE: Preliminary Consultation for the Honoapiilani Highway Widening from Lahainaluna Road to Aholo Road (Project No. 30BC-01-04)

The State Department of Transportation Highways Division (DOT) is proposing to widen Honoapiilani Highway (Highway) in Lahaina from Lahainaluna Road to Aholo Road, approximately 1.06 miles in length. Along with the widening of the Highway, other improvements are: the construction of retaining walls, relocation and/or replacement of existing utilities, drainage improvements, installing signage and striping, and the installation of a five (5) foot wide sidewalk and a 1.5-foot planting strip on the makai side of the Highway. Currently all improvements will be conducted within the DOT Right-of-Way.

The Maui Planning Department (Department) has reviewed the preliminary layout for the proposed project and has the following comments to offer:

1. The proposed project is located outside of the Special Management Area (SMA) as established by the Maui Planning Commission; therefore, a Special Management Area Use Permit is not required. The SMA boundary is makai of the Honoapiilani Highway Right-of-Way;

2. Should changes in the proposed project require DOT to acquire additional Right-of-Way on the makai side of the Highway, then the proposed project would be located within the SMA and require a Special Management Area Use Permit;

250 SOUTH HIGH STREET, WAILUKU, MAUI, HAWAII 96793
PLANNING DIVISION (808) 270-7735; ZONING DIVISION (808) 270-7253; FACSIMILE (808) 270-7634

3. One portion of the proposed project is adjacent to property zoned Historic District One, Area 4 by the County of Maui. The purpose of creating this district is to preserve historic structures and sites. This Historic District is comprised of Maria Lanakila Church and the Seamen's Cemetery on approximately 4.40 acres at Maui TMK: 4-6-010:001;

4. Should changes in the proposed project require DOT to acquire additional Right-of-Way on the property zoned Historic District One, then Historic District approval for this portion of the project will be required by the County of Maui Cultural Resources Commission;

5. The entire project is located in the Lahaina National Historic Land Mark District (District). Also, the project is located on State owned lands. These facts require the DOT to be in compliance with Chapter 343, Environmental Impact Statements, Hawaii Revised Statutes (HRS) as well as Chapter 6E, Historic Preservation, HRS; and

6. Should federal funds be used for the proposed project, the DOT may be required to comply with provisions of the federal National Environmental Policy Act as well as the federal Historic Preservation Act.

Thank you for the opportunity to provide comments. Should you require additional information or clarification, please contact Ms. Robyn Loudermilk, Staff Planner, of this office at 270-7180.

Sincerely,

MICHAEL W. FOLEY
Planning Director

MWF:RLL:bv
c: Clayton I. Yoshida, AICP, Planning Program Administrator
Robyn L. Loudermilk, Staff Planner
Kivette A. Caigoy, Environmental Planner
General File
S:\ALL\ROBYN\MISC\Hpiilani_Lah_Aho_Rds.wpd

LINDA LINGLE
GOVERNOR

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

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:
HWY-M 2.026-07

February 5, 2007

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

Dear Mr. Hunt:

SUBJECT: RESPONSE TO COMMENTS DURING PRECONSULTATION FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for Mr. Michael W. Foley's letter dated February 9, 2006, commenting on preconsultation for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following responses to his comments in the order as they appear in his letter.

1) **The proposed project is located outside of the Special Management Area (SMA) as established by the Maui Planning Commission; therefore, a Special Management Area Use Permit is not required. The SMA boundary is makai of the Honoapiilani Highway Right-of-Way;**

   Although the widening will occur outside of the SMA Zone *makai* of the Honoapi'ilani Highway, some pavement transitioning will occur *makai* into the sideroads: 'Aholo Road, Shaw Street, Prison Street, and Dickenson Street. The DOT has elected to file a formal SMA application to insure that all property owners within 500 feet of the project receive notice of the project and have an opportunity to express concerns at a public hearing tentatively planned for April 2007.

2) **Should changes in the proposed project require DOT to acquire additional Right-of-Way on the makai side of the Highway, then the proposed project would be located within the SMA and require a Special Management Area Use Permit;**

All finished highway structures will be within the ROW; thus, additional ROW on the *makai* side of the highway is not anticipated. As previously mentioned, an SMA Use Permit is being processed to cover side road transitional work that will occur *makai* of the ROW.

3) **One portion of the proposed project is adjacent to property zoned Historic District One, Area 4 by the County of Maui. The purpose of creating this district is to preserve historic structures and sites. This Historic District is comprised of Maria Lanakila Church and the Seamen's Cemetery on approximately 4.40 acres at Maui TMK: 4-6-010:001;**

The project is anticipated not to affect Maria Lanakila Church or the Seamen's Cemetery. Noise mitigation for the school adjacent to the Honoapi'ilani Highway will be implemented.

The National Historic Act (NHPA) Section 106 process is complete. Project consultation was held with the State Historic Preservation Officer (SHPO, Mr. Peter Young, Chair, of the State of Hawai'i, Department of Land and Natural Resources, State Historic Preservation Division, the local delegate for historic matters), and a formal finding of "no historic properties will be affected" by the project undertaking was issued via letter dated February 3, 2006. A copy of this letter is attached for your reference.

An invitation was extended to the Advisory Council on Historic Preservation (ACHP) via letter that included project information on August 15, 2005, giving them an opportunity to provide archaeological and historical consultation for the subject project. During a follow-up call on January 6, 2006, the ACHP verbally and formally opted not to participate as a historic preservation consultant for the project, and had no comments to offer. A record of this telephone conversation is attached for your reference.

A Cultural Impact Assessment (CIA) has been completed for the project as part of the environmental assessment process, and discussion on the CIA will be included in the final version of the Environmental Assessment.

A U.S. Federal Highways Administration (FHWA) Categorical Exclusion for Department of Transportation Act (DOTA) Section 4(f) evaluation is currently being processed.

4) **Should changes in the proposed project require DOT to acquire additional Right-of-Way on the property zoned Historic District One, then Historic District approval for this portion of the project will be required by the County of Maui Cultural Resources Commission;**

As mentioned earlier in this letter, all finished highway structures will be within the ROW; thus, additional ROW on the property zoned Historic District One is not anticipated. An SMA Use Permit is currently being processed to cover side road transitional work that will occur *makai* of the ROW.

The project was brought before the Maui County Cultural Resources Commission on March 2, 2006. A follow-up presentation is planned for the CRC later as the project develops.

5) **The entire project is located in the Lahaina National Historic Land Mark District (District). Also, the project is located on State owned lands. These facts require the DOT to be in compliance with Chapter 343, Environmental Impact Statements, Hawaii Revised Statutes (HRS) as well as Chapter 6E, Historic Preservation, HRS; and**

HRS Chapter 343 requirements, as well as HRS Chapter 6E requirements, will be satisfied in the project's environmental assessment process.

6) **Should federal funds be used for the proposed project, the DOT may be required to comply with provisions of the federal National Environmental Policy Act as well as the federal Historic Preservation Act.**

Federal National Environmental Policy Act (NEPA) requirements will be satisfied in the project's environmental assessment process and Categorical Exclusion approval.

Again, thank you for your department's comments and participation in the project's preconsultation review and comment process.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

Very truly yours,

for BRENNON T. MORIOKA, Ph.D., P.E.
Deputy Director-Highways

Enclosures

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

ROBERT K. MASUDA
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CONSERVATION AND RESOURCE ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

February 3, 2006

Mr. Michael Nishimura, P.E.
M & E Pacific, Inc
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawaii 96813

LOG NO: 2006.0046
DOC NO: 0601MK22
Archaeology

Dear Mr. Nishimura:

SUBJECT: National Historic Preservation Act (NHPA) Section 106 Review [State/Highways] –
Honoapi'ilani Highway Widening, Lahainaluna Road to Aholo Road
Waine'e Ahupua'a, Lahaina District, Island of Maui
TMK: (2) 4-5-006 & 009 and 4-6-004: 013, 034

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Aloha,

Peter Young, Chair
State Historic Preservation Officer

MK:kf

cc: Bert Ratte, DPWEM, County of Maui
Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Res. Commission, Dept. of Planning, 250 S. High Street, Wailuku, HI 96793

M&E Pacific, Inc.

MELCALF&EDDY

Record of Telephone Conversation

DATE:	January 6, 2006	**TIME:**	12:30–13:00
PERSON CALLED/ ~~CALLING~~:	Ms. Carol Legard (CL, 202-606-8522)		
~~FIRM~~/ AGENCY:	Advisory Council on Historic Preservation (ACHP)		
PROJECT:	State of Hawai'i, Department of Transportation, Highways Division, Maui District *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* Waine'e, Lahaina, Maui, Hawai'i DOT Job Number 30BC-01-04		
PROJECT NUMBER:	36802576.00370		
SUBJECT:	**ACHP Participation in Historic Preservation Consultation for the Project**		
COPIES:	Mich Hirano (*Munekiyo & Haraga, Inc.*); AYT, DYK(*M&E*); Project File		

DISCUSSION ITEMS:

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ACTION(S) REQUIRED & TAKEN:

This record of telephone conversation will be documented in the Environmental Assessment.

FOLLOW-UP:

None.

SIGNED: 1/6/06

Mike S. Nishimura **DATE**

Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawai'i 96813

Voice: (808) 521-3051, Extension 228
Fax: (808) 524-0246

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, 841 Bishop Street, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

January 12, 2007

County of Maui
Department of Parks and Recreation
Planning & Development Division
700 Hali'ia Nakoa Street
Wailuku, Hawai'i 96793

Attn: Mr. Patrick Matsui

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Arboral Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project that involves widening Honoapi'ilani Highway (Route 30) in the District of Lahaina on the western coast of the Island of Maui. The site is located approximately ¼-mile inland of the Pacific Ocean shoreline, roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway is bordered on both sides mostly by private residential subdivisions. The highway is proposed to be widened from 2 vehicular travel lanes to 4 with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road (approximately between mileposts 19.90 and 20.97). The project will also add a marked bikelane, shoulder, and dedicated sidewalk along this stretch of highway. A half-size drawing set of the latest preliminary design for the subject project is enclosed for your reference. Also enclosed is an overall map of the proposed landscaping design. The area of potential impact is contained primarily to within the existing 80' wide highway right-of-way (ROW) for the length of the project.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui. The project will also provide an aesthetic gateway into Lahaina.

Adverse impacts on the environment, archaeological and historic properties, and adjoining areas are not anticipated for the project. Adverse impacts are not anticipated because the project occurs in a well-developed area and involves widening an existing roadway within an existing established ROW.

Project effects on endangered/threatened animals and plants, historic and archaeological properties, and cultural resources have been determined to be unlikely through coordination and discussion with

governing agencies and knowledgeable individuals. Project coordination with the following agencies and organizations has also either been completed or is on-going:

1. Bishop Museum
2. Boys & Girls Club of Maui—West Maui Club
3. Friends of Moku'ula
4. Hui Mālama I Nā Kūpuna O Hawai'i Nei
5. 'Iolani Palace—Friends of 'Iolani Palace
6. Kā'anapali 2020 (c/o Munekiyo & Haraga, Inc.)
7. Lahaina Baptist Church
8. Lahaina Restoration Foundation
9. Lahaina Town Action Committee
10. Maria Lanakila Catholic Church and Sacred Hearts School
11. Maui County Arborist Advisory Committee (AAC)
12. Maui County Cultural Resources Commission (CRC)
13. Maui County Department of Parks and Recreation
14. Maui County Department of Planning
15. Maui County Department of Public Works and Environmental Management
16. Maui County Maui/Lāna'i Islands Burial Council
17. Na Hale O Waine'e
18. Nā Kūpuna O Maui
19. Office of Hawaiian Affairs
20. State Department of Hawaiian Homelands
21. State Department of Health
22. State DLNR-Division of State Parks
23. US Advisory Council on Historic Preservation
24. US Department of the Interior, National Park Service
25. US Department of Transportation, Federal Highway Administration
26. US Environmental Protection Agency
27. West Maui Taxpayers Association

Responses received thusfar from these agencies, discussions with Cultural Impact Assessment interviewees (local residents knowledgeable of the history and cultural practices of the project site and its surrounding areas), and coordination with Maui County CRC has generally been in favor of the project. The DOT-HWY is currently in contact with the Maui County AAC regarding the project at the time this letter is written.

This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment (EA), which is currently being developed. The draft version of this EA was filed for public review and comment at the Lahaina Public Library since the beginning of June 2006, and notice of the project was published in the June 8, 2006, edition of the *Environmental Notice*—the bi-monthly publication for the State of Hawai'i, Department of Health, Office of Environmental Quality Control (OEQC). This document summarizes project coordination with the aforementioned agencies and organizations, as well as, discussions about potential project impacts and mitigation measures. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. The final version of the EA is currently being drafted at the time this letter is written.

As per the request of Ms. Tamara Horcajo, DPR Chief of Recreation (see attached 2/9/06 response letter), we are presenting you with project information and drawings for review, consultation and coordination. Please note that the design of the project is still in its preliminary stage, and subject to change through coordination with regulating agencies and public input.

The highway project will involve the construction of structures up to the existing Honoapi'ilani Highway ROW; however, no existing trees in Lahaina Recreation Center Park will be removed, as finished structures will be located inside of the ROW. Some grading out from the new highway structures may need to occur slightly into the park, which will be grassed immediately for erosion control. The existing park chain link fence and any other existing structures will be restored to their original conditions, or better, if affected, otherwise they will be left unaltered in-place. Nonetheless, the desired design approach current at the time this letter is written is to complete all construction work without affecting any park trees, chain link fence, or other structures.

Should you have any questions or concerns about the proposed undertaking, please contact the project manager at the State of Hawai'i DOT-HWY:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

It will be greatly appreciated if all feedback, if any, can be provided in a timely manner so that all comments can be properly addressed while meeting the established project schedule.

Sincerely,

M & E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

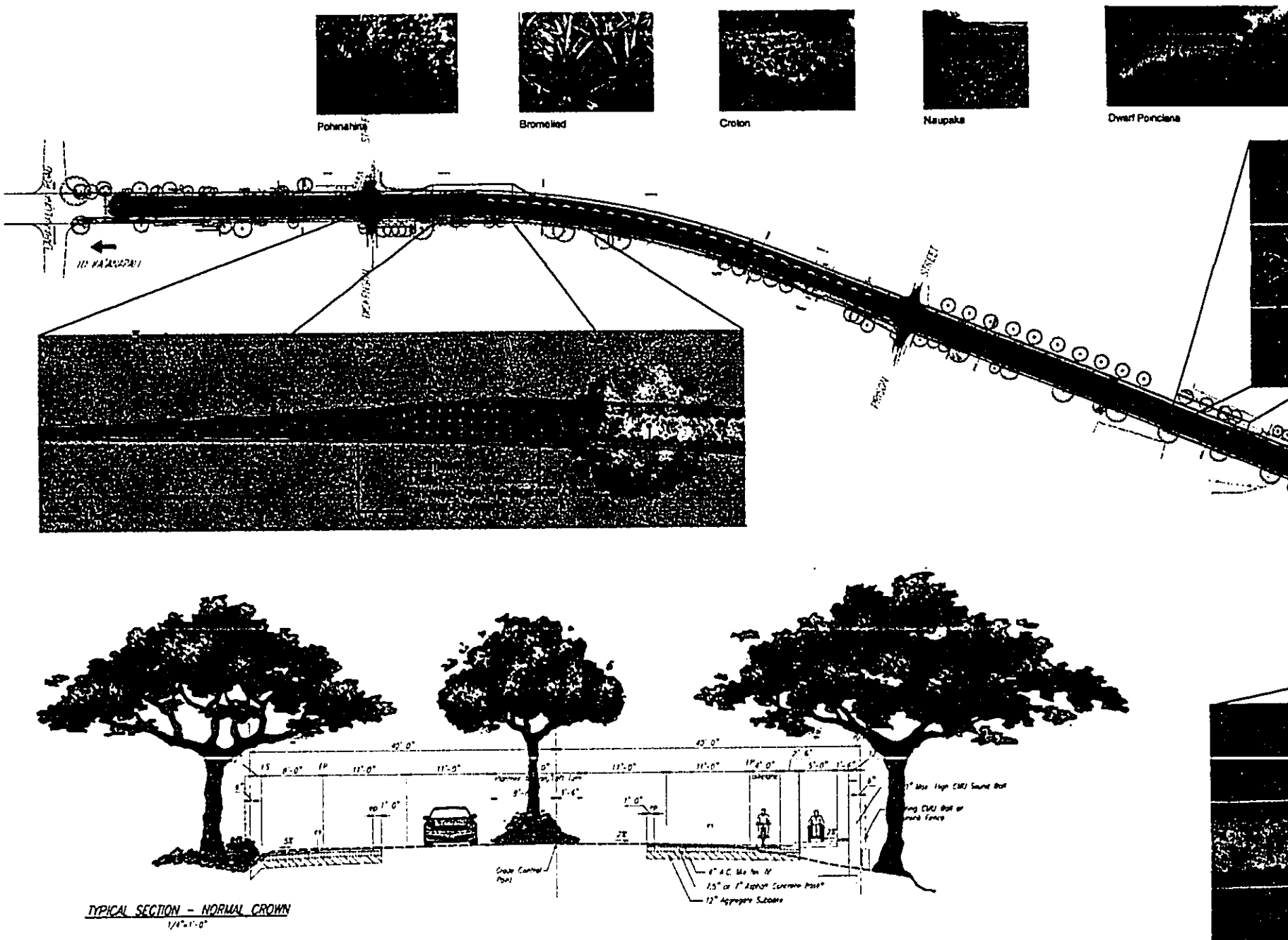
Enclosures: (1) Preliminary Project Drawings
(2) Overall Landscaping Plan
(3) Maui County DPR Response Letter (2/9/06) from Ms. Tamara Horcajo

cc: Project File

METCALF & EDDY | AECOM

APPENDIX C

Landscaping Sketches



Honoapiilani Highway Expansion

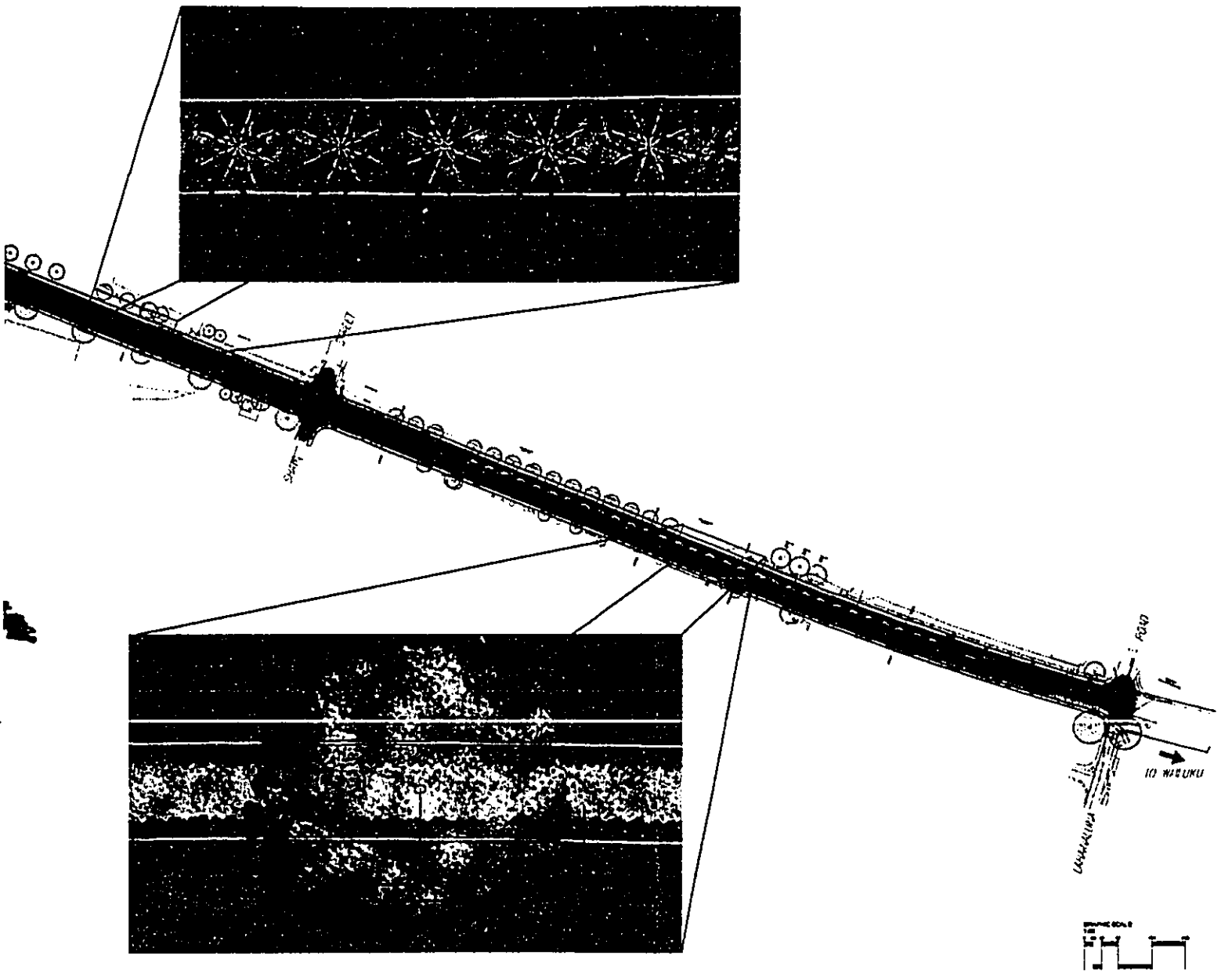
December '06

Dwarf Poinciana

Shower Tree

Madagascar Olive

Loulu Palm



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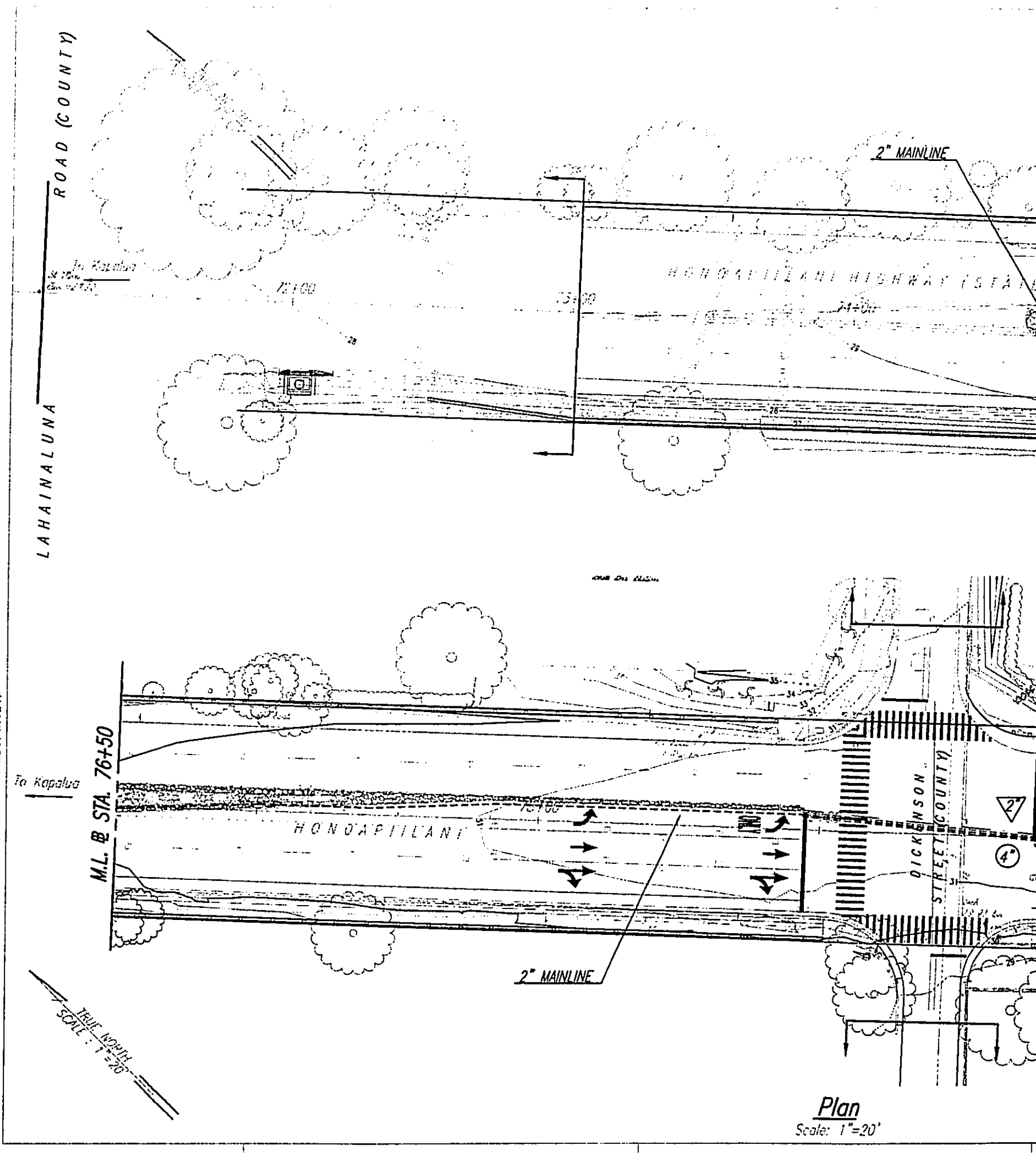

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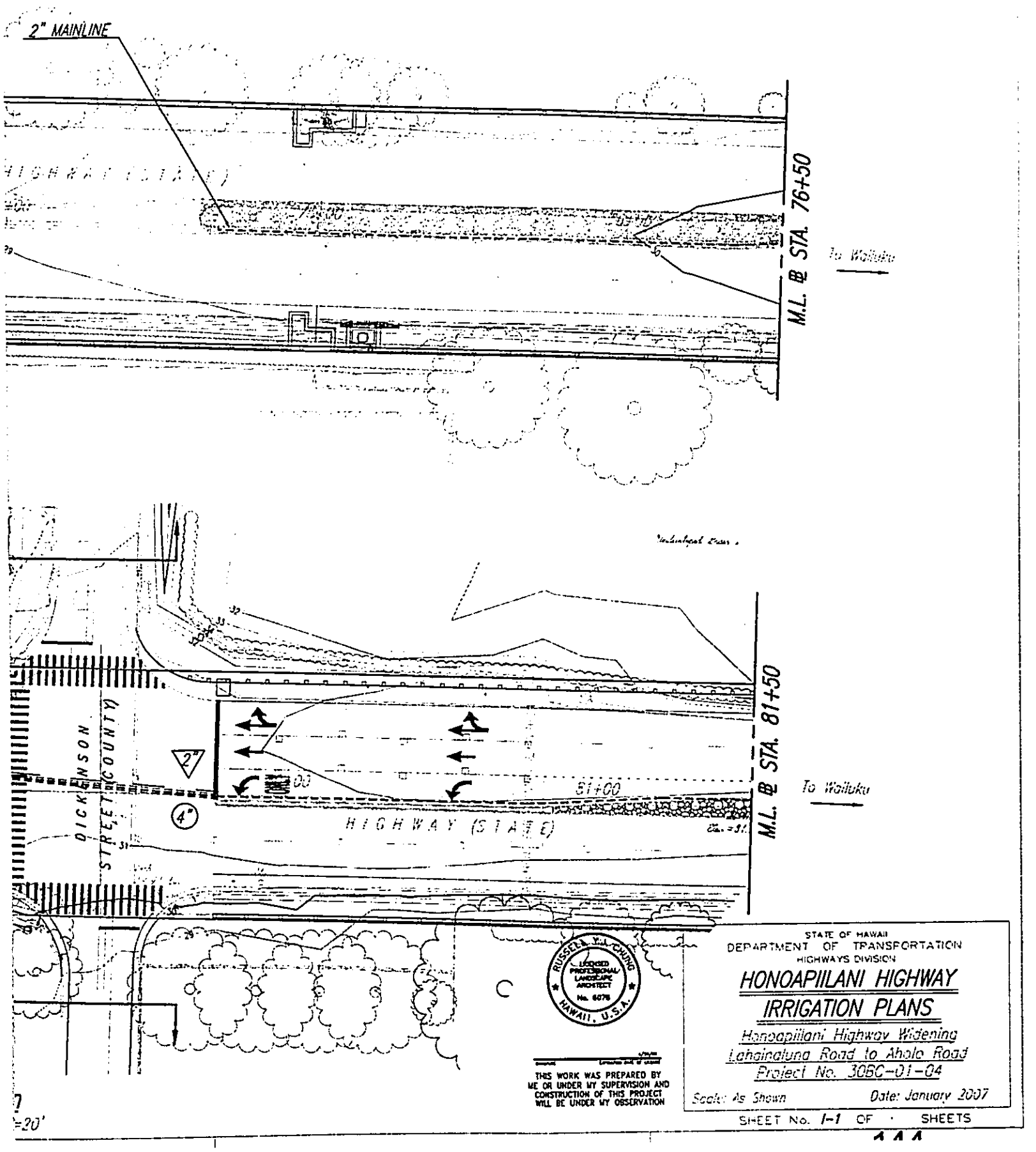

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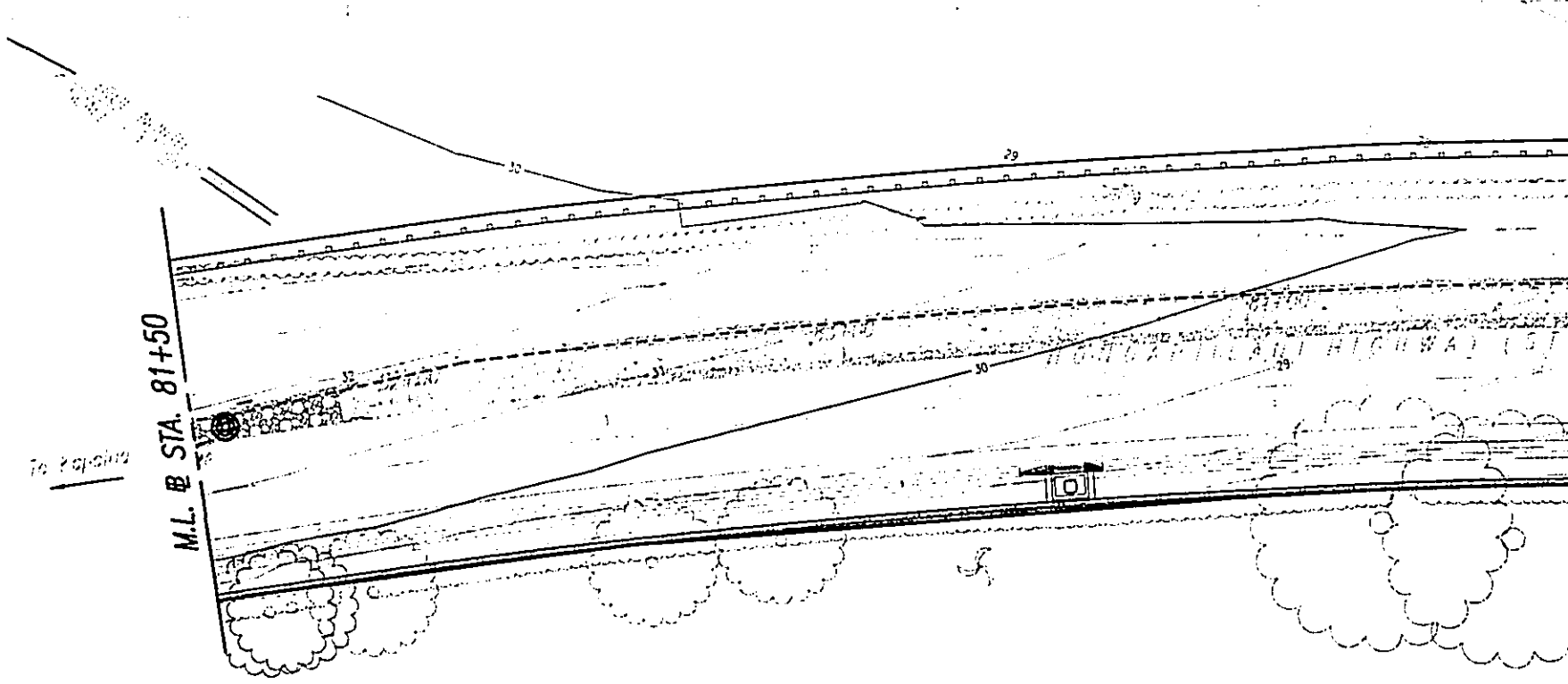

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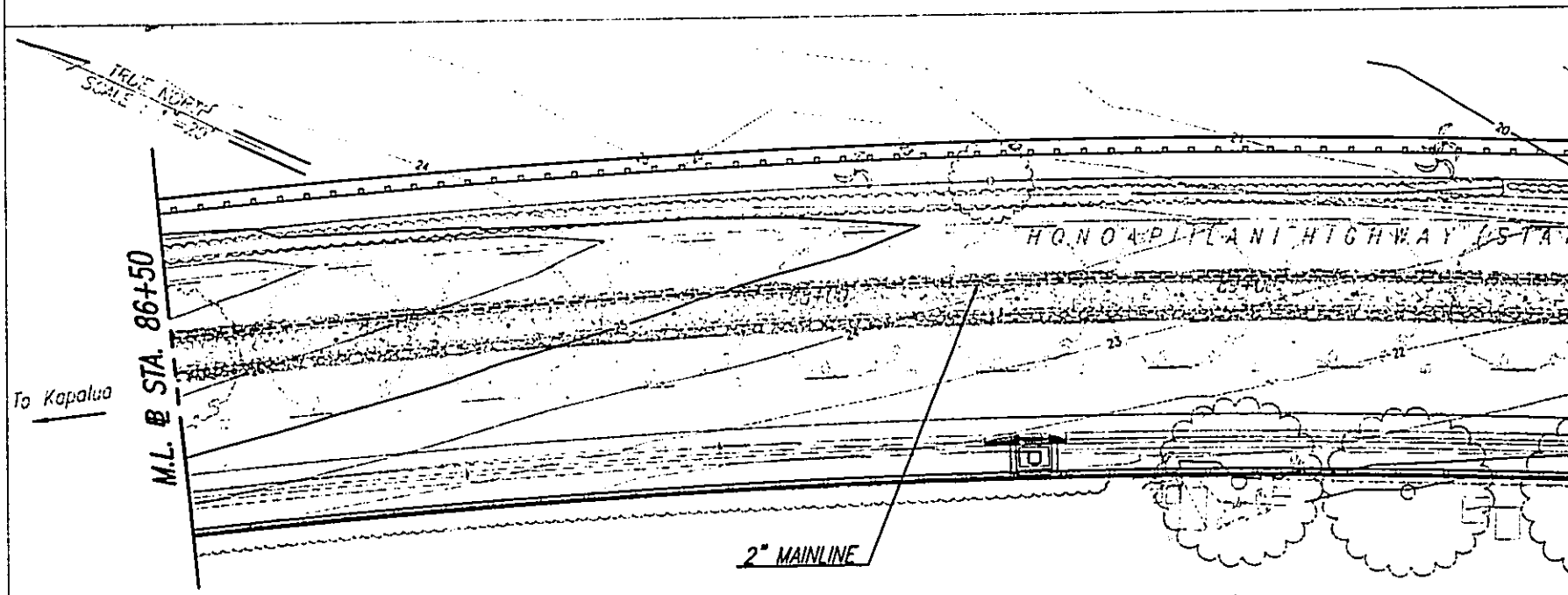

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Scale: 1"=20'

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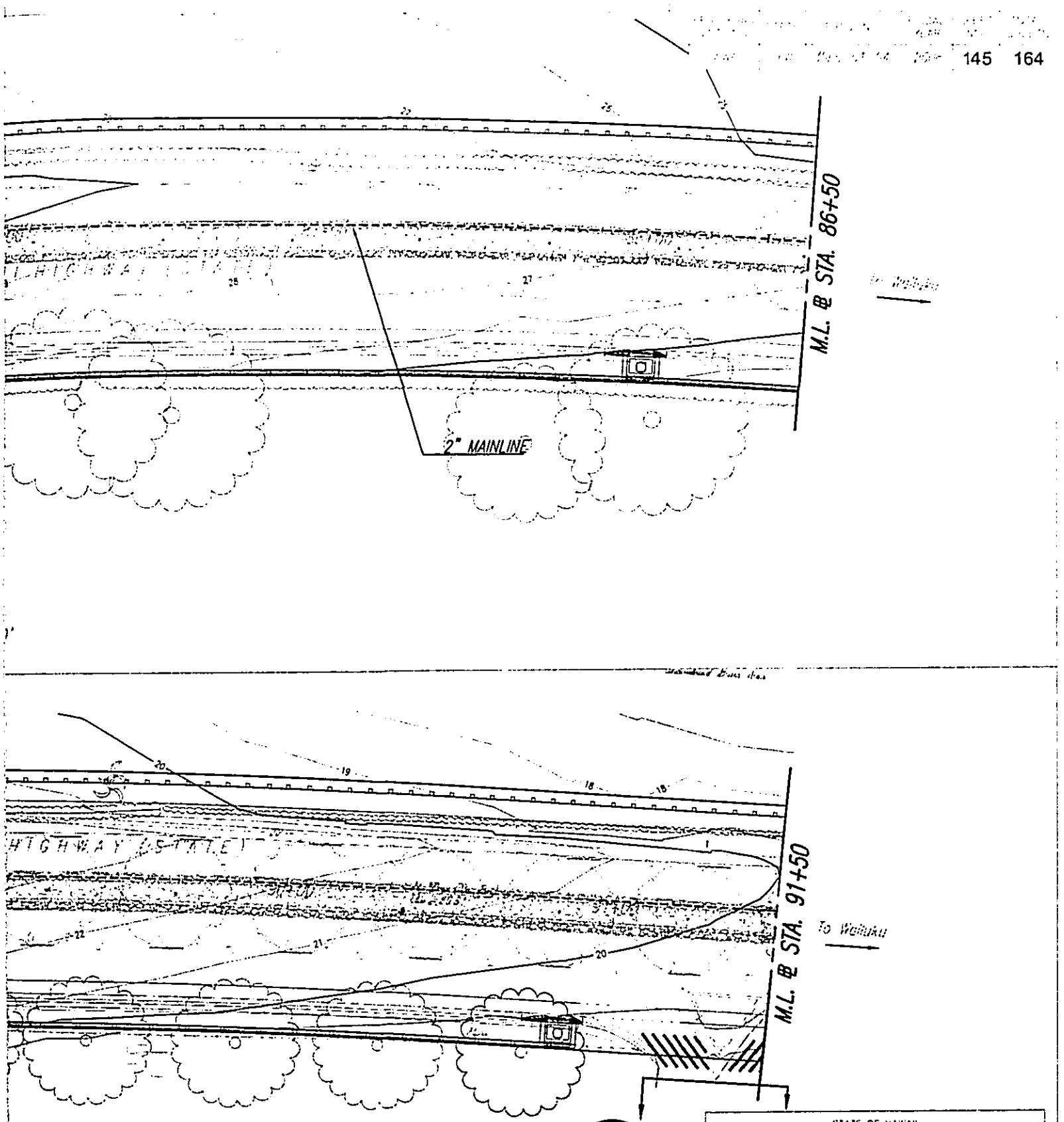

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LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6076
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HONOAPIILANI HIGHWAY

IRRIGATION PLANS

Honoapiilani Highway Widening
Lahainaluna Road to Ahole Road
Project No. 30BC-01-04

Scale: As Shown Date: January 2007

SHEET No. I-2 OF · SHEETS

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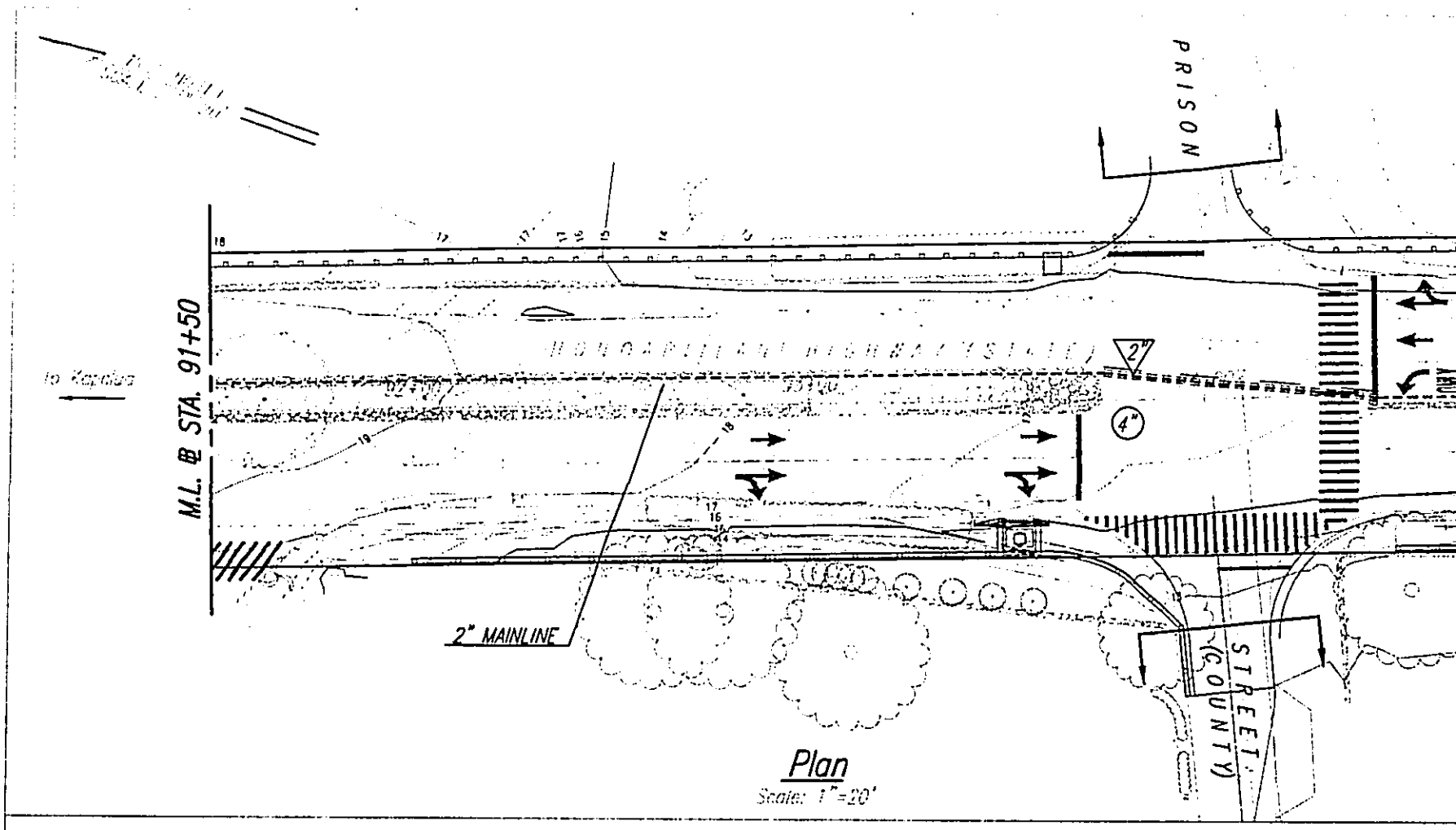

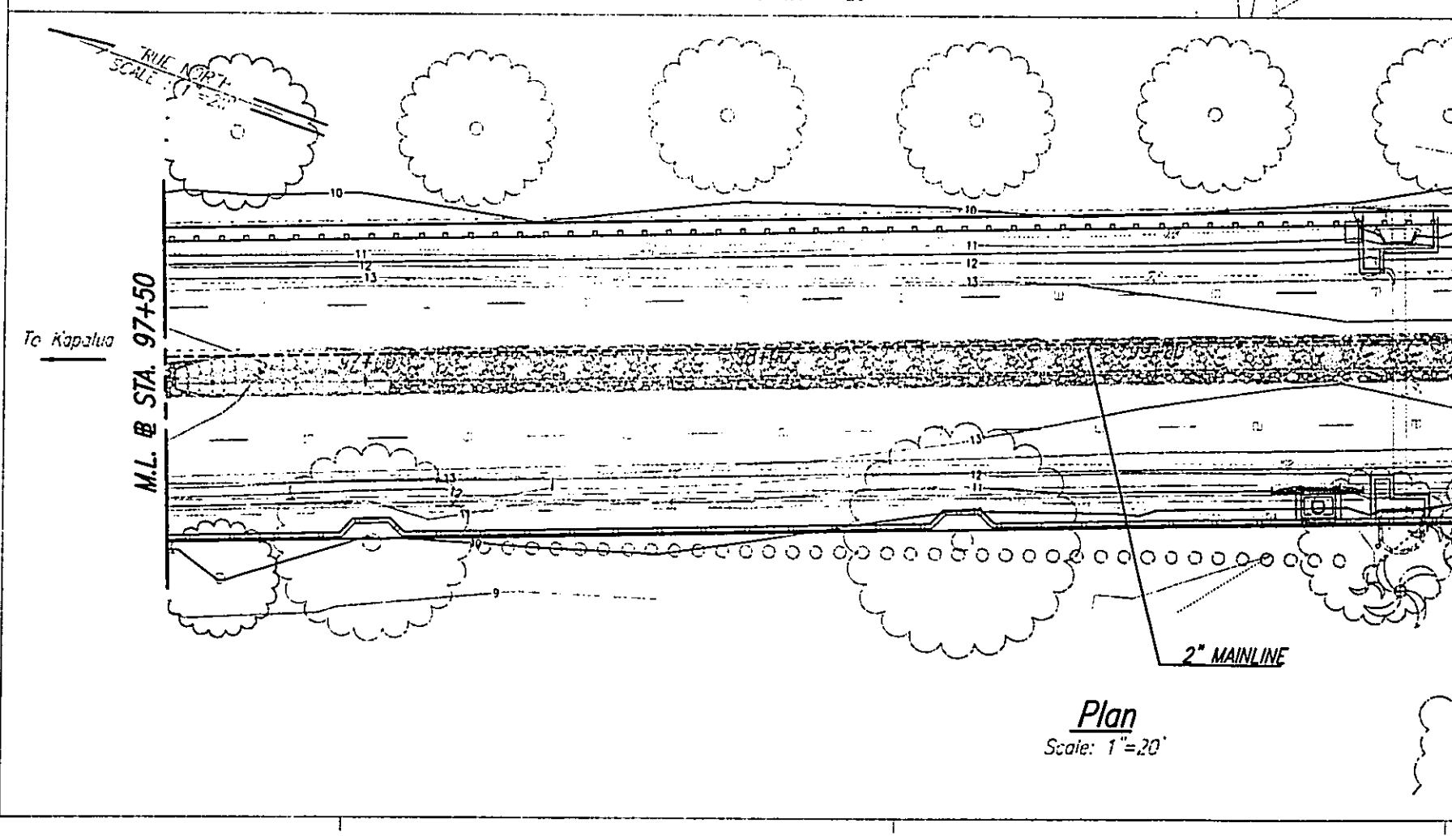

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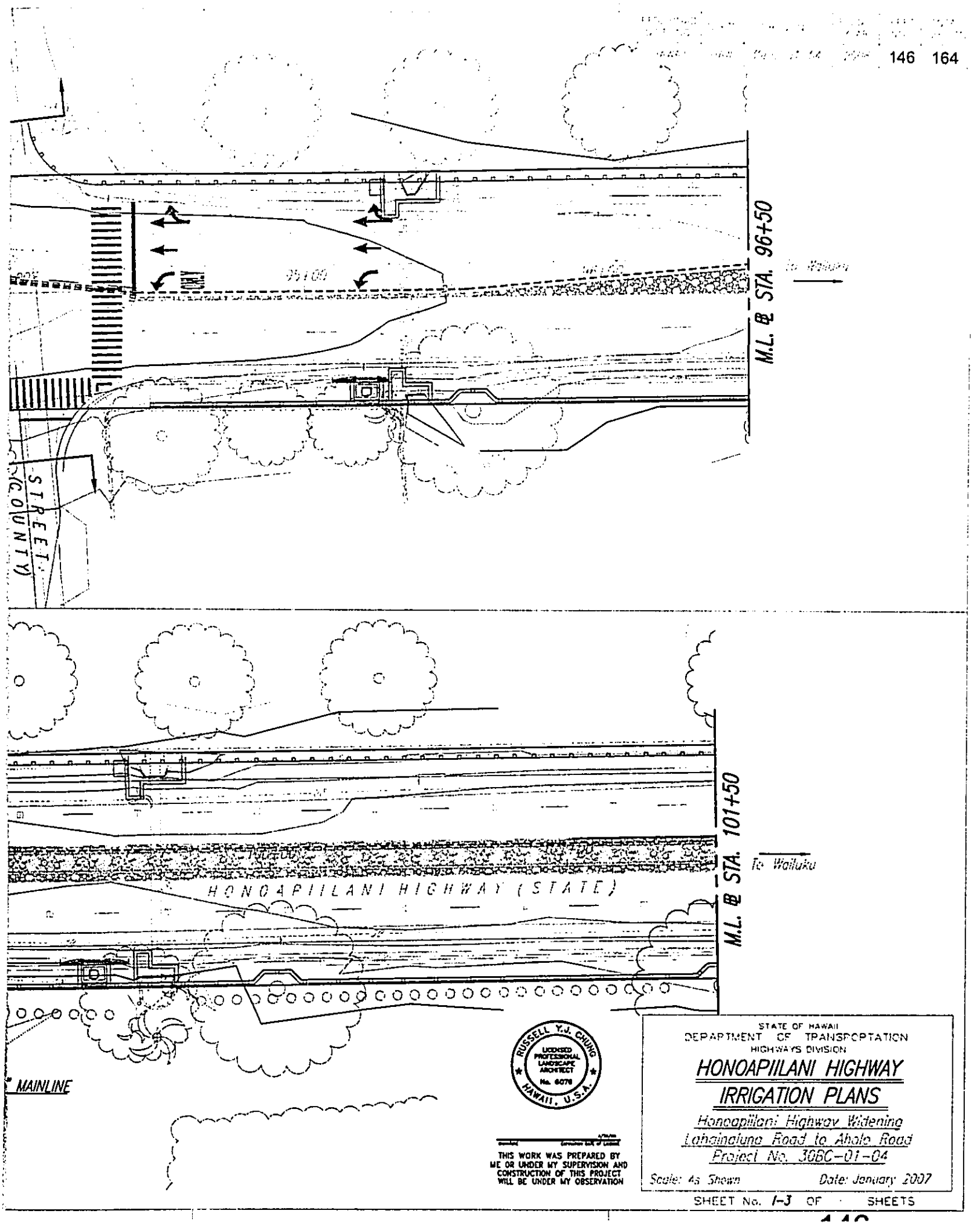

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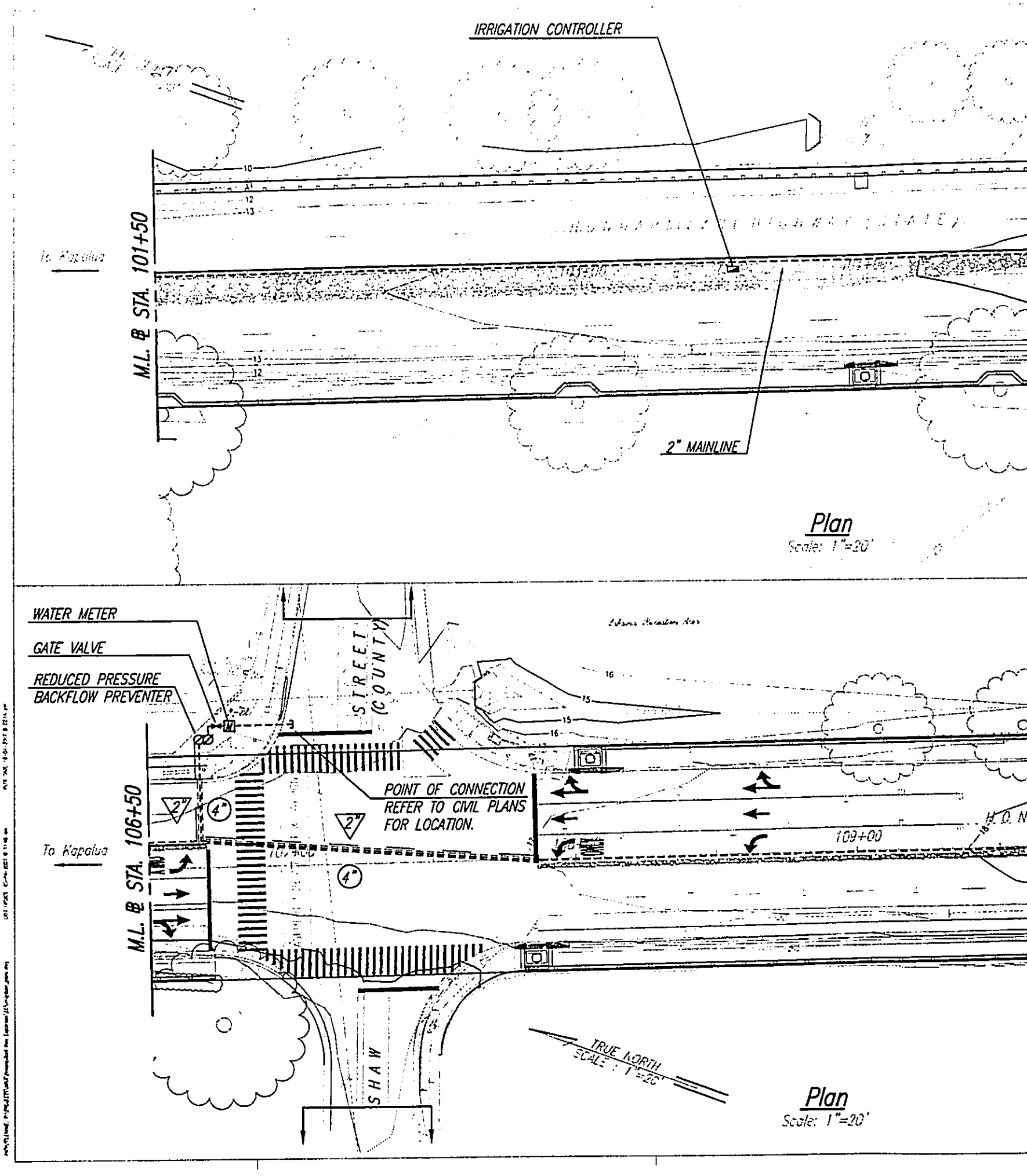

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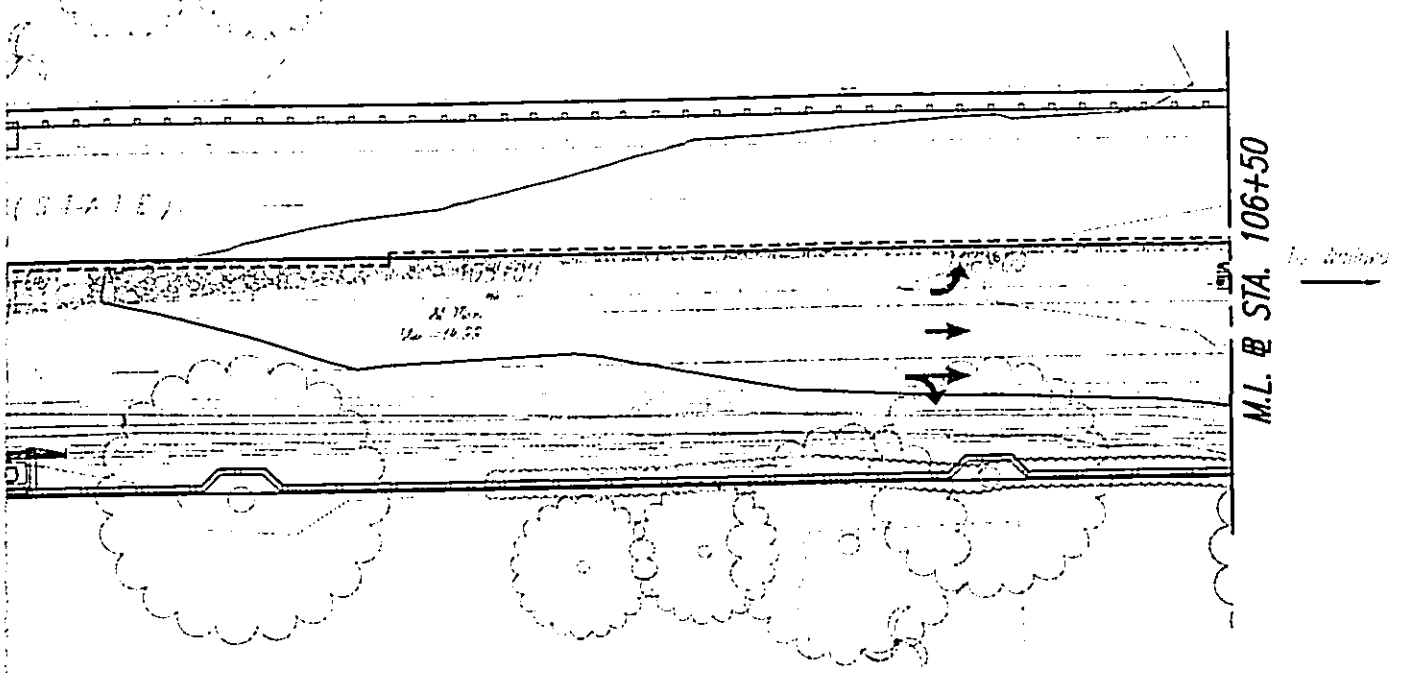

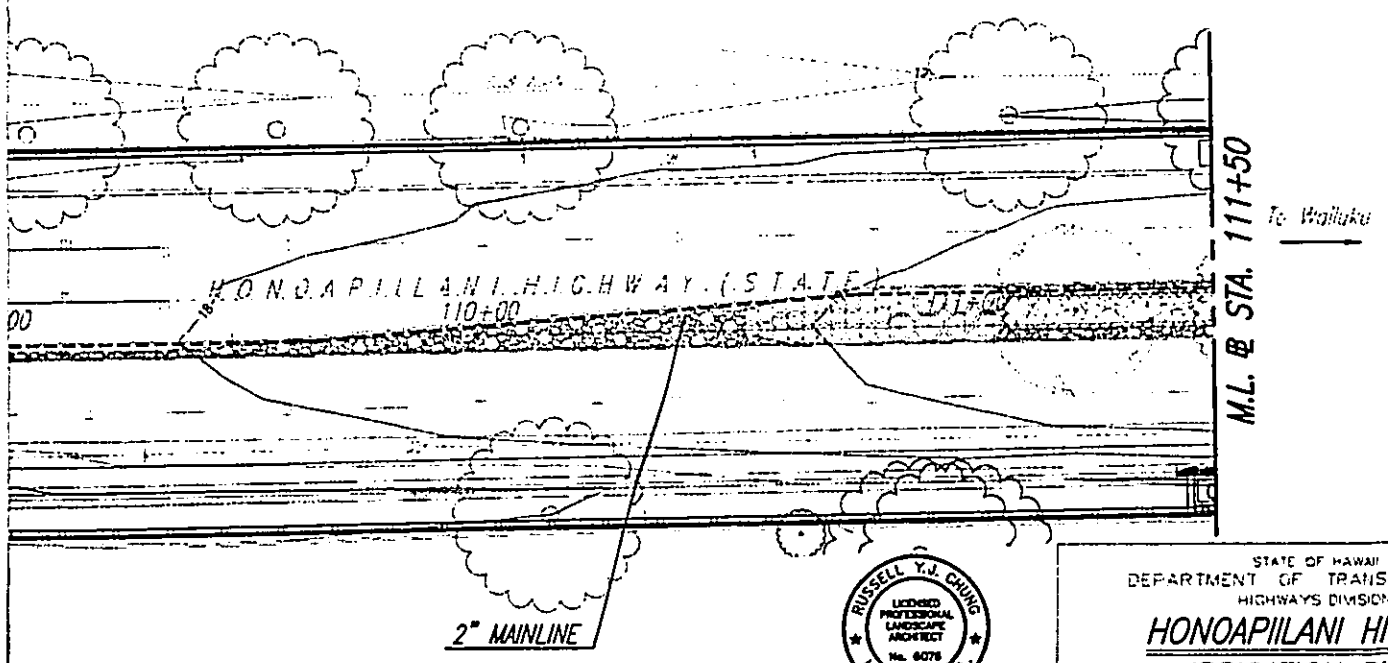

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HONOAPIILANI HIGHWAY

IRRIGATION PLANS

Honoapiilani Highway Widening
Lahainaluna Road to Anaolo Road
Project No. 30BC-01-04

Scale: As Shown Date: January 2007

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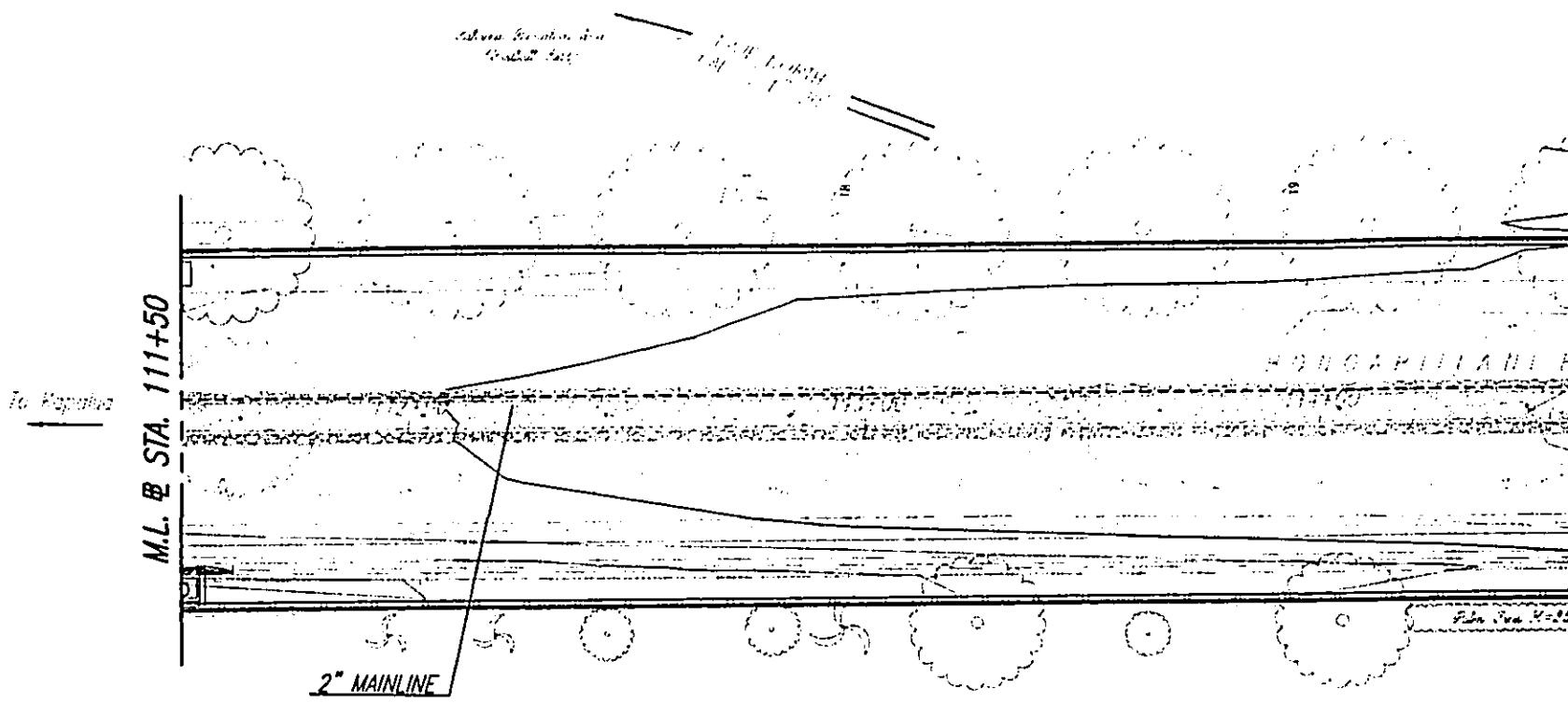

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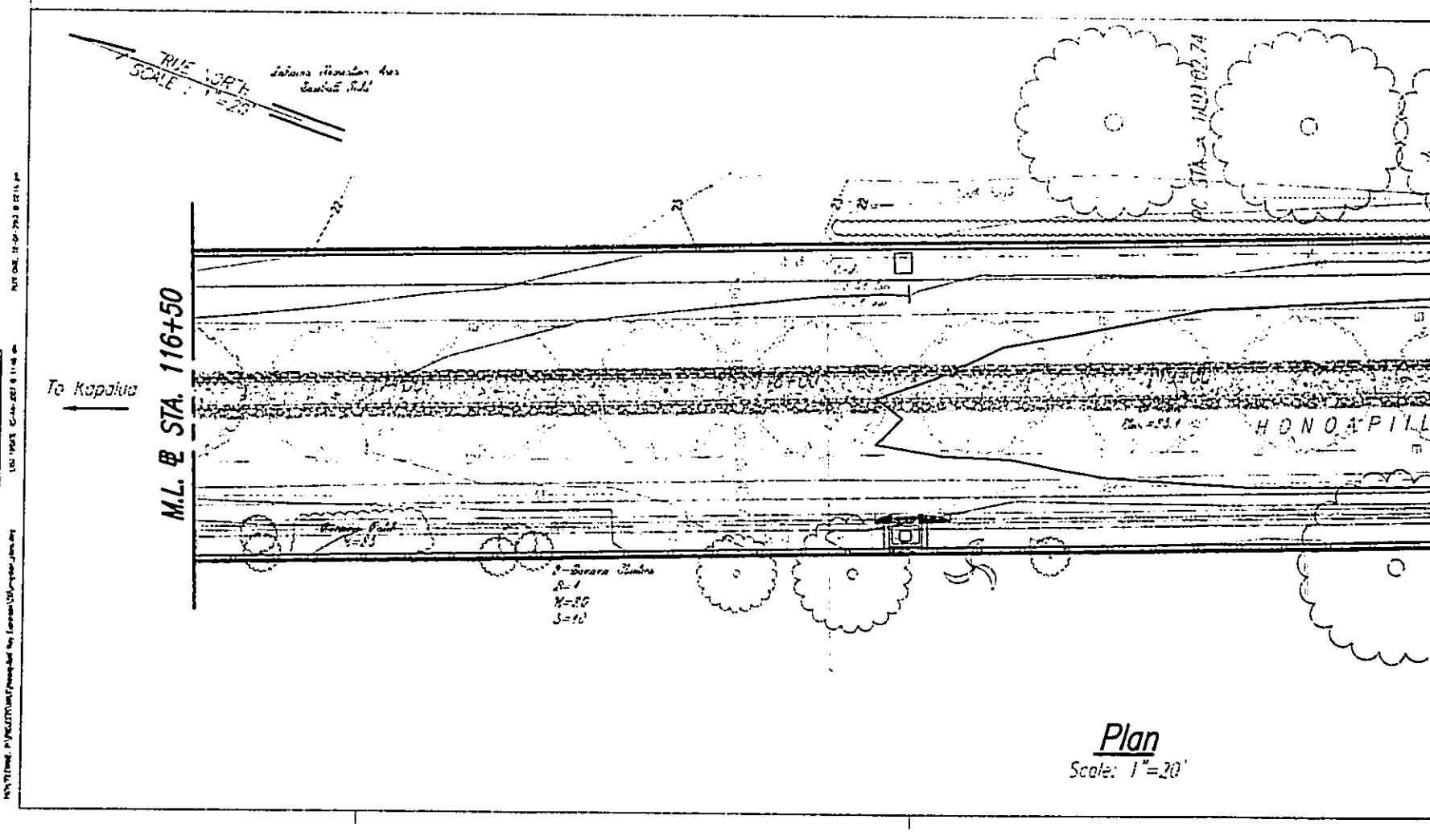

Plan
Scale: 1"=20'

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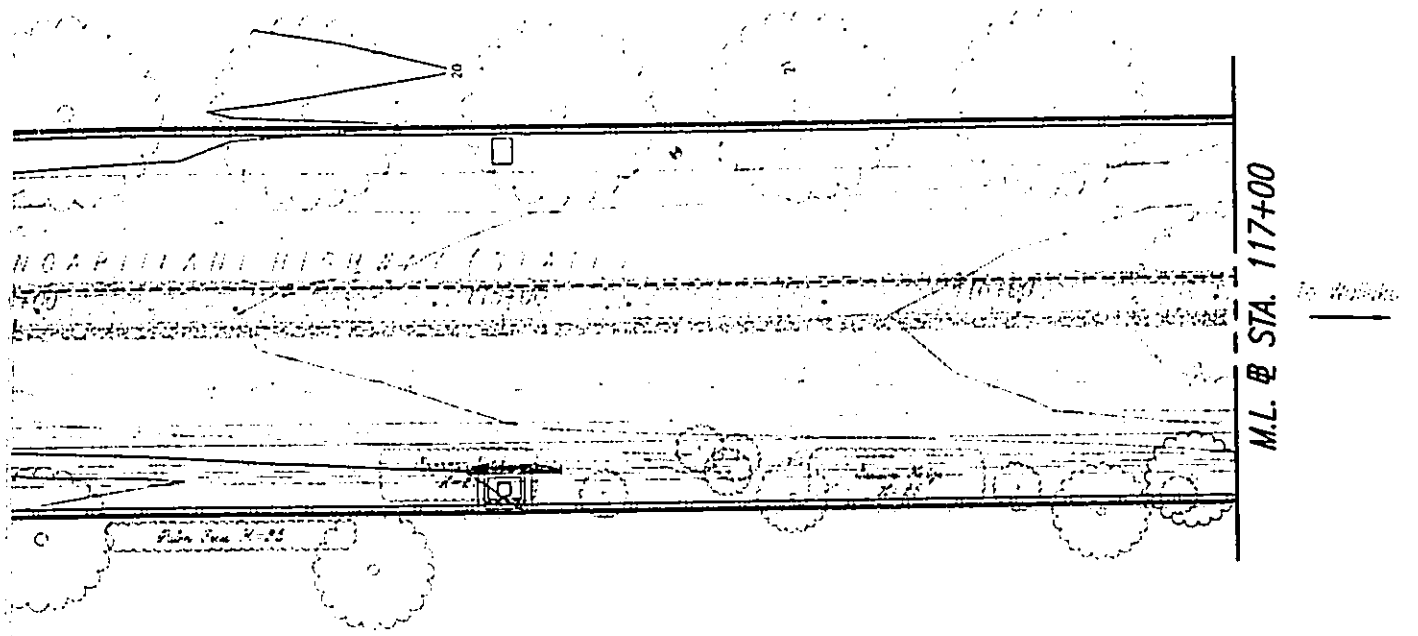

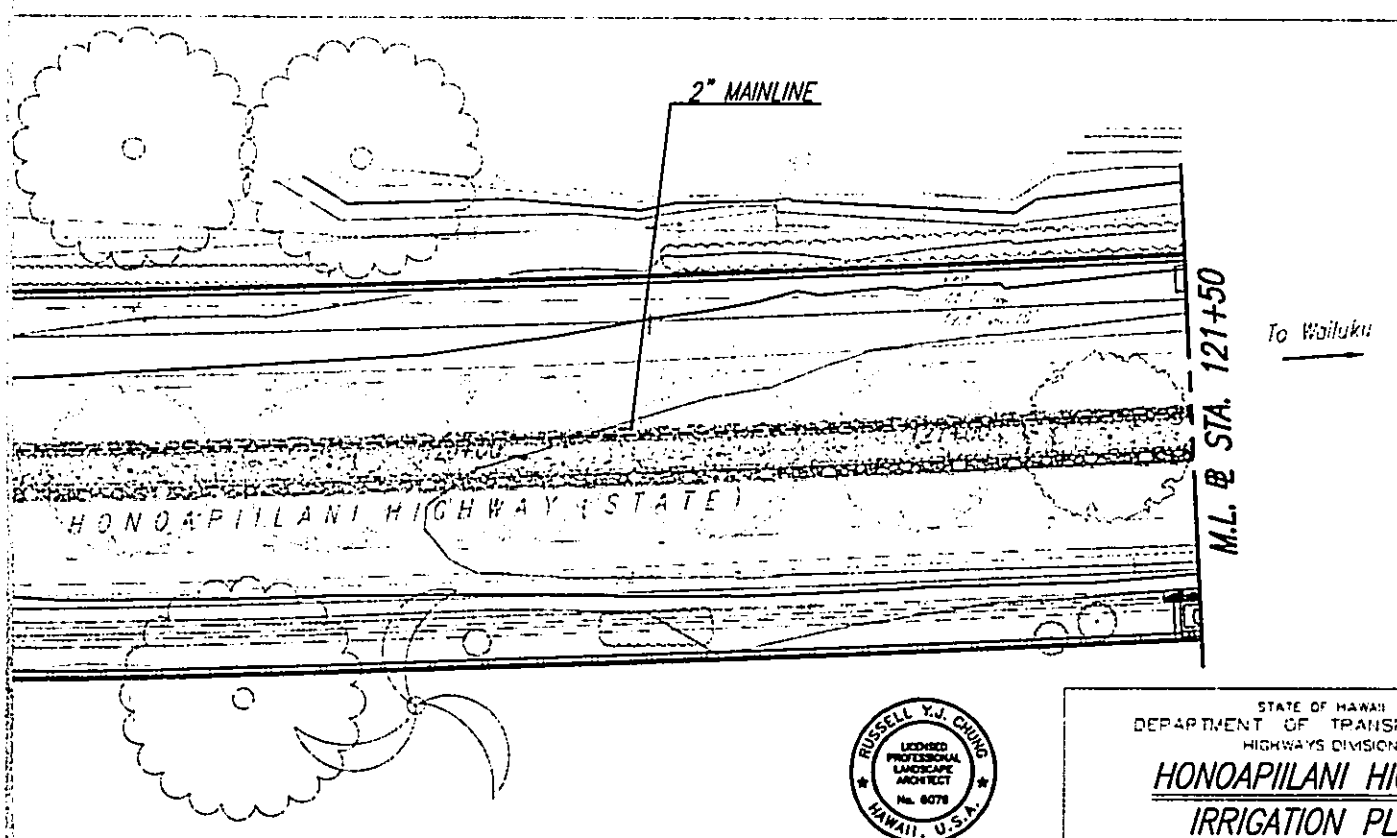

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HONOAPIILANI HIGHWAY
IRRIGATION PLANS

Honoapiilani Highway Widening
Lahainaluna Road to Ahola Road
Project No. 30BC-01-04

Scale: As Shown Date: January 2007

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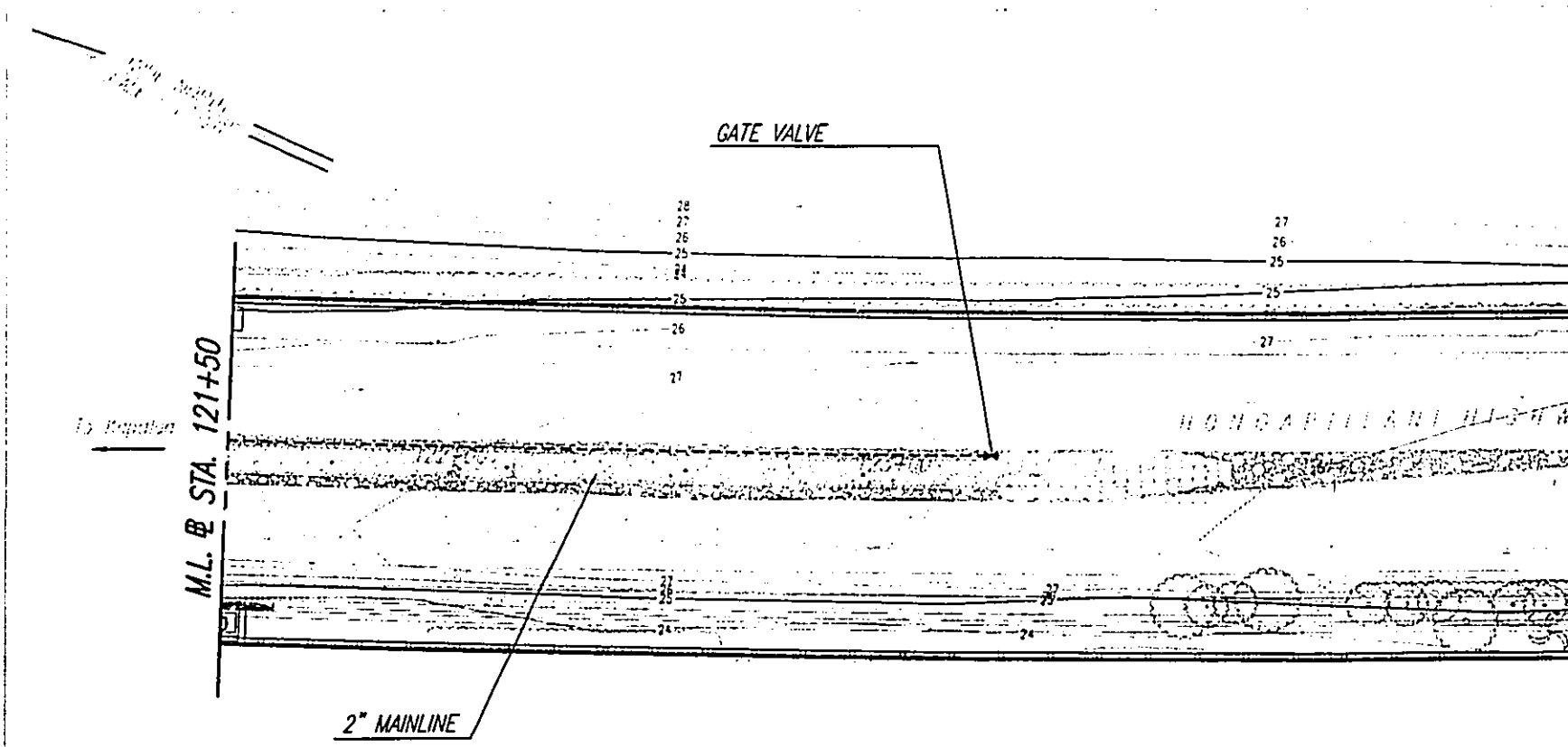

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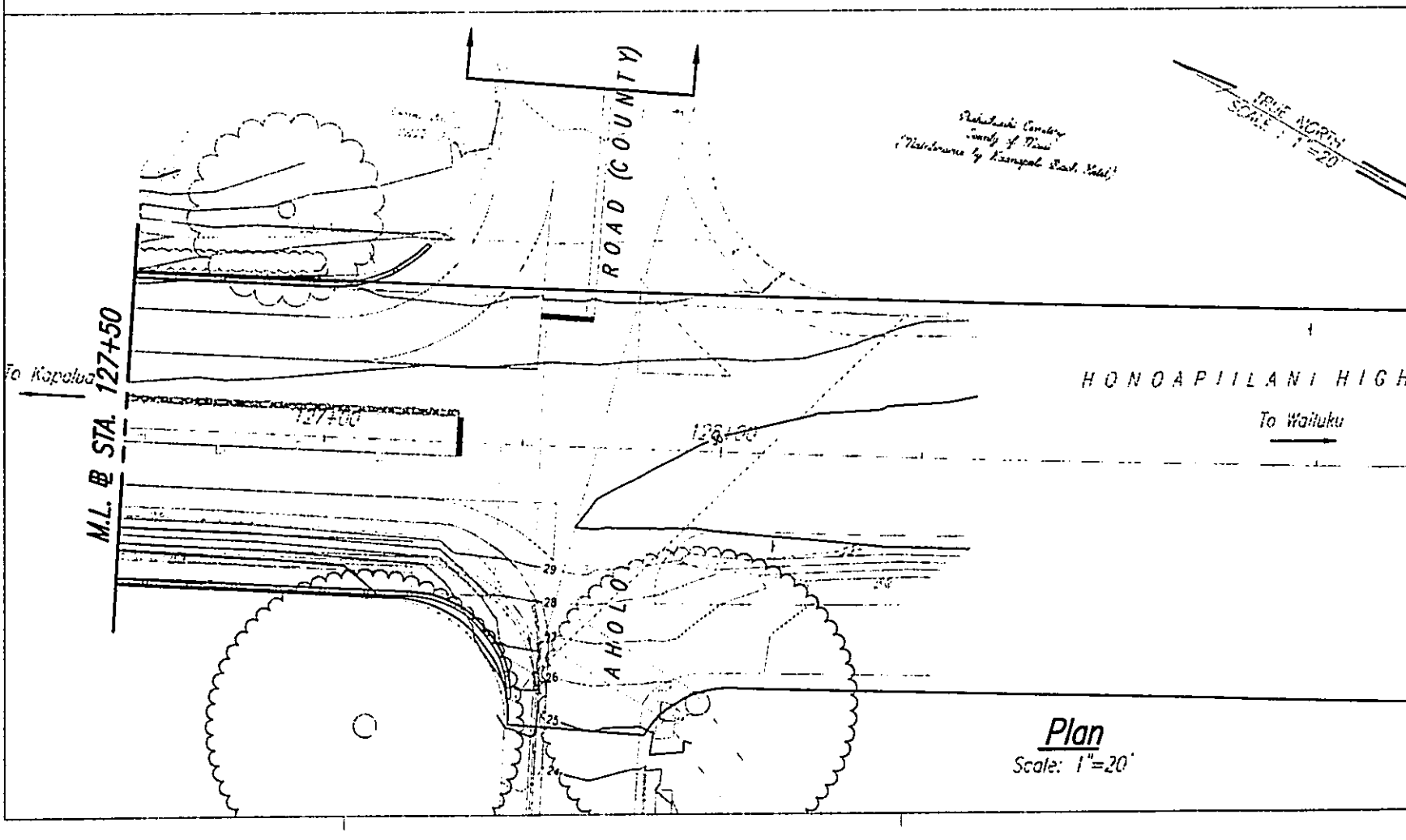

Plan
Scale: 1"=20'

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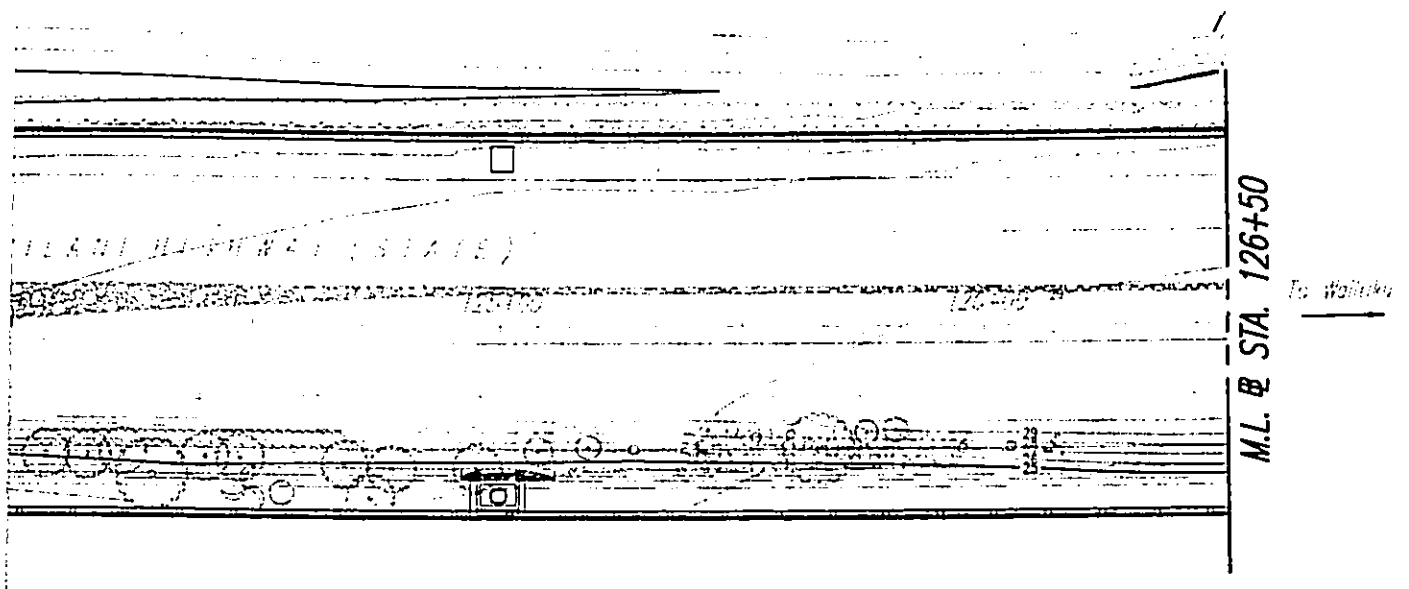

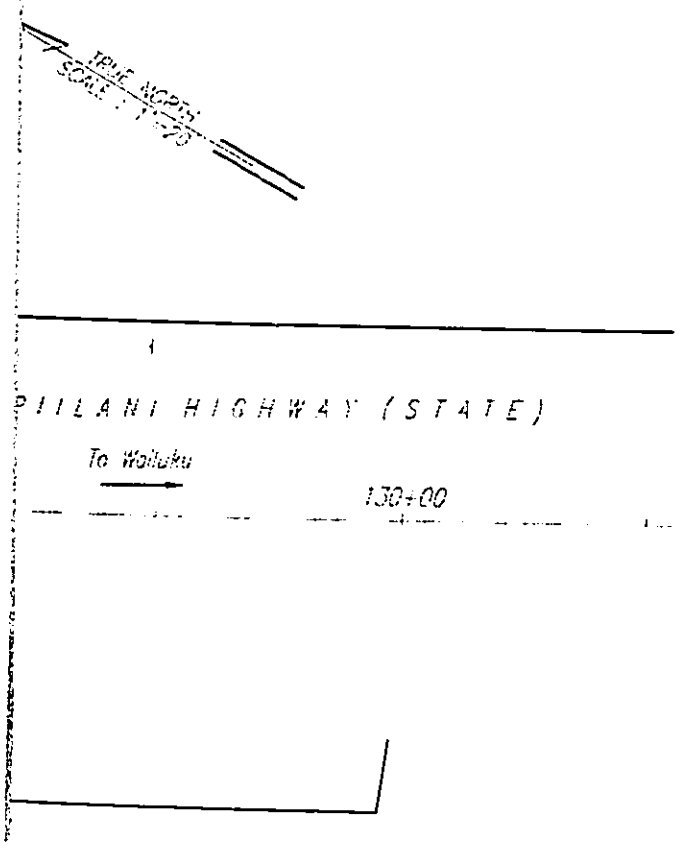

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HONOAPIILANI HIGHWAY

IRRIGATION PLANS

Honoapiilani Highway Widening
Lahainaluna Road to Ahole Road
Project No. 30BC-01-04

Scale: As Shown Date: January 2007

SHEET No. I-6 OF · SHEETS

IRRIGATION NOTES:

1. CONTRACTOR SHALL INSTALL IRRIGATION LINES, WIRES, VALVES AND HEADS PER SPECIFICATIONS. EXISTING GATE VALVES, POINT OF CONNECTION, ETC. ARE DERIVED FROM THE BEST AVAILABLE INFORMATION AND ON-SITE INSPECTION. THE CONTRACTOR SHALL VERIFY THOSE POINTS OF CONNECTION NOTED AND REPORT ANY DISCREPANCIES TO THE ENGINEER.

2. THIS PLAN IS DIAGRAMMATIC. IRRIGATION SYSTEM IS SUBJECT TO FIELD ADJUSTMENTS DUE TO UNANTICIPATED SITE CONDITIONS. LOCATE ALL MAINLINES, LATERALS, VALVES AND SPRINKLER HEADS WITHIN PLANTING AREAS, UNLESS OTHERWISE NOTED. PLACE MAINLINE IN PLANTING AREAS WHERE NO SLEEVES ARE SHOWN. AVOID ANY CONFLICT BETWEEN UNDERGROUND UTILITIES, STRUCTURES AND PLANTINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES. BURY PRESSURE MAINLINES 18" AND LATERAL LINES 10" DEEP MINIMUM.

3. THIS IRRIGATION SYSTEM WAS DESIGNED WITH A MINIMUM STATIC WATER PRESSURE OF ___ PSI AT THE POINT OF CONNECTION. NOTIFY THE PROJECT ENGINEER, IF WATER PRESSURE IS LESS THAN ___ PSI OR GREATER THAN ___ PSI.

4. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS AND OBSERVE ALL LOCAL CODES AND REGULATIONS. THE CONTRACTOR SHALL CONFIRM ALL SITES DIMENSIONS AND CONDITIONS, AND REPORT ANY DISCREPANCIES TO THE ENGINEER.

5. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL SLEEVES, CONDUITS, MAINLINES AND LATERALS UNDER PAVEMENT AND THROUGH WALLS. CONTRACTOR SHALL ASSURE THAT THESE ITEMS ARE LAID PRIOR TO PLACEMENT OF PAVEMENT OR WALL STRUCTURES.

6. LOCATE AND INSTALL ALL SPRINKLER HEADS 6" FROM SIDEWALKS, CURBS, DRIVEWAYS, BUILDING AND WALL UNLESS OTHERWISE NOTED. FLEX TUBING SHALL BE INSTALLED ON ALL SPRINKLER HEAD ALONG SIDEWALKS, DRIVEWAYS, AND PARKING SPACES. ADJUST ALL SPRINKLER HEADS AND FLOW CONTROL FOR MAXIMUM COVERAGE AND MINIMUM OVERTHROW AND MISTING. OPERATE ONLY ONE VALVE AT A TIME PER CONTROLLER.

7. WITHIN 30 DAYS AFTER AWARD OF THE CONTRACT, SUBMIT FOR THE ENGINEER'S ACCEPTANCE SIX (6) COPIES OF DETAILED SCALED DRAWINGS AND WIRING DIAGRAMS FOR PERMANENT AND TEMPORARY IRRIGATION SYSTEMS. NOT PROPOSED DEVIATIONS FROM THE CONTRACT. INCLUDE SAMPLES OF MATERIALS, IF REQUIRED BY CONTRACT.

8. PERFORM HYDROSTATIC TEST BY APPLYING CONTINUOUS STATIC PRESSURE OF 60 PSI FOR ONE (1) HOUR. NOTIFY THE ENGINEER AT LEAST THREE (3) DAYS IN ADVANCE OF TEST. REPAIR LEAKS THAT DEVELOP AND REPEAT TEST. DO NOT BACKFILL UNTIL THERE IS NO FURTHER SIGN OF LEAKAGE.

9. PERFORM OPERABILITY TEST BY OPENING REMOTE CONTROL VALVE AND TEST CIRCUITS FOR LEAKS AROUND BARBED AND THREADED PVC FITTINGS. REPAIR LEAKS AND REPEAT TESTS. NOTIFY THE ENGINEER AT LEAST THREE (3) DAYS IN ADVANCE OF TEST. DO NOT BACKFILL UNTIL THERE IS NO FURTHER SIGN OF LEAKAGE.

10. PERFORM COVERAGE TEST. BEFORE PLANTING PERIOD, RUN AUTOMATIC CONTROLLER THROUGH ALL IT'S CYCLES. CHECK WATERING FOR COVERAGES AND UNIFORMITY IN COMPANY OF THE ENGINEER. RUN SYSTEM UNTIL THERE ARE PUDDLES OR THERE IS SHEET FLOW TO DETERMINE INITIAL IRRIGATION TIME AND NUMBER OF CYCLES PER WEEK NEEDED TO WATER REQUIREMENTS OF PLANTS.

11. LOCATE VALVE BOXES SO THAT THE OUTER EDGES ARE NO CLOSER THAN FIVE FEET TO ROADWAY PAVEMENT. GROUP VALVE BOXES AS FEASIBLE.

12. IF PLANS DO NOT SPECIFY DEPTH OF EXCAVATION, PROVIDE MINIMUM COVER TO FINISH GRADE AS FOLLOWS.
(a) 4 INCHES FOR DRIP IRRIGATION MAIN.
(b) 18 INCHES FOR IRRIGATION MAIN.
(c) 10 INCHES FOR IRRIGATION LATERAL
(d) 24 INCHES FOR SLEEVE OR CONDUIT UNDER LANDSCAPE PAVEMENT.
(e) 36 INCHES FOR SLEEVE OR CONDUIT UNDER ROADWAY PAVEMENT.
(f) FOR CONTROLLER WIRES AND CONDUITS IN UNPAVED AREAS, DEPTH EQUAL TO THAT OF PRESSURE IRRIGATION PIPE.

Symbol	

Controller

Gallons P
(GPM)

ORIGINAL PLAN
NOTE BOOK
No.
SURVEY PLOTTED BY
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DESIGNED BY
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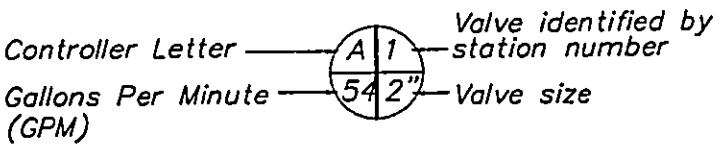
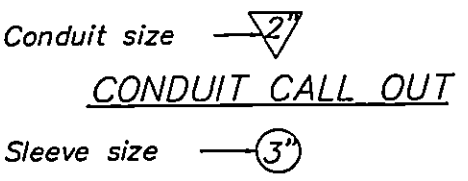
DATE

Irrigation Material Schedule			
Symbol	Description	Manufacturer/catalog number	Detail
	Remote Control Valve	Rainbird EFB-GB-PRS-B or equal size as noted	•
	Irrigation controller wall mount	Controller "A" 32 Station, Controller "B" 44 Station Rainbird IM Series or approved equal	•
	Stainless steel strong box with pedestal	Strongbox Modell SB-18SS with PED-18SS or approved equal	
	Gate Valve	Nibco T-113, or equal 2" size	•
--------	Irrigation Mainline	Schedule 40 PVC, 2" size	•
———	Irrigation Lateral	Class 200 PVC, size as noted	•
	Irrigation Sleeve	Schedule 40 PVC, size as detailed	•
	Irrigation Conduit	Schedule 80 PVC, size as noted	•



VALVE FLAG



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HONOAPIILANI HIGHWAY

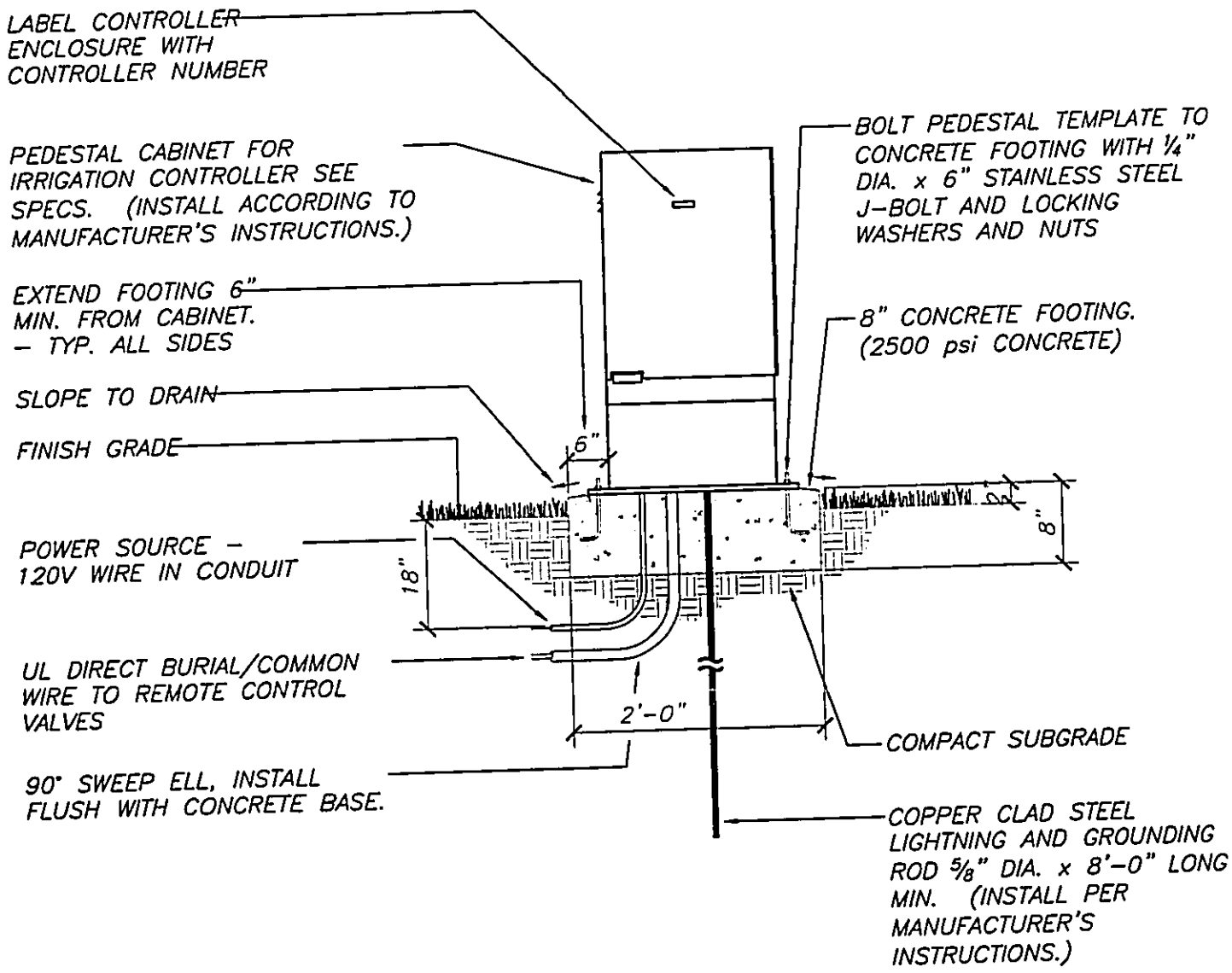
LEGEND AND NOTES

Honoapiilani Highway Widening
Lahainaluna Road to Ahale Road
Project No. 30BC-01-04

Scale: As Shown Date: January 2007

SHEET No. 1-7 OF · SHEETS

NOTE:
ALL WIRING TO BE INSTALLED AS POWER LOCAL CODE. SEE MANUAL FOR MOUNTING INSTRUCTIONS. SEAL CONDUITS W/EXPANDING SEALANT TO PROTECT AGAINST INSECTS AND MOISTURE. CONTROLLER ENCLOSURE SHALL BE LOCATED IN AN AREA WELL PROTECTED FROM VEHICLES. IF THE CONTROLLER IS LOCATED IN AN UNPROTECTED AREA, THEN ONE 6" PIPE BOLLARD FILLED WITH CONCRETE SHALL BE INSTALLED ON EACH OF THE FOUR CORNERS.



PEDESTAL MOUNT IRRIGATION CONTROLLER

SCALE: NOT TO SCALE

ELECTRIC
SOLENOI

WATERTIG
CONNECT

CONTROL

FINISH

10" MIN.

LATERAL

3" LAYE
3 GRAV

FILTER
FIRMLY
SIDE O

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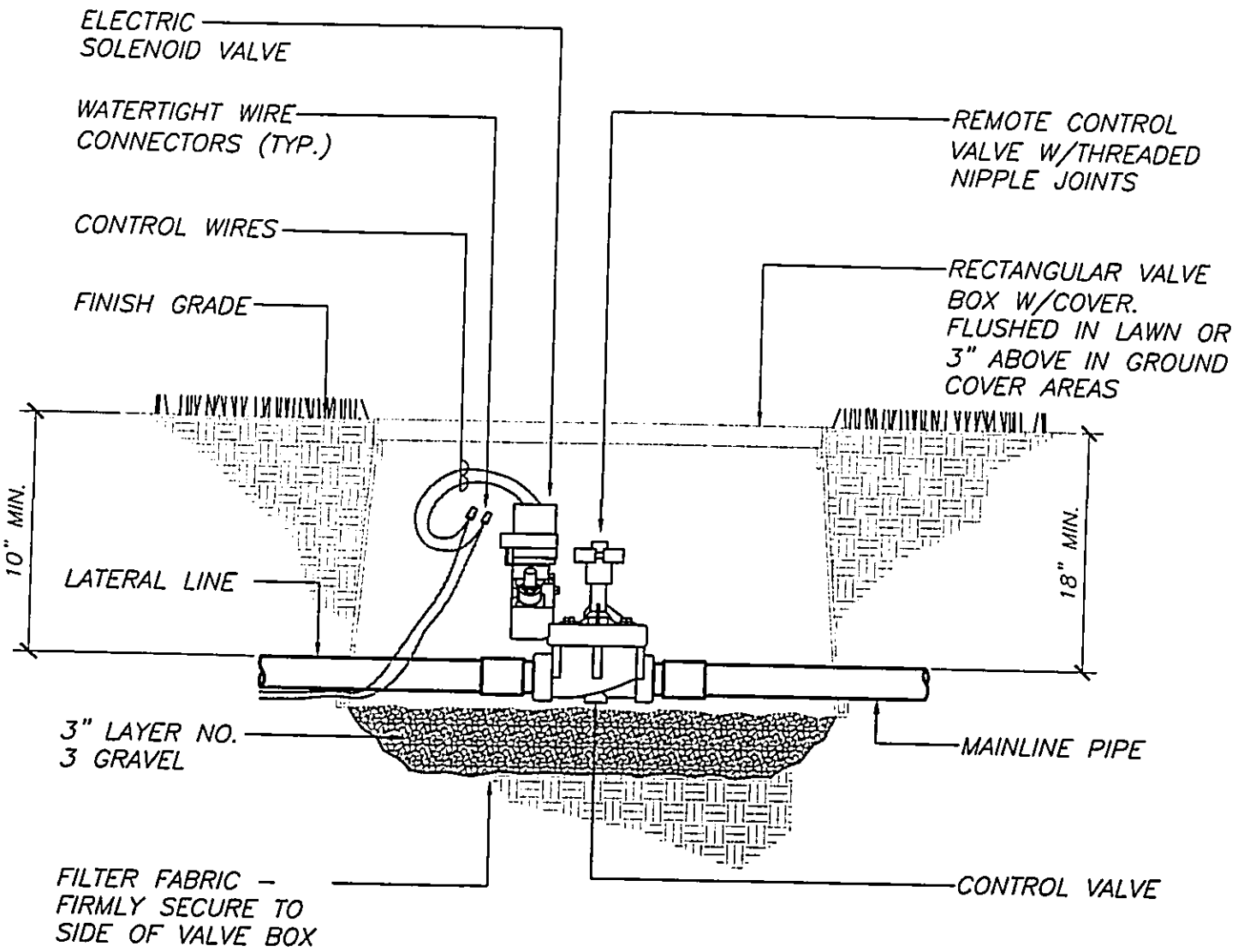

NOTE;
ALL VALVE BOX COVERS SHALL BE LABELED RECYCLED WATER [IF APPLICABLE], VALVE TYPE, ZONE NUMBER AND CONTROLLER NUMBER

REMOTE CONTROL VALVE DETAIL

SCALE: NOT TO SCALE

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HONOAPIILANI HIGHWAY
IRRIGATION DETAILS

Honoapiilani Highway Widening
Lahainaluna Road to Ahole Road
Project No. 30BC-01-04

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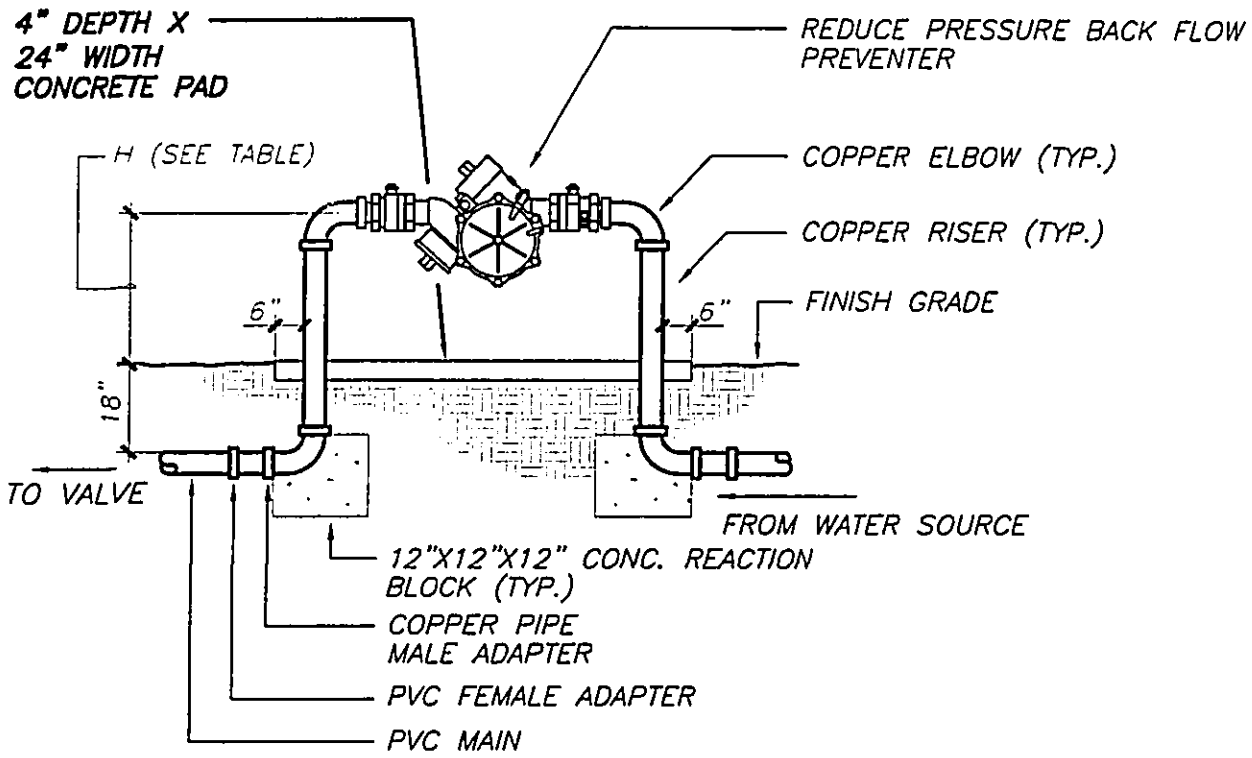
SHEET No. I-8 OF · SHEETS



SIZE (INCHES)	H (INCHES)
3/4 TO 1-1/2	18
2 TO 3	24

NOTES:

1. ALL PIPES AND FITTINGS INSTALLED ABOVE GRADE SHALL BE EITHER COPPER OR BRONZE ONLY.

2. BACK FLOW PREVENTER SHALL BE PLUMB.

3. BACK FLOW PREVENTER SHALL BE LOCATED IN AN AREA WELL PROTECTED FROM VEHICLES (CLEAR ZONE). IF THE BACK FLOW PREVENTOR IS LOCATED IN AN UNPROTECTED AREA, THEN FOUR (4) 6" PIPE BOLLARDS FILLED WITH CONCRETE SHALL SURROUND THE BACK FLOW PREVENTER.

REDUCED PRESSURE BACKFLOW PREVENTION DEVICE DTAIL

SCALE: NOT TO SCALE

ORIGINAL PLAN
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SURVEY PLOTTED BY
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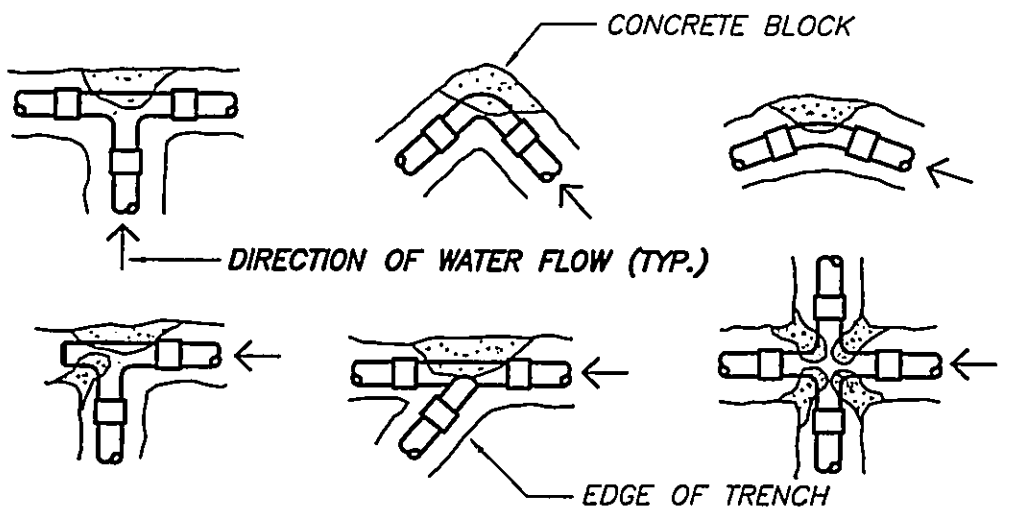
DATE

THRUST BLOCK BEARING AREA (SQ. FT.)				
PIPE SIZE	1 1/4" - 2 1/2"	3"	4"	6"
TEES/ELLS	1.00	1.00	1.25	3.2
90 BENDS	1.00	1.25	2.00	4.5
45 BENDS	1.00	1.00	1.00	2.4

NOTES:
1. INSTALL THRUST BLOCK AT ALL MACHINE BENDS, TEES OR ELLS AS SHOWN BELOW. THRUST BLOCKS SHALL BE MINIMUM OF (1) CU. FT. REDI-MIX CONCRETE OR 2500 PSI 28 DAY CONCRETE.
2. SET ALL THRUST BLOCKS AGAINST UNDISTURBED SOIL.



THRUST BLOCK DETAIL

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HONOAPIILANI HIGHWAY
IRRIGATION DETAILS

Honoapiilani Highway Widening
Lahainaluna Road to Ahalo Road
Project No. 30BC-01-04

Scale: Date: January 2007

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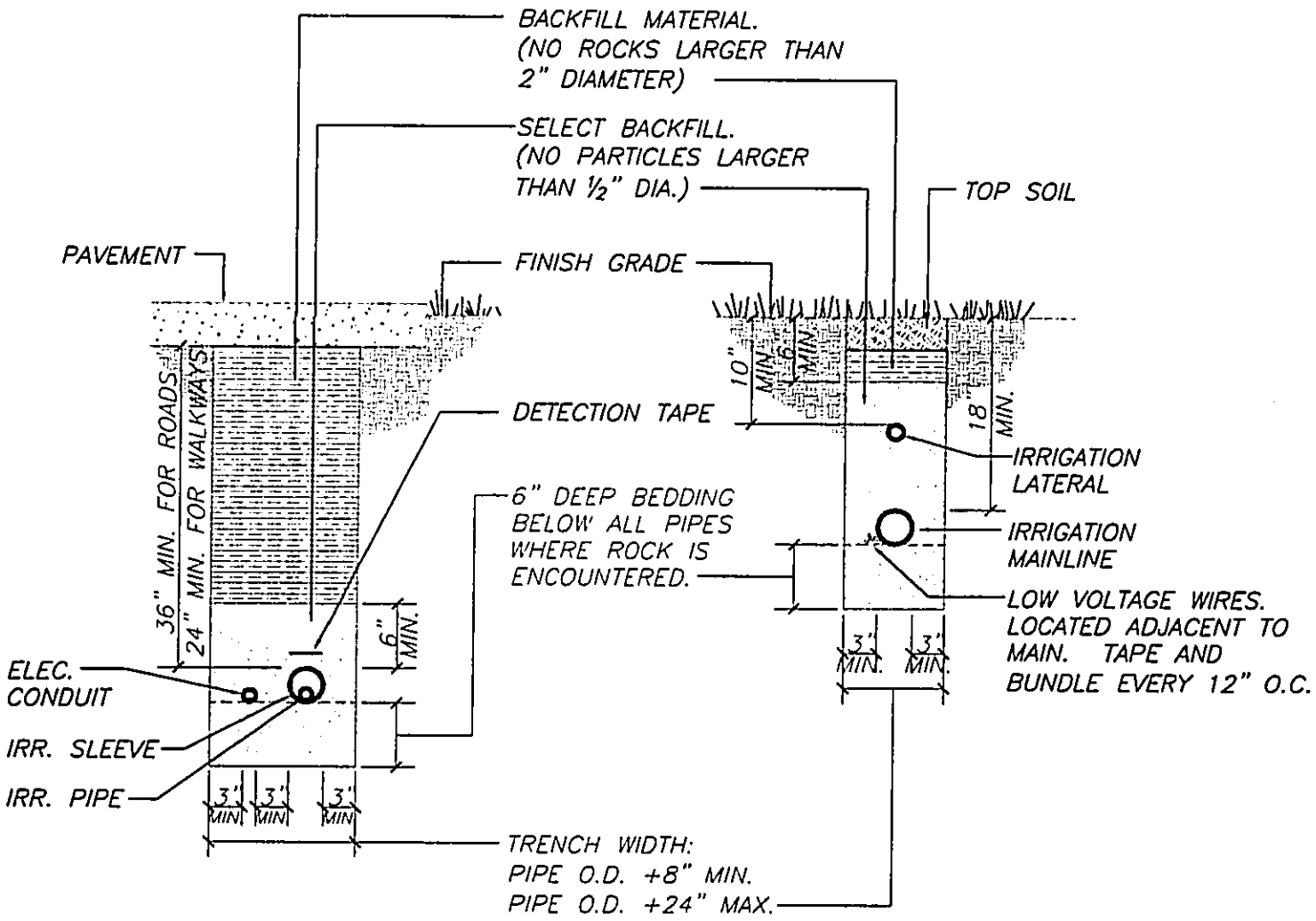

IRRIGATION TRENCH AND WIRING DETAIL

SCALE: NOT TO SCALE

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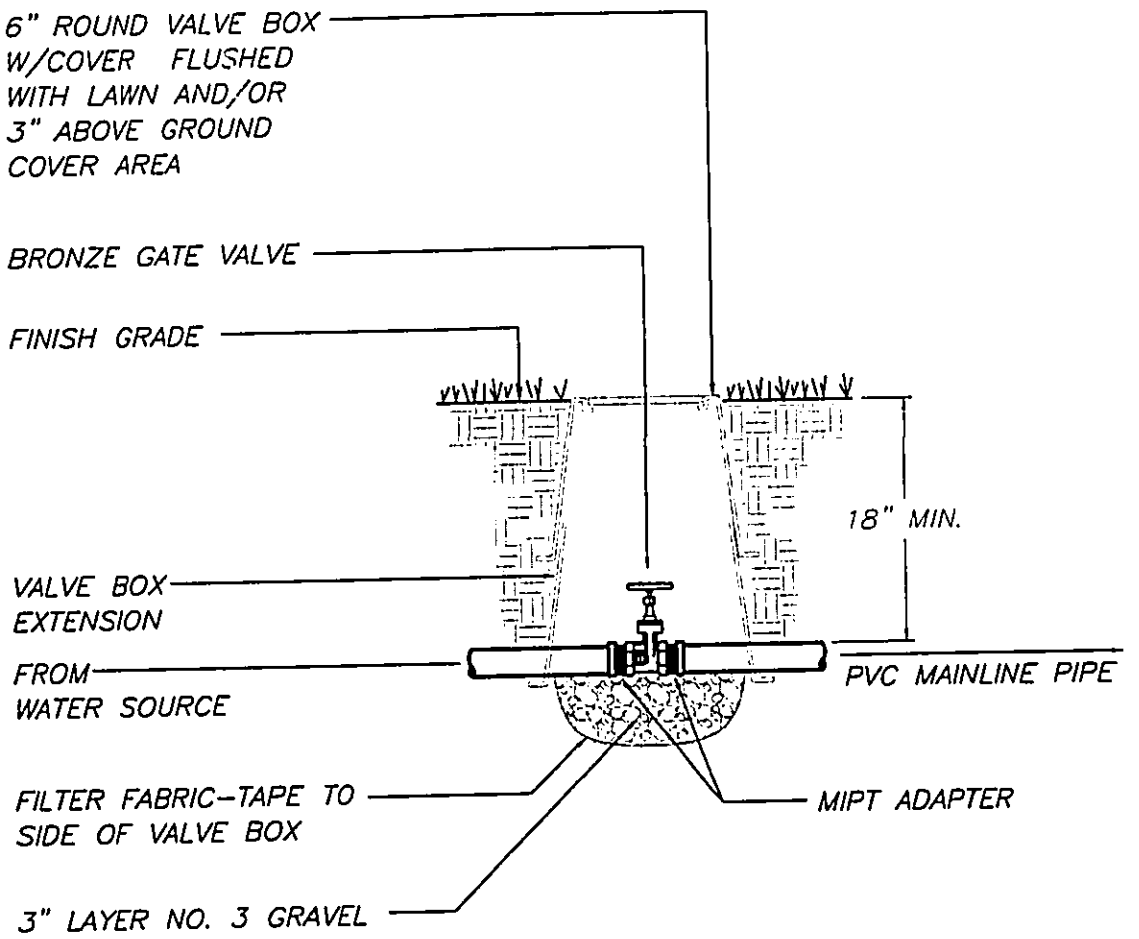


RES.
NT TO

2" O.C.

NOTE:
ALL VALVE BOX COVERS SHALL BE LABELED VALVE TYPE, ZONE NUMBER AND, CONTROLLER NUMBER.

GATE VALVE DETAIL

SCALE: NOT TO SCALE

RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6076
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

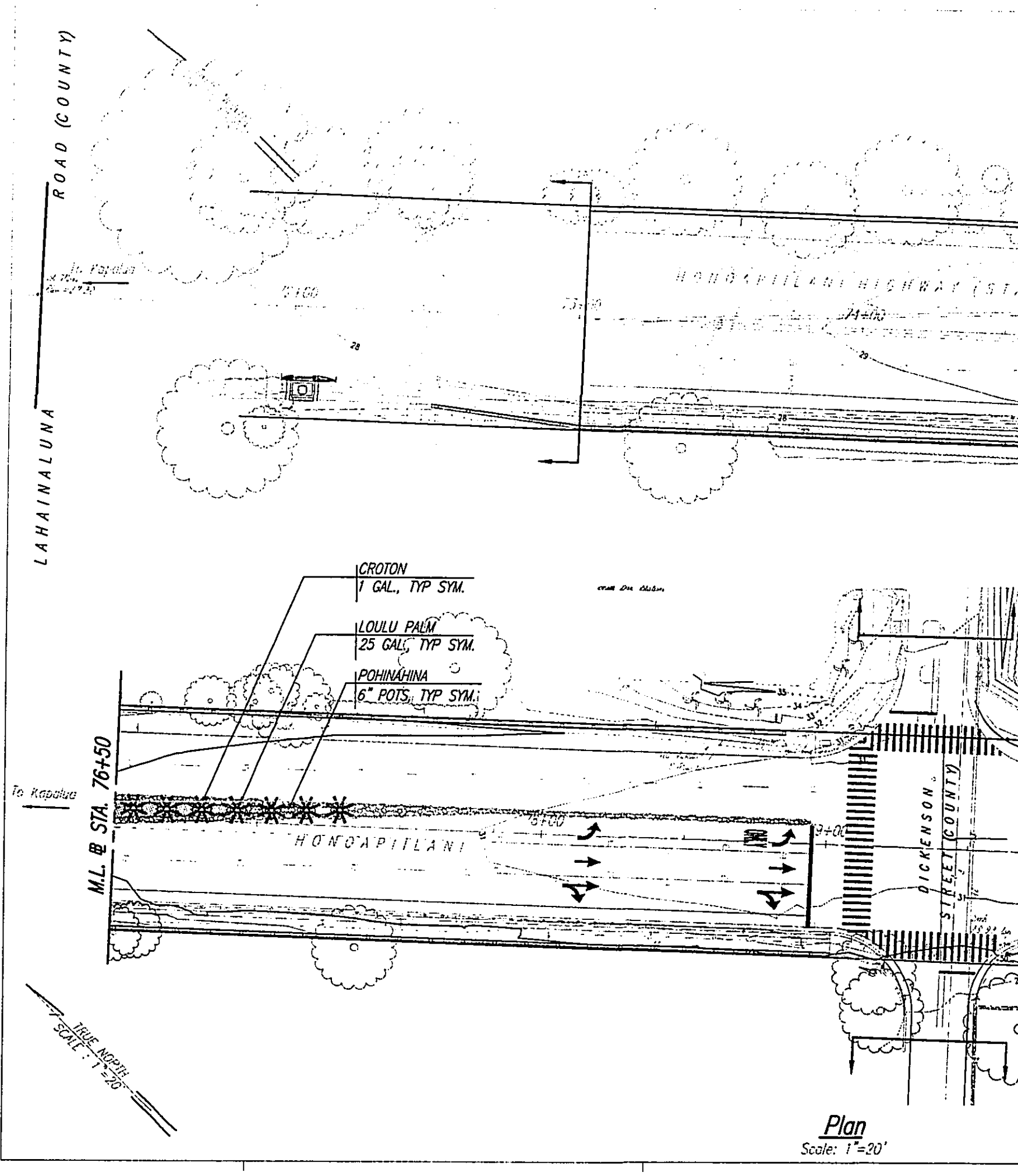
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HONOAPIILANI HIGHWAY
IRRIGATION DETAILS

Honoapiilani Highway Widening
Lahainaluna Road to Ahola Road
Project No. 30BC-01-04

Scale: Date: January 2007

SHEET No. 1-10 OF SHEETS



Plan
Scale: 1"=20'

ORIGINAL PLAN		
NOTE BOOK	SURVEY PLOTTED BY	DATE
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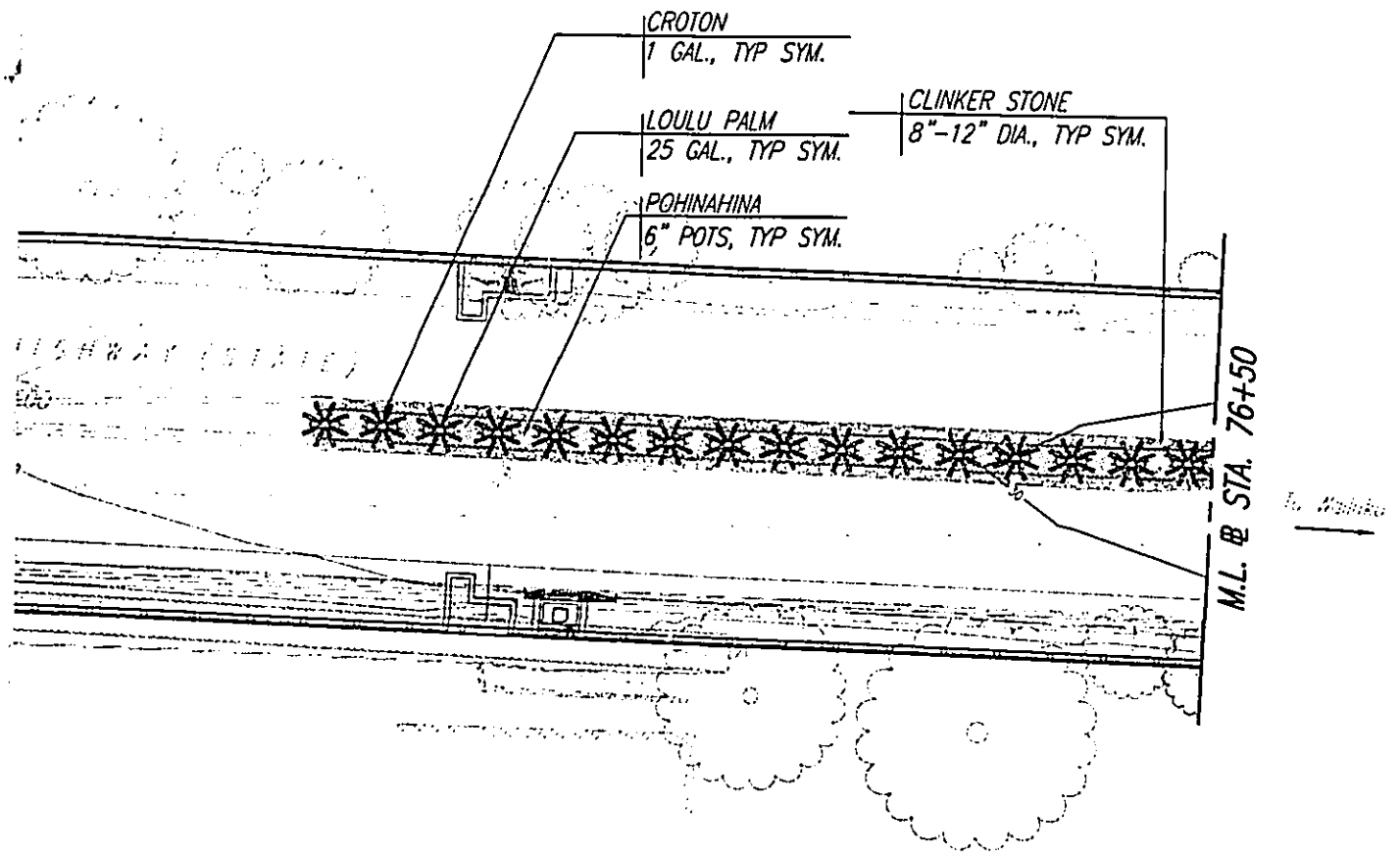
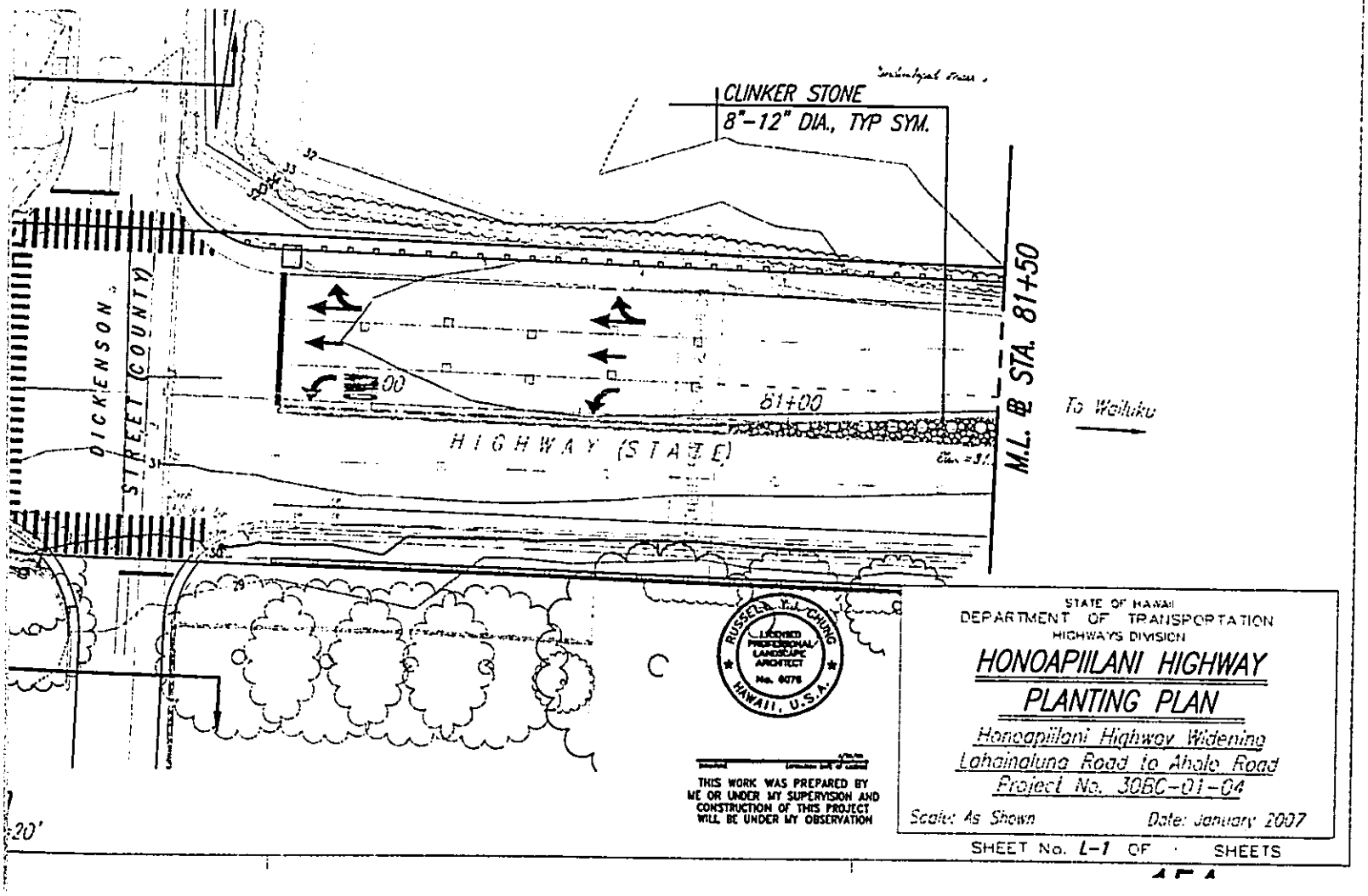

CROTON
1 GAL., TYP SYM.
LOULU PALM
25 GAL., TYP SYM.
POHINAHINA
6" POTS, TYP SYM.
CLINKER STONE
8"-12" DIA., TYP SYM.
M.L. ℄ STA. 76+50
To Wailuku


CLINKER STONE
8"-12" DIA., TYP SYM.
M.L. ℄ STA. 81+50
To Wailuku
81+00
HIGHWAY (STATE)
DICKENSON STREET (COUNTY)
RUSSELL T. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 4076
HAWAII, U.S.A.
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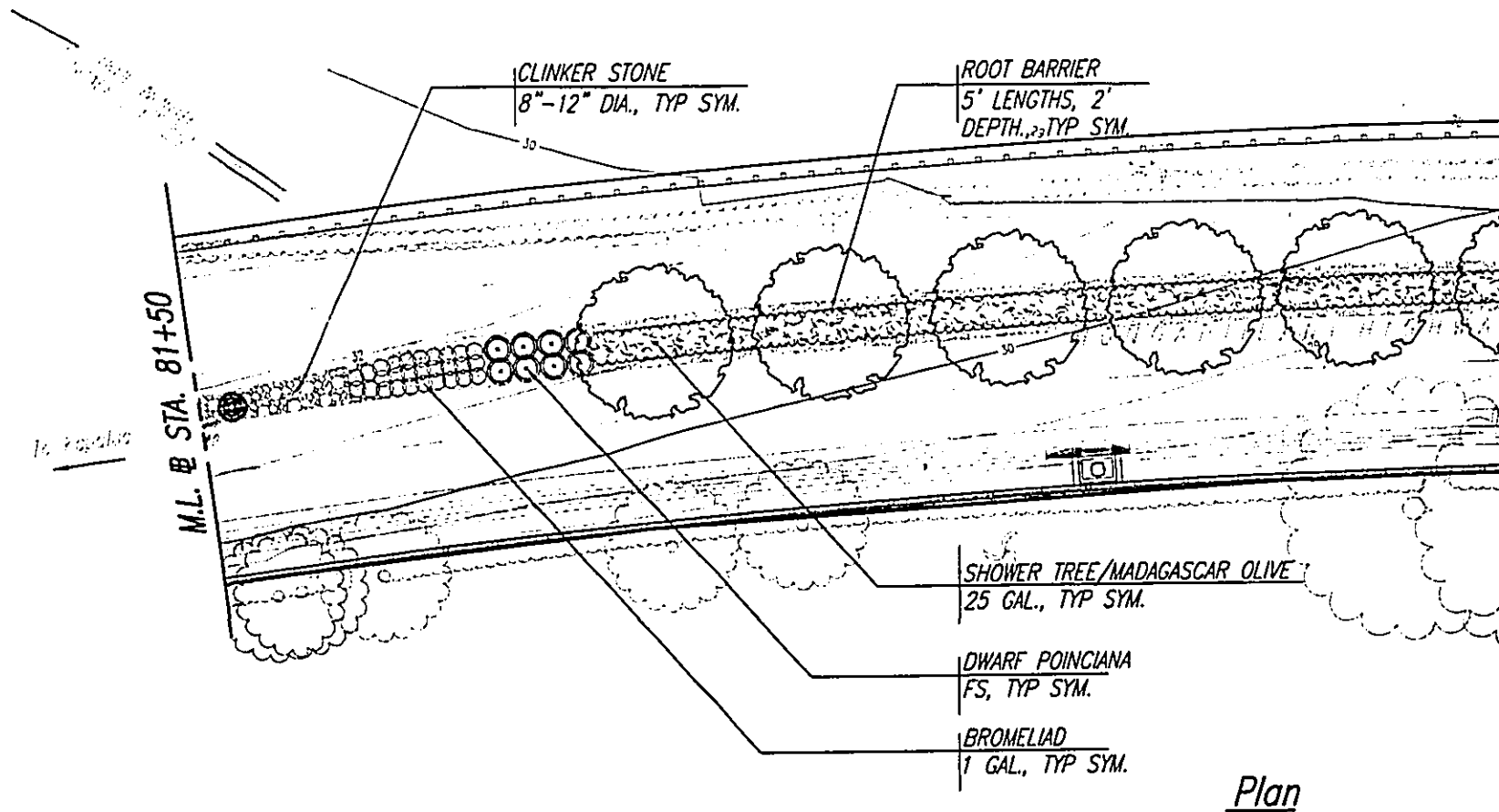
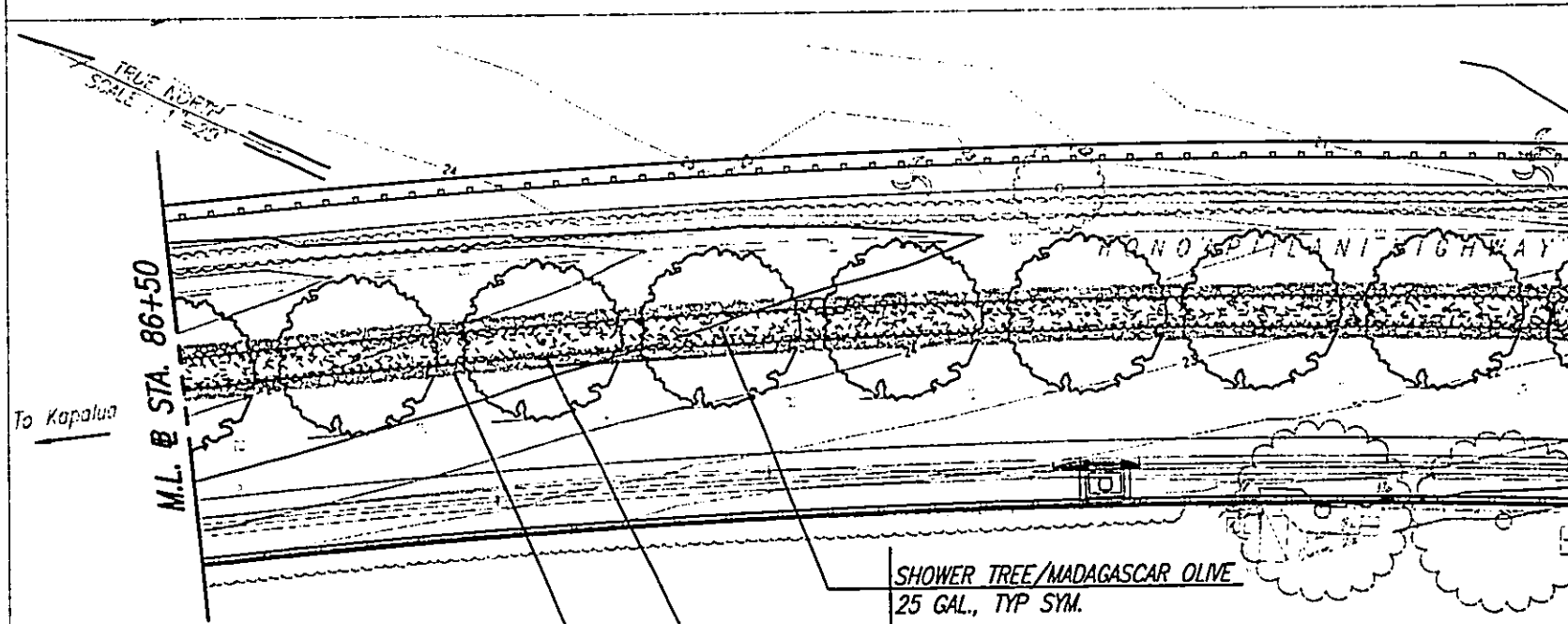
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOAPIILANI HIGHWAY
PLANTING PLAN
Honoapiilani Highway Widening
Lahainaluna Road to Ahole Road
Project No. 30BC-01-04
Scale: As Shown
Date: January 2007
SHEET No. L-1 OF SHEETS



Plan
Scale: 1"=20'



Plan
Scale: 1"=20'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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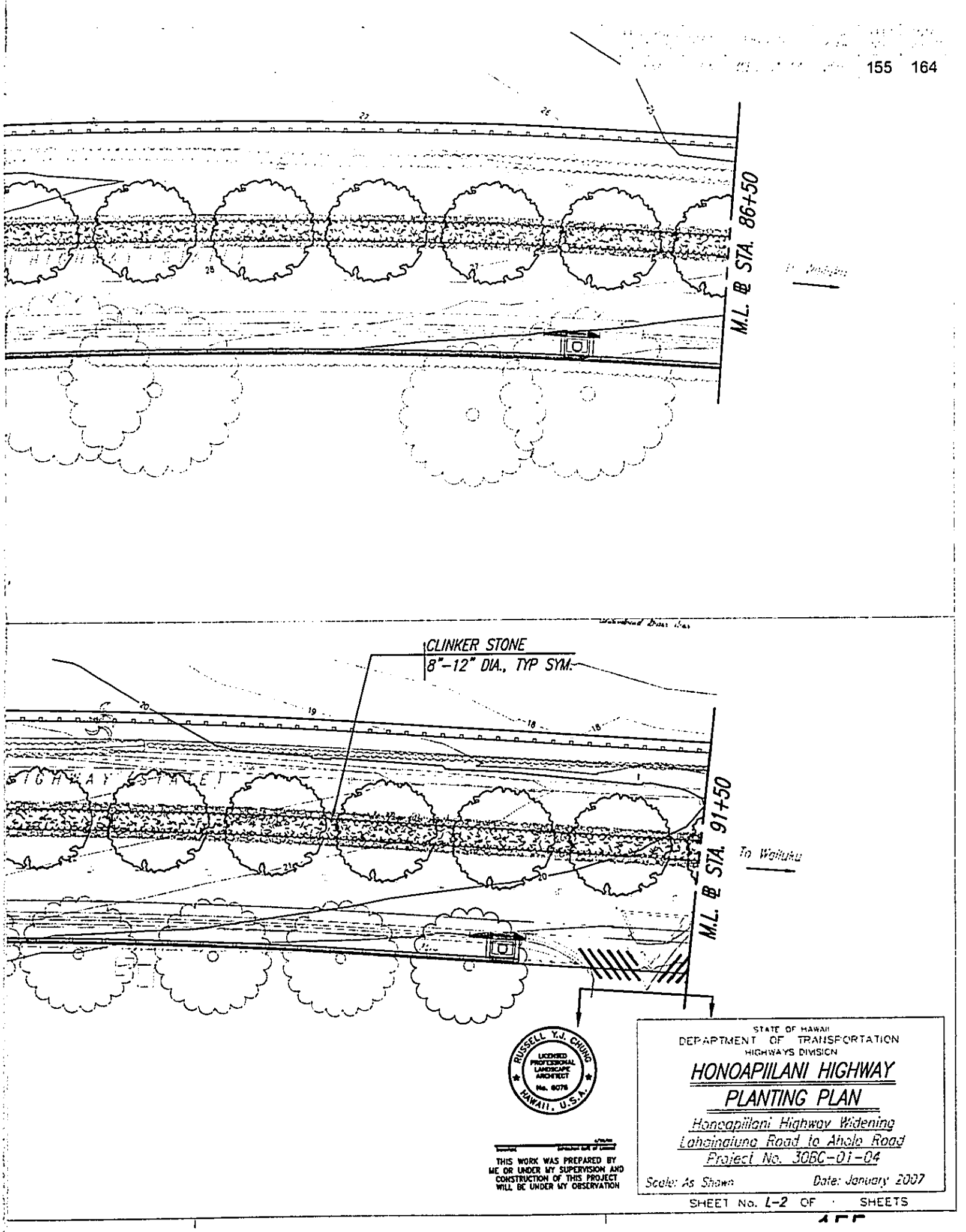
M.L. ℄ STA. 86+50
CLINKER STONE
8"-12" DIA., TYP SYM.
M.L. ℄ STA. 91+50
To Wailuku
RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6076
HAWAII, U.S.A.
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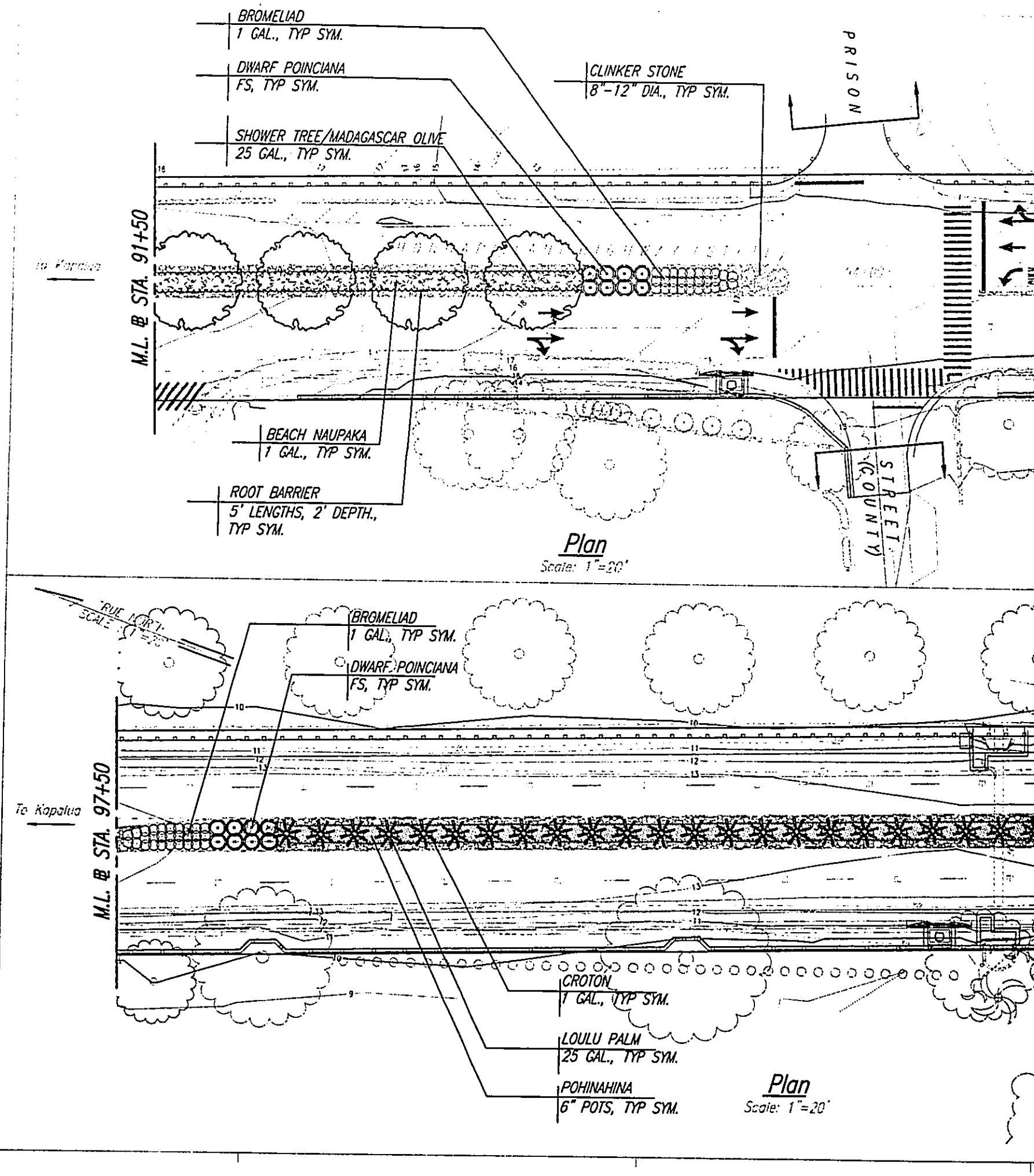
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOAPIILANI HIGHWAY
PLANTING PLAN
Honoapiilani Highway Widening
Lahainaluna Road to Ahole Road
Project No. 30BC-01-04
Scale: As Shown
Date: January 2007
SHEET No. L-2 OF SHEETS



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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No.	QUANTITIES BY	
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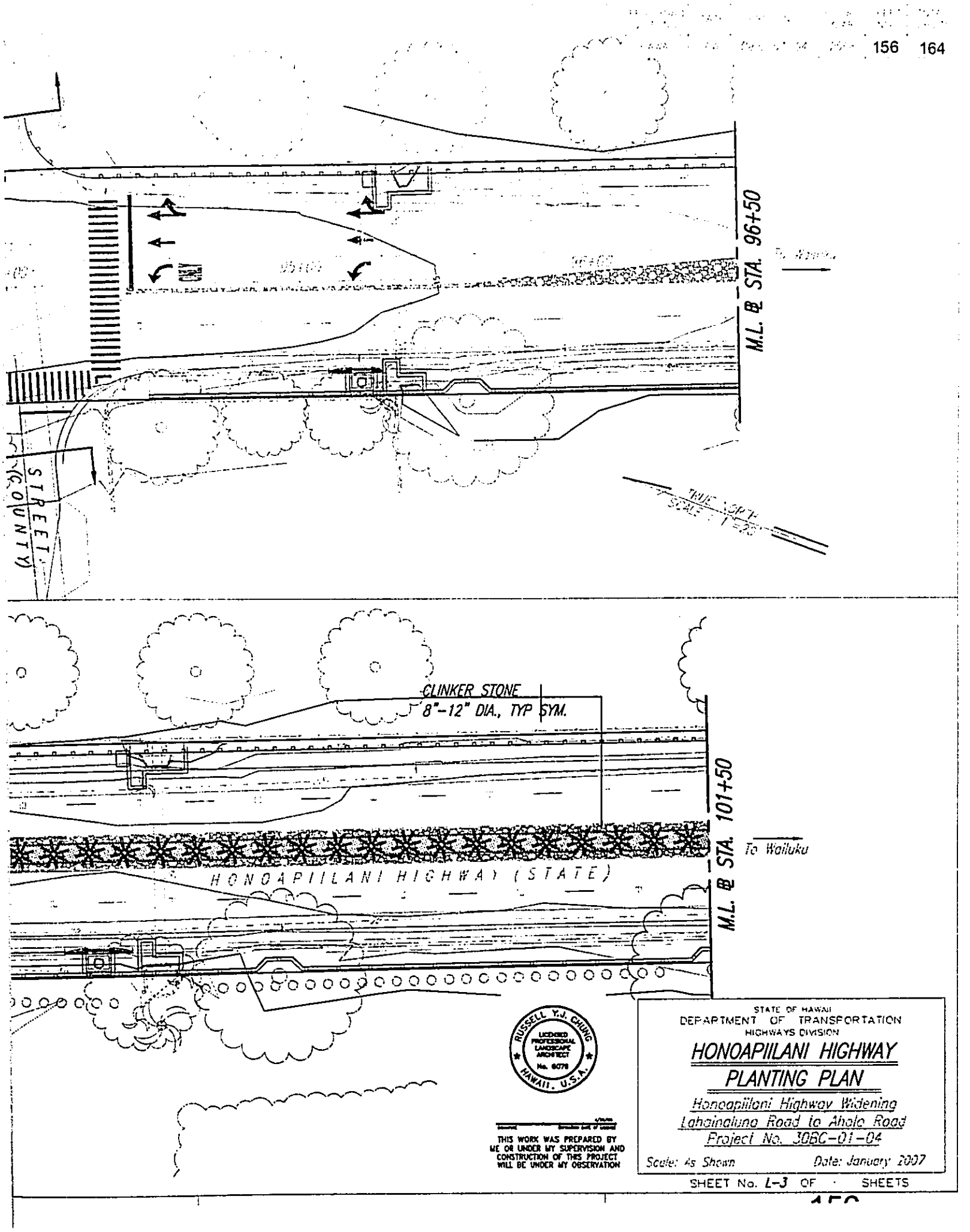
M.L. @ STA. 96+50
STREET (COUNTY)
TRUE NORTH
SCALE: 1"=20'
CLINKER STONE
8"-12" DIA., TYP SYM.
M.L. @ STA. 101+50
To Wailuku
HONOAPIILANI HIGHWAY (STATE)
RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6078
HAWAII, U.S.A.
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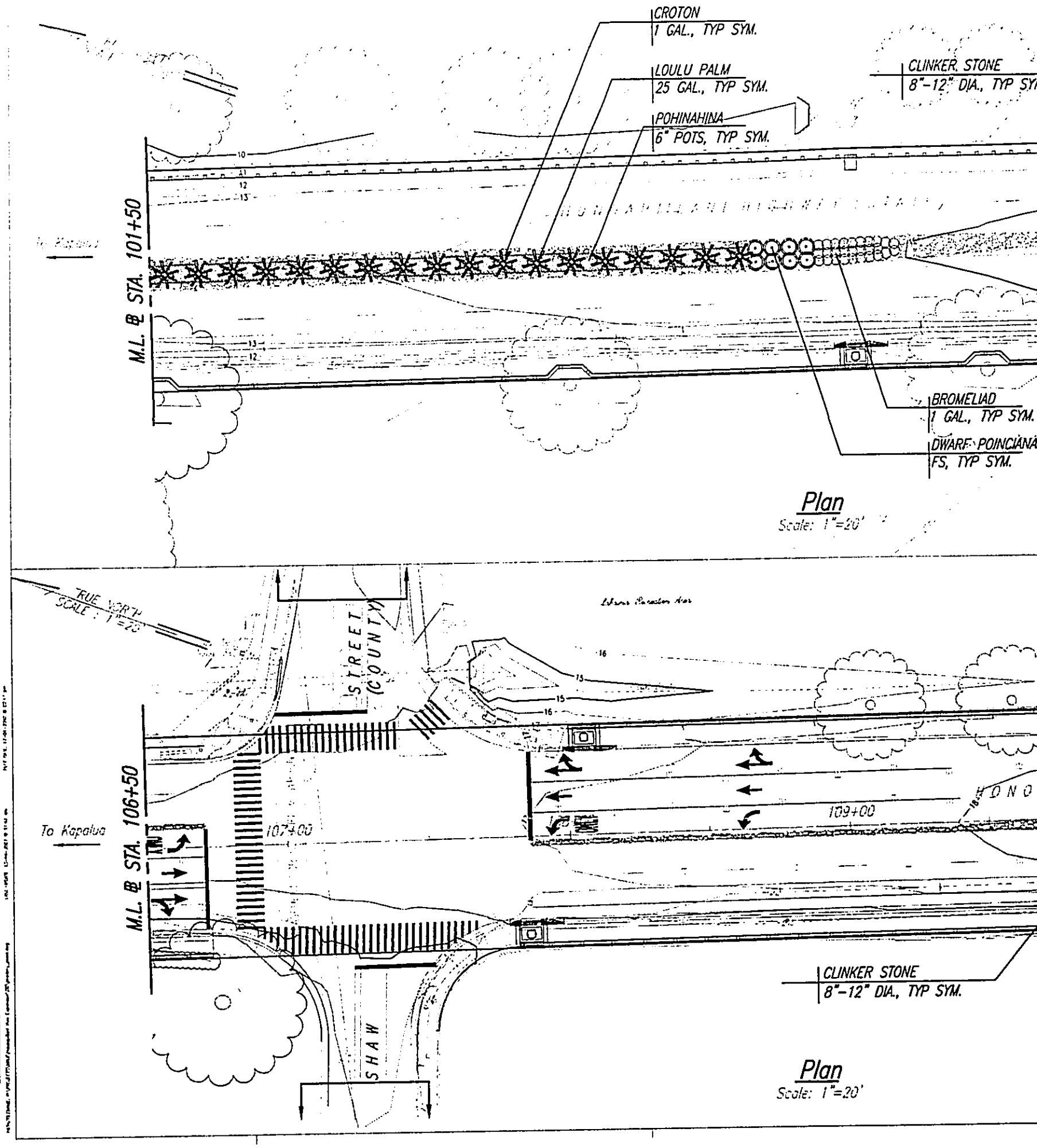
HIGHWAYS DIVISION
HONOAPIILANI HIGHWAY
PLANTING PLAN
Honoapiilani Highway Widening
Lahainaluna Road to Ahole Road
Project No. 30BC-01-04
Scale: As Shown
Date: January 2007
SHEET No. L-3 OF · SHEETS



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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	DESIGNED BY	
	QUANTITIES BY	
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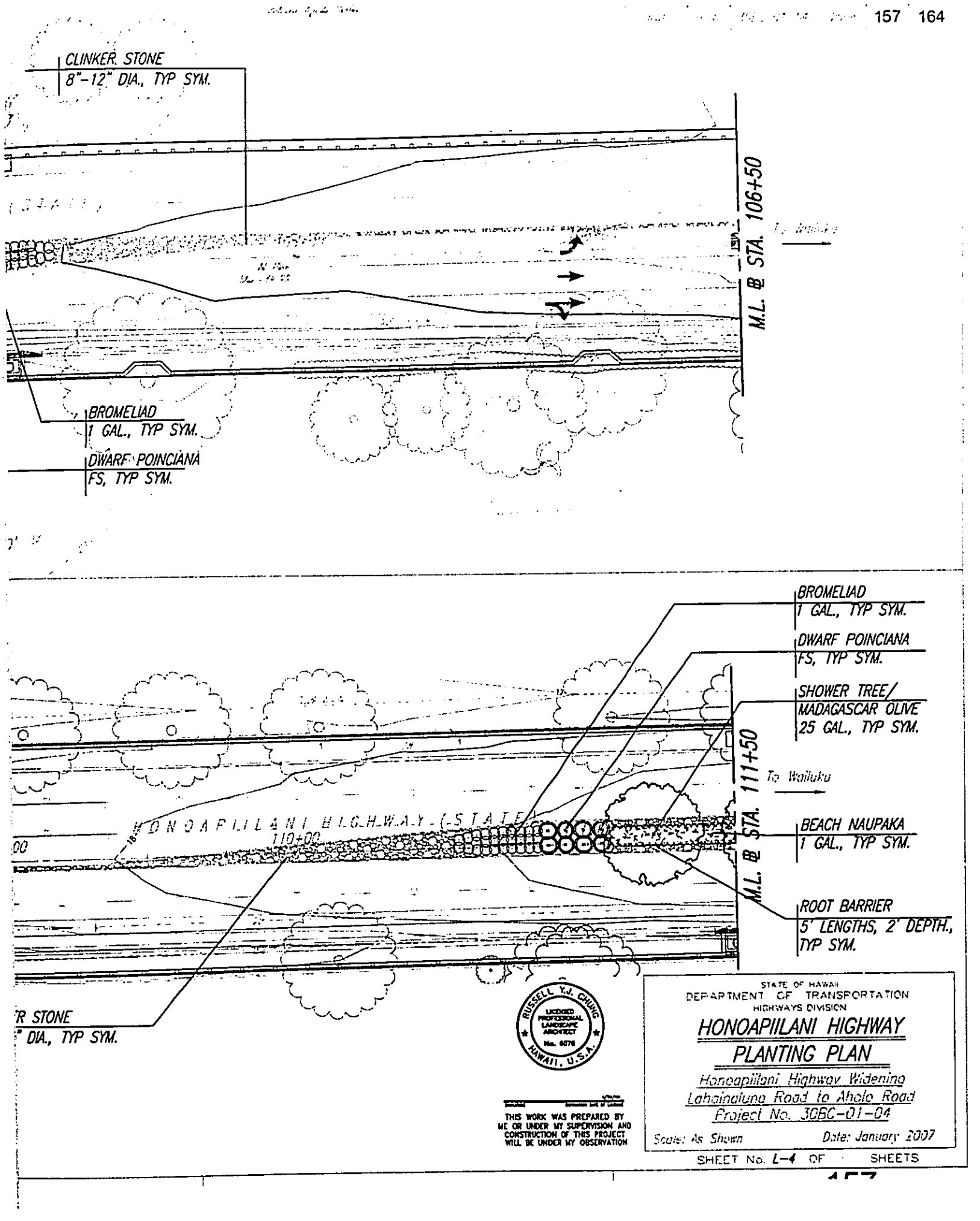
CLINKER STONE
8"-12" DIA., TYP SYM.
M.L. ℄ STA. 106+50
BROMELIAD
1 GAL., TYP SYM.
DWARF POINCIANA
FS, TYP SYM.
BROMELIAD
1 GAL., TYP SYM.
DWARF POINCIANA
FS, TYP SYM.
SHOWER TREE/
MADAGASCAR OLIVE
25 GAL., TYP SYM.
To Wailuku
M.L. ℄ STA. 111+50
BEACH NAUPAKA
1 GAL., TYP SYM.
ROOT BARRIER
5' LENGTHS, 2' DEPTH.,
TYP SYM.
HONOAPIILANI HIGHWAY (STATE
110+00
R STONE
" DIA., TYP SYM.
RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6076
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION
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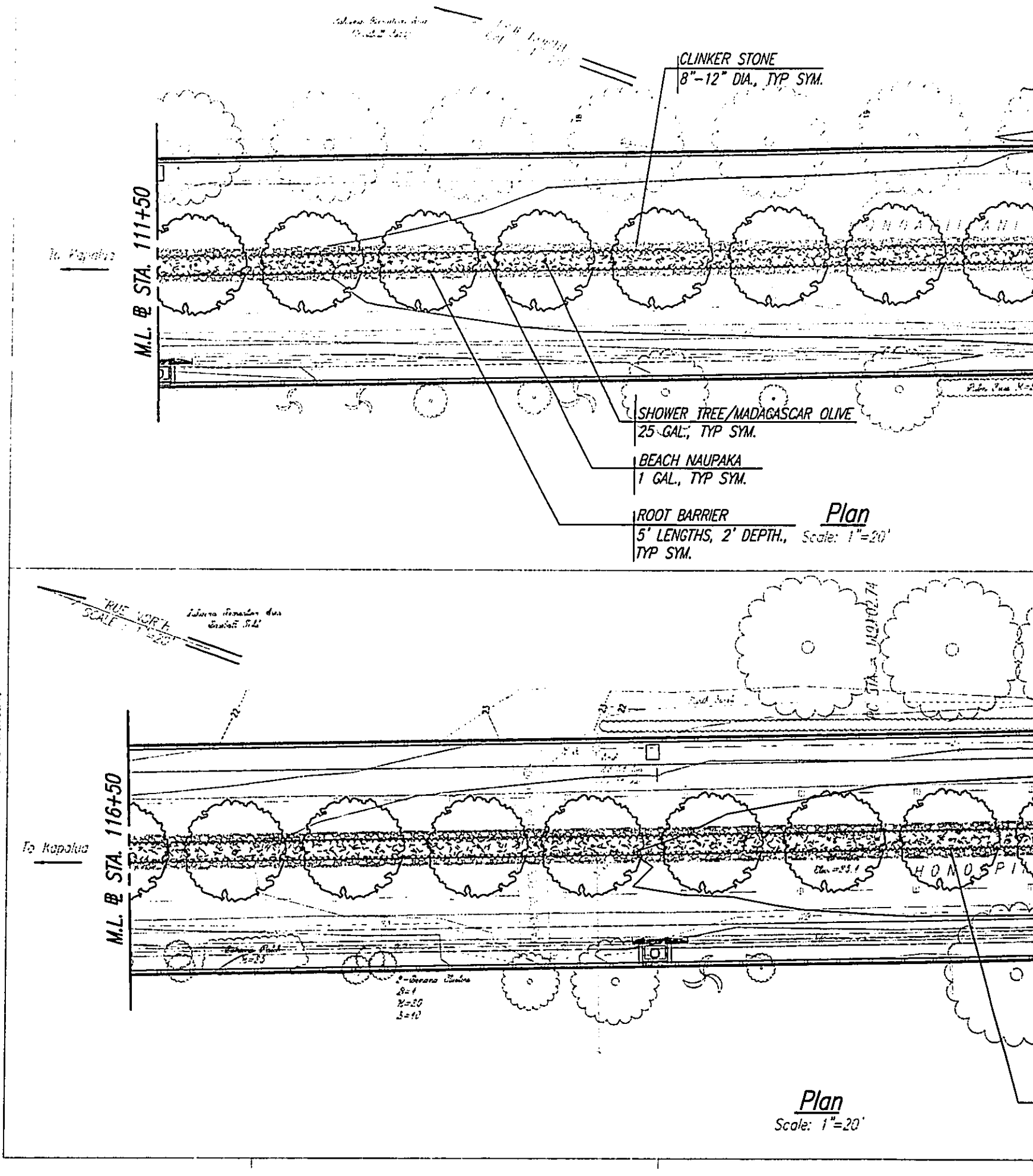
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOAPIILANI HIGHWAY
PLANTING PLAN
Honoapiilani Highway Widening
Lahainaluna Road to Ahole Road
Project No. 30BC-01-04
Scale: As Shown
Date: January 2007
SHEET No. L-4 OF SHEETS



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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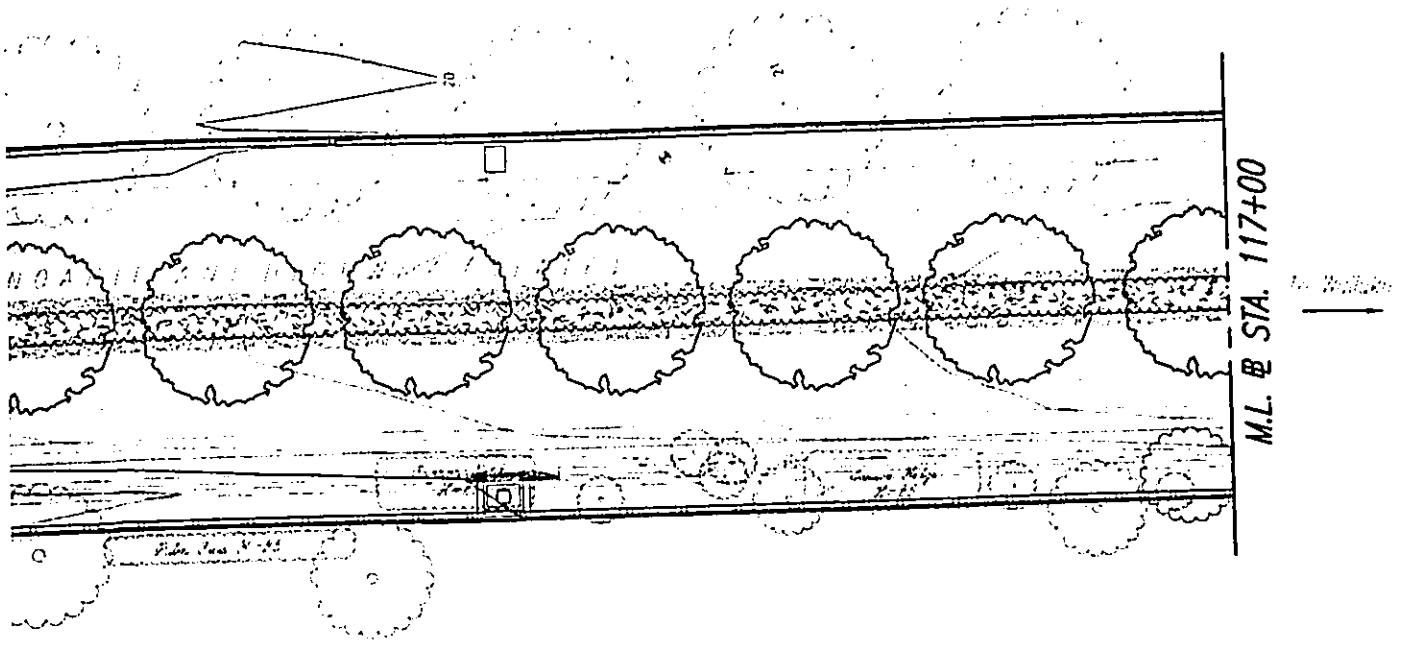

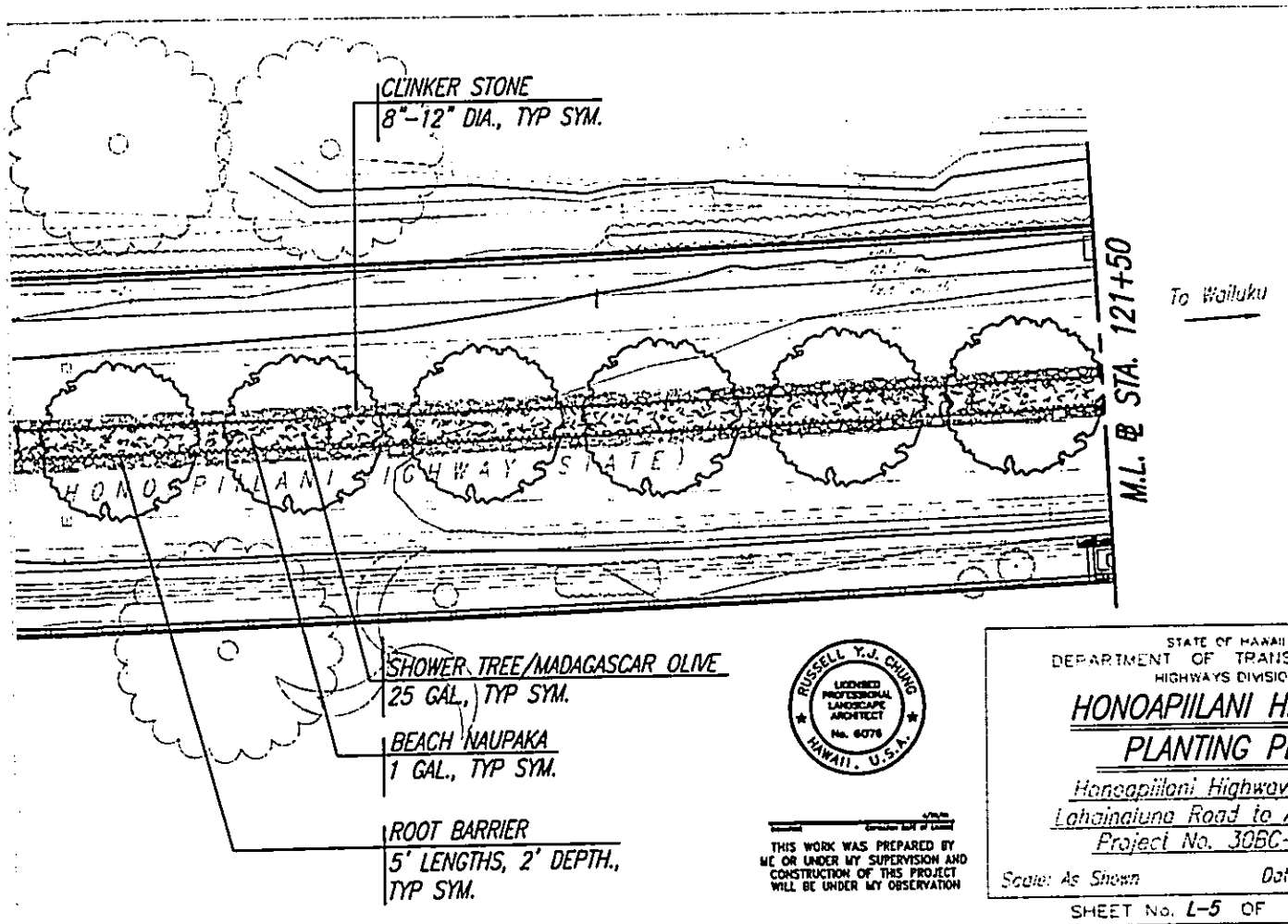

RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6076
HAWAII, U.S.A.

Signature Date of Seal

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

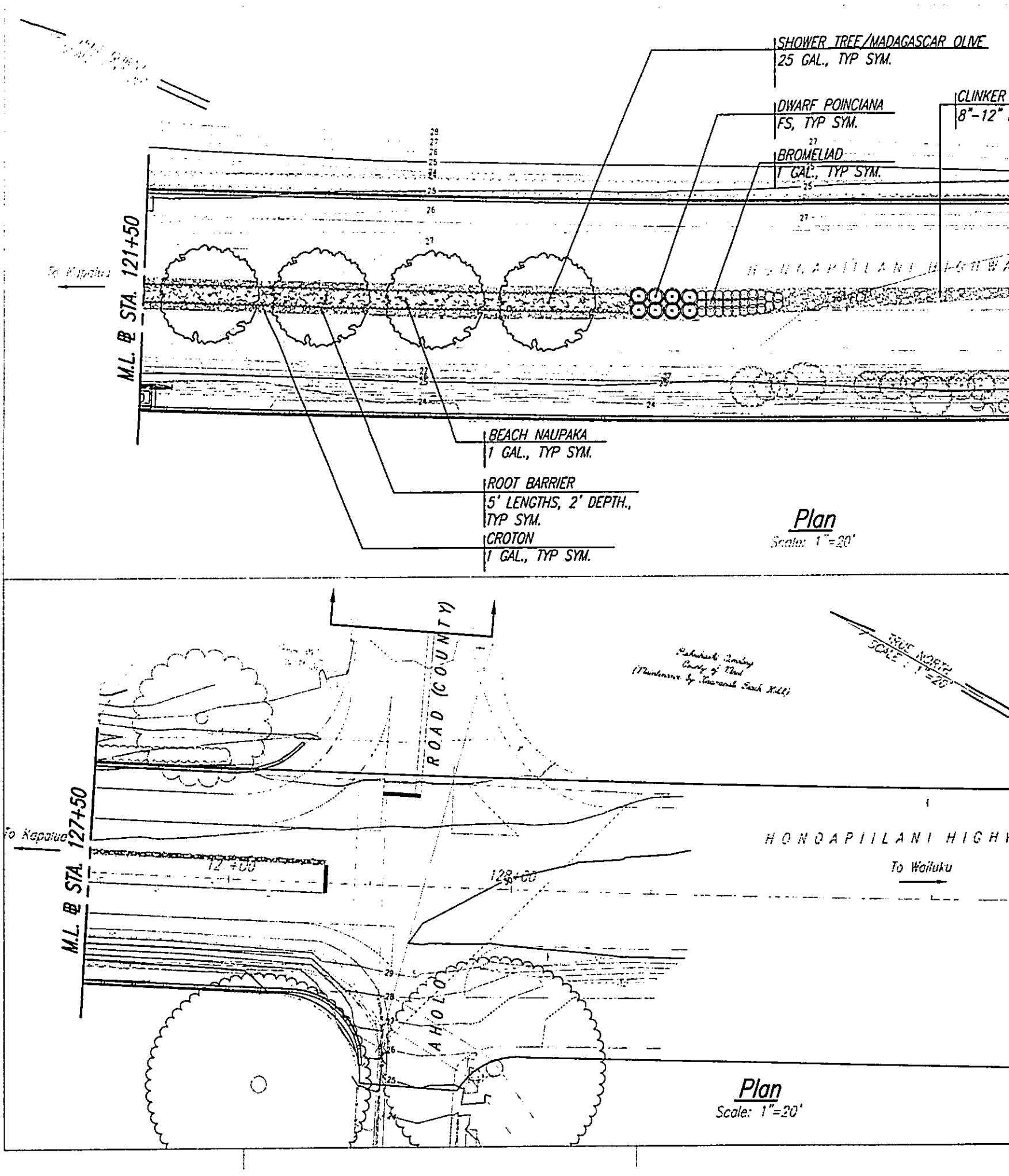
HONOAPIILANI HIGHWAY

PLANTING PLAN

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Project No. 30BC-01-04

Scale: As Shown — Date: January 2007

SHEET No. L-5 OF · SHEETS



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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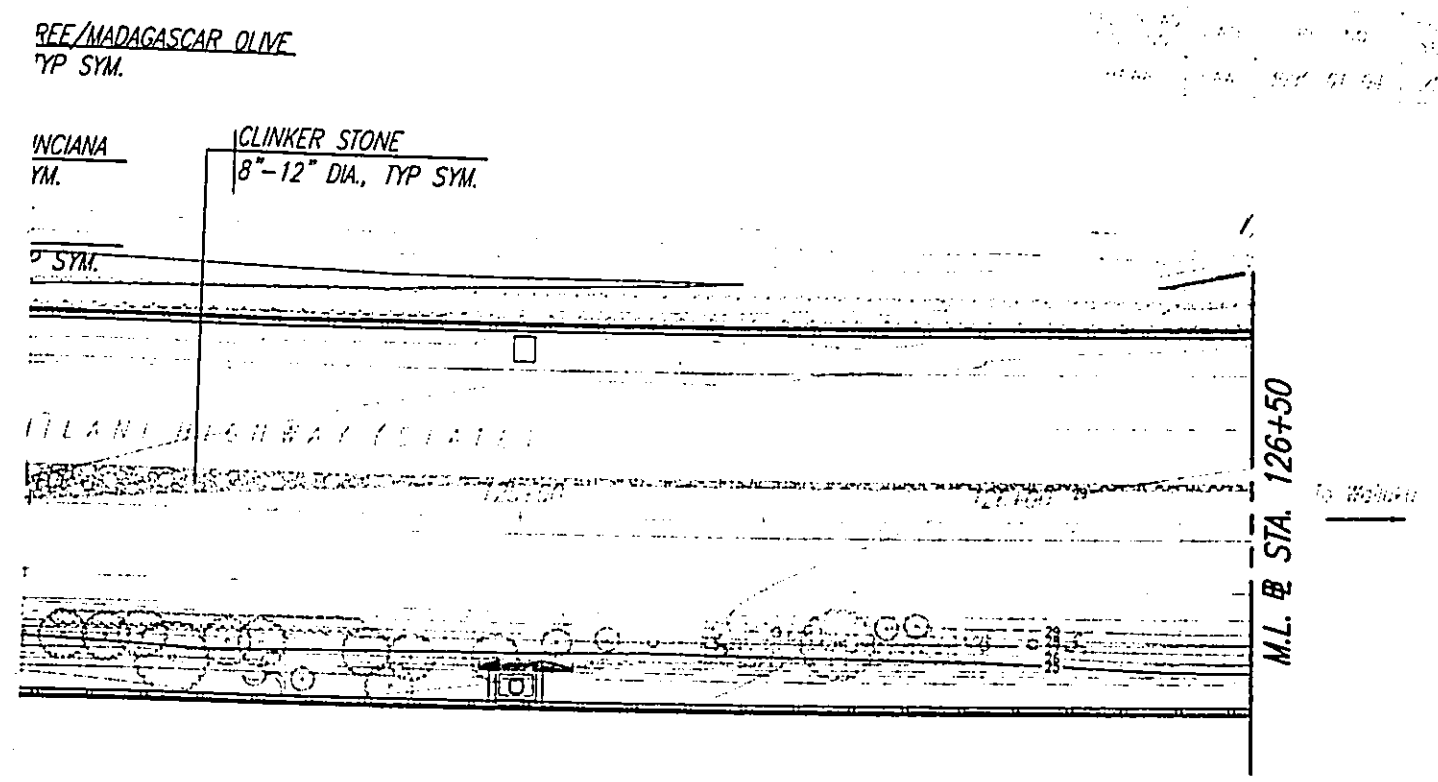

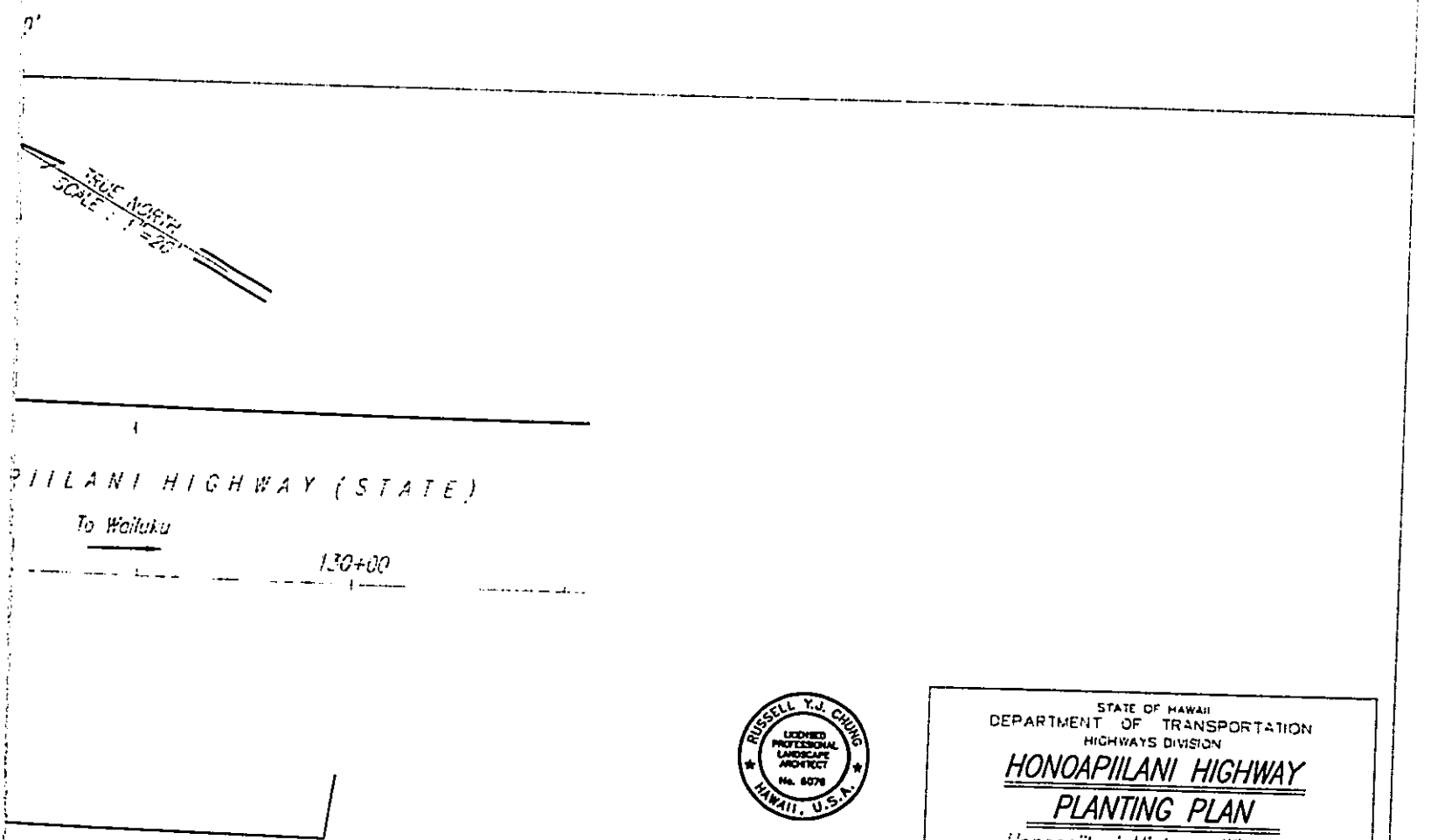

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HIGHWAYS DIVISION

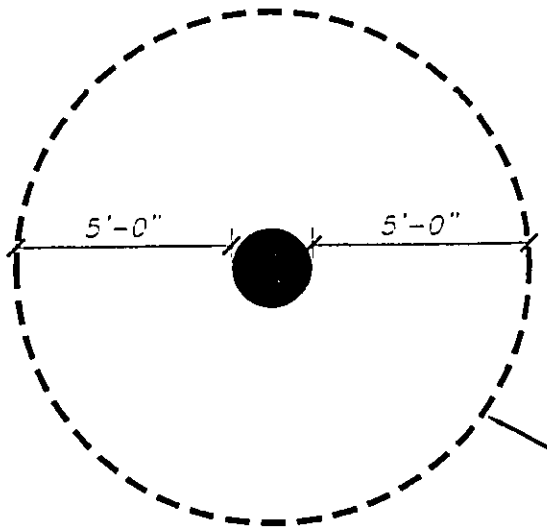
HONOAPIILANI HIGHWAY

PLANTING PLAN

Honoapiilani Highway Widening
Lahainaluna Road to Ahola Road
Project No. 50BC-01-04

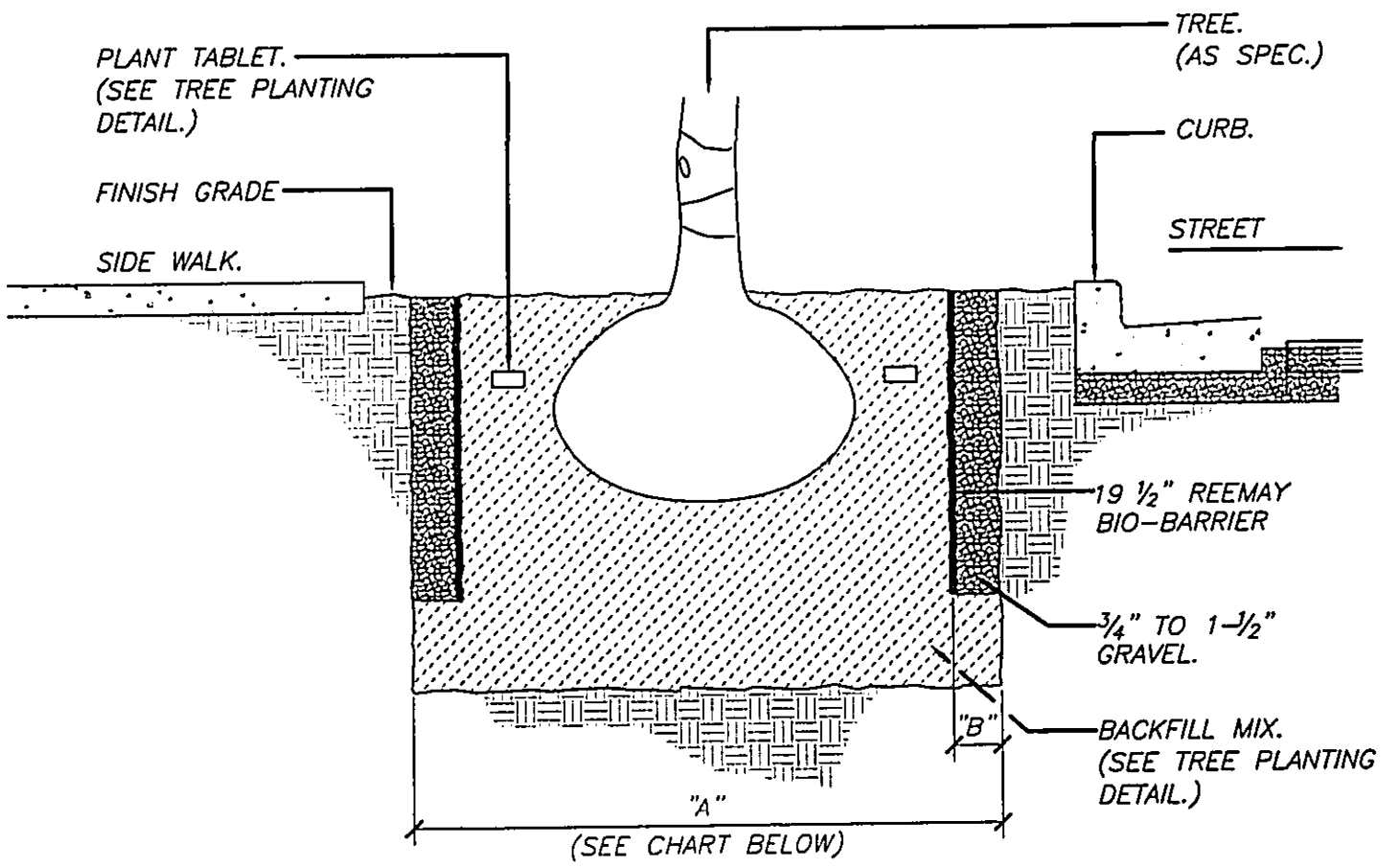
Scale: As Shown Date: January 2007

SHEET No. L-6 OF SHEETS



PLAN VIEW

TREE SIZE	"A"	"B"
SPECIMEN	72"	8"
FIELD STOCK	54"	6"
25 gal.	42"	5"
15 gal.	30"	4"
5 gal.	30"	4"



ZINC COATEL
BUCKLES ON
WIRE

THREE (3) S
NO.9 GAUGE
EQUALLY SP
(2) WHITE F
WIRE

6" SOIL BER

TEN (10) SL
PLANTING TA
GRAMS, 20-

BACKFILL M
1 PART SOI
4 PARTS IM
15 lbs. SOI
COMBINATIO

NOTE:
NODULES TO FACE TREE PLACE TOP EDGE OF BIO-BARRIER AT FINISH GRADE AND SECURE W/MANUFACTURER PROVIDED PINS. SEAMS SHALL HAVE MINIMUM 3" OVERLAP. REFER TO MANUFACTURER INSTRUCTIONS FOR BONDING THE SEAM. DO NOT ALLOW GAPS IN FABRIC DURING INSTALLATION OR BACKFILLING. BIO-BARRIER SHOULD NOT BE LEFT EXPOSED TO SURFACE WATER OR SUNLIGHT FOR MORE THAN 12 HOURS SINCE HIGH TEMPERATURES AND SUNLIGHT REDUCE EFFECTIVE LIFE OF PRODUCT. REFER TO PRODUCT LABEL AND MSDS SHEET FOR SAFETY INFORMATION.

ROOT BARRIER DETAIL

SCALE: NOT TO SCALE

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE
NOTE BOOK
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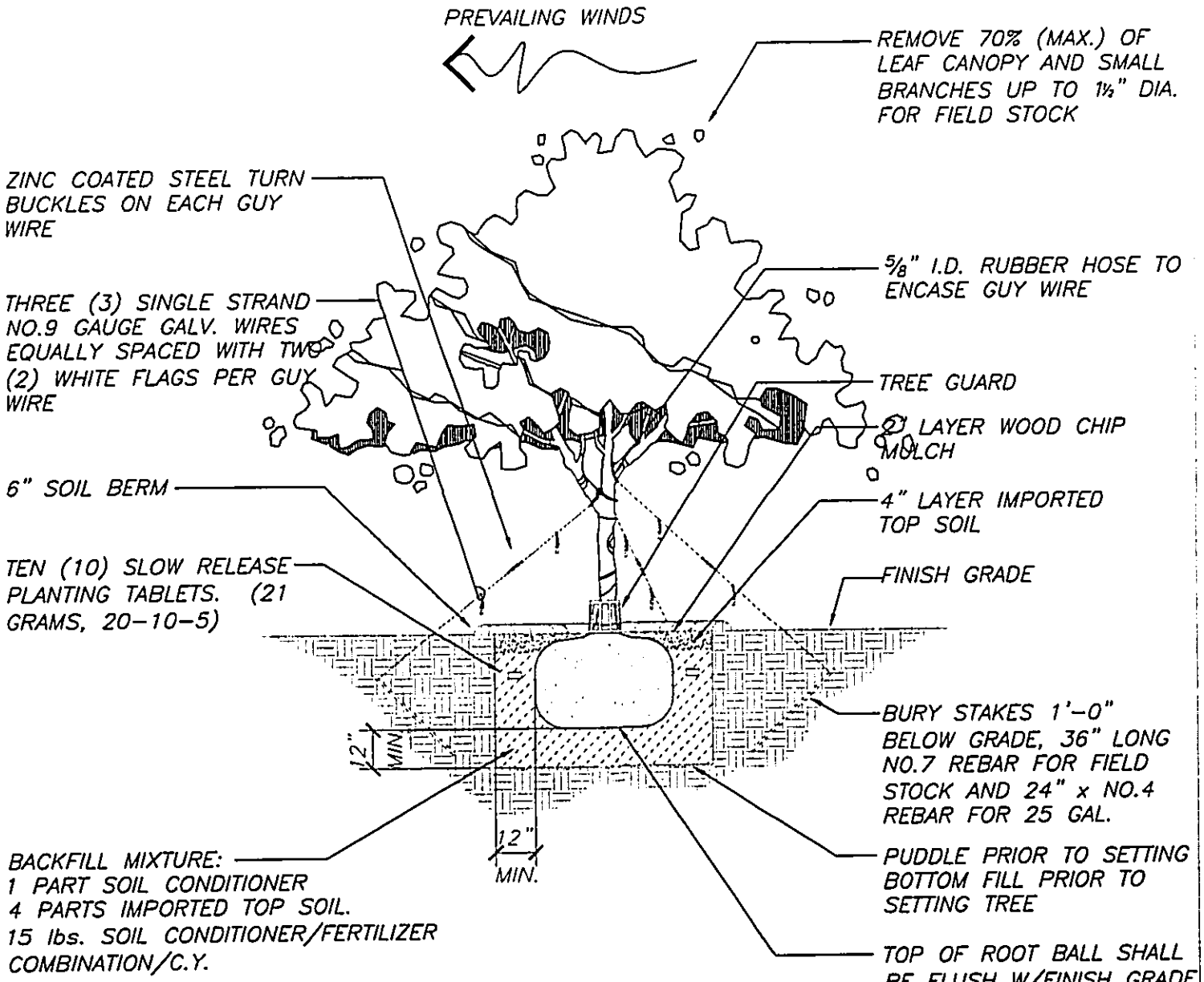

NOTE:
TRUNK MUST BE PROTECTED FROM ROPE SLING BURNS AND ABRASIONS DURING MOVING. TREE SHALL BE PLUMB. IF TREE IS LEANING AT THE END OF THE PLANT ESTABLISHMENT PERIOD, THE TREE SHALL BE REJECTED.

TREE PLANTING DETAIL

SCALE: NOT TO SCALE

RUSSELL Y.J. CHUNG
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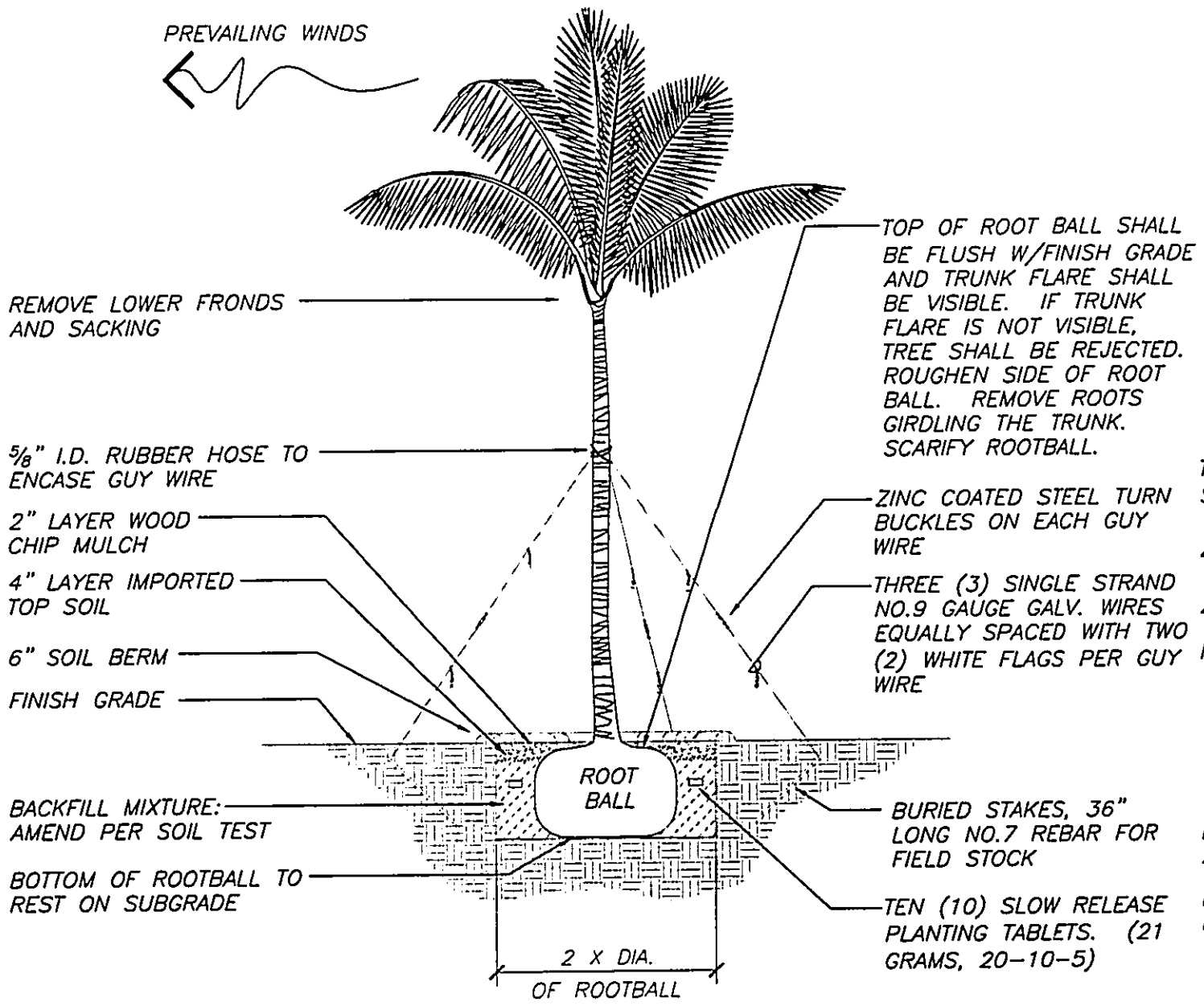
HIGHWAYS DIVISION

HONOAPIILANI HIGHWAY
PLANTING DETAILS

Honoapiilani Highway Widening
Lahainaluna Road to Ahola Road
Project No. 50BC-01-04

Scale: As Shown Date: January 2007

SHEET No. L-7 OF · SHEETS



NOTES:

1. TRUNK MUST BE PROTECTED FROM ROPE SLING BURNS AND ABRASIONS DURING MOVING.
2. WATER HEAVILY TO INSURE SOIL SETTLES AROUND ROOTS.
3. TREE SHALL BE PLUMB, IF THERE IS LEANING AT THE END OF THE PLANT ESTABLISHMENT PERIOD, THE TREE SHALL BE REJECTED.
4. PROTECT HEART AND TIP FROM DAMAGE AND BREAKAGE DURING TRANSPORTING AND TRANSPLANTING.

PALM PLANTING DETAIL

SCALE: NOT TO SCALE

ORIGINAL PLAN | NOTE BOOK | No. | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE

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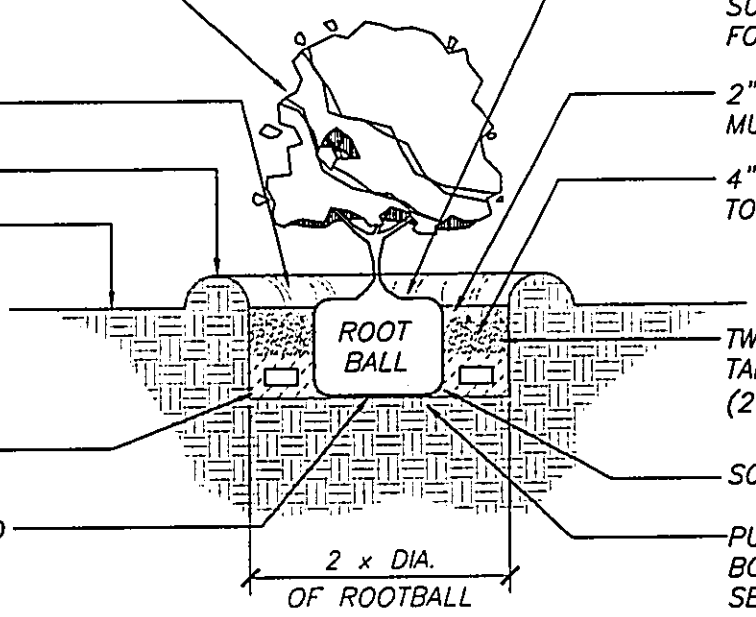

SHRUB PLANTING DETAIL

SCALE: NOT TO SCALE

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HAWAII, U.S.A.

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HIGHWAYS DIVISION

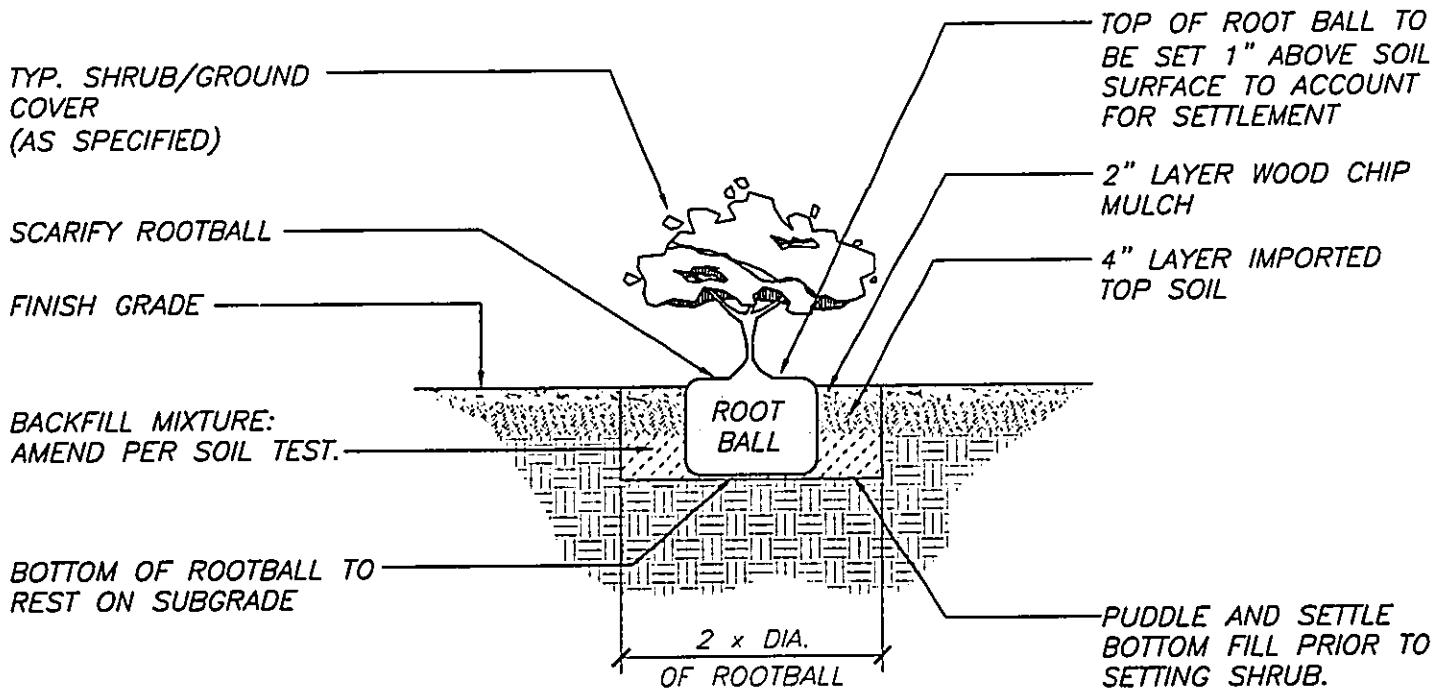
HONOAPIILANI HIGHWAY

PLANTING DETAILS

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Project No. 30BC-01-04

Scale: As Shown | Date: January 2007

SHEET No. L-8 OF · SHEETS



GROUND COVER DETAIL

SCALE: NOT TO SCALE

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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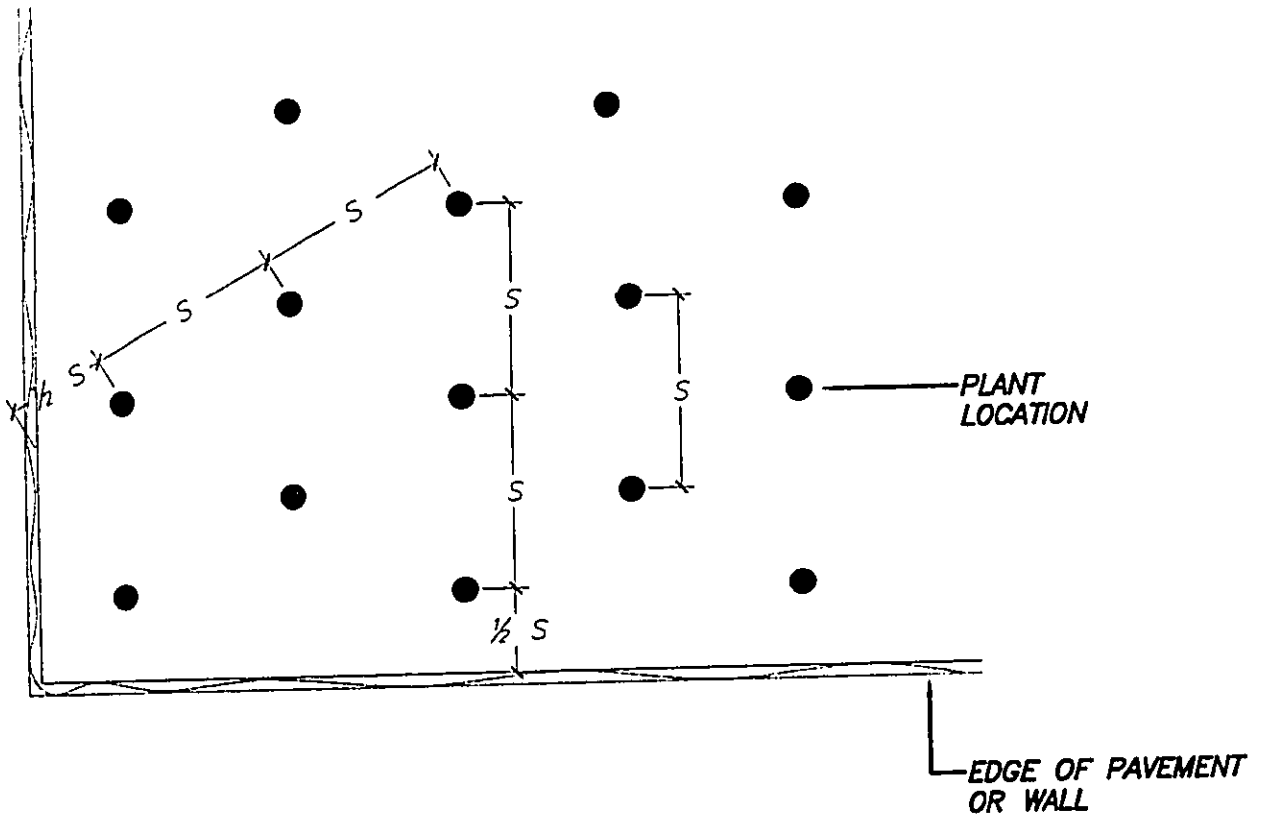
	TRACED BY	
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
No.	CHECKED BY	

NOTES:
1. S = SPACING, (REFER TO PLANT LIST FOR AMOUNT OF SPACING.)

2. USE SPACING LAYOUT FOR SHRUBS, GROUND COVERS AND ANNUALS.



GROUND COVER DETAIL

SCALE: NOT TO SCALE

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PLANTING DETAILS

Honoapiilani Highway Widening
Lahainaluna Road to Ahola Road
Project No. 50BC-01-04

Scale: As Shown Date: January 2007

SHEET No. L-9 OF · SHEETS

PLANT NOTES:

1. LANDSCAPE CONTRACTOR SHALL FIELD VERIFY ALL PLANT QUANTITIES AND DIMENSIONS PRIOR TO INSTALLATION. QUANTITIES SHOWN ON PLANT LIST ARE FOR REFERENCE ONLY, VERIFY ACTUAL QUANTITIES AS SHOWN ON PLAN. IF THERE IS A DISCREPANCY, THE PLANTING PLAN SHALL TAKE PRECEDENCE.

2. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES.

3. PRIOR TO TREE AND SHRUB HOLE EXCAVATION, ALL PLANTING LOCATIONS SHALL BE STAKED OUT BY CONTRACTOR FOR APPROVAL BY ENGINEER. DO NOT PLANT UNTIL GROUND HAS BEEN PREPARED AND FREE OF STONES GREATER THAN ½", DIA., SITE IS NEAT, ORDERLY, AND THE ENGINEER ACCEPTS SITE FOR PLANTING.

4. NOTIFY ENGINEER OF ANY DISCREPANCIES IN PLANT LOCATIONS OR INSUFFICIENT PLANT QUANTITIES DUE TO DIFFERENCE IN PLANS AND ACTUAL FIELD CONDITIONS.

5. NOTIFY ENGINEER 30 DAYS PRIOR TO PLANTING OPERATIONS FOR APPROVAL OF ALL PLANT MATERIAL AT PLACE OF GROWTH. ALL PLANT MATERIAL NOT APPROVED BY THE ENGINEER WILL BE SUBJECT TO REJECTION.

6. THE ENGINEER WILL INSPECT PLANTS AT THE PLACE OF GROWTH AND AFTER THE DELIVERY TO THE PROJECT. EACH TREE SHALL BE TAGGED BY THE ENGINEER WITH A CONSECUTIVELY NUMBERED PLASTIC TAMPER-RESISTANT AND SELF-LOCKING SEAL. SEALS SHALL REMAIN ON TREES AND ONLY BE REMOVED BY THE ENGINEER AT THE COMPLETION OF THE PLANT ESTABLISHMENT PERIOD. TREES DELIVERED TO THE PROJECT WITHOUT ENGINEERS SEAL WILL BE REJECTED.

7. PLANTS SHALL MEET SIZE INDICATED BY MINIMUM HEIGHT AND SPREAD. PLANTS SHALL BE STRAIGHT AND UNIFORMLY SHAPED, UNLESS UNIQUE OR SPECIAL CHARACTERISTICS ARE SPECIFIED, AND SHALL BE UNDAMAGED, SOUND, HEALTHY, VIGOROUS AND FREE OF DISEASE AND INSECT INFESTATION. PLANTS NOT CONFORMING TO THESE REQUIREMENTS ON DELIVERY TO THE PROJECT AND AT THE END OF THE PLANT ESTABLISHMENT PERIOD WILL BE REJECTED.

8. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE COMPLETE REMOVAL AND DAMAGES RESULTING FROM PLANTING ANY PLANT SPECIES LISTED ON THE HAWAII DEPARTMENT OF AGRICULTURE 'NOXIOUS WEED RULES' AS DEFINED IN THE STATUTE, HAWAII ADMINISTRATIVE RULES 4:68:1 OR THE 'FEDERAL NOXIOUS WEED LIST' AS DEFINED IN TITLE 7 OF THE CODE OF FEDERAL REGULATIONS (CFR), PARTS 360 AND 361.

9. ALL TREE WORK MUST ADHERE TO AMERICAN NATIONAL STANDARD INSTITUTE (OR ANSI) – A300 TREE CARE STANDARDS AND ANSI-Z133 SAFETY STANDARDS FOR TREE WORK. WORK SHALL BE CONTRACTED TO ARBORISTS THAT HAS BEEN CERTIFIED IN GOOD STANDINGS AS AN ISA CERTIFIED ARBORIST FOR AT LEAST 5 YEARS TO ASSURE THAT TREE WORK IS PERFORMED PROPERLY AND TREES ARE NOT DAMAGED BY PRACTICES SUCH AS TOPPING, FLUSH CUTS, OVER-THINNING, OR CLIMBING WITH SPIKES. CONTRACTOR SHALL SUBMIT A COPY OF THE ISA ARBORIST CERTIFICATION OF GOOD STANDING OF 5 YEARS TO THE ENGINEER MINIMUM 7 DAYS PRIOR TO TREE PRUNING.

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NOTE BOOK

No.

10. FOR THE DURATION OF CONSTRUCTION WITHIN THE DRIP LINE OF TREES TO REMAIN THERE MUST BE: NO CHANGES, ALTERATIONS OR DISTURBANCE TO THE GRADE BY ADDING FILL, EXCAVATING OR SCRAPING EXCEPT AS NOTED ON PLANS; NO STORAGE OF CONSTRUCTION MATERIAL OR EQUIPMENT; NO STOCKPILING OF ANY CONSTRUCTION MATERIAL OR ANY EXCAVATED MATERIAL NO DISPOSAL OF ANY LIQUIDS (E.G. CONCRETE SLEUTH, GAS, OIL, PAINT); NO VEHICULAR TRAFFIC, EQUIPMENT OR EXCESSIVE PEDESTRIAN TRAFFIC NO ATTACHMENT OF ANY WIRES, ROPES, LIGHTS, OR ANY OTHER SUCH ATTACHMENT OTHER THAN THOSE OF PROTECTIVE NATURE TO ANY TREE TO BE PRESERVED; AND NO CLEANING OF EQUIPMENT OR MATERIAL UNDER THE CANOPY OF ANY TREE OR GROUP OF TREES TO REMAIN.

11. PROTECTIVE FENCE SHALL BE ERECTED AROUND TREES IDENTIFIED ON PLAN OR TREES WITH TRUNK DIAMETER GREATER THAN 24 INCHES AS MEASURED AT HEIGHT OF 4 ½ FEET. PROTECTIVE FENCE SHALL BE 4 FEET HIGH ORANGE PLASTIC MESH OR APPROVED EQUIVALENT SUPPORTED ON STEEL T-POST A MINIMUM OF 6 FEET LONG. PROTECTIVE FENCE SHALL SURROUND TREE AT MINIMUM OF 10 FEET FROM TREE TRUNK WITH STEEL T-POST AT A MINIMUM OF 5 FEET ON CENTER.

12. IF TREES OTHER THAN THOSE SPECIFICALLY DESIGNATED FOR REMOVAL ARE DAMAGED BEYOND SURVIVAL CONDITIONS AS DETERMINED BY ENGINEER, THE CONTRACTOR SHALL REMOVE SUCH TREES AND REPLACE THE TREE WITH A SAME SPECIE AND SIZE AND MAINTAIN FOR THE DURATION OF CONSTRUCTION OR 12 MONTHS WHICHEVER IS GREATER AT NO COST TO THE STATE.

13. PROVIDE EVEN FOUR-INCH LAYER OF PLANTING SOIL OVER ALL PLANTING AREAS. REPRESENTATIVE SAMPLES OF SOIL FROM PROJECT SITE SHALL BE SUBMITTED TO THE UNIVERSITY OF HAWAII AGRICULTURAL EXTENTION SERVICE OR LABORATORY ACCEPTABLE TO THE ENGINEER FOR ANALYSIS OF REQUIRED SOIL AMENDMENTS. TEST RESULTS AND FERTILIZATION SCHEDULE SHALL BE PRESENTED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE BEFORE PLACING PLANTING SOIL. UNIFORMLY DISTRIBUTE FERTILIZER AND AMENDMENTS OVER PLANTING AREAS AS RECOMMENDED BY THE SOIL ANALYSIS REPORT. ROTOTILL TOP FOUR-INCHES OF SOIL TO EVENLY INCORPORATE FERTILIZER AND AMENDMENTS.

14. GUY WIRES, FLAGGING, STAKES, WINDBREAKERS, ETC. SHALL BE MAINTAINED AND REPLACED IF NECESSARY BY THE CONTRACTOR UNTIL THE TREE OR SHRUB IS ABLE TO STAND BY ITSELF. THE CONTRACTOR SHALL REMOVE AND DISPOSE AT THE END OF PLANT ESTABLISHMENT PERIOD.

15. ANY PLANTING THAT OBSTRUCTS SIGHT DISTANCE, SIGNS OR TRAFFIC LIGHTS SHALL BE RELOCATED OR REMOVED AS DETERMINED BY THE ENGINEER.

RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6078
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HONOAPIILANI HIGHWAY

PLANTING DETAILS

Honoapiilani Highway Widening
Lahainaluna Road to Ahola Road
Project No. 50BC-01-04

Scale: As Shown Date: January 2007

SHEET No. L-10 OF · SHEETS

PLANT LIST FOR KAMEHAME

QUANTITY	COMMON NAME	BOTANICAL NA
	TREE	
114	SHOWER TREE/MADAGASCAR OLIVE	Cassia x nealiae
	PALM	
78	LOULU PALM	Pritchardia martii
	SHRUB	
48	DWARF POINCIANA	Caesalpinia oulcherrima
1,002	BEACH NAUPAKA	Scaevola taccada
312	CROTON	Codiaeum variegatum
336	BROMELIAD	Neoregelia spp.
	GROUND COVER	
3,708	POHINAHINA	Vitex rotundifolia
	MISCELLANEOUS	
408	CLINKER STONE	
570	ROOT BARRIER	
13,406	FILTER FABRIC	
8,723	SOIL AMENDMENT	
108	IMPORTED TOP SOIL	
8,723	AUTOMATIC IRRIGATION SYSTEM	
3	MAINTENANCE PERIOD	

ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY
DRAFTN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

VT LIST FOR KAMEHAMEHA HIGHWAY			
TANICAL NAME	SIZE	HEIGHT	REMARKS
ia x nealiae	25 GAL.		
hardia martii	25 GAL.		
alpinia oulcherrima	FS		
vola taccada	1 GAL		3' O.C.
neum variegatum	1 GAL.		
egelia spp.	1 GAL.		
rotundifolia	6" POTS		
	CY		8"–12" DIA.
	LF		5' LENGTHS AND 2' DEPTH
	SF		
	SF		1" LAYER
	CY		4" LAYER
	SF		
	SF		3 MONTHS

RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6076
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HONOAPIILANI HIGHWAY

PLANTING DETAILS

Honoapiilani Highway Widening
Lahainaluna Road to Ahola Road
Project No. 30BC-01-04

Scale: As Shown Date: January 2007

SHEET No. L-11 OF · SHEETS

APPENDIX D

"No Adverse Effect" Determination Letter from SHPD Regarding Project Impacts on Historic and Archaeological Properties

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

June 29, 2005

State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawai'i 96707

Attn: Ms. Melanie A. Chinen, Administrator

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [por each]
DOT-HWY Project Number 30BC-01-04

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (Highways Division) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway, adverse impacts on wildlife habitats are anticipated to be small, if any. The project will be contained entirely within the existing 80′ State right-of-way dedicated for the highway.

A description of the project is as follows:

"The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The existing highway between Lahainaluna and 'Aholo Roads (project limits) varies in width, but is primarily comprised of two 11′ asphaltic concrete (AC)-paved lanes and 9′ paved

shoulders without curbs or gutters. Approaches to intersections with cross streets transition up to four 11′ lanes—one lane in each direction for traffic straight through the intersection and outside lanes for right turns. Distinct lanes for bicyclists and pedestrians have not been established.

The State of Hawai'i DOT, Highways Division (HWY) proposes to increase the width of Honoapi'ilani Highway to four 11′ vehicular travel lanes with 10′ median (shared left-turn corridor) consistently throughout its length from Lahainaluna Road to 'Aholo Road. In normally crowned areas, the highway will also have a 4′ bikelane, curb and gutter, 5′ sidewalk, and 12″-thick concrete retaining wall along its *mauka* edge, and 6′ paved shoulder and earthen drainage swale along its *makai* edge. In superelevated reaches, the highway will have the same structures as the normally crowned locations on its *mauka* side; however, it will have a 6′-8″ paved shoulder and 12″-thick concrete retaining wall along its *makai* edge. All finished structures will be within the existing 80′-wide ROW."

The project will be funded entirely by the State with no contribution from the federal government. The project manager at the DOT-HWY is:

Ms. Charlene Shibuya
DOT-HWY, Maui District, 650 Palapala Drive, Kahului, Hawai'i 96732
Telephone: (808) 873-3535, Fax: (808) 873-3544, Email: Charlene.Shibuya@Hawaii.Gov

A few maps and sketches of the current design for the subject project are enclosed for your use. The area of potential effect is contained to the entire area within the existing 80′-wide highway right-of-way for the length of the project. Please review these enclosures and provide us with any information on identified or potential historic and archaeological properties known or assumed to exist within or near the project area that may be impacted by the project undertaking. In using DLNR-SHPD's online Hawai'i Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area.

Should you have any questions or more information is required, please call Ms. Diane Kodama or myself at 521-3051. Our email addresses are Diane.Kodama@M-E.AECOM.Com and Mike.Nishimura@M-E.AECOM.Com, respectively.

Very truly yours,

Michael S. Nishimura, P.E.
Project Engineer

msn

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

February 3, 2006

Mr. Michael Nishimura, P.E
M & E Pacific, Inc
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawaii 96813

LOG NO: 2006.0046
DOC NO: 0601MK22
Archaeology

Dear Mr. Nishimura:

SUBJECT: National Historic Preservation Act (NHPA) Section 106 Review [State/Highways] –
Honoapi'ilani Highway Widening, Lahainaluna Road to Aholo Road
Waine'e Ahupua'a, Lahaina District, Island of Maui
TMK: (2) 4-5-006 & 009 and 4-6-004: 013, 034

The proposed widening projects to occur within the existing established right-of-way (ROW), will effectively convert the highway from two (2) to four (4) lanes. The existing road is constructed on fill. The widening will include fill importation to meet the existing highway grade. The proposed DOT project is partially federally funded.

We believe that **"no historic properties will be affected"** by this undertaking 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) this project has gone through the historic review process, and mitigation has been completed
- ☒ f) other: *The project will occur within existing highway ROW, and will not include excavation below original grade. Feedback was solicited by your firm to the Maui/Lana'i Islands Burial Council Chair and Vice-Chair, Mr. Charles Maxwell and Ms. Dana Naone Hall who expressed no concerns at this time since the project is located within the existing ROW in which no known historic properties exist.*

In the event that historic resources, including human skeletal remains, are identified during routine 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 Division, Maui Section, needs to be contacted immediately at (808) 243-5169.

Aloha,

Peter Young, Chair
State Historic Preservation Officer

MK:kf

cc: Bert Ratte, DPWEM, County of Maui
Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Res. Commission, Dept. of Planning, 250 S. High Street, Wailuku, HI 96793

APPENDIX E

Land & Water Conservation Fund Section 6(f)(3) Coordination

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808 521.3051 F 808.524.0246 www.m-e.com

August 4, 2005

State of Hawai'i
Department of Land and Natural Resources
Division of State Parks
Kalanimoku Building, Room 310
1151 Punchbowl Street
Honolulu, Hawai'i 96813

Attn: Ms. Martha E. Yent, LWCF Interpretive Program Supervisor/Archaeologist

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [por each]
DOT-HWY Project Number 30BC-01-04
Request for Assessment of Anticipated Project Impacts on LWCF Lands

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (Highways Division) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on Land and Water Conservation [Fund, LWCF] Act Section 6(f)(3) lands are anticipated to be small, if any. The project will be contained entirely within the existing 80′ State ROW dedicated to the highway.

A description of the project is as follows:

"The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The existing highway between Lahainaluna and 'Aholo Roads (project limits) varies in width, but is primarily comprised of two 11' asphaltic concrete (AC)-paved lanes and 9' paved shoulders without curbs or gutters. Approaches to intersections with cross streets transition up to four 11' lanes—one lane in each direction for traffic straight through the intersection and outside lanes for right turns. Distinct lanes for bicyclists and pedestrians have not been established.

The State of Hawai'i DOT, Highways Division (HWY) proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The highway will also have an AC-paved bikelane and shoulder, in addition to, concrete curb and gutter, sidewalk, and retaining walls along its edges with guardrails. All finished structures will be within the existing 80'-wide ROW."

According to the LWCF project listing for the Island of Maui located on the Internet at: http://waso-lwcf.ncrc.nps.gov/public/index.cfm, two (2) LWCF disbursements were allocated for use for the Lahaina Recreation Center:

1. *Lahaina Recreational Center (Phase I)*—approved 5/1/1985 and expired 12/31/1988.
2. *Lahaina Recreation Center Expansion Project Ph 2*—approved 10/31/2000 and expired 9/30/2003.

Although no work is anticipated to occur within the property of the parks, widening of Honoapi'ilani Highway may require work to be performed on a single row of large (roughly 3'-diameter trunks, 50' tall, and 40' canopy spreads), existing monkeypod trees located along the ROW within the park properties. This work may involve cutting roots and installing root barriers to protect new roadway structures from root growth damage, or tree relocation further away (*mauka*) from the highway. A total of about 17 trees may be affected by the project along the Lahaina Recreation Center & Park property line, while approximately 14 trees may be affected along the property line of the Lahaina Aquatic Center & Park. About three 50'–60' palm trees may also be affected.

Additionally, due to widening of the highway, existing culverts beneath the road will be extended, and land may need to be acquired upstream and downstream of the inlets and outlets for maintenance access easements. No culvert extensions will be performed near the Lahaina Recreation Center & Park; however, two culvert extensions may be required between Shaw and Prison Streets next to the Lahaina Aquatic Center & Park.

The project will be funded by both the State and federal government. The project manager at the DOT-HWY is:

Ms. Charlene Shibuya
DOT-HWY, Maui District, 650 Palapala Drive, Kahului, Hawai'i 96732
Telephone: (808) 873-3535, Fax: (808) 873-3544, Email: Charlene.Shibuya@Hawaii.Gov

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existing 80'-wide highway right-of-way for the length of the project. Also enclosed is a printout of the LWCF project listing for Maui. Please review these enclosures and provide us with a formal determination of whether the project is subject to and/or in compliance with LWCF regulations. Your response will be documented in the project Environmental Assessment. Should there be any areas of concern, we would like to work with you to ensure that the project meets all requirements of the LWCF.

A copy of this request will be sent to Mr. David Siegenthaler of the US National Park Service, Pacific Great Basin Support Office.

Should you have any questions or more information is required, please call Ms. Diane Kodama or myself at 521-3051. Our email addresses are Diane.Kodama@M-E.AECOM.Com and Mike.Nishimura@M-E.AECOM.Com, respectively.

Very truly yours,

Michael S. Nishimura, P.E.
Project Engineer

msn

METCALF & EDDY | AECOM

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M & E Pacific, Inc.
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T 808.521.3051 F 808.524.0246 www.m-e.com

August 4, 2005

US Department of the Interior
National Park Service
(California, Nevada & Pacific Islands)
Planning and Partnerships Team
Pacific Great Basin Support Office
1111 Jackson Street, Suite 700
Oakland, California 94607

Attn: Mr. David Siegenthaler

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [por each]
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1. *Lahaina Recreational Center (Phase I)*—approved 5/1/1985 and expired 12/31/1988.
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Although no work is anticipated to occur within the property of the parks, widening of Honoapi'ilani Highway may require work to be performed on a single row of large (roughly 3′-diameter trunks, 50′ tall, and 40′ canopy spreads), existing monkeypod trees located along the ROW within the park properties. This work may involve cutting roots and installing root barriers to protect new roadway structures from root growth damage, or tree relocation further away (*mauka*) from the highway. A total of about 17 trees may be affected by the project along the Lahaina Recreation Center & Park property line, while approximately 14 trees may be affected along the property line of the Lahaina Aquatic Center & Park. About three 50′–60′ palm trees may also be affected.

Additionally, due to widening of the highway, existing culverts beneath the road will be extended, and land may need to be acquired upstream and downstream of the inlets and outlets for maintenance access easements. No culvert extensions will be performed near the Lahaina Recreation Center & Park; however, two culvert extensions may be required between Shaw and Prison Streets next to the Lahaina Aquatic Center & Park.

The project will be funded by both the State and federal government. The project manager at the DOT-HWY is:

Ms. Charlene Shibuya
DOT-HWY, Maui District, 650 Palapala Drive, Kahului, Hawai'i 96732
Telephone: (808) 873-3535, Fax: (808) 873-3544, Email: Charlene.Shibuya@Hawaii.Gov

A few maps and sketches of the current design for the subject project are enclosed for your review and use. The area of potential effect is contained primarily to the entire area within the existing 80'-wide highway right-of-way for the length of the project. Also enclosed is a printout of the LWCF project listing for Maui. Please review these enclosures and provide us with a formal determination of whether the project is subject to and/or in compliance with LWCF regulations. Your response will be documented in the project Environmental Assessment. Should there be any areas of concern, we would like to work with you to ensure that the project meets all requirements of the LWCF.

A copy of this request will be sent to Ms. Martha Yent of the State of Hawai'i, Department of Land and Natural Resources, Division of State Parks.

Should you have any questions or more information is required, please call Ms. Diane Kodama or myself at 521-3051. Our email addresses are Diane.Kodama@M-E.AECOM.Com and Mike.Nishimura@M-E.AECOM.Com, respectively.

Very truly yours,

Michael S. Nishimura, P.E.
Project Engineer

msn

METCALF & EDDY | AECOM

United States Department of the Interior
National Park Service
Land & Water Conservation Fund

Detailed Listing of Grants Grouped by County

Hawaii - 15

Today's Date: 8/4/2005

Grant ID & Element	Type	Grant Element Title	Grant Sponsor	Amount	Status	Date Approved	Exp. Date	Cong. District
MAUI								
7 - XXX	D	KEPANINAI BOTANICAL GARDEN COMPLEX E	MAUAI COUNTY	$82,765.00	C	4/15/1966	12/31/1969	2
14 - XXX	D	WAIANAPANAPA STATE PARK	DEPT. OF LAND & NATURAL RESOURCES	$83,640.00	C	10/25/1966	12/31/1970	2
18 - XXX	C	MOLOKAI SWIMMING POOL	MAUAI COUNTY	$127,695.18	C	2/23/1967	12/31/1969	2
48 - XXX	D	KALAMA BEACH PARK DEVELOPMENT	MAUI COUNTY	$19,409.00	C	2/22/1971	12/31/1973	2
49 - XXX	D	KAMAOLE BEACH PARK 2 & 3 DEV.	MAUI COUNTY	$44,845.49	C	2/22/1971	12/31/1973	2
64 - XXX	C	KAHULUI COMMUNITY PARK - PHASE I-A	MAUI COUNTY	$504,774.83	C	1/2/1973	12/31/1976	2
78 - XXX	D	KANAHA BEACH PARK DEVELOPMENT	MAUI COUNTY	$107,280.05	C	2/26/1975	12/31/1977	2
79 - XXX	D	HANA BOAT LAUNCHING RAMP	DEPT. OF TRANSPORTATION	$53,040.00	C	6/30/1975	12/31/1977	2
86 - XXX	D	MALA BOAT LAUNCHING FACILITY	DEPT. OF TRANSPORTATION	$240,770.89	C	7/14/1978	5/2/1979	2
96 - XXX	A	MAKENA-LA PEROUSE STATE PARK	DEPT. OF LAND & NATURAL RESOURCES	$211,388.46	C	9/28/1979	12/31/1983	2
97 - XXX	D	KIHEI BOAT LAUNCHING FACILITY	DEPT. OF TRANSPORTATION	$503,360.00	C	9/28/1979	12/31/1983	2
105 - XXX	C	HANAKAO'O BEACH PARK	MAUI COUNTY	$588,140.22	C	12/15/1981	12/31/1984	2
109 - XXX	R	LAHAINA BOAT HARBOR IMPROVEMENTS	DEPT. OF TRANSPORTATION	$46,914.50	C	8/30/1983	9/15/1984	2
118 - XXX	D	LAHAINA RECREATIONAL CENTER (PHASE I	MAUI COUNTY	$453,847.08	C	5/1/1985	12/31/1988	2
133 - XXX	D	WAR MEMORIAL SWIMMING POOL IMPROVEME	MAUI COUNTY	$260,000.00	C	2/28/1995	12/31/1997	2
139 - XXX	D	Lahaina Recreation Center Expansion Project Ph 2	County of Maui	$300,000.00	C	10/31/2000	9/30/2003	2
140 - XXX	D	Makana Park Improvements	County of Maui	$190,000.00	C	5/23/2002	5/23/2007	2
141 - XXX	R	Lanai Tennis/Basketball Court Improvements	County of Maui	$100,000.00	A	5/14/2002	5/14/2007	2
		MAUI County Total:		**$3,917,870.70**		**County Count:**		**18**

LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

DIVISION OF STATE PARKS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

RECEIVED
AUG 29 2005
M & E PACIFIC, INC.

August 25, 2005

Mr. Michael S. Nishimura, Project Engineer
M&E Pacific, Inc.
Davies Pacific Center, Suite 1900
Honolulu, Hawaii 96813

Dear Mr. Nishimura:

SUBJECT: *Assessment of Potential Impacts on 6(f) Park Lands*
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road, Lahaina, Maui
TMK: 4-5-06 and 09; 2-6-04: 13 and 34

Thank you for the opportunity to review the preliminary plans to widen a portion of Honoapi'ilani Highway in Lahaina, Maui. Your letter of August 4, 2005 requested our review of the project relative to potential impacts on 6(f) parklands where Land and Water Conservation Fund (LWCF) grant funds have been used. The Lahaina Recreation Center complex is under the jurisdiction of the County of Maui, Department of Parks and Recreation and is located along Honoapi'ilani Highway in the project area. From 1985 to 2005, LWCF funds have been used by the County of Maui to support construction of ball fields and related facilities at the park. This construction has occurred in three (3) phases:

Project 15-00118	Phase I	Construction of ball fields with landscaping, lighting, parking and related support facilities.
Project 15-00139	Phase II	Construction of Little League/softball with irrigation, fencing, and lighting.
Project 15-00143	Phase III	Construction of Senior League baseball field with support facilities, lighting, and fencing.

The 6(f) boundary map for these projects corresponds to the park boundary. Therefore, if the highway widening stays within the highway right-of-way and does not include any of the parkland, there should not be any direct impact on the 6(f) parkland. However, it appears from your letter that there may be some indirect impacts, such as the removal of trees along the park boundary. While this would not affect the recreational use of the park, it has an impact on the park setting and an effort should be made to work with the County of Maui, Department of Parks and Recreation on mitigating of this impact with the planting new trees.

You suggest that the extension of the culverts under the highway will not involve any parkland. In the event that this should change, please be aware that any "taking" of the parklands for the highway project will require a conversion where equivalent parklands are provided for recreational use. Conversion is a required mitigation measure if LWCF parkland is taken and conversion approval requires reasonably equivalent usefulness and location, as well as appraised values for replacement land that are at least equal to the land being converted.

As you finalize the plans for highway widening, you should be able to evaluate the impacts on the park and if there will be any taking of parkland requiring a conversion. If the project should involve a conversion, "the Administration may not approve the use of land from a significant publicly owned public park . . . unless a determination has been made that . . . the action includes all possible planning to minimize harm to the property resulting from such use" (49 USC 303). Ideally, the 6(f) details should be worked out and a full proposed replacement package should be included in the EA document so that impacts to recreational use can be assessed and their mitigation (replacement with similarly useful and located properties) identified.

Based on your preliminary plants to stay within the ROW with the highway widening and the information provided in your letter, it would appear that there will be no adverse effect on the 6(f) park. However, we cannot make a definitive assessment until we review your final plans and EA.

If you have any questions, please feel free to contact Martha Yent, LWCF Coordinator, at 587-0287 or Martha.E.Yent@hawaii.gov

Very truly yours,

DANIEL QUINN
State Parks Administrator

cc: David Siegenthaler, NPS
Glenn Correa, Maui Dept. of Parks and Recreation

LINDA LINGLE
GOVERNOR

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

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:
HWY-M 2.029-07

February 5, 2007

TO: DANIEL S. QUINN, STATE PARKS ADMINISTRATOR
DIVISION OF STATE PARKS
DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: BRENNON T. MORIOKA, Ph.D., P.E.
DEPUTY DIRECTOR-HIGHWAYS

SUBJECT: RESPONSE TO COMMENTS DURING PRECONSULTATION FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for your letter dated August 25, 2005, commenting on preconsultation for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following responses to your comments in the order as they appear in your letter.

1) Your letter of August 4, 2005 requested our review of the project relative to potential impacts on 6(f) parklands where Land and Water Conservation Fund (LWCF) grant funds have been used. The Lahaina Recreation Center complex is under the jurisdiction of the County of Maui, Department of Parks and Recreation and is located along Honoapi'ilani Highway in the project area. From 1985 to 2005, LWCF funds have been used by the County of Maui to support construction of ball fields and related facilities at the park. This construction has occurred in three (3) phases:

Project 15-00118	Phase I	Construction of ball fields with landscaping, lighting, parking and related support facilities.
Project 15-00139	Phase II	Construction of Little League/softball with irrigation, fencing, and lighting.
Project 15-00143	Phase III	Construction of Senior League baseball field with support facilities, lighting, and fencing.

The 6(f) boundary map for these projects corresponds to the park boundary. Therefore, if the highway widening stays within the highway right-of-way and does not include any of the parkland, there should not be any direct impact on the 6(f) parkland. However, it

appears from your letter that there may be some indirect impacts, such as the removal of trees along the park boundary. While this would not affect the recreational use of the park, it has an impact on the park setting and an effort should be made to work with the County of Maui, Department of Parks and Recreation on mitigating of this impact with the planting new trees.

All finished highway structures will be within the ROW. Trees outside of the highway ROW will not be removed; thus, the existing trees along the park boundary will be left in place. A landscaping plan (including trimming of some ROW-adjacent trees) will be included in the final version of the Environmental Assessment and construction documents.

Project coordination is also being done with the County of Maui, Department of Parks and Recreation.

The highway widening project will not alter the outdoor recreation use of the Lahaina Recreation Center and Park. Access to the park and its facilities will be maintained throughout the project construction, and the widened highway will allow increased use of and access to the park.

2) **You suggest that the extension of the culverts under the highway will not involve any parkland. In the event this should change, please be aware that any "taking" of the parklands for the highway project will require a conversion where equivalent parklands are provided for recreational use. Conversion is a required mitigation measure if LWCF parkland is taken and conversion approval requires reasonably equivalent usefulness and location, as well as appraised values for replacement land that are at least equal to the land being converted.**

As you finalize the plans for highway widening, you should be able to evaluate the impacts on the park and if there will be any taking of parkland requiring a conversion. If the project should involve a conversion, "the Administration may not approve the use of land from a significant publicly owned public park . . . unless a determination has been made that . . . the action includes all possible planning to minimize harm to the property resulting from such use" (49 USC 303). Ideally, the 6(f) details should be worked out and a full proposed replacement package should be included in the EA document so that impacts to recreational use can be assessed and their mitigation (replacement with similarly useful and located properties) identified.

The highway culverts will be left in place and not extended. The inlets and outlets will be modified to allow widened highway structures to be built on top of them. All finished highway structures will be within the ROW, therefore, "taking" of parklands and conversion will not be required.

3) **Based on your preliminary plants to stay within the ROW with the highway widening and the information provided in your letter, it would appear that there will be no adverse effect on the 6(f) park. However, we cannot make a definitive assessment until we review your final plans and EA.**

The environmental assessment process is still on-going, and currently proceeding toward its final version. Design plans are being developed and will be routed through you for review when completed.

Again, thank you for your comments and participation in the project's preconsultation review and comment process.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

APPENDIX F

US Department of Transportation Act Section 4(f) Coordination

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

August 4, 2005

US Department of Transportation
Federal Highway Administration
Hawai'i Division
Box 50206
300 Ala Moana Boulevard
Room 3-306
Honolulu, Hawai'i 96850

Attn: Ms. KaiNani Kraut

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [por each]
DOT-HWY Project Number 30BC-01-04
Request for Assessment of Anticipated Project Compliance with DOTA Section 4f

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (Highways Division) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on public recreation facilities and lands are anticipated to be small, if any. The project will be contained entirely within the existing 80′ State ROW dedicated to the highway.

A description of the project is as follows:

"The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The existing highway between Lahainaluna and 'Aholo Roads (project limits) varies in width, but is primarily comprised of two 11′ asphaltic concrete (AC)-paved lanes and 9′ paved shoulders without curbs or gutters. Approaches to intersections with cross streets transition up to four 11′ lanes—one lane in each direction for traffic straight through the intersection and outside lanes for right turns. Distinct lanes for bicyclists and pedestrians have not been established.

The State of Hawai'i DOT, Highways Division (HWY) proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The highway will also have an AC-paved bikelane and shoulder, in addition to, concrete curb and gutter, sidewalk, and retaining walls along its edges with guardrails. All finished structures will be within the existing 80′-wide ROW."

Although no work is anticipated to occur within the property of the parks, widening of Honoapi'ilani Highway may require work to be performed on a single row of large (roughly 3′-diameter trunks, 50′ tall, and 40′ canopy spreads), existing monkeypod trees located along the ROW within the park properties. This work may involve cutting roots and installing root barriers to protect new roadway structures from root growth damage, or tree relocation further away (*mauka*) from the highway. A total of about 17 trees may be affected by the project along the Lahaina Recreation Center & Park property line, while approximately 14 trees may be affected along the property line of the Lahaina Aquatic Center & Park. About three 50′–60′ palm trees may also be affected.

Additionally, due to widening of the highway, existing culverts beneath the road will be extended, and land may need to be acquired upstream and downstream of the inlets and outlets for maintenance access easements. No culvert extensions will be performed near the Lahaina Recreation Center & Park; however, two culvert extensions may be required between Shaw and Prison Streets next to the Lahaina Aquatic Center & Park.

The project will be funded by both the State and federal government. The project manager at the DOT-HWY is:

Ms. Charlene Shibuya
DOT-HWY, Maui District, 650 Palapala Drive, Kahului, Hawai'i 96732
Telephone: (808) 873-3535, Fax: (808) 873-3544, Email: Charlene.Shibuya@Hawaii.Gov

A few maps and sketches of the current design for the subject project are enclosed for your review and use. The area of potential effect is contained primarily to the entire area within the existing 80′-wide highway right-of-way for the length of the project. Please review these enclosures and provide us with a formal determination of whether the project is subject to and/or in compliance with the Department of Transportation Act [DOTA 1966 & as amended] Section 4(f) regulations. Your response will be documented in the project Environmental Assessment. Should there be any areas of concern, we would like to work with you to ensure that the project meets all requirements of Section 4(f), it being satisfied by a programmatic FHWA approval or otherwise.

A similar request for determination of project compliance with the Land and Water Conservation [Fund, LWCF] Act Section 6(f)(3) was sent to both the US National Park Service and the State of Hawai'i, Department of Land and Natural Resources (DLNR), Division of State Parks.

According to the LWCF project listing for the Island of Maui located on the Internet at: http://waso-lwcf.ncrc.nps.gov/public/index.cfm, two (2) LWCF disbursements were allocated for use for the Lahaina Recreation Center:

1. *Lahaina Recreational Center (Phase I)*—approved 5/1/1985 and expired 12/31/1988.
2. *Lahaina Recreation Center Expansion Project Ph 2*—approved 10/31/2000 and expired 9/30/2003.

We are in the process of ascertaining whether the project affects the facilities developed by these LWCF funds.

Also, a review of the project for potential impacts on any archaeological and historic properties is on-going by the State DLNR Historic Preservation Division.

Lastly, a determination has been received from the US Fish and Wildlife Service that no endangered, threatened, or candidate plant and animal species occurs in the project area. In addition, no proposed or final critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your review and use.

Should you have any questions or more information is required, please call Ms. Diane Kodama or myself at 521-3051. Our email addresses are Diane.Kodama@M-E.AECOM.Com and Mike.Nishimura@M-E.AECOM.Com, respectively.

Very truly yours,

Michael S. Nishimura, P.E.
Project Engineer

msn

Nishimura, Michael

From: Nishimura, Michael
Sent: Tuesday, August 16, 2005 9:06 AM
To: Kodama, Diane; Nuneza, Leo D.
Cc: Tomita, Alan
Subject: DOT-HWY Honoapiilani Hwy Widen, Telecon with FHWA Regarding 4(f)

Telecon
FHWA -- Kainani Kraut (KK)
RE: DOTA Section 4(f) Review

KK called to say that she needs ballpark acreages of the park land use for any project related items, such as:

1. tree removal or relocation
2. temporary construction or maintenance easements
3. any construction work outside of the ROW

KK indicated that ballpark areas should be ok, but recommended that the numbers should be conservative to account for any adjustements in project design, if not finalized at this point. KK pointed out that if the actual area to be used is less than her initially approved amount, then it's no prob, but if it exceeds the initially approved estimated amount, then FHWA needs to re-evaluate the project and redo the processing, which could take some time.

KK requested that we consider the 2 parks (Lahaina Aquatic Center Park and Lahaina Recreation Center Park) separately, and determine the area used and overall areas separately for each.

KK asked about the schedule of the project and asked if it's on the STIP. She was told that the design is expedited, but anticipated construction is uncertain. KK doubted if the FS&E could be completed within a year. She was told that offhand, I would have to check if it's listed on the STIP, but we were told by the DOT-HWY Maui PM (Charlene) that it's federally funded. KK mentioned that if the project's not listed on the STIP, then it's not even a project, so it must be on the STIP. KK will call Charlene to discuss the project and the schedule.

Leo -- Charlene feels that land acquisition is required outside of the ROW, primarily at intersections to account for rounding. We need to determine the locations and quantities of these areas, as was requested earlier. Intersections abut the parks and tree removal or relocation may occur??? we have to check. This is a long-lead item, so we should initiate it asap. KK asked that we turn the numbers into her as quickly as possible.

Should any questions or problems develop, please contact either Ms. Diane Kodama or myself at the number below.

Thanks,
Michael S. Nishimura

M&E Pacific, Inc.

METCALF&EDDY | AECOM

Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawai'i 96813

Telephone: 808.521.3051, Ext. 228
Facsimile: 808.524.0246
Electronic Mail: Mike.Nishimura@M-E.AECOM.Com

DOCUMENT CAPTURED AS RECEIVED

United States Department of the Interior

[illegible]

[illegible]

Mr. Michael Nishimura
Project Engineer
M & E Pacific, Inc.
Davies Pacific Center, Suite 1900
Honolulu, Hawaii [illegible]

Dear Mr. Nishimura:

[illegible]

Based on our review of the information you provided, and pertinent information in our files, including data compiled by the Hawaii Natural Heritage Program, to the best of our knowledge no endangered, threatened, or candidate species occur in the project area. There is no proposed or final critical habitat in the project area.

We appreciate your efforts to conserve listed species. If you have any questions, please contact Christa Sawyer, Plant Conservation Program Coordinator (phone 808/792-9400; fax 808/792-9581).

Sincerely,

Patrick Leonard
Field Supervisor

TAKE PRIDE IN AMERICA

PP indicated that the project is most likely a CatEx, and mentioned that he will issue his official, formal determination once he gets to look over the Draft HRS343 document (State EA).

Note: It is thus critical for the processing and completion of all of these determinations and documents that all work & project structures remain completely within the highway ROW.

Should any questions or problems develop, please contact either Ms. Diane Kodama or myself at the number below.

Thanks,
Michael S. Nishimura

M&E Pacific, Inc.

METCALF&EDDY | AECOM

Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawai'i 96813

Telephone: 808.521.3051, Ext. 228
Facsimile: 808.524.0246
Electronic Mail: Mike.Nishimura@M-E.AECOM.Com

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Mr. Michael Nishimura
August 25, 2006
Page 2

You suggest that the extension of the culverts under the highway will not involve any parkland. In the event that this should change, please be aware that any "taking" of the parklands for the highway project will require a conversion, where equivalent parklands are provided for recreational use. [illegible] conversion, approval requires [illegible] values for replacement land that [illegible] the land being converted.

As you finalize the plans for highway widening, you should be able to evaluate the impacts on the park and if there will be any taking of parkland requiring a conversion. If the project should involve a conversion, the Administration may not approve the use of land from a significant parklands owned public park. [illegible] the action includes all possible planning to minimize harm to the property retaining from its [illegible]. Finally, the full details should be worked out and a full proposed replacement package should be included in the EA document so that impacts to recreational use can be assessed and [illegible] mitigation (replacement with similarly useful and related properties [illegible]).

Based on your preliminary plans to stay within the ROW with the highway widening and the information provided to work letter, it would appear that there will be no adverse effect on the [illegible] park. However, we cannot make a definitive assessment until we review your final plans and EA.

If you have any questions, please feel free to contact Martha Terry, LWCF Coordinator, at [illegible] or Martha.E.Terry@[illegible].gov.

Very truly yours,

DANIEL CLINN
State Parks Administrator

cc: David Siegenthaler, NPS
Claire Correa, Mass Dept. of Parks and Recreation

Lastly he inquired about the Endangered & Threatened Species assessment, and it was mentioned that we already received a termination letter from the FWS that no effects are anticipated:

DOCUMENT CAPTURED AS RECEIVED

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

RECEIVED
AUG 29 2005
M & E PACIFIC, INC.

Mr. Michael S. Nishimura, Project Engineer
M&E Pacific, Inc.
Davies Pacific Center, Suite [illegible]
Honolulu, Hawaii [illegible]

Dear Mr. Nishimura:

SUBJECT: Assessment of Potential Impacts on [illegible] Lands
Honoapiilani Highway Widening, Lahainaluna Road [illegible] Road, Lahaina, Maui
TMK: 4-5-[illegible] and 09, [illegible] 13 and 34

Thank you for the opportunity to review the preliminary plans to widen a portion of Honoapiilani Highway in Lahaina, Maui. Your letter of August 4, 2005 requested our review of the project relative to potential impacts on 6(f) parklands where Land and Water Conservation Fund (LWCF) grant funds have been used. The Lahaina Recreation Center complex is under the jurisdiction of the County of Maui, Department of Parks and Recreation, and is located along Honoapiilani Highway in the project area. From 1993 to 2005, LWCF funds have been used by the County of Maui to support construction of ball fields and related facilities at the park. This construction has occurred in three (3) phases:

Project 15-00115	Phase I	Construction of ball fields with landscaping, lighting, parking and related support facilities.
Project 15-00139	Phase II	Construction of Little League football with irrigation, fencing, and lighting.
Project 15-00143	Phase III	Construction of Senior League baseball field with support facilities, lighting, and fencing.

The 6(f) boundary map for these projects corresponds to the park boundary. Therefore, if the highway widening stays within the highway right-of-way and does not include any of the parklands, there should not be any direct impact on the 6(f) parkland. However, it appears from your letter that there may be some indirect impacts, such as the removal of trees along the park boundary. While this would not affect the recreational use of the park, it has an impact on the park setting and an effort should be made to work with the County of Maui, Department of Parks and Recreation on mitigating of this impact with the planting new trees.

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Mr. Michael Nishimura, P.E.
Page 2

In the event that historic resources, including human skeletal remains, are identified during [illegible] construction activities, all work needs to cease in the immediate vicinity of the [illegible] and needs to be protected from additional disturbance, and the State Historic Preservation Division, Maui Section, needs to be contacted immediately at (808) [illegible]

Aloha,

Peter Young, Chair
State Historic Preservation Officer

MK:lf

cc: Bert Rarie, DPWEM, County of Maui
Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Res. Commission, Dept. of Planning, 250 S. High Street, Wailuku, HI 96793

Then he asked about land takes, and mentioned that if there are none, then the DOTA 4f and LWCF 6f are not issues:

Nishimura, Michael

From: Nishimura, Michael
Sent: Thursday, February 16, 2006 4:17 PM
To: Kodama, Diane
Cc: Tomita, Alan
Subject: DOT-HWY Maui, Honoapiilani Hwy Widen - Telecon with Pat Phung (FHWA) Regarding the CatEx
Attachments: RespSHPD01.pdf; RespLWCF6f01.pdf; RespLWCF6f01.pdf

FYI --

Just got off the phone with Pat Phung (PP) of FHWA . . . he said that although he doesn't want to commit to anything, it sounds like the project is probably a CatEx. He asked specifically about the status of the Section 106, and it was mentioned that we already received the determination letter of NO EFFECT (not NO ADVERSE EFFECT) from the SHPD:

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

February 3, 2006

Mr. Michael Nishimura, P.E.
M & E Pacific, Inc.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawaii 96813

LOG NO. [illegible]
DOC NO. [illegible]
Archaeology

Dear Mr. Nishimura

SUBJECT: National Historic Preservation Act (NHPA) Section 106 Review (State/Highways) –
Honoapi'ilani Highway Widening, Lahainaluna Road to Ahula Road
Waiko'a Ahupua'a, Lahaina District, Island of Maui
TMK: (2) 4-5-006 & 009 and 4-6-004: 012, 024

The proposed widening projects to occur within the existing established right-of-way (ROW), will effectively convert the highway from two (2) to four (4) lanes. The existing road is constructed on fill. The widening will include fill importation to meet the existing highway grade. The proposed DOT project is partially federally funded.

We believe that "no historic properties will be affected" by this undertaking 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) this project has gone through the historic review process, and mitigation has been completed
- ☒ f) other. *The project will occur within existing highway ROW, and will not include excavation below original grade. Feedback was solicited by your firm to the Maui Lane 7 Islands Burial Council Chair and Vice-Chair, Mr. Charles Maxwell and Ms. Dana Naone Hall who expressed no concerns at this time since the project is located within the existing ROW in which no known historic properties exist.*

CORRECTION

THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

DOCUMENT CAPTURED AS RECEIVED

Nishimura, Michael

From: Nishimura, Michael
Sent: Thursday, February 16, 2006 4:17 PM
To: Kodama, Diane
Cc: Tomita, Alan
Subject: DOT-HWY Maui, Honoapiilani Hwy Widen - Telecon with Pat Phung (FHWA) Regarding the CatEx
Attachments: RespSHPD01.pdf; RespLWCF6f01.pdf; RespLWCF6f01.pdf

FYI --

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

February 3, 2006

Mr. Michael Nishimura, P.E.
M & E Pacific, Inc.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawaii 96813

LOG NO. [illegible]
DOC NO. [illegible]
Archaeology

Dear Mr. Nishimura

SUBJECT: National Historic Preservation Act (NHPA) Section 106 Review
(State/Highways) -
Honoapiilani Highway Widening, Lahainaluna Road to Abala Road
Waiko'a Ahupua'a, Lahaina District, Island of Maui
TMK: (2) 4-5-006 & 009 and 4-6-004: 012, 034

The proposed widening projects to occur within the existing established right-of-way (ROW) will effectively convert the highway from two (2) to four (4) lanes. The existing road is constructed on fill. The widening will include fill importation to meet the existing highway grade. The proposed DOT project is partially federally funded.

We believe that "no historic properties will be affected" by this undertaking because:

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- ☒ c) previous grubbing/grading has altered the land
- ☐ d) an acceptable archaeological assessment or inventory survey found no historic properties
- ☐ e) this project has gone through the historic review process, and mitigation has been completed
- ☒ f) other. *The project will occur within existing highway ROW, and will not include excavation below original grade. Feedback was solicited by your firm to the Maui Lane Island Burial Council Chair and Vice-Chair, Mr. Charles Maxwell and Ms. Dana Naone Hall who expressed no concerns at this time since the project is located within the existing ROW in which no known historic properties exist.*

5/24/2006

State of Hawai'i
Department of Transportation
Highways Division

DOCUMENTATION FOR CATEGORICAL EXCLUSIONS
LISTED UNDER 23 CFR §771.117(d)

Project Title:

1) DESCRIPTION
Attach project location map and other appropriate graphics

Estimated Project Cost: ROW $0 CON $ 11,554	Project Length: About 1.34 mi (About 2.15 km)	Number of Lanes: 2 Existing 4 Proposed
Design Speed: 45 Existing 45 Proposed	Functional Classification: 1 = Principal Arterial, 2 = Minor Arterial, 3 = Major Collector, 4 = Minor Collector, 5 = Local Road: 1 Existing 1 Proposed	Proposed Typical Section: Rural ✓ Urban
Bridge: Yes ✓ No	Bridge Sufficiency Rating: Not applicable	Bridge ID: Not applicable

Project Description

The State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) is proposing to widen Honoapi'ilani Highway (Route 30) from 2 vehicular lanes to 4 in the northern Lahaina District on the Island of Maui. The project is located approximately between Mileposts 19.18 and 20.97. The widened highway will also have a median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Ahoki Road, and a sidewalk, bikelane, planting area, curb and gutter, and paved shoulder. Drywell catch basins and drain inlets will be installed to retain highway runoff in the road area and keep surface flow from entering neighboring properties. The area of potential impact is contained primarily to within the existing 80'-wide highway right-of-way (ROW) for the length of the project, and other than at intersections with cross streets, all finished structures will be within the ROW. Temporary rights-of-entry may be coordinated as required for highway transitions to cross streets at intersections, for some grading work outside of the ROW, and access for installation of retaining walls at the highway edges. Some rights-of-entry may also be required for intersection roundings at Dickenson, Prison and Shaw Streets, and 'Ahoki Road, as the widened State highway is transitioned to meet the County of Maui cross streets.

2) ISSUES
Any response in a shaded box requires items 3-8 to be completed. Otherwise, skip to items 7 and 8.

	YES	NO
SOCIAL-ECONOMIC FACTORS		
A. General Economics -Adverse effects on the general economics of the community.		✓
B. Community & Residential -Changes in the access controls along the length of the project		✓

	YES	NO
C. Industrial & Commercial -Changes in the access controls along the length of the project		✓
D. Prime, Unique, Statewide, Local Important Farmland Land on the Agricultural Lands of Importance for Hawaii Classification (ALISH) will be acquired		✓
E. Land Use/Urban Policy *Consistent* with the local transportation improvement plans, land use plans and urban policy	✓	
F. Right-of-Way -Right of way that may be acquired by fee simple purchase, permanent or temporary easement, right of entry, gift, or other device are *within* the following limits: 1. Resurfacing, Reconditioning, Restoration, Rehabilitation Projects a. Permanent - Less than one acre for any one mile (0.25 ha for any 1 km) b. Temporary - Less than 2 acres for any one mile (0.5 ha for any 1 km) 2. Bridge Rehabilitation (including full deck replacement) or Minor Replacement Less than one half acre (0.2 ha) per bridge	✓	
-Displacements Residential, commercial, or industrial displacements. Vacant buildings which are not significant cultural resources may be acquired.		✓
G. Environmental Justice -Neither minority nor low-income populations *will receive* disproportionately high or adverse impacts as a result of the proposed project.	✓	
NATURAL & PHYSICAL ENVIRONMENTAL FACTORS		
H. Wetlands -A Section 404 permit is required		✓

	YES	NO
I. Flood Plains -Encroachment into a floodplain.		✓
J. Streams, Rivers, Shoreline Encroachments -A Section 404 permit is required. -*Contradictory* with the goals of the Coastal Zone Management Plan. -Use of lands, waters, or rivers designated as Wild/Scenic Rivers by the U.S. Government *(DOI National Park Service and/or US Fish & Wildlife Service)* -Permit required from the United States Coast Guard & Department of Accounting and General Services (DAGS).		✓
K. Rare, Threatened & Endangered Species -Adverse effects on rare, threatened, and endangered species or their habitat.		✓
L. Section 106, Historical & Cultural -Adverse effects to a significant cultural and/or historical resource. *(Cultural and historical resources are significant only if they are or are eligible for the National Register of Historic Places.)*		✓
M. Section 4(f) or 6(f) Properties -Acquisition of lands under the protection of Section 6(f) of the Land And Water Conservation Act of 1965. -Use of lands or other properties under the purview of Section 4(f) unless a Programmatic Section 4(f) approval has been made by the FHWA.		✓
N. Air Quality -Anticipate Carbon Monoxide levels that exceed 90% of the Federal standards of 9 ppm in 8 hours.		✓
O. Noise Quality -A noise analysis is required per 23 CFR §772.5. Note: The project is classified as a Type I project—" . . . increase the number of through-traffic lanes . . . "—that applies to requiring a Noise Analysis. The *DRAFT* version of this noise impact assessment analysis report is attached to this application, as completion of the final version is on-going.		

	YES	NO
P. Hazardous Waste -Properties with hazardous waste will be acquired.		✓
Q. Visual and Aesthetic -Adverse effect to viewshed		✓
R. COMMENTS None.		

3) PURPOSE AND NEED
Purpose and need of proposed action. Include description of existing facilities, abutting facilities, and how the action links into the overall transportation system. When appropriate, show that this project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui. Presently, Honoapi'ilani Highway—a Principal Arterial—is a two-lane, undivided highway within the project limits (approximately MP19.18 to MP20.97). Traffic on the highway in Lahaina has been increasing steadily over the past several years, causing congestion and traffic problems for the growing number of tourists and residents. The existing pedestrian bikeway is utilizing the shared shoulder area since no sidewalks or dedicated, striped bikelanes exist.

This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. The project would also upgrade the corridor for highway users—motorists, pedestrians, bicyclists, joggers, park users and residents—by widening the highway to four lanes, improving the shoulders and intersections, adding a sidewalk and dedicated bikelane, and adding ADA-compliant ramps at intersections. Overheads will be installed meeting NCHRP 350 standards, and safety improvements will be designed in accordance with the AASHTO *Roadside Design Guide*. A raised median will be constructed as a shared left-turn corridor or landscaped planter for traffic calming and highway beautification. Curbs, gutters and catch basin drywells will be installed for improved drainage management.

The undertaking of this highway-widening project does not restrict consideration of alternatives summarized in Item 4 below. Development of the Lahaina Bypass, Mill Street, and Cane Haul Road could still be performed after Honoapi'ilani Highway is widened within the project limits.

4) ALTERNATIVES
Summary of the alternatives considered and if they are not proposed for adoption, why not (identify which, if any, of the alternatives is the preferred alternative).

Four alternatives for the project are considered by the Maui DOT:

1. Lahaina Bypass
2. Mill Street
3. Cane Haul Road
4. No Action

Lahaina Bypass—The "Lahaina Bypass" alternative consists of constructing a roadway roughly ½ mile *makai* and parallel to Honoapi'ilani Highway that accommodates traffic traveling past Lahaina. This would effectively separate traffic slowing down to enter Lahaina from through traffic. This alternative will ease the congestion of traffic approaching Lahaina from both directions, however, it represents a long-term goal rather than an immediate one for Maui DOT.

The DOT completed the Environmental Impact Statement (EIS) for the Lahaina Bypass in April 2002. Subsequent planning and design is continuing for two phases, further broken down into increments (Phases IA-1) and IIA-1). The Phase I segment, which will complete the initial 2-lane road, is anticipated to be completed in 2014.

The cost of building a new highway bypass is several orders of magnitude higher than the proposed Honoapi'ilani Highway Widening project. This added cost results from tasks such as land acquisition, to support the new bypass roadway and its easement, and larger design involvement for an entirely new roadway. The highway bypass would also take much more time to construct than the Honoapi'ilani Highway widening project for these same reasons. Currently, the State does not have sufficient resources to fund such a project in a short time frame. Therefore, the "Lahaina Bypass" alternative is not considered to be as favorable as the "Highway Widening" option. The long-range bypass roadway option, however, is still being implemented by the department. The DOT has bid out the Phase IA contract as the design-build type, and is in the process of securing a consultant for the Phase IB portion.

Mill Street—The "Mill Street" alternative consists of redirecting a portion of traffic parallel to Honoapi'ilani Highway along Mill Street from Lahainaluna Road to 'Aholo Road that would accommodate traffic traveling past Lahaina. Mill Street would be improved to accommodate increased vehicular usage.

This alternative presents several difficulties and drawbacks. All of Mill Street and abutting lands are privately owned, requiring rights-of-entry and/or acquisition for Mill Street improvements and widening. This may require the generation of funds for compensation. In addition, the increased use of Mill Street will generate increased noise and air pollution for nearby residences, businesses and industries. If street lighting is required along the road, illumination impacts on the residences, businesses, industries and wildlife will need to be assessed. Through public notification and coordination, as well as consultation with a biologist and botanist, may be needed.

The DOT-HWY report, Joint State/County Maui Interim Transportation Plan, identifies the Honoapi'ilani Highway-Lahainaluna Road intersection as being heavily congested during the morning and afternoon peak periods due to traffic demand generated by the elementary, middle and high schools located along Lahainaluna Road. The use of the Mill Street may exacerbate vehicular congestion and backup, especially during peak traffic hours, along Lahainaluna Road with motorists entering and exiting Mill Street. Similarly, traffic congestion may develop for motorists trying to enter and exit Mill Street at the other end, at the street's intersection with 'Aholo Road.

Another concern is that Mill Street will probably be used mostly by local traffic. Drivers, especially tourists, along Honoapi'ilani Highway would tend to remain on the highway and maintain a straight route instead of turning off to use Mill Street since they may have been driving a considerable distance along the highway before they arrive at Lahaina. In addition, use of the Mill Street would involve 4 turns for the driver with the possibility of traffic light stops, making 2 left turns across oncoming traffic while heading north, and merging with traffic trying to re-enter Honoapi'ilani Highway. Tourists would probably tend to stay along the highway for ease of driving while remaining along the coast. Thus, the need to increase the capacity of and maintain the main highway corridor would remain even though Mill Street was used as an alternate traffic route.

Cane Haul Road—As recommended by the West Maui Highway Action Committee and discussed by the DOT-HWY report, Joint State/County Maui Interim Transportation Plan, the "Cane Haul Road" alternative involves the use of an existing private road system parallel to and just mauka of Kuhua Street through the mauka portion of the Pioneer Mill site that was previously used for sugar cane production. This route utilizes an existing bridge over Kahoma Stream and connects to Keawe Street in Lahaina Business Park. With the termination of sugar cane operations, landowner Amfac Land Co. is considering the demolition of Pioneer Mill and redevelopment of the site. The report indicates that this presents a unique opportunity to negotiate the temporary use of the private road by the public.

This alternative presents several difficulties and drawbacks. Negotiations with Amfac Land Co. will be required for the acquisition and/or use of the land encompassing the road. In addition, should the road by improved and widened, some land from adjacent private properties may have to be acquired. This may require the generation of funds for compensation. Amfac Land Co. would also have to clear the site, which could take at least a year to accomplish, according to the Joint Report.

The mill would have to also be assessed as to whether it retains any historical significance since it is over 50 years old. As required by the DLNR-SHPD, measures to protect and preserve the integrity of the property and structures may be needed in accordance with HRS Chapter 6E.

The road has been used for private purposes and may need to be improved to accommodate higher traffic volumes and loading by the public, to bring it up to code. The existing Kahoma Stream Bridge may need to be improved to meet government regulations, which would require work to be done within the stream limits, triggering the need for a number of federal, State and County permits and clearances.

The Joint Report indicates that the Pioneer Mill site may contain contaminated soil, thus, use of the site may require the preparation and development of environmental documents and permits, acquisition of approvals and clearances from and consultation with regulating authorities, and construction monitoring and remedial actions.

The existing Cane Haul Road alignment contains adjacent, opposite horizontal bends that may not support desired traffic speeds along the road. A design analysis may be needed.

The increased use of Cane Haul Road due to public traffic will generate increased noise and air pollution for nearby residences, businesses and industries. If street lighting is required along the road, illumination impacts on the residences, businesses, industries and wildlife will need to be assessed. Through public notification and coordination, as well as consultation with a biologist and botanist, may be needed.

The Joint Report identifies the Honoapi'ilani Highway-Lahainaluna Road intersection as being heavily congested during the morning and afternoon peak periods due to traffic demand generated by the elementary, middle and high schools located along Lahainaluna Road. The use of Cane Haul Road would involve the installation of a traffic signal system at its intersection with Lahainaluna Road. This may exacerbate vehicular congestion and backup, especially during peak traffic hours, along Lahainaluna Road with motorists entering and exiting Cane Haul Road. Similarly, traffic congestion may develop for motorists trying to enter and exit Cane Haul Road at the other end, at the road's intersection with Keawe Street.

Another concern is that Cane Haul Road will probably be used mostly by local traffic. Drivers, especially tourists, along Honoapi'ilani Highway would tend to remain on the highway and maintain a straight route instead of turning off to use Cane Haul Road since they may have been driving a considerable distance along the highway before they arrive at Lahaina. In addition, use of Cane Haul Road would involve 4 turns for the driver with the possibility of traffic light stops, making 2 left turns across oncoming traffic while heading north, and merging with traffic trying to re-enter Honoapi'ilani Highway. Tourists would probably tend to stay along the highway for ease of driving while remaining along the coast. Thus, the need to increase the capacity of and maintain the main highway corridor would remain even though Cane Haul Road was used as an alternate traffic route.

No Action—The "No Action" alternative entails the lack of any type of construction work change in the current condition, such as, roadway widening or rerouting. Therefore, no physical or social effects on the environment are incurred and no immediate costs for planning and development are required by the State.

The project is proposed because the existing highway does not support current and future vehicular traffic demands of the Lahaina area. If widening work is not performed on the highway or an alternate bypass route is not constructed, traffic congestion will continue to impair travel to and past Lahaina. This congestion will continue to negatively impact residents, businesses, the visitor industry, and the general motorists.

The "No Action" alternative represents a non-responsive government who has a legal obligation to address public needs. Therefore, the "No Action" alternative is not considered to be a feasible or acceptable option.

Conclusion—Taking cost, risk, safety, environmental impact, public opinion and project duration factors into consideration, widening of the highway is determined to be the best resolution to remediate existing deficiencies of Honoapi'ilani Highway, while achieving immediate, short-term goals of the State. Additionally, the highway widening project will support future plans for the Lahaina Bypass Project by continuing to function as an urban collector route after the Lahaina Bypass becomes the principal arterial route.

5) PUBLIC INVOLVEMENT
Briefly summarize the status and results of public involvement. Include the dates and results of coordination with local units of government, if any.

The DOT conducted an initial neighborhood informational meeting (Lahaina Civic Center) on April 21, 2004, to introduce the project to the community. Public notice for the project has been printed on June 8, 2006, in the State of Hawai'i, Office of Environmental Quality Control's *The Environmental Notice*. A copy of the Draft Environmental Assessment for the project has been on file and available for public review at the Lahaina Public Library since June 1, 2006. Project notification letters have

been sent out to specific residents, businesses and organizations, mostly along the project site, with identified or prospective concerns with the project. Public notification and coordination will be maintained throughout the project. Additionally, public informational meetings will be held by the DOT-HWY Maui.

A Cultural Impact Assessment has been done through interviews, discussions and coordination with 6 local informants/residents, recommended by the Office of Hawaiian Affairs in Maui as being cultural resource contacts in West Maui. The initial interviews were accomplished in 5 sessions between March 9-10, 2006, to obtain a broad range of cultural resource perspectives about the area and acquire a wide range of viewpoints about the potential project impacts on cultural features.

The interviewees were:

(i) Akoni Akana
(ii) Kimokeo Kapahulehua
(iii) Ke'eaumoku Kapu
(iv) Howard Kihune
(v) Nā Kūpuna O Maui—Elders: Charlie Makekau and William Waiohu, Jr.; Spokeswoman: Patty Nishiyama

In addition to identifying cultural practices, relevance and history of the project site and its surrounding areas, the informants were asked about their knowledge of any native, endangered or threatened floral and faunal species; archaeological and historic properties or sites; aesthetic or visual resources, mauka-makai or other traditional accesses; and, socio-economic value associated with the project site. The discussions helped to determine potential impacts to these resources that the proposed project may have, and identified any concerns that the individual has about the project undertaking and any of its features.

All informants anticipate minimal or no impacts on any cultural; visual; or native, threatened, or endangered floral or faunal resources by the project. Similarly, they also anticipate no impacts on any archaeological or historic properties or sites by the project. These findings are due to the project occurring in an existing, established highway ROW in an area that has been frequently altered and thoroughly developed throughout its past.

The main concerns regarding the project that were identified by the informants are as follows:

1. Construction impacts to Pikelalhumki Cemetery at the 'Aholo Street intersection with Honoapi'ilani Highway (south and mauka) are avoided —The project will end at the intersection before the cemetery. Also, the cemetery is outside of the ROW.
2. Impacts to flooding and drainage are addressed and coordinated with other on-going and planned projects in the Lahaina area —Highway structures will reduce runoff to adjacent properties by containing surface flow in the road and injecting runoff into the ground. Thus, the project will improve the flooding conditions of the area. Existing adjacent drainage patterns and facilities will remain unaltered. Coordination with other concurrent and proposed government projects, such as, the Maui County Drainage Master Plans and Lahaina Watershed Flood Control Project, and State Lahaina Bypass Project, is on-going and will be maintained throughout the project.
3. Proper coordination is done with regulating agencies —Public notice for the project has been printed on June 8, 2006, in the State of Hawai'i, Office of Environmental Quality Control's *The Environmental Notice*. Copies of the Draft Environmental Assessment have also been sent to specific agencies for their review and comment. Coordination with Federal, State and County regulating agencies will be maintained throughout the project.
4. Project coordination with the public is maintained —Public notice for the project has been printed on June 8, 2006, in the State of Hawai'i, Office of Environmental Quality Control's *The Environmental Notice*. A copy of the Draft Environmental Assessment for the project has been on file and available for public review at the Lahaina Public Library since June 1, 2006. Project notification letters have been sent out to specific residents, businesses and organizations, mostly along the project site, with identified or prospective concerns with the project. Public notification and coordination will be maintained throughout the project. Additionally, public hearings will be held.
5. No land takes will be done —Finished project structures will be within the ROW.
Developments in project design have indicated that rights-of-entry are required for intersection as the widened State highway is transitioned to meet the County of Maui cross streets. Item 6 below contains a description of this.
6. Traffic is maintained along the highway, especially during peak traffic hours, and access to the recreational facilities mauka of the highway are maintained —Provisions for these requirements will be contained in the design drawings and specifications.

7. Temporary traffic diversion during the project is done effectively and efficiently with the least impact on the community —Alternatives for highway traffic re-routing during the project will be assessed, evaluated and discussed at the public meetings. The DOT has initiated discussions with the Ka'anapali Development Corporation for the use of Mill Street as a temporary detour road during construction.

The project also has been brought before both the Maui County Cultural Resource Commission (CRC) and the Maui County Arborist Advisory Committee (AAC), and summaries of these discussions are contained in the project Environmental Assessment. Further coordination with the CRC and AAC will be conducted as the project develops. Coordination with the DOT-HWY Landscape Architect is also on-going.

The following agencies, organizations and groups have been contacted:

Federal Government
1. Advisory Council on Historic Preservation (ACHP)—*Record of verbal response is attached to the EA*
2. Department of the Interior, Fish and Wildlife Service (FWS)—*Copy of Determination Letter is attached to the EA*
3. Department of the Interior, National Park Service (NPS)—*Refer to DLNR-DSP*
4. Department of Transportation (DOT), Federal Highway Administration (FHWA)—*Record of verbal interim response is attached to the EA; This application represents on-going coordination*

State Government
1. Department of Hawaiian Homelands (DHHL)—*Copy of Determination Letter is attached to the EA*
2. Department of Land and Natural Resources (DLNR), Division of State Parks (DSP)—*Copy of Determination Letter is attached to the EA*
3. DLNR, State Historic Preservation Division (SHPD)—*Copy of Determination Letter is attached to the EA*
4. DLNR, SHPD, Maui/Lāna'i Islands Burial Council—*Refer to DLNR-SHPD*
5. Office of Hawaiian Affairs—*Copy of Determination Letter is attached to the EA*

County of Maui
1. Department of Parks and Recreation (DPR)—*No response as of the date of this application, 30-day review and comment period ended on about 2/4/06*
2. DPR, Lahaina Aquatic & Recreation Centers—*Refer to DPR*
3. DPR, Lahaina Civic Center—*Refer to DPR*
4. Department of Planning—*Copy of Determination Letter is attached to the EA, Coordination is on-going*
5. Department of Public Works and Environmental Management—*Coordination is on-going*
6. Department of Transportation—*Coordination is on-going*
7. Maui County Arborist Advisory Committee—*No response as of the date of this application; 30-day review and comment period ended on about 2/4/06; Further coordination planned once arboral impacts are more firmly determined*
8. Maui County Cultural Resources Commission—*Presentation was on 3/2/06; Coordination is on-going*
9. Maui Planning Commission—*Coordination is on-going*

Private Organizations and Groups
1. Bishop Museum—*Copy of Determination Letter is attached to the EA*
2. Boys & Girls Club of Maui—West Maui Club—*No response as of the date of this application, 30-day review and comment period ended on about 2/4/06*
3. Friends of Moku'ula—*Cultural Impact Assessment informant, Coordination is on-going*
4. Hui Mālama I Nā Kūpuna O Hawai'i Nei—*Refer to DLNR SHPD, Maui/Lāna'i Islands Burial Council*
5. 'Iolani Palace—Friends of 'Iolani Palace—*No response as of the date of this application; 30-day review and comment period ended on about 2/3/06*
6. Lahaina Restoration Foundation (LRF)—*No response as of the date of this application; 30-day review and comment period ends on about 3/13/06*
7. Lahaina Town Action Committee (LTAC)—*No response as of the date of this application; 30-day review and comment period ended on about 2/3/06*
8. Maria Lanakila Catholic Church and Sacred Hearts School—*Record of verbal response is attached to the EA*
9. Nā Kūpuna O Maui—*Record of verbal response is attached to the EA*
10. West Maui Taxpayers Association—*No response as of the date of this application; 30-day review and comment period ended on about 2/3/06.*

6) IMPACTS

Provide a description of the impacts. Also attach coordination and concurrence letters requested (see *Instructions for Categorical Exclusions*, page 4). If the coordination letters are not attached, provide information on what coordination has taken place.

Potential land takes for the project include:

(i) Dickenson Street
Maui – No land takes anticipated
Maui – Small, "negligible" areas required for intersection rounding: approximately 230 ft² (0.005 Ac) total. Right-of-entry (ROE) to be secured from the land owner, AMFAC Property Development Corporation.

(ii) Prison Street
Maui – Areas required for intersection rounding: approximately 320 ft² (0.007 Ac) total. ROE to be secured from the land owners, Celiz - Martano and the County of Maui.
Maui – Areas required for intersection rounding: approximately 450 ft² (0.010 Ac) total. ROE to be secured from the land owner, AMFAC Property Development Corporation.

(iii) Shaw Street
Maui – No land takes anticipated
Maui – Areas required for intersection rounding: approximately 90 ft² (0.002 Ac) total. ROE to be secured from the land owner, AMFAC Property Development Corporation.

(iv) 'Aholo Road
Maui – No land takes anticipated
Maui – No land takes anticipated

Temporary rights-of-entry may be coordinated as required for highway transitions to cross streets at intersections, for some grading work outside of the ROW, and access for installation of retaining walls at the highway edges.

No adverse impacts to the public, historic or archaeological properties, cultural resources, natural resources, and master or developmental planning have been identified. Project impacts on these items and other resources are discussed in the EA.

A Noise Impact Assessment is being developed concurrently with this application and will be included in the Final version of the EA. A copy of the draft version of this report is attached to this application for reference.

A Landscaping Plan is being developed concurrently with this application and will be included in the Design Drawings once options are discussed with the State DOT-HWY Landscape Architect, the Maui County Arborist, and the AAC.

7) DETERMINATION

✓ Categorical Exclusion
It is determined, after review of this document, and coordination with other agencies, that this project was demonstrated that no significant environmental effects will result.

___ Environmental Assessment (EA) / Environmental Impact Statement (EIS)
It is determined, after review of this document, and coordination with other agencies, that further study is required to determine if there will be significant environmental consequences. An Environmental Assessment is required.

8) SIGNATURES

Prepared By:

Date _____ CHARLENE SHIBUYA
Project Engineer/Manager
Hawai'i Department of Transportation

Approved By:

Date _____ GLENN M. YASUI
Administrator, Highways Division
Hawai'i Department of Transportation

Date _____ PAT V. PHUNG
Federal Highway Administration
Transportation Engineer

D. L. ADAMS ASSOCIATES, LTD.
Consultants in Acoustics and Performing Arts Technologies

Noise Impact Assessment
Honoapiilani Highway Widening Project
Lahaina, Maui, Hawaii

September 2006

DLAA Project No. 06-48

Prepared for:
M & E Pacific, Inc.
Honolulu, Hawaii

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1.0 EXECUTIVE SUMMARY

1.1 The Hawaii Department of Transportation proposes to widen Honoapiilani Highway to four travel lanes and improve the shoulder from Ahole Road to Lahainaluna Road.

1.2 The project area currently experiences relatively high ambient noise levels that are relatively dynamic and depend significantly on the vehicular traffic patterns of Honoapiilani Highway. Long term noise measurements taken along Honoapiilani Highway in two locations show an average calculated day-night level L_{dn} of 71.5 dBA.

1.3 The various construction phases of the project may generate significant amounts of noise that could impact businesses and residences. The actual noise levels produced during construction will be a function of the methods employed during each stage of the construction process. The noise from construction activities should be relatively short term, occur only during daytime hours, and must comply with State Department of Health noise regulations.

1.4 During the construction period, residences in the surrounding area may experience heavier traffic due to the re-routing of vehicles away from the construction site. The increase in traffic will be short term and only during the construction period.

1.5 Noise receptors located 50 feet from the centerline of the roadway currently experience traffic noise levels that exceed the Federal Highway Administration (FHWA) and Hawaii Department of Transportation (HDOT) noise limit of 67 dBA. Noise mitigation should be considered for locations along the project corridor.

1.6 The projected change in traffic noise due to the widening of Honoapiilani Highway is less than 2 dB for the 10-year and 20-year forecast for residences located 50 feet from the centerline of the roadway. A change in sound level less than 3 dB is not considered to be significant.

1.7 The elementary school adjacent to Honoapiilani Highway may be exposed to noise levels in excess of the Board of Education (BOE) Policy 6700 design exterior noise guideline of L_{10} = 65 dBA.

2.0 PROJECT DESCRIPTION

The Honoapiilani Highway Widening project is located in Lahaina on the north-west coast of Maui, Hawaii. The proposed project stretches approximately one mile along Honoapiilani Highway from Ahole Road to Lahainaluna Road. This part of Lahaina is a developed area with residential, commercial, and school buildings situated on both sides of the highway. The Lahaina Recreational Center and Lahaina Aquatic Center are also within the boundaries of the project.

The Department of Transportation proposes to increase the paved width of Honoapiilani Highway to accommodate four travel lanes with a median. The project also includes a bikelane, concrete curbs and gutters, planting areas, and concrete sidewalks along the makai side and a paved shoulder on the mauka side. The speed limit along this portion of the highway will be posted at 35 mph. During construction, continual traffic will be permitted along the highway throughout the project. A single lane will be closed for detour and traffic will be diverted along the remaining existing pavement. This disruption in traffic will be temporary.

3.0 NOISE GUIDELINES, STANDARDS, AND REGULATIONS

Various local and federal agencies have established guidelines and standards for assessing environmental noise impacts and set noise limits as a function of land use. A brief description of common acoustic terminology used in these guidelines and standards is presented in Appendix A.

3.1 State of Hawaii, Community Noise Control

The State of Hawaii Community Noise Control Rule [Reference 1] defines three classes of zoning districts and specifies corresponding maximum permissible sound levels due to *stationary* noise sources such as air-conditioning units, exhaust systems, generators, compressors, pumps, etc. The Community Noise Control Rule does not address most *moving* sources, such as vehicular traffic noise, air traffic noise, or rail traffic noise. However, the Community Noise Control Rule does regulate noise related to agricultural, construction, and industrial activities, which may not be stationary.

The maximum permissible noise levels are enforced by the State Department of Health (DOH) for any location at or beyond the property line and shall not be exceeded for more than 10% of the time during any 20-minute period. The specified noise limits which apply are a function of the zoning and time of day as shown in Figure 1. With respect to mixed zoning districts, the rule specifies that the primary land use designation shall be used to determine the applicable zoning district class and the maximum permissible sound level. In determining the maximum permissible sound level, the background noise level is taken into account by the DOH.

3.2 U.S. Federal Highway Administration (FHWA)

The FHWA defines four land use categories and assigns corresponding maximum hourly equivalent sound levels, $L_{eq(h)}$, for traffic noise exposure [Reference 2],

which are listed in Figure 3. For example, Category B, defined as picnic and recreation areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals, has a corresponding maximum exterior L_{eq} of 67dBA and a maximum interior L_{eq} of 52 dBA. These limits are viewed as design goals, and all projects meeting these limits are deemed in conformance with FHWA noise standards. Calculation of traffic noise levels should be conducted using a Federal Highway Administration traffic noise model [Reference 3].

3.3 Hawaii Department of Transportation (HDOT)

The HDOT has adopted FHWA's design goals for traffic noise exposure in its noise analysis and abatement policy [Reference 4]. According to the policy, a traffic noise impact occurs when the predicted traffic noise levels "approach" or exceed FHWA's design goals or when the predicted traffic noise levels "substantially exceed the existing noise levels." The policy also states that "approach" means at least 1 dB less than FHWA's design goals and "substantially exceed the existing noise levels" means an increase of at least 15 dB.

3.4 U.S. Environmental Protection Agency (EPA)

The U.S. EPA has identified a range of yearly day-night equivalent sound levels, L_{dn}, sufficient to protect public health and welfare from the effects of environmental noise [Reference 5]. The EPA has established a goal to reduce exterior environmental noise to an L_{dn} not exceeding 65 dBA and a future goal to further reduce exterior environmental noise to an L_{dn} not exceeding 55 dBA. Additionally, the EPA states that these goals are not intended as regulations as it has no authority to regulate noise levels, but rather they are intended to be viewed as levels below which the general population will not be at risk from any of the identified effects of noise.

3.5 Board of Education (BOE)

BOE policy 6700 [Reference 6] sets four classroom noise level requirements:

1. Soundproofing design shall be used to reduce the noise level whenever the internal noise level exceeds 50 dBA.
2. Noise control shall be provided for all school facilities which generate exterior noise levels at the property line exceeding Hawaii Community Noise Control maximum permissible sound levels.
3. Noise control measures shall be installed in classrooms and administration/staff facilities (excluding shop classrooms) whenever 50 percent of the intruding noise level measurements exceed 55 dBA when inside the classroom with windows and doors open and the room empty.
4. Air conditioning shall be provided to facilities exposed to exterior noise levels greater than L_{10} =65dBA.

4.0 EXISTING ACOUSTICAL ENVIRONMENT

4.1 Noise Measurement Procedure

Ambient noise level measurements were conducted from August 31, 2006 to September 1, 2006 to assess the existing acoustical environment in two different locations along Honoapiilani Highway. The noise measurement locations are shown in Figure 3 and are summarized in Table 1.

The measurements were taken using two Larson-Davis Laboratories, Model 820, Type-1 Sound Level Meters together with Larson-Davis, Model 2560 Type-1 Microphones. Calibration was checked before and after the measurements with a Larson-Davis Model CAL200 calibrator. Both sound level meters and the calibrator have been certified by the manufacturer within the recommended calibration period. For each measurement the microphones were mounted approximately 6 feet above the existing grade. Windscreens covered the microphones during the entire measurement period. The sound level meters were secured in a weather resistant case.

4.2 Noise Measurement Results

The measured hourly equivalent sound levels, L_{eq}, in A-weighted decibels (dBA) are graphically presented in Figure 4 for each location. The ambient sound levels are relatively dynamic and depend significantly on the vehicular traffic patterns. The ambient environment at the Sacred Hearts School near Dickenson Street (L1) is nearly identical to the ambient noise environment at the Lahaina Aquatic Center near Shaw Street (L2). The dominant noise source for both locations is vehicular traffic noise along Honoapiilani Highway. Secondary noise sources include birds, wind, pedestrian noise, aircraft flyovers, and noises typical of an urban environment. At location L1, children playing in the school playground during recess and physical education class contributed to the ambient sound environment, however, noise from vehicular traffic masked these sounds. The measured ambient sound level on Friday afternoon (September 1, 2006) may have been influenced by the closure of Honoapiilani Highway due to a brush fire. As a result, traffic counts and traffic noise levels were lower than the previous day. The range of equivalent sound levels, L_{eq}, during the day (7:00 a.m. to 10:00 p.m.) and during the night (10:00 p.m. to 7:00 a.m.) and average calculated day-night level, L_{dn}, are summarized in Table 1.

5.0 POTENTIAL NOISE IMPACTS

5.1 Project Construction Noise

The proposed project site along Honoapiilani Highway is designated as urban and zoned for both residential and business uses. The Hawaii Community Noise Control Rules state that the primary land use designation shall be used to determine the applicable zoning district class. Maximum permissible noise levels are specified by the State rules for daytime and nighttime hours, but ambient noise levels are also taken into account. Construction noise levels are expected to

exceed both daytime and nighttime limits and a permit must be obtained from the State DOH to allow the operation of construction equipment.

Construction methods may include cutting of existing pavement, grading, filling, compacting, paving, etc. and will utilize equipment such as jackhammers, saw cutters, backhoes, front loaders, dump trucks, generators, and compressors. The various construction phases of the project may generate significant amounts of noise that could impact businesses and residences. Pavement cutters, jackhammers, backhoes and earthmoving equipment, e.g., bulldozers and diesel-powered trucks will probably be the loudest equipment used during construction.

Much of the project area can be considered noise sensitive as businesses, schools, and residences along Honoapiilani Highway will be impacted by the project construction noise. Typical ranges of construction equipment noise are shown in Figure 5. The actual noise levels produced during construction will be a function of the methods employed during each stage of the construction process.

5.2 Vehicular Traffic Noise Impacts

A vehicular traffic noise analysis was completed for the existing conditions, as well as a 10 and 20 year traffic forecast, using the FHWA Traffic Noise Model Look-up Tables Software Version 2.5 (2004) [Reference 7]. A no-build alternative was not considered. The traffic noise analysis is based on the peak hour AM, PM, and midday (MD) traffic volumes provided by the Traffic Consultant [Reference 8]. Vehicular traffic noise levels were calculated for 3 locations, Locations A, B, and C, as shown in Figure 3. The short-term noise measurement and corresponding traffic counts were used to calibrate the software at the noise prediction locations along Honoapiilani Highway. The results of the traffic noise analysis for the existing and future year projections are described below and summarized in Table 2.

5.2.1 Long Term Vehicular Traffic Noise Impacts

The calculated existing vehicular traffic noise levels are on average 69 dBA for noise prediction Locations A, B, and C, located approximately 50 feet from the centerline of Honoapiilani Highway. This exceeds the FHWA/DOT maximum noise limit of 67 dBA.

The projected change in traffic noise with the proposed widening of Honoapiilani Highway is less than 2 dB for the 10-year and 20-year forecast. A change in sound level of less than 3 dB is not considered to be significant. Table 2 shows a slight decrease in future traffic noise for Locations B and C due to the change in the posted speed limit (from 40 mph to 35 mph) between Aholo Road and Prison Street. The speed limit between Prison Street and Lahainaluna Road will remain posted at 35 mph in the future, hence the traffic noise increase at Location A. Because a no-build alternative was not considered, the projected traffic noise increase cannot be directly attributed to the widening of the highway.

The proposed new lanes will improve the traffic flow along the highway. Noises that are likely to increase due to the new lanes are noises caused by more vehicles traveling at the posted speed limits. Vehicles will not need to slow or stop to wait for turning vehicles. Another factor that should be considered is the fact that the highway will be widened on both sides throughout the project limits. Thus, the highway widening will move the noise source closer to a noise receptor, i.e., for each resident along the highway, the near traffic lane will become closer and the far lane will become farther away. Consequently, the occupants of these residences will experience a traffic noise increase.

5.2.2 Short Term Vehicular Traffic Noise Impacts

Traffic is currently the main source of noise for the residences, businesses and schools located along Honoapiilani Highway. Traffic noise is expected to decrease during the construction period due to slower moving traffic.

During the construction period, residences, businesses, and schools in the surrounding area of Lahaina may experience heavier traffic due to the re-routing of vehicles away from the construction site. The increase in traffic will be short term and only during the construction period.

5.3 Compliance with EPA Noise Guidelines

The EPA has an existing design goal of $L_{dn} \leq$ 65 dBA and a future design goal $L_{dn} \leq$ 55 dBA for exterior noise levels. The results from the long-term noise measurements conducted along Honoapiilani Highway show an average calculated day-night level, L_{dn}, of 71.5 dBA which exceeds both the existing and future EPA design goal. In the future, increased traffic noise will contribute to the overall noise level. It is important to note that the EPA noise guidelines are design goals and not enforceable regulations. However, these guidelines and design goals are useful tools for assessing the noise environment.

5.4 Compliance with BOE Noise Guidelines

Board of Education (BOE) Policy 6700 requires that air conditioning be installed for schools exposed to an exterior noise level of $L_{10} \geq$65dBA. The Sacred Hearts School property (noise measurement location L1) currently experiences an L_{10} greater than 65 dBA in areas where the line of sight to the highway is not blocked, i.e., the playground and field. However, the cafeteria building acts as a noise barrier for the adjacent classroom buildings and the exterior L_{10} in the courtyard between the three buildings may be less than 65 dBA.

6.0 NOISE IMPACT MITIGATION

6.1 Mitigation of Construction Noise

In cases where construction noise exceeds, or is expected to exceed the State's "maximum permissible" property line noise levels [Reference 1], a permit must be

obtained from the State DOH to allow the operation of vehicles, cranes, construction equipment, power tools, etc., which emit noise levels in excess of the "maximum permissible" levels.

In order for the State DOH to issue a construction noise permit, the Contractor must submit a noise permit application to the DOH, which describes the construction activities for the project. Prior to issuing the noise permit, the State DOH may require action by the Contractor to incorporate noise mitigation into the construction plan. The DOH may also require the Contractor to conduct noise monitoring or community meetings inviting the neighboring residents and business owners to discuss construction noise. The Contractor should use reasonable and standard practices to mitigate noise, such as using mufflers on diesel and gasoline engines, using properly tuned and balanced machines, etc. However, the State DOH may require additional noise mitigation, such as temporary noise barriers, or time of day usage limits for certain kinds of construction activities.

Specific permit restrictions for construction activities [Reference 1] are:

> "No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels ... before 7:00 a.m. and after 6:00 p.m. of the same day, Monday through Friday."
>
> "No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels ... before 9:00 a.m. and after 6:00 p.m. on Saturday."
>
> "No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels on Sundays and on holidays."

The use of hoe rams and jack hammers 25 lbs. or larger, high pressure sprayers, chain saws, and pile drivers are restricted to 9:00 a.m. to 5:30 p.m., Monday through Friday. In addition, construction equipment and on-site vehicles or devices whose operations involve the exhausting of gas or air, excluding pile hammers and pneumatic hand tools weighing less than 15 pounds, must be equipped with mufflers [Reference 1].

The State DOH noise permit does not limit the noise level generated at the construction site, but rather the times at which noisy construction can take place. Therefore, noise mitigation for construction activities should be addressed using project management, such that the time restrictions within the State DOH permit are followed.

6.2 Mitigation of Vehicular Traffic Noise

Vehicular traffic noise from Honoapiilani Highway currently exceeds the FHWA/DOT maximum permissible noise limit of 67 dBA at a distance of 50 feet from the centerline of the highway. Thus, the noise receptors adjacent to the

highway are experiencing a traffic noise impact even before the new lanes are added. Although the added lanes do not substantially increase future traffic noise levels over the existing noise levels, a traffic noise impact still occurs since the traffic noise levels exceed the FHWA criteria [Reference 9]. Therefore, noise abatement measures must be considered.

Abatement consideration should weigh the abatement benefits, costs, and overall social, economic, and environmental effects. The FHWA considers a 5 dB reduction in noise level to be significant. Per FHWA/HDOT's standards, mitigation measures need to be reasonable, i.e., under $35,000 per affected household, and feasible, i.e., acceptable to the affected residents. Possible mitigation measures, listed in order of effectiveness, include:

a. Air-conditioning or forced ventilation for those impacted residences along Honoapiilani Highway. At the impacted homes, jalousie windows should be replaced with standard storm windows with acoustical gasketing. Typical exterior-to-interior noise reductions for naturally ventilated homes, i.e., with open windows, are approximately 9 dB.

b. Construction of noise barriers (including landscaping for aesthetic purposes) whether within or outside the highway right-of-way. Factors such as distances to roadways and setbacks, intervening ground conditions, barrier construction, barrier height, roadway elevations, etc., will determine the noise reduction afforded by a traffic noise barrier.

c. Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development which would be adversely impacted by traffic noise.

d. Traffic management measures (e.g., traffic control devices and signing for prohibition of certain vehicle types, time-use restrictions for certain vehicle types, modified speed limits, and exclusive land designations).

6.3 Mitigation of Noise at the Proposed Elementary School

The Sacred Hearts School could experience an L_{10} greater than 65 dBA, due to traffic noise from Honoapiilani, if no measures are taken to mitigate the traffic noise such as erecting noise barriers. Any buildings (such as the cafeteria), barrier walls, earthen berms, or other structures constructed along the highway will act to reduce noise levels. The reduction in L_{10} afforded by such obstructions depends on their placement and dimensions. In general, noise barrier walls should be placed as close as possible to the roadway.

REFERENCES

1. Chapter 46, *Community Noise Control*, Department of Health, State of Hawaii, Administrative Rules, Title 11, September 23, 1996.
2. *Department of Transportation, Federal Highway Administration Procedures for Abatement of Highway Traffic Noise*, Title 23, CFR, Chapter 1, Subchapter J, Part 772, 38 FR 15953, June 19, 1973, Revised at 47 FR 29654, July 8, 1982.
3. *Federal Highway Administration's Traffic Noise Model*, FHWA-RD-77-108, U.S. Department of Transportation, December 1978.
4. *Noise Analysis and Abatement Policy*, Department of Transportation, Highways Division, State of Hawaii, June 1977.
5. *Toward a National Strategy for Noise Control*, U.S. Environmental Protection Agency, April 1977.
6. *Policies and Standards for School Facilities Design*, Board of Education, Policy 6700, Appendix A, Acoustical and Environmental Control, March 1995.
7. *Federal Highway Administration's Traffic Noise Model Look-up Tables Software*, Ver 2.5, U.S. Department of Transportation, December 17, 2004.
8. *Traffic Forecast for Proposed Honoapi'ilani Highway Widening Project from Lahainaluna Road to 'Ahole Road*, M & E. Pacific, Inc., May, 2006.
9. *Highway Traffic Noise Analysis and Abatement Policy and Guidance*, U.S. Department of Transportation, Federal Highways Administration, June 1995.

TABLE 1:
Long Term Noise Measurement Location Summary and Results

	Location*	Distance*	AM L_{eq}	PM L_{eq}	L_{10} (Calculated)
L1	Sacred Hearts School	40	66 - 73 dBA	58 - 68 dBA	71 dBA
L2	Lahaina Recreational Center	50	67 - 74 dBA	59 - 69 dBA	72 dBA

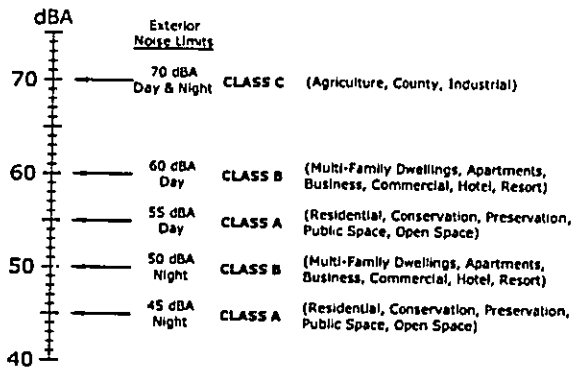
* Noise measurement locations are shown in Figure 3.
* Distance from sound level meter location to the centerline of Honoapiilani Highway.

TABLE 2:
Predicted Traffic Noise Levels in dBA and Resulting Increases Due to the Project*

	Location A*		Location B*		Location C*		
	MD	PM	MD	PM	AM	MD	PM
Existing (Calculated)	66.2	67.9	68.9	69.2	70.5	70.2	69.9
Future With Project (10 Year Forecast)	67.7	68.7	67.9	68.3	69.4	69.4	69.1
Future With Project (20 Year Forecast)	68.2	69.1	68.5	68.8	69.8	69.9	69.6
Future Increase With Project (10 Year Forecast)	1.5	0.8	-1.0	-0.9	-1.1	-0.8	-0.8
Future Increase With Project (20 Year Forecast)	2.0	1.2	-0.4	-0.4	-0.7	-0.3	-0.3

* The noise level calculations were based on the peak hour AM, PM, and midday (MD) traffic volumes provided by the Traffic Consultant [Reference 8].
* Noise prediction locations are shown in Figure 3.
Location A - 50 feet makai of Honoapiilani Highway centerline
Location B - 50 feet makai of Honoapiilani Highway centerline
Location C - 50 feet makai of Honoapiilani Highway centerline

Zoning District	Day Hours (7 AM to 10 PM)	Night Hours (10 PM to 7 AM)
CLASS A Residential, Conservation, Preservation, Public Space, Open Space	55 dBA (Exterior)	45 dBA (Exterior)
CLASS B Multi-Family Dwellings, Apartments, Business, Commercial, Hotel, Resort	60 dBA (Exterior)	50 dBA (Exterior)
CLASS C Agriculture, Country, Industrial	70 dBA (Exterior)	70 dBA (Exterior)



Hawaii Maximum Permissible Sound Levels for Various Zoning Districts

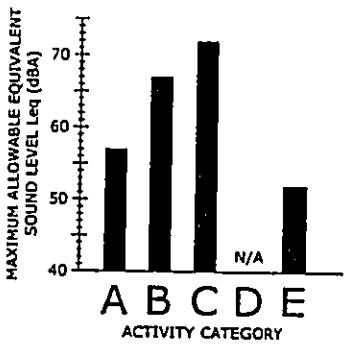
Honoapiilani Highway Widening Project

Not to Scale

Date September 2006 | Project No 06-48 | Drawn By TRB

Figure No 1

ACTIVITY CATEGORY	ACTIVITY CATEGORY DESCRIPTION	MAXIMUM EQUIVALENT SOUND LEVEL $L_{eq(h)}$
A	LANDS ON WHICH SERENITY AND QUIET ARE OF EXTRAORDINARY SIGNIFICANCE AND SERVE AN IMPORTANT PUBLIC NEED AND WHERE THE PRESERVATION OF THOSE QUALITIES IS ESSENTIAL IF THE AREA IS TO CONTINUE TO SERVE ITS INTENDED PURPOSE.	57 dBA (EXTERIOR)
B	PICNIC AREAS, RECREATION AREAS, PLAYGROUNDS, ACTIVE SPORT AREAS, PARKS, RESIDENCES, MOTELS, HOTELS, SCHOOLS, CHURCHES, LIBRARIES, AND HOSPITALS.	67 dBA (EXTERIOR)
C	DEVELOPED LANDS, PROPERTIES, OR ACTIVITIES NOT INCLUDED IN ACTIVITY CATEGORIES A OR B ABOVE.	72 dBA (EXTERIOR)
D	UNDEVELOPED LAND	N/A
E	RESIDENCES, MOTELS, HOTELS, PUBLIC MEETING ROOMS, SCHOOLS, CHURCHES, LIBRARIES, HOSPITALS, AND AUDITORIUMS.	52 dBA (INTERIOR)



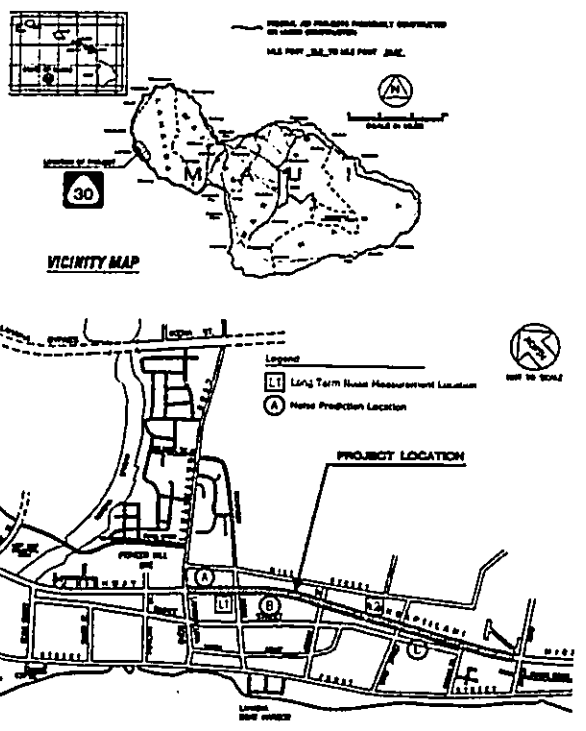
Federal Highways Administration Recommended Equivalent Hourly Sound Levels Based on Land Use

Honoapiilani Highway Widening Project

Not to Scale

Date September 2006 | Project No 06-48 | Drawn By TRB

Figure No 2



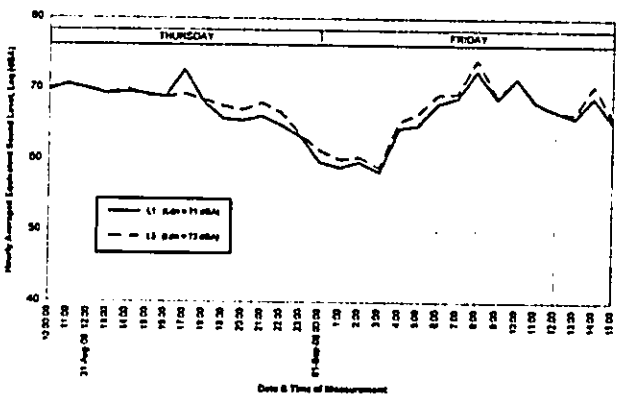
Noise Measurement and Prediction Locations

Honoapiilani Highway Widening Project

Not to Scale

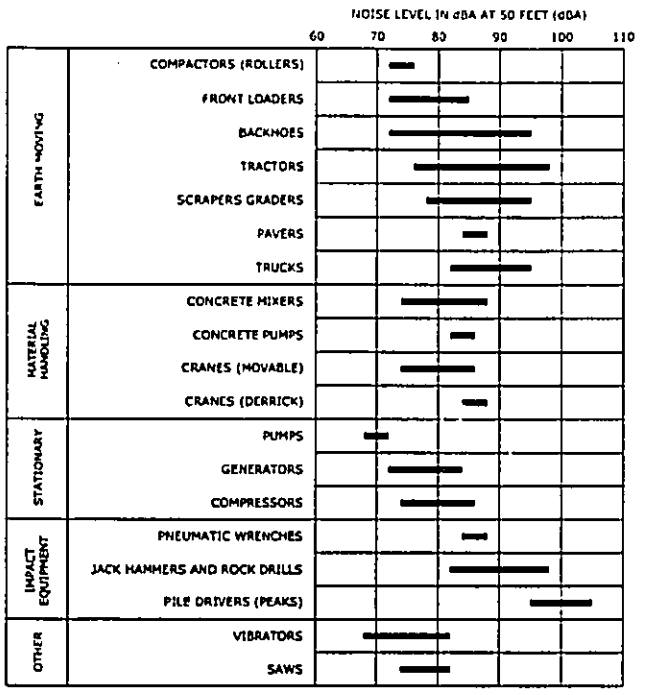
Date September 2006 | Project No 06-48 | Drawn By DFD

Figure No 3



Graph of Long Term Noise Measurements

Figure No 4



NOTE: BASED ON LIMITED AVAILABLE DATA SAMPLES

Typical Sound Levels from Construction Equipment

Honoapiilani Highway Widening Project

not to scale

Figure No 5

Date September 2006 | Project No 06-48 | Drawn By TRB

APPENDIX A

Acoustic Terminology

Acoustic Terminology

Sound Pressure Level

Sound, or noise, is the term given to variations in air pressure that are capable of being detected by the human ear. Small fluctuations in atmospheric pressure (sound pressure) constitute the physical property measured with a sound pressure level meter. Because the human ear can detect variations in atmospheric pressure over such a large range of magnitudes, sound pressure is expressed on a logarithmic scale in units called decibels (dB). Noise is defined as "unwanted" sound.

Technically, sound pressure level (SPL) is defined as:

$$SPL = 20 \log (P/P_{ref}) \text{ dB}$$

where P is the sound pressure fluctuation (above or below atmospheric pressure) and P_{ref} is the reference pressure, 20 μPa, which is approximately the lowest sound pressure that can be detected by the human ear. For example:

If P = 20 μPa, then SPL = 0 dB
If P = 200 μPa, then SPL = 20 dB
If P = 2000 μPa, then SPL = 40 dB

The sound pressure level that results from a combination of noise sources is not the arithmetic sum of the individual sound sources, but rather the logarithmic sum. For example, two sound levels of 50 dB produce a combined sound level of 53 dB, not 100 dB. Two sound levels of 40 and 50 dB produce a combined level of 50.4 dB.

Human sensitivity to changes in sound pressure level is highly individualized. Sensitivity to sound depends on frequency content, time of occurrence, duration, and psychological factors such as emotions and expectations. However, in general, a change of 1 or 2 dB in the level of sound is difficult for most people to detect. A 3 dB change is commonly taken as the smallest perceptible change and a 6 dB change corresponds to a noticeable change in loudness. A 10 dB increase or decrease in sound level corresponds to an approximate doubling or halving of loudness, respectively.

A-Weighted Sound Level

Studies have shown conclusively that at equal sound pressure levels, people are generally more sensitive to certain higher frequency sounds (such as made by speech, horns, and whistles) than most lower frequency sounds (such as made by motors and engines)[1] at the same level. To address this preferential response to frequency, the A-weighted scale was developed. The A-weighted scale adjusts the sound level in each frequency band in much the same manner that the

[1] D.W. Robinson and R.S. Dadson, "A Re-Determination of the Equal-Loudness Relations for Pure Tones," *British Journal of Applied Physics*, vol. 7, pp. 166 - 181, 1956. (Adopted by the International Standards Organization as Recommendation R-226.

human auditory system does. Thus the A-weighted sound level (read as "dBA") becomes a single number that defines the level of a sound and has some correlation with the sensitivity of the human ear to that sound. Different sounds with the same A-weighted sound level are perceived as being equally loud. The A-weighted noise level is commonly used today in environmental noise analysis and in noise regulations. Typical values of the A-weighted sound level of various noise sources are shown in Figure A-1.

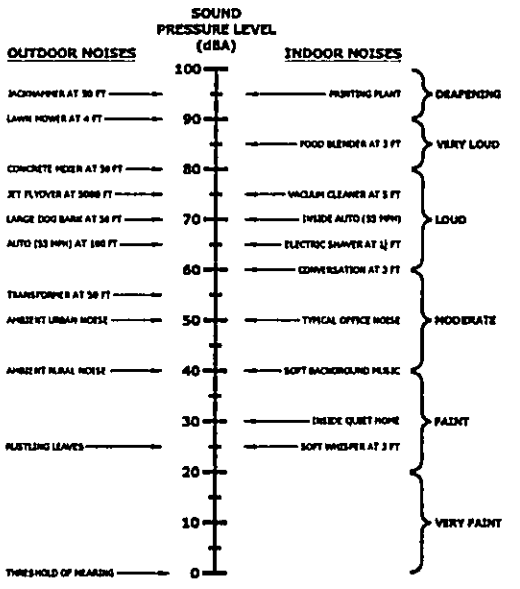


Figure A-1. Common Outdoor/Indoor Sound Levels

Equivalent Sound Level

The Equivalent Sound Level (L_{eq}) is a type of average which represents the steady level that, integrated over a time period, would produce the same energy as the actual signal. The actual *instantaneous* noise levels typically fluctuate above and below the measured L_{eq} during the measurement period. The A-weighted L_{eq} is a common index for measuring environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.

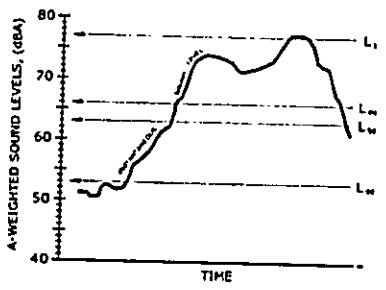


Figure A-2. Example Graph of Equivalent and Statistical Sound Levels

Statistical Sound Level

The sound levels of long-term noise producing activities such as traffic movement, aircraft operations, etc., can vary considerably with time. In order to obtain a single number rating of such a noise source, a statistically-based method of expressing sound or noise levels has been developed. It is known as the Exceedence Level, L_n. The L_n represents the sound level that is exceeded for n% of the measurement time period. For example, L_{10} = 60 dBA indicates that for the duration of the measurement period, the sound level exceeded 60 dBA 10% of the time. Typically, in noise regulations and standards, the specified time period is one hour. Commonly used Exceedence Levels include L_{01}, L_{10}, L_{50}, and L_{90}, which are widely used to assess community and environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.

Day-Night Equivalent Sound Level

The Day-Night Equivalent Sound Level, L_{dn}, is the Equivalent Sound Level, L_{eq}, measured over a 24-hour period. However, a 10 dB penalty is added to the noise levels recorded between 10 p.m. and 7 a.m. to account for people's higher sensitivity to noise at night when the background noise level is typically lower. The L_{dn} is a commonly used *noise descriptor in assessing land use* compatibility, and is widely used by federal and local agencies and standards organizations.

APPENDIX G

"No Adverse Effect" Determination Letter from FWS Regarding Project Impacts on Threatened and Endangered Species

METCALF & EDDY | AECOM

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June 15, 2005

US FISH & WILDLIFE SERVICE
Pacific Islands Fish & Wildlife Office
300 Ala Moana Boulevard, #3-122
Box 50088
Honolulu, Hawai'i 96850

Attn: Mr. Patrick Leonard, Field Supervisor

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Option B—Separate Bikelane & Sidewalk
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [por each]

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (Highways Division) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway, adverse impacts on wildlife habitats are anticipated to be small, if any. The project will be contained entirely within the existing 80′ State right-of-way dedicated for the highway.

A description of the project is as follows:

"The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road, Option B—Separate Bikelane & Sidewalk* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The existing highway between Lahainaluna and 'Aholo Roads (project limits) varies in width, but is primarily comprised of two 11′ asphaltic concrete (AC)-paved lanes and 9′ paved

shoulders without curbs or gutters. Approaches to intersections with cross streets transition up to four 11′ lanes—one lane in each direction for traffic straight through the intersection and outside lanes for right turns. Distinct lanes for bicyclists and pedestrians have not been established.

The State of Hawai'i DOT, Highways Division (HWY) proposes to increase the width of Honoapi'ilani Highway to four 11′ vehicular travel lanes with 10′ median (shared left-turn corridor) consistently throughout its length from Lahainaluna Road to 'Aholo Road. In normally crowned areas, the highway will also have a 4′ bikelane, curb and gutter, 5′ sidewalk, and 12″-thick concrete retaining wall along its *mauka* edge, and 6′ paved shoulder and earthen drainage swale along its *makai* edge. In superelevated reaches, the highway will have the same structures as the normally crowned locations on its *mauka* side; however, it will have a 6′-8″ paved shoulder and 12″-thick concrete retaining wall along its *makai* edge. All finished structures will be within the existing 80′-wide ROW."

The project will be funded entirely by the State with no contribution from the federal government.

A few maps and sketches of the current design for the subject project are enclosed for your use. Please review these enclosures and provide us with any information on endangered, threatened or fragile plant or animal species known or assumed to exist within or near the project region that may be impacted by the project undertaking.

Should you have any questions or more information is required, please call Ms. Diane Kodama or myself at 521-3051.

Very truly yours,

Michael S. Nishimura, P.E.
Project Engineer

msn

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METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

June 15, 2005

University of Hawai'i
Center for Conservation Research and Training
HAWAI'I NATURAL HERITAGE PROGRAM
677 Ala Moana Boulevard
Suite 705
Honolulu, Hawai'i 96813

Attn: HNHP Database Coordinator

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Option B—Separate Bikelane & Sidewalk
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [por each]

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (Highways Division) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway, adverse impacts on wildlife habitats are anticipated to be small, if any. The project will be contained entirely within the existing 80′ State right-of-way dedicated for the highway.

A description of the project is as follows:

"The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road, Option B—Separate Bikelane & Sidewalk* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

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:
1-2-2005-TA-333

JUL 29 2005

Mr. Michael Nishimura
Project Engineer
M & E Pacific, Inc.
Davies Pacific Center, Suite 1900
Honolulu, Hawaii 96813

Dear Mr. Nishimura:

Thank you for your letter dated June 15, 2005, (sent again as a facsimile on July 8, 2005) requesting a list of threatened and endangered species that may occur in the vicinity of the proposed project to widen Honoapiilani Highway, Lahaina, Maui, Hawaii. We received your facsimile on July 8, 2005. The project involves widening Honoapiilani Highway from two lanes to four lanes within the existing 80-foot State right-of-way dedicated for the highway. The highway will also have a bike lane, curb, gutter, sidewalk, and retaining wall.

Based on our review of the information you provided, and pertinent information in our files, including data compiled by the Hawaii Natural Heritage Program, to the best of our knowledge no endangered, threatened, or candidate species occur in the project area. There is no proposed or final critical habitat in the project area.

We appreciate your efforts to conserve listed species. If you have any questions, please contact Christa Russell, Plant Conservation Program Coordinator (phone: 808/792-9400; fax 808/792-9580).

Sincerely,

Patrick Leonard
Field Supervisor

TAKE PRIDE IN AMERICA

APPENDIX H

National Historic Preservation Act Section 106

Investigatory Letters

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M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

June 29, 2005

State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawai'i 96707

Attn: Ms. Melanie A. Chinen, Administrator

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [por each]
DOT-HWY Project Number 30BC-01-04

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (Highways Division) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway, adverse impacts on wildlife habitats are anticipated to be small, if any. The project will be contained entirely within the existing 80′ State right-of-way dedicated for the highway.

A description of the project is as follows:

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Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The existing highway between Lahainaluna and 'Aholo Roads (project limits) varies in width, but is primarily comprised of two 11′ asphaltic concrete (AC)-paved lanes and 9′ paved

shoulders without curbs or gutters. Approaches to intersections with cross streets transition up to four 11′ lanes—one lane in each direction for traffic straight through the intersection and outside lanes for right turns. Distinct lanes for bicyclists and pedestrians have not been established.

The State of Hawai'i DOT, Highways Division (HWY) proposes to increase the width of Honoapi'ilani Highway to four 11′ vehicular travel lanes with 10′ median (shared left-turn corridor) consistently throughout its length from Lahainaluna Road to 'Aholo Road. In normally crowned areas, the highway will also have a 4′ bikelane, curb and gutter, 5′ sidewalk, and 12″-thick concrete retaining wall along its *mauka* edge, and 6′ paved shoulder and earthen drainage swale along its *makai* edge. In superelevated reaches, the highway will have the same structures as the normally crowned locations on its *mauka* side; however, it will have a 6′-8″ paved shoulder and 12″-thick concrete retaining wall along its *makai* edge. All finished structures will be within the existing 80′-wide ROW."

The project will be funded entirely by the State with no contribution from the federal government. The project manager at the DOT-HWY is:

Ms. Charlene Shibuya
DOT-HWY, Maui District, 650 Palapala Drive, Kahului, Hawai'i 96732
Telephone: (808) 873-3535, Fax: (808) 873-3544, Email: Charlene.Shibuya@Hawaii.Gov

A few maps and sketches of the current design for the subject project are enclosed for your use. The area of potential effect is contained to the entire area within the existing 80′-wide highway right-of-way for the length of the project. Please review these enclosures and provide us with any information on identified or potential historic and archaeological properties known or assumed to exist within or near the project area that may be impacted by the project undertaking. In using DLNR-SHPD's online Hawai'i Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area.

Should you have any questions or more information is required, please call Ms. Diane Kodama or myself at 521-3051. Our email addresses are Diane.Kodama@M-E.AECOM.Com and Mike.Nishimura@M-E.AECOM.Com, respectively.

Very truly yours,

Michael S. Nishimura, P.E.
Project Engineer

msn

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawaii 96813
T 808.521.3051 F 808.524.0246 www.[illegible]

August 15, 2005

Advisory Council on Historic Preservation
Office of Federal Agency Programs
12136 West Bayaud Avenue, Suite 330
Lakewood, Colorado 80228

Attn: Mr. Don Klima, OFAP Director

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [por each]
DOT-HWY Project Number 30BC-01-04
ACHP Opportunity to Provide Archaeological and Historical Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (Highways Division) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on archaeological and historical properties are anticipated to be small, if any. The project will be contained entirely within the existing 80′ State ROW dedicated to the highway.

A description of the project is as follows:

"The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The existing highway between Lahainaluna and 'Aholo Roads (project limits) varies in width, but is primarily comprised of two 11′ asphaltic concrete (AC)-paved lanes and 9′ paved shoulders without curbs or gutters. Approaches to intersections with cross streets transition up to

four 11′ lanes—one lane in each direction for traffic straight through the intersection and outside lanes for right turns. Distinct lanes for bicyclists and pedestrians have not been established.

The State of Hawai'i DOT, Highways Division (HWY) proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The highway will also have an AC-paved bikelane and shoulder, in addition to, concrete curb and gutter, sidewalk, and retaining walls along its edges with guardrails. All finished structures will be within the existing 80′-wide ROW."

Although no work is anticipated to occur within the property of the parks, widening of Honoapi'ilani Highway may require work to be performed on a single row of large (roughly 3′-diameter trunks, 50′ tall, and 40′ canopy spreads), existing monkeypod trees located along the ROW within the park properties. This work may involve cutting roots and installing root barriers to protect new roadway structures from root growth damage, or tree relocation further away (*mauka*) from the highway. A total of about 17 trees may be affected by the project along the Lahaina Recreation Center & Park property line, while approximately 14 trees may be affected along the property line of the Lahaina Aquatic Center & Park. About three 50′–60′ palm trees may also be affected.

Additionally, due to widening of the highway, existing culverts beneath the road may be extended, and land may need to be acquired upstream and downstream of the inlets and outlets for maintenance access easements. No culvert extensions would be performed near the Lahaina Recreation Center & Park; however, two culvert extensions may be required between Shaw and Prison Streets next to the Lahaina Aquatic Center & Park.

The project will be funded by both the State and federal government. The project manager at the DOT-HWY is:

Ms. Charlene Shibuya
DOT-HWY, Maui District, 650 Palapala Drive, Kahului, Hawai'i 96732
Telephone: (808) 873-3535, Fax: (808) 873-3544, Email: Charlene.Shibuya@Hawaii.Gov

An Environmental Assessment is currently being developed for the project and National Historic Preservation Act Section 106 requirements are being completed.

A few maps and sketches of the current design for the subject project are enclosed for your review and use. The area of potential effect is contained primarily to the entire area within the existing 80′-wide highway right-of-way for the length of the project. Please review these enclosures and provide us with a formal decision on whether the ACHP would like to participate as a consultant on archaeological and historical properties for this project, or would like to decline this opportunity.

Project information has been sent to the local State Historic Preservation Officer (State of Hawai'i, Department of Land and Natural Resources [DLNR], State Historic Preservation Division [SHPD]), and their review is still on-going. In using DLNR-SHPD's online Hawai'i

Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area. A copy of the DLNR-SHPD GIS printout encompassing the project region is enclosed for your review and use.

Project reviews are also on-going by the DLNR Division of State Parks and the US National Park Service for Land and Water Conservation Act Section 6(f)(3) compliance and the US Department of Transportation (DOT), Federal Highway Administration for DOT Act Section 4(f) compliance. A determination has been received from the US Fish and Wildlife Service that, in accordance with their Endangered Species Act Section 7 review, no endangered, threatened, or candidate plant and animal species occurs in the project area. In addition, no proposed or final critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your review and use.

Should you have any questions or more information is required, please call Ms. Diane Kodama or myself at 521-3051. Our email addresses are Diane.Kodama@M-E.AECOM.Com and Mike.Nishimura@M-E.AECOM.Com, respectively.

Very truly yours,

Michael S. Nishimura, P.E.
Project Engineer

msn

M & E Pacific, Inc.
Davies Pacific Center, Suite 1500 Honolulu Hawaii 96813
T 808.521.2051 F 808.524.0246 www.m-e.com

January 4, 2006

Nā Kūpuna O Maui
320 Kā'eo Place
Lahaina, Hawai'i 96761

Attn: Aunty Patty Nishiyama / Kupuna William Waiohu, Jr.

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Archaeological & Historic Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on archaeological and historic properties are anticipated to be minor, if any. In the unlikely event that archaeological or historic material is encountered during project activities, work will cease immediately and the State of Hawai'i, Department of Land and Natural Resources (DLNR), Historic Preservation Division (SHPD) will be notified. The DLNR-SHPD and identified familial descendants will be consulted for the appropriate treatment of the find. This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for clarification. The area of potential impact is contained primarily to within the existing 80' wide highway right-of-way for the length of the project.

At this early stage in project development, we are evaluating the opinions and concerns of the public that occupy the surrounding areas of the aforementioned project. We are also in the process of discerning whether the project will affect any historic properties, as outlined by Section 106 of the National Historic Preservation Act. It will be greatly appreciated if all feedback can be provided within the thirty (30)-day public review and comment period (starting from the date of this letter) so that all comments can be properly addressed while meeting the established project schedule.

The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a

southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides mostly by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The State of Hawai'i DOT-HWY proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The project will also add a bikelane, shoulder, and sidewalk. All finished structures will be within the existing 80'-wide ROW.

Two public recreational facilities border the *mauka* edge of the project site—(1) Lahaina Aquatic Center and Park, which is located primarily between Prison and Shaw Streets; and the adjacent (2) Lahaina Recreation Center and Park, which is located predominantly between Shaw and Kaua'ula Streets. Although no work is anticipated to occur within the park properties, widening of Honoapi'ilani Highway may require protective measures (root cutting, root barrier installation, and/or tree removal or *mauka* relocation) to be performed on approximately 32 large (30'–50'± tall), existing monkeypod and 50'–60'± tall palm trees located along the *mauka* ROW in the parks. Consultation with arborists are planned to ascertain viable options for the treatment of the trees. Additional trees (monkeypod, banyan, avocado, mango, plumeria, fruit, palm, etc.), bushes and hedges along the edges of the project alignment may be similarly affected by the project, including a row of narrow 20'± tall Wiliwili trees along the *mauka* edge of the ROW between Dickenson and Prison Streets. A landscaped highway median may be considered in the project design.

Grading, temporary construction and maintenance easements may be required outside of the highway ROW for drainage management, especially near the upstream and downstream ends of three existing culverts beneath the road. One of these culverts is located at midway between Lahainaluna Road and Dickenson Street. The other two culverts are located roughly 135' and 560' east of Prison Street.

The project is currently under review by the local State Historic Preservation Officer—the DLNR-SHPD—for potential impacts to archaeological and historic properties. In using DLNR-SHPD's online Hawai'i Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area. A copy of the DLNR-SHPD GIS printout encompassing the project region is enclosed for your reference, along with a listing of identified historic sites for the island of Maui.

A determination has been received from the US Fish and Wildlife Service (FWS) that, in accordance with their Endangered Species Act Section 7 review, no endangered, threatened, or candidate plant and animal species exists in the project area. In addition, no proposed or final

critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your reference.

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

M&E Pacific, Inc.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawai'i 96813
Telephone: (808) 521-3051
Fax: (808) 524-0246

Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,

M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures: (1) Project Maps and Sketches
(2) DLNR-SHPD GIS Printout of Historic and Archaeological Properties in the Project Region and Listing of Identified Historic Sites for the Island of Maui
(3) Letter of Determination from the US FWS

cc: Project File

METCALF & EDDY | AECOM

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

January 5, 2006

State of Hawai'i, Historic Preservation Division
Burials Program (Maui / Lanai Island)
MAUI / LĀNA'I ISLAND BURIAL COUNCIL
150 Mahalani Street
Wailuku, Hawai'i 96793

Attn: Mr. Charles K. Maxwell, Sr., Chair / Ms. Dana Naone Hall, Vice-Chair

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
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At this early stage in project development, we are evaluating the opinions and concerns of the public that occupy the surrounding areas of the aforementioned project. We are also in the process of discerning whether the project will affect any historic properties, as outlined by Section 106 of the National Historic Preservation Act. It will be greatly appreciated if all feedback can be provided within the thirty (30)-day public review and comment period (starting from the date of this letter) so that all comments can be properly addressed while meeting the established project schedule.

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650 Palapala Drive
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Telephone: (808) 873-3535
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Michael S. Nishimura, P.E.
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T 808.521.3051 F 808.524.0246 www.m-e.com

January 5, 2006

Hui Mālama I Nā Kūpuna O Hawai'i Nei
Maui Office
157 Alea Place
Pukalani, Hawai'i 96768

Attn: Kahu Charles Kauluwehi Maxwell Sr., Po'o / Kahu Edward Halealoha Ayau, Luna Ho'okō

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
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January 6, 2006

Friends of Moku'ula
505 Front Street
Suite 234
Lahaina, Hawai'i 96761

Attn: Kahu Jerry Kunimoto, Po'o / Kahu Akoni Akana, Luna Ho'okō

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
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January 6, 2006

'Iolani Palace—Friends of 'Iolani Palace
PO Box 2259
Honolulu, Hawai'i 96804-9983

Attn: Kahu Alice F. Guild, Po'o

Subject: State of Hawai'i, Department of Transportation, Highways Division
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Waine'e, Lahaina, Maui, Hawai'i
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January 6, 2006

Department of Hawaiian Home Lands
Office of the Chairman
1099 Alakea Street
Suite 2000
Honolulu, Hawai'i 96813

Attn: Mr. Micah Kane, Chairman

Subject: State of Hawai'i, Department of Transportation, Highways Division
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Waine'e, Lahaina, Maui, Hawai'i
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Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

M&E Pacific, Inc.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawai'i 96813
Telephone: (808) 521-3051
Fax: (808) 524-0246

Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,

M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures: (1) Project Maps and Sketches
(2) DLNR-SHPD GIS Printout of Historic and Archaeological Properties in the Project Region and Listing of Identified Historic Sites for the Island of Maui
(3) Letter of Determination from the US FWS

cc: Project File

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January 6, 2006

Department of Hawaiian Home Lands
MAUI DISTRICT OFFICE
655 Kaumuali'i Street
Suite 1
Wailuku, Hawai'i 96793

Attn: Maui District Manager

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Archaeological & Historic Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on archaeological and historic properties are anticipated to be minor, if any. In the unlikely event that archaeological or historic material is encountered during project activities, work will cease immediately and the State of Hawai'i, Department of Land and Natural Resources (DLNR), Historic Preservation Division (SHPD) will be notified. The DLNR-SHPD and identified familial descendants will be consulted for the appropriate treatment of the find. This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for clarification. The area of potential impact is contained primarily to within the existing 80' wide highway right-of-way for the length of the project.

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of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides mostly by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The State of Hawai'i DOT-HWY proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The project will also add a bikelane, shoulder, and sidewalk. All finished structures will be within the existing 80'-wide ROW.

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January 6, 2006

Bishop Museum
1525 Bernice Street
Honolulu, Hawai'i 96817

Attn: Dr. Bill Brown, Director

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
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January 6, 2006

Office of Hawaiian Affairs
Washington, DC Bureau NCAI HDQTRS
1301 Connecticut Avenue NW
Suite 200
Washington, DC 20036

Attn: Mr./Ms. Chairperson

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
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January 6, 2006

Office of Hawaiian Affairs
MAUI OFFICE
140 Ho'ohana Street
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Kahului, Hawai'i 96732

Attn: Mr./Ms. Chairperson

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
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January 17, 2006

State of Hawai'i, Historic Preservation Division
Burials Program (Maui / Lāna'i Island)
MAUI LĀNA'I ISLANDS BURIAL COUNCIL
2087 Wells Street
Wailuku, Hawai'i 96793

Attn: Ms. Dana Naone Hall, Vice-Chair

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
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Public Notification & Request for Feedback and Archaeological & Historic Consultation

This information and request letter was sent to Kahu Charles Maxwell (Po'o of the Hui Mālama I Nā Kūpuna O Hawai'i Nei and Chair of the Maui Lāna'i Islands Burial Council) on Thursday, January 5, 2006, and is being copied to you at his request.

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on archaeological and historic properties are anticipated to be minor, if any. In the unlikely event that archaeological or historic material is encountered during project activities, work will cease immediately and the State of Hawai'i, Department of Land and Natural Resources (DLNR), Historic Preservation Division (SHPD) will be notified. The DLNR-SHPD and identified familial descendants will be consulted for the appropriate treatment of the find. This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for clarification. The area of potential impact is contained primarily to within the existing 80′ wide highway right-of-way for the length of the project.

At this early stage in project development, we are evaluating the opinions and concerns of the public that occupy the surrounding areas of the aforementioned project. We are also in the process of discerning whether the project will affect any historic properties, as outlined by Section 106 of the National Historic Preservation Act. It will be greatly appreciated if all feedback can be provided within the thirty (30)-day public review and comment period (starting from the date of this letter) so that all comments can be properly addressed while meeting the established project schedule.

The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides mostly by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The State of Hawai'i DOT-HWY proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The project will also add a bikelane, shoulder, and sidewalk. All finished structures will be within the existing 80'-wide ROW.

Two public recreational facilities border the *mauka* edge of the project site—(1) Lahaina Aquatic Center and Park, which is located primarily between Prison and Shaw Streets; and the adjacent (2) Lahaina Recreation Center and Park, which is located predominantly between Shaw and Kaua'ula Streets. Although no work is anticipated to occur within the park properties, widening of Honoapi'ilani Highway may require protective measures (root cutting, root barrier installation, and/or tree removal or *mauka* relocation) to be performed on approximately 32 large (30'–50'± tall), existing monkeypod and 50'–60'± tall palm trees located along the *mauka* ROW in the parks. Consultation with arborists are planned to ascertain viable options for the treatment of the trees. Additional trees (monkeypod, banyan, avocado, mango, plumeria, fruit, palm, etc.), bushes and hedges along the edges of the project alignment may be similarly affected by the project, including a row of narrow 20'± tall Wiliwili trees along the *mauka* edge of the ROW between Dickenson and Prison Streets. A landscaped highway median may be considered in the project design.

Grading, temporary construction and maintenance easements may be required outside of the highway ROW for drainage management, especially near the upstream and downstream ends of three existing culverts beneath the road. One of these culverts is located at midway between Lahainaluna Road and Dickenson Street. The other two culverts are located roughly 135' and 560' east of Prison Street.

The project is currently under review by the local State Historic Preservation Officer—the DLNR-SHPD—for potential impacts to archaeological and historic properties. In using DLNR-SHPD's online Hawai'i Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area. A copy of the DLNR-SHPD GIS printout encompassing the project region is enclosed for your reference, along with a listing of identified historic sites for the island of Maui.

A determination has been received from the US Fish and Wildlife Service (FWS) that, in accordance with their Endangered Species Act Section 7 review, no endangered, threatened, or candidate plant and animal species exists in the project area. In addition, no proposed or final critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your reference.

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

M&E Pacific, Inc.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawai'i 96813
Telephone: (808) 521-3051
Fax: (808) 524-0246

Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,

M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures: (1) Project Maps and Sketches
(2) DLNR-SHPD GIS Printout of Historic and Archaeological Properties in the Project Region and Listing of Identified Historic Sites for the Island of Maui
(3) Letter of Determination from the US FWS

cc: Project File

METCALF & EDDY | AECOM

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

January 17, 2006

State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
MAUI OFFICE
150 Mahalani Street
Wailuku, Hawai'i 96793

Attn: Mr. Hīnano Rodrigues, Cultural Specialist

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Request for Archaeological and Historic Sites Review

This information and request letter was originally sent to your Kapolei, O'ahu office on Wednesday, June 29, 2005, and was subsequently forwarded to Ms. Melissa Kirkendall of your Maui office for review. As of the date of this letter, review of the project is still on-going by Ms. Kirkendall. In the interim, this project information is being copied to you for assistance in your survey of the community to ascertain and identify any potential families and descendants with knowledge of historic properties within or near the project area that may be potentially affected by the project undertaking. Again, thank you very much for your help.

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on archaeological and historic properties are anticipated to be minor, if any. In the unlikely event that archaeological or historic material is encountered during project activities, work will cease immediately and the State of Hawai'i, Department of Land and Natural Resources (DLNR), Historic Preservation Division (SHPD) will be notified. The DLNR-SHPD and identified familial descendants will be consulted for the appropriate treatment of the find. This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for clarification. The area of potential impact is contained primarily to within the existing 80' wide highway right-of-way for the length of the project.

At this early stage in project development, we are evaluating the opinions and concerns of the public that occupy the surrounding areas of the aforementioned project. We are also in the

process of discerning whether the project will affect any historic properties, as outlined by Section 106 of the National Historic Preservation Act. It will be greatly appreciated if all feedback can be provided within the thirty (30)-day public review and comment period (starting from the date of this letter) so that all comments can be properly addressed while meeting the established project schedule.

The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a southeast-northwest alignment approximately ¼-mile inland of the Pacific Ocean shoreline, and is bordered on both sides mostly by private residential subdivisions of Lahaina.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

The State of Hawai'i DOT-HWY proposes to increase the width of Honoapi'ilani Highway to four vehicular travel lanes with median (shared left-turn corridor or landscaped planter) consistently throughout its length from Lahainaluna Road to 'Aholo Road. The project will also add a bikelane, shoulder, and sidewalk. All finished structures will be within the existing 80'-wide ROW.

Two public recreational facilities border the *mauka* edge of the project site—(1) Lahaina Aquatic Center and Park, which is located primarily between Prison and Shaw Streets; and the adjacent (2) Lahaina Recreation Center and Park, which is located predominantly between Shaw and Kaua'ula Streets. Although no work is anticipated to occur within the park properties, widening of Honoapi'ilani Highway may require protective measures (root cutting, root barrier installation, and/or tree removal or *mauka* relocation) to be performed on approximately 32 large (30'–50'± tall), existing monkeypod and 50'–60'± tall palm trees located along the *mauka* ROW in the parks. Consultation with arborists are planned to ascertain viable options for the treatment of the trees. Additional trees (monkeypod, banyan, avocado, mango, plumeria, fruit, palm, etc.), bushes and hedges along the edges of the project alignment may be similarly affected by the project, including a row of narrow 20'± tall Wiliwili trees along the *mauka* edge of the ROW between Dickenson and Prison Streets. A landscaped highway median may be considered in the project design.

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The project is currently under review by the local State Historic Preservation Officer—the DLNR-SHPD—for potential impacts to archaeological and historic properties. In using

DLNR-SHPD's online Hawai'i Historic Preservation Geographic Information System (GIS) for the Island of Maui—http://mano.icsd.hawaii.gov/~ckomoek/maui/maui4.htm—no historic or archaeological properties and sites are identified to exist within or near the project area. A copy of the DLNR-SHPD GIS printout encompassing the project region is enclosed for your reference, along with a listing of identified historic sites for the island of Maui.

A determination has been received from the US Fish and Wildlife Service (FWS) that, in accordance with their Endangered Species Act Section 7 review, no endangered, threatened, or candidate plant and animal species exists in the project area. In addition, no proposed or final critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your reference.

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535; Fax: (808) 873-3544; Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

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Davies Pacific Center, Suite 1900
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Honolulu, Hawai'i 96813
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Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,
M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures: (1) Project Maps and Sketches
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(3) Letter of Determination from the US FWS

cc: Project File

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

January 30, 2006

Office of Hawaiian Affairs
MAUI OFFICE
140 Ho'ohana Street
Suite 206
Kahului, Hawai'i 96732

Attn: Ms. Thelma Shimaoka, Community Resource Coordinator

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Archaeological & Historic Consultation

This information and request letter was originally sent to both your Washington, DC and Maui offices on Friday, January 6, 2006, for review, and last Friday, January 27, 2006, we received a response letter from Mr. Clyde W. Nāmu'o, Administrator, of your Honolulu office, that requested that we contact you for historic sites consultation and assistance. A copy of this response letter is attached for your reference. Also requested in this letter was that we contact Ms. Pam Nishiama [Ms. Patty Nishiyama] of Nā Kūpuna O Maui, which has been done. We are awaiting response from them. We have received a tentative verbal response from Ms. Melissa Kirkendall of the State Historic Preservation Division—Maui Office that no adverse effects on historic sites is anticipated by the project. A record of this telephone conversation with Ms. Kirkendall is attached for your reference. Lastly, the Advisory Council on Historic Preservation (ACHP) has declined the opportunity to be historic consultants on this project. A record of telephone conversation with the ACHP is attached for your reference.

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The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535; Fax: (808) 873-3544; Email: Charlene.Shibuya@Hawaii.Gov

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Davies Pacific Center, Suite 1900
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Honolulu, Hawai'i 96813
Telephone: (808) 521-3051; Fax: (808) 524-0246

Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures:
(1) Project Maps and Sketches
(2) DLNR-SHPD GIS Printout of Historic and Archaeological Properties in the Project Region and Listing of Identified Historic Sites for the Island of Maui
(3) Letter of Determination from the US FWS
(4) Letter of Determination from the OHA (Honolulu Office)
(5) Record of Telephone Conversation with the SHPD (Maui Office)
(6) Record of Telephone Conversation with the ACHP

cc: Project File

APPENDIX I

National Historic Preservation Act Section 106

Responses and Coordination

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

February 3, 2006

Mr. Michael Nishimura, P.E.
M & E Pacific, Inc
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawaii 96813

LOG NO: 2006.0046
DOC NO: 0601MK22
Archaeology

Dear Mr. Nishimura.

SUBJECT: National Historic Preservation Act (NHPA) Section 106 Review [State/Highways] –
Honoapi'ilani Highway Widening, Lahainaluna Road to Aholo Road
Waine'e Ahupua'a, Lahaina District, Island of Maui
TMK: (2) 4-5-006 & 009 and 4-6-004: 013, 034

The proposed widening projects to occur within the existing established right-of-way (ROW), will effectively convert the highway from two (2) to four (4) lanes. The existing road is constructed on fill. The widening will include fill importation to meet the existing highway grade. The proposed DOT project is partially federally funded.

We believe that **"no historic properties will be affected"** by this undertaking 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) this project has gone through the historic review process, and mitigation has been completed
- ☒ f) other: *The project will occur within existing highway ROW, and will not include excavation below original grade. Feedback was solicited by your firm to the Maui/Lana'i Islands Burial Council Chair and Vice-Chair, Mr. Charles Maxwell and Ms. Dana Naone Hall who expressed no concerns at this time since the project is located within the existing ROW in which no known historic properties exist.*

In the event that historic resources, including human skeletal remains, are identified during routine 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 Division, Maui Section, needs to be contacted immediately at (808) 243-5169.

Aloha,

Peter Young, Chair
State Historic Preservation Officer

MK:kf

cc: Bert Ratte, DPWEM, County of Maui
Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Res. Commission, Dept. of Planning, 250 S. High Street, Wailuku, HI 96793

M&E Pacific, Inc.

MECALF & EDDY

Record of Telephone Conversation

DATE:	January 6, 2006	**TIME:**	12:30–13:00
PERSON CALLED/ CALLING:	Ms. Carol Legard (CL, 202-606-8522)		
FIRM/ AGENCY:	Advisory Council on Historic Preservation (ACHP)		
PROJECT:	State of Hawai'i, Department of Transportation, Highways Division, Maui District *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* Waine'e, Lahaina, Maui, Hawai'i DOT Job Number 30BC-01-04		
PROJECT NUMBER:	36802576.00370		
SUBJECT:	**ACHP Participation in Historic Preservation Consultation for the Project**		
COPIES:	Mich Hirano (*Munekiyo & Haraga, Inc.*); AYT, DYK(*M&E*); Project File		

DISCUSSION ITEMS:

Carol mentioned that if the request letter was mailed over 2 weeks ago, it may be assumed that the ACHP will not participate in consultation. CL added that she currently has no Hawai'i project on her "radar screen." It was mentioned that the original request letter was sent to the ACHP back in August 2005. **CL confirmed that the ACHP opts not to participate as a historic preservation consultant for the subject project: State of Hawai'i, Department of Transportation, Highways Division, Maui District, Job Number 30BC-01-04, *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road*, Waine'e, Lahaina, Maui, Hawai'i.** She requested that a record of this telephone conversation be documented in the Environmental Assessment (EA) as the final, formal decision by the ACHP to not participate.

CL indicated that the ACHP now accepts requests for project review and their participation as consultants via electronic mailings. Requests submitted via email generally receive faster turnarounds than hardcopy mail requests. She added that the ACHP receives a great magnitude of requests, many with multiple projects, and although they try to respond to every request with a letter, sometimes the ACHP cannot accomplish this. CL acknowledged that although the ACHP is required to be notified for federally funded projects, she clarified that the ACHP focuses their attention mostly on Section 106 situations with determined adverse effects or problematic projects with large public exposure and opposition, big concerns, or problem cases that cannot close without ACHP participation. For US DOT Federal Highway Administration (FHWA) projects, usually the FHWA notifies the ACHP directly of adverse concerns, and the ACHP has 15 days to decide whether to participate in the project, and develop a Memorandum of Agreement (MOA).

ACTION(S) REQUIRED & TAKEN:

This record of telephone conversation will be documented in the Environmental Assessment.

FOLLOW-UP:

None.

SIGNED: _____ 1/6/06

Mike S. Nishimura **DATE**

Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawai'i 96813

Voice: (808) 521-3051, Extension 228
Fax: (808) 524-0246

LINDA LINGLE
GOVERNOR
STATE OF HAWAII

MICAH A. KANE
CHAIRMAN
HAWAIIAN HOMES COMMISSION

BEN HENDERSON
DEPUTY TO THE CHAIRMAN

KAULANA H. PARK
[illegible]

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P.O. BOX [illegible]
HONOLULU, HAWAII [illegible]

January 13, 2006

Mr. Michael S. Nishimura, P.E.
M&E Pacific, Inc.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawaii 96813

Dear Mr. Nishimura:

Thank you for the opportunity to review the early consultation development summary and historic report on the proposed Honoapi'ilani Highway Widening project in Lahaina, Maui. The Department of Hawaiian Home Lands has no comments to offer.

Should you have any questions, please call the Planning Office at (808) 586-3836.

Aloha and mahalo,

Danielle Bazemin
for Micah A. Kane, Chairman
Hawaiian Homes Commission

c: Department of Transportation, Maui District

BISHOP MUSEUM

January 25, 2006

Michael S. Nishimura, P.E.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawaii 96813

Dear Mr. Nishimura,

We circulated your proposal among our archaeology staff. Their comments indicate:

1) a concern that sufficient input is obtained from the local community;
2) a concern that cultural/archaeological monitors are needed on site at all times;
3) a concern that there be a plan for dealing with access and/or work measures that may impact other land (whether privately owned or public); and
4) a concern that your monitoring/impact plans include all staging areas located outside the 80' right-of-way.

I hope you find these comments helpful.

Sincerely,

Betty Lou Kam
Cultural Resources, Bishop Museum

1525 Bernice Street • Honolulu, Hawai'i 96817-2704 • Ph: (808) 847-3511 • Fax: (808) 841-8968 • Email: museum@bishopmuseum.org

LINDA LINGLE
GOVERNOR

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

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

IN REPLY REFER TO:
HWY-M 2.028-07

February 5, 2007

Ms. Betty Lou Kam
Cultural Resources
Bishop Museum
1525 Bernice Street
Honolulu, Hawaii 96817-2704

Dear Ms. Kam:

SUBJECT: RESPONSE TO COMMENTS DURING PRECONSULTATION FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for your letter dated January 25, 2006, commenting on preconsultation for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following responses to your comments in the order as they appear in your letter.

From a circulation of the project information among your archaeology staff, their comments indicate:

1) **<u>a concern that sufficient input is obtained from the local community;</u>**

The DOT-HWY is completing a "good faith effort" in notifying the public about the project and obtaining their input. Preconsultation letters were sent out to organizations, businesses, and agencies affiliated with and with interest in the project area. A summary of the preconsultation will be included in the final version of the Environmental Assessment.

Additionally:

- A public informational meeting for the project was initially held on April 28, 2004.
- The project was brought before the Maui County Cultural Resources Commission on March 2, 2006.
- Notice of the project (Draft Environmental Assessment) appeared in the June 8, 2006 edition of the State of Hawai'i, Department of Health, Office

of Environmental Quality Control (OEQC) *Environmental Notice* publication.

- A copy of the project's Draft Environmental Assessment was available for public review at the Lahaina Public Library since May 30, 2006.
- A second public informational meeting for the project was held on October 19, 2006.
- A public charrette for the project was held from Tuesday, January 9, 2007, through Friday, January 12, 2007.
- Notice of the project (Final Environmental Assessment) is planned for the February 23, 2007 edition of the OEQC *Environmental Notice.*
- An additional public hearing (associated with the SMA application) is tentatively planned for April 2007. Advance notification of the public hearing and information on the project will be sent to residents within 500′ of the project area.

2) **<u>a concern that cultural/archaeological monitors are needed on site at all times:</u>**

Project construction will be subject to the standard DOT-HWY archaeological requirements. Should historic resources be encountered (including human skeletal remains), construction work in the vicinity of the find will stop immediately, the material will be protected against further disturbance, and the State Historic Preservation Division, Maui Section (808-243-5169) will be contacted for further direction.

Additionally:

The National Historic Preservation Act (NHPA) Section 106 process is complete. Project consultation was held with the State Historic Preservation Officer (SHPO, Mr. Peter Young, Chair, of the State of Hawai'i, Department of Land and Natural Resources, State Historic Preservation Division, the local delegate for historic matters), and a formal finding of "no historic properties will be affected" by the project undertaking was issued via letter dated February 3, 2006. A copy of this letter is attached for your reference.

An invitation was extended to the Advisory Council on Historic Preservation (ACHP) via letter and project information on August 15, 2005 that presented the ACHP with the opportunity to provide archaeological and historical consultation for the subject project. During a follow-up call on January 6, 2006, the ACHP verbally and formally opted not to participate as a historic preservation consultant for the project and had no comments to offer. A record of this telephone conversation is attached for your reference.

A Cultural Impact Assessment (CIA) has been completed for the project as part of the environmental assessment process, and discussion on the CIA will be included in the final version of the Environmental Assessment.

A U.S. Federal Highways Administration (FHWA) Categorical Exclusion for Department of Transportation Act (DOTA) Section 4(f) evaluation is currently being processed.

Project information and a request for review and comment were submitted via letters dated January 5, 2006 and January 17, 2006 to the Maui/Lāna'i Island Burial Council (MLIBC). As indicated in the February 3, 2006, SHPO Section 106 response determination letter, the MLIBC expressed no concerns with the project regarding effects on historic properties.

3) **a concern that there be a plan for dealing with access and/or work measures that may impact other land (whether privately owned or public); and**

Continual access to cross streets and residences, businesses, and recreational areas along Honoapi'ilani Highway throughout project construction is planned by the DOT-HWY. As construction-specific details of the project develop, provision for this continuous access will be coordinated by the DOT-HWY.

4) **a concern that your monitoring/impact plans include all staging areas located outside the 80' right-of-way.**

The prospective locations for the construction operations and staging area (COSA) have not yet been identified. As construction-specific details of the project develop, potential sites for the COSA will be discussed and its monitoring/impact details will be addressed.

Again, thank you for your comments and participation in the project's preconsultation review and comment process.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

Very truly yours,

for BRENNON T. MORIOKA, Ph.D., P.E.
Deputy Director-Highways

Enclosures

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

February 3, 2006

Mr. Michael Nishimura, P.E.
M & E Pacific, Inc
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawaii 96813

LOG NO: 2006.0046
DOC NO: 0601MK22
Archaeology

Dear Mr. Nishimura:

SUBJECT: **National Historic Preservation Act (NHPA) Section 106 Review [State/Highways] –**
Honoapi'ilani Highway Widening, Lahainaluna Road to Aholo Road
Waine'e Ahupua'a, Lahaina District, Island of Maui
TMK: (2) 4-5-006 & 009 and 4-6-004: 013, 034

The proposed widening projects to occur within the existing established right-of-way (ROW), will effectively convert the highway from two (2) to four (4) lanes. The existing road is constructed on fill. The widening will include fill importation to meet the existing highway grade. The proposed DOT project is partially federally funded.

We believe that **"no historic properties will be affected"** by this undertaking 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) this project has gone through the historic review process, and mitigation has been completed
- ☒ f) other: *The project will occur within existing highway ROW, and will not include excavation below original grade. Feedback was solicited by your firm to the Maui/Lana'i Islands Burial Council Chair and Vice-Chair, Mr. Charles Maxwell and Ms. Dana Naone Hall who expressed no concerns at this time since the project is located within the existing ROW in which no known historic properties exist.*

In the event that historic resources, including human skeletal remains, are identified during routine 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 Division, Maui Section, needs to be contacted immediately at (808) 243-5169.

Aloha,

Peter Young, Chair
State Historic Preservation Officer

MK:kf

cc: Bert Ratte, DPWEM, County of Maui
Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Res. Commission, Dept. of Planning, 250 S. High Street, Wailuku, HI 96793

M&E Pacific, Inc.

METCALF & EDDY | AECOM

Record of Telephone Conversation

DATE:	January 6, 2006	**TIME:**	12:30–13:00
PERSON CALLED/ CALLING:	Ms. Carol Legard (CL, 202-606-8522)		
FIRM/ AGENCY:	Advisory Council on Historic Preservation (ACHP)		
PROJECT:	State of Hawai'i, Department of Transportation, Highways Division, Maui District *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* Waine'e, Lahaina, Maui, Hawai'i DOT Job Number 30BC-01-04		
PROJECT NUMBER:	36802576.00370		
SUBJECT:	**ACHP Participation in Historic Preservation Consultation for the Project**		
COPIES:	Mich Hirano (*Munekiyo & Haraga, Inc.*); AYT, DYK(*M&E*); Project File		

DISCUSSION ITEMS:

Carol mentioned that if the request letter was mailed over 2 weeks ago, it may be assumed that the ACHP will not participate in consultation. CL added that she currently has no Hawai'i project on her "radar screen." It was mentioned that the original request letter was sent to the ACHP back in August 2005. **CL confirmed that the ACHP opts not to participate as a historic preservation consultant for the subject project: State of Hawai'i, Department of Transportation, Highways Division, Maui District, Job Number 30BC-01-04, *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road*, Waine'e, Lahaina, Maui, Hawai'i.** She requested that a record of this telephone conversation be documented in the Environmental Assessment (EA) as the final, formal decision by the ACHP to not participate.

CL indicated that the ACHP now accepts requests for project review and their participation as consultants via electronic mailings. Requests submitted via email generally receive faster turnarounds than hardcopy mail requests. She added that the ACHP receives a great magnitude of requests, many with multiple projects, and although they try to respond to every request with a letter, sometimes the ACHP cannot accomplish this. CL acknowledged that although the ACHP is required to be notified for federally funded projects, she clarified that the ACHP focuses their attention mostly on Section 106 situations with determined adverse effects or problematic projects with large public exposure and opposition, big concerns, or problem cases that cannot close without ACHP participation. For US DOT Federal Highway Administration (FHWA) projects, usually the FHWA notifies the ACHP directly of adverse concerns, and the ACHP has 15 days to decide whether to participate in the project, and develop a Memorandum of Agreement (MOA).

ACTION(S) REQUIRED & TAKEN:

This record of telephone conversation will be documented in the Environmental Assessment.

FOLLOW-UP:

None.

SIGNED: _____ 1/6/06

Mike S. Nishimura **DATE**

Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawai'i 96813

Voice: (808) 521-3051, Extension 228
Fax: (808) 524-0246

PHONE (808) 594-1888

FAX (808) 594-1865

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

January 25, 2006

HRD05/2200

Michael Nishimura, P.E.
M&E Pacific, Inc.
Davies Pacific Center, Suite 1900
Honolulu, HI 96813

RE: Public Notice and Pre-Consultation for the Proposed *Widening of Honoapi'ilani* Highway, Lahainaluna Road to 'Aholo Road, Lahaina, Maui, TMK (2) 4-5-006 & 009 and (2) 4-6-004-013 & 034 (por).

Dear Mr. Nishimura,

The Office of Hawaiian Affairs (OHA) is in receipt of your January 6, 2006 request for comment on the above listed proposed project, TMK (2) 4-5-006 & 009 and (2) 4-6-004-013 & 034 (por). OHA offers the following comments:

Please contact Thelma Shimaoka of OHA's Maui office and Pam Nishiama of Na Kūpuna 'O Maui as they will likely be able to assist you in the consultation and sites determination process. Thank you for your correspondence.

OHA further requests your assurances that if the project goes forward, should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jesse Yorck at (808) 594-0239 or jessey@oha.org.

'O wau iho nō,

Clyde W. Nāmu'o
Administrator

CC: Thelma Shimaoka
OHA Community Affairs Coordinator (Maui)
140 Hoohana St., Ste. 206
Kahului, HI 96732

LINDA LINGLE
GOVERNOR

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

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

IN REPLY REFER TO:
HWY-M 2.030-07

February 5, 2007

TO: CLYDE W. NĀMU'O
ADMINISTRATOR
OFFICE OF HAWAIIAN AFFAIRS

FROM: BRENNON T. MORIOKA, Ph.D., P.E.
DEPUTY DIRECTOR-HIGHWAYS

SUBJECT: RESPONSE TO COMMENTS DURING PRECONSULTATION FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for your letter dated January 25, 2006, commenting on preconsultation for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following responses to your comments in the order as they appear in your letter.

1) **Please contact Thelma Shimaoka of OHA's Maui office and Pam Nishiama of Na Kūpuna 'O Maui as they will likely be able to assist you in the consultation and sites determination process.**

   Project information and a request for review and comment were submitted via letter dated January 30, 2006, to Ms. Thelma Shimaoka of the OHA Maui Office. She recommended a number of individuals who would be knowledgeable resources of information for historic sites. Some of the recommended individuals were interviewed for a Cultural Impact Assessment (CIA) that has been completed for the project as part of the environmental assessment process. Discussion on the CIA will be included in the final version of the Environmental Assessment.

   Similarly, project information and a request for review and comment were submitted via letter dated January 4, 2006, to Ms. Patty Nishiyama of Nā Kūpuna O Maui. She arranged for a couple of individuals to be interviewed for the aforementioned CIA.

2) **OHA further requests your assurances that if the project goes forward, should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.**

Project construction will be subject to the standard DOT-HWY archaeological requirements. Should historic resources be encountered (including human skeletal remains), construction work in the vicinity of the find will stop immediately, the material will be protected against further disturbance, and the State Historic Preservation Division, Maui Section (808-243-5169) will be contacted for further direction.

The contract bid documents will include Section 107.13—*Pollution Control and Protection of Archeological, Historical and Burial Sites*, Paragraph (B)—*Archaeological, Historical, and Burial Sites*, of the State of Hawai'i, Department of Transportation, Highways Division, *Hawaii Standard Specifications for Road and Bridge Construction* (2005). This paragraph states the following:

"Whenever the Contractor encounters sites of potentially historic or archaeological significance such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentration of charcoal or shells, work shall cease in the immediate vicinity of the site and the site shall be protected from damage. The Contractor shall suspend any work that may affect the site and inform the Engineer immediately. Upon direction by the Engineer, the Contactor shall provide and install temporary fencing to protect such sites. The Contractor shall not resume the work suspended without the prior written direction of and subject to the conditions set by the Engineer."

Additionally:

The National Historic Preservation Act (NHPA) Section 106 process is complete. Project consultation was held with the State Historic Preservation Officer (SHPO, Mr. Peter Young, Chair, of the State of Hawai'i, Department of Land and Natural Resources, State Historic Preservation Division, the local delegate for historic matters), and a formal finding of "no historic properties will be affected" by the project undertaking was issued via letter dated February 3, 2006. A copy of this letter is attached for your reference.

An invitation was extended to the Advisory Council on Historic Preservation (ACHP) via a letter that included project information on August 15, 2005. The Council was given the opportunity to provide archaeological and historical consultation for the subject project. During a follow-up call on January 6, 2006, the ACHP verbally and formally opted not to participate as a historic preservation consultant for the project and had no comments to offer. A record of this telephone conversation is attached for your reference.

As mentioned earlier in this letter, a Cultural Impact Assessment (CIA) has been completed for the project as part of the environmental assessment process, and discussion on the CIA will be included in the final version of the Environmental Assessment.

A U.S. Federal Highways Administration (FHWA) Categorical Exclusion for Department of Transportation Act (DOTA) Section 4(f) evaluation is currently being processed.

Project information and a request for review and comment were submitted via letters dated January 5, 2006 and January 17, 2006, to the Maui/Lāna'i Island Burial Council

(MLIBC). As indicated in the February 3, 2006, SHPO Section 106 response determination letter, the MLIBC expressed no concerns with the project regarding effects on historic properties.

Again, thank you for your comments and participation in the project's preconsultation review and comment process.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

Enclosures

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

February 3, 2006

Mr. Michael Nishimura, P.E.
M & E Pacific, Inc
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawaii 96813

LOG NO: 2006.0046
DOC NO: 0601MK22
Archaeology

Dear Mr. Nishimura:

SUBJECT: National Historic Preservation Act (NHPA) Section 106 Review [State/Highways] –
Honoapi'ilani Highway Widening, Lahainaluna Road to Aholo Road
Waine'e Ahupua'a, Lahaina District, Island of Maui
TMK: (2) 4-5-006 & 009 and 4-6-004: 013, 034

The proposed widening projects to occur within the existing established right-of-way (ROW), will effectively convert the highway from two (2) to four (4) lanes. The existing road is constructed on fill. The widening will include fill importation to meet the existing highway grade. The proposed DOT project is partially federally funded.

We believe that **"no historic properties will be affected"** by this undertaking 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) this project has gone through the historic review process, and mitigation has been completed
- ☒ f) other: *The project will occur within existing highway ROW, and will not include excavation below original grade. Feedback was solicited by your firm to the Maui/Lana'i Islands Burial Council Chair and Vice-Chair, Mr. Charles Maxwell and Ms. Dana Naone Hall who expressed no concerns at this time since the project is located within the existing ROW in which no known historic properties exist.*

In the event that historic resources, including human skeletal remains, are identified during routine 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 Division, Maui Section, needs to be contacted immediately at (808) 243-5169.

Aloha,

Peter Young, Chair
State Historic Preservation Officer

MK:kf

cc: Bert Ratte, DPWEM, County of Maui
Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Res. Commission, Dept. of Planning, 250 S. High Street, Wailuku, HI 96793

M&E Pacific, Inc.

METCALF&EDDY | AECOM

Record of Telephone Conversation

DATE:	January 6, 2006	**TIME:**	12:30–13:00
PERSON CALLED/ CALLING:	Ms. Carol Legard (CL, 202-606-8522)		
FIRM/ AGENCY:	Advisory Council on Historic Preservation (ACHP)		
PROJECT:	State of Hawai'i, Department of Transportation, Highways Division, Maui District *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* Waine'e, Lahaina, Maui, Hawai'i DOT Job Number 30BC-01-04		
PROJECT NUMBER:	36802576.00370		
SUBJECT:	**ACHP Participation in Historic Preservation Consultation for the Project**		
COPIES:	Mich Hirano (*Munekiyo & Haraga, Inc.*); AYT, DYK(*M&E*); Project File		

DISCUSSION ITEMS:

Carol mentioned that if the request letter was mailed over 2 weeks ago, it may be assumed that the ACHP will not participate in consultation. CL added that she currently has no Hawai'i project on her "radar screen." It was mentioned that the original request letter was sent to the ACHP back in August 2005. **CL confirmed that the ACHP opts not to participate as a historic preservation consultant for the subject project: State of Hawai'i, Department of Transportation, Highways Division, Maui District, Job Number 30BC-01-04, *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road*, Waine'e, Lahaina, Maui, Hawai'i.** She requested that a record of this telephone conversation be documented in the Environmental Assessment (EA) as the final, formal decision by the ACHP to not participate.

CL indicated that the ACHP now accepts requests for project review and their participation as consultants via electronic mailings. Requests submitted via email generally receive faster turnarounds than hardcopy mail requests. She added that the ACHP receives a great magnitude of requests, many with multiple projects, and although they try to respond to every request with a letter, sometimes the ACHP cannot accomplish this. CL acknowledged that although the ACHP is required to be notified for federally funded projects, she clarified that the ACHP focuses their attention mostly on Section 106 situations with determined adverse effects or problematic projects with large public exposure and opposition, big concerns, or problem cases that cannot close without ACHP participation. For US DOT Federal Highway Administration (FHWA) projects, usually the FHWA notifies the ACHP directly of adverse concerns, and the ACHP has 15 days to decide whether to participate in the project, and develop a Memorandum of Agreement (MOA).

ACTION(S) REQUIRED & TAKEN:

This record of telephone conversation will be documented in the Environmental Assessment.

FOLLOW-UP:

None.

SIGNED: _____ 1/6/06

Mike S. Nishimura **DATE**

Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawai'i 96813

Voice: (808) 521-3051, Extension 228
Fax: (808) 524-0246

APPENDIX J

Public Notification Letter & Database of Addresses

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

January 4, 2006

West Maui Taxpayers Association
PO Box 10338
Lahaina, Hawai'i 96761

Attn: Mr./Ms. Chairperson

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Archaeological & Historic Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on archaeological and historic properties are anticipated to be minor, if any. In the unlikely event that archaeological or historic material is encountered during project activities, work will cease immediately and the State of Hawai'i, Department of Land and Natural Resources (DLNR), Historic Preservation Division (SHPD) will be notified. The DLNR-SHPD and identified familial descendants will be consulted for the appropriate treatment of the find. This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for clarification. The area of potential impact is contained primarily to within the existing 80' wide highway right-of-way for the length of the project.

At this early stage in project development, we are evaluating the opinions and concerns of the public that occupy the surrounding areas of the aforementioned project. We are also in the process of discerning whether the project will affect any historic properties, as outlined by Section 106 of the National Historic Preservation Act. It will be greatly appreciated if all feedback can be provided within the thirty (30)-day public review and comment period (starting from the date of this letter) so that all comments can be properly addressed while meeting the established project schedule.

The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a

critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your reference.

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

M&E Pacific, Inc.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawai'i 96813
Telephone: (808) 521-3051
Fax: (808) 524-0246

Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,

M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures:
(1) Project Maps and Sketches
(2) DLNR-SHPD GIS Printout of Historic and Archaeological Properties in the Project Region and Listing of Identified Historic Sites for the Island of Maui
(3) Letter of Determination from the US FWS

cc: Project File

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521 3051 F 808 524.0246 www.m-e.com

January 4, 2006

Maria Lanakila Catholic Church
and Sacred Hearts School
239 Dickenson Street
Lahaina, Hawai'i 96761

Attn: Ms. Susan L. Hendricks, Principal

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Archaeological & Historic Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4. Since the project will occur in a well-developed area and involves widening an existing roadway within an existing established right-of-way (ROW), adverse impacts on archaeological and historic properties are anticipated to be minor, if any. In the unlikely event that archaeological or historic material is encountered during project activities, work will cease immediately and the State of Hawai'i, Department of Land and Natural Resources (DLNR), Historic Preservation Division (SHPD) will be notified. The DLNR-SHPD and identified familial descendants will be consulted for the appropriate treatment of the find. This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for clarification. The area of potential impact is contained primarily to within the existing 80' wide highway right-of-way for the length of the project.

At this early stage in project development, we are evaluating the opinions and concerns of the public that occupy the surrounding areas of the aforementioned project. We are also in the process of discerning whether the project will affect any historic properties, as outlined by Section 106 of the National Historic Preservation Act. It will be greatly appreciated if all feedback can be provided within the thirty (30)-day public review and comment period (starting from the date of this letter) so that all comments can be properly addressed while meeting the established project schedule.

The proposed *Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road* project site is located between mileposts 19.90 and 20.97 on Honoapi'ilani Highway (Route 30), in the District of Lahaina on the western coast of the Island of Maui. The site is roughly 3 miles south of Kā'anapali and about 12 miles due west of Wailuku. The existing highway runs in a

critical habitats are located in the project area. A copy of this formal determination letter is enclosed for your reference.

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

M&E Pacific, Inc.
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawai'i 96813
Telephone: (808) 521-3051
Fax: (808) 524-0246

Electronic mailings may be sent to our email addresses:

Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

Sincerely,

M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures: (1) Project Maps and Sketches
(2) DLNR-SHPD GIS Printout of Historic and Archaeological Properties in the Project Region and Listing of Identified Historic Sites for the Island of Maui
(3) Letter of Determination from the US FWS

cc: Project File

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

January 4, 2006

Lahaina Town Action Committee
648 Wharf Street
Lahaina, Hawai'i 96761

Attn: Mr./Ms. Chairperson

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Archaeological & Historic Consultation

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650 Palapala Drive
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Telephone: (808) 873-3535
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Diane.Kodama@M-E.AECOM.Com
Mike.Nishimura@M-E.AECOM.Com

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M&E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

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(3) Letter of Determination from the US FWS

cc: Project File

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T 808.521.3051 F 808.524.0246 www.m-e.com

January 5, 2006

Boys & Girls Club of Maui—West Maui Club
Lahaina Recreation Center
280 Shaw Street, PO Box 1774
Lahaina, Hawai'i 96761

Attn: Ms. Alison Way, Unit Director

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification & Request for Feedback and Pedestrian Safety Consultation

M & E Pacific, Inc. is working on a State of Hawai'i, Department of Transportation (DOT), Highways Division (HWY) project in Lahaina on Maui that involves widening Honoapi'ilani Highway from 2 lanes to 4, with a median (shared left-turn corridor or landscaped planter), bikelane, shoulder and sidewalk. Trees, bushes and hedges may have to be trimmed, relocated or removed to accommodate new highway structures, and some grading may have to be done in project-adjacent areas for drainage management. Since the project will occur in a well-developed residential area and involves work adjacent to two public recreation facilities—(1) Lahaina Aquatic Center and Park; and the adjacent (2) Lahaina Recreation Center and Park—we would like to consult with you to address pedestrian safety concerns and coordinate potential measures to uphold the safety of children and park users throughout project construction.

Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui.

This project is funded by both the State and federal governments and requires the preparation of an Environmental Assessment, which is currently being developed. A Finding of No Significant Impact (FONSI) is anticipated for the proposed activity. A few maps and sketches of the current preliminary design for the subject project are enclosed for your reference. The area of potential impact is contained primarily to within the existing 80'-wide highway right-of-way (ROW) for the length of the project, from Lahainaluna Road to 'Aholo Road.

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T 808.521.3051 F 808.524.0246 www.m-e.com

February 13, 2006

Lahaina Restoration Foundation
120 Dickenson Street
Lahaina, Hawai'i 96761

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
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At this early stage in project development, we are evaluating the opinions and concerns of knowledgeable agencies and the public that occupy the surrounding areas of the aforementioned project. We are also in the process of discerning whether the project will affect any historic properties, as outlined by Section 106 of the National Historic Preservation Act. It will be greatly appreciated if all feedback can be provided within the thirty (30)-day public review and comment period (starting from the date of this letter) so that all comments can be properly addressed while meeting the established project schedule.

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Formal responses have also been received from the following agencies and organizations:

1. Advisory Council on Historic Preservation (ACHP)
2. Bishop Museum
3. Maria Lanakila Catholic Church and Sacred Hearts School
4. State of Hawai'i, Department of Hawaiian Homelands (DHHL)
5. State of Hawai'i, Office of Hawaiian Affairs (OHA)

The Nā Kūpuna O Maui, Maui County Maui/Lāna'i Islands Burial Council, and Hui Mālama I Nā Kūpuna O Hawai'i Nei have all been contacted, and their reviews of the project are on-going. Coordination is also on-going with the Maui County Department of Planning; US Department of the Interior National Park Service and DLNR-Division of State Parks (DSP) regarding Land and Water Conservation [Fund, LWCF] Act Section 6(f) requirements; and US Department of Transportation Federal Highway Administration (FHWA) regarding Department of Transportation Act [DOTA 1966 & as amended] Section 4(f) regulations.

Project information and request for review and comment were also sent to the following agencies and organizations, and no response has been received as of the date of this letter:

1. Boys & Girls Club of Maui—West Maui Club
2. Friends of Moku'ula
3. 'Iolani Palace—Friends of 'Iolani Palace
4. Lahaina Town Action Committee
5. Maui County Arborist Advisory Committee
6. Maui County Cultural Resources Commission
7. Maui County Department of Parks and Recreation
8. West Maui Taxpayers Association

The project manager at the State of Hawai'i DOT-HWY is:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

Please direct all concerns to either Ms. Diane Kodama or myself at:

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March 21, 2006

NA HALE O WAINE'E
670 Wai'ale Road
Wailuku, Hawai'i 96793

Attn: Mr. Charlie Ridings

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
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Lahaina is a major tourist destination on the Island of Maui and supports a wide variety of businesses. Traffic on Honoapi'ilani Highway in Lahaina has been increasing steadily over the past several years, causing congestion for the growing number of tourists and residents. This highway-widening project is needed to mitigate traffic congestion and support further growth of the town and its surrounding communities. Honoapi'ilani Highway is the main transportation link between leeward coastal towns on Maui. The project will also provide an aesthetic gateway into Lahaina.

Adverse impacts on the environment, archaeological and historic properties, and adjoining areas are not anticipated for the project. Adverse impacts are not anticipated because the project occurs in a well-developed area and involves widening an existing roadway within an existing established ROW.

Project effects on endangered/threatened animals and plants, historic and archaeological properties, and cultural resources have been determined to be unlikely through coordination and discussion with governing agencies and knowledgeable individuals. Project coordination with the following agencies and organizations has also either been completed or is on-going:

Ms. Charlene Shibuya
State of Hawai'i, DOT-HWY, Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
Telephone: (808) 873-3535
Fax: (808) 873-3544
Email: Charlene.Shibuya@Hawaii.Gov

It will be greatly appreciated if all feedback, if any, can be provided in a timely manner so that all comments can be properly addressed while meeting the established project schedule.

Sincerely,

M & E PACIFIC, INC.

Michael S. Nishimura, P.E.
Project Engineer

Enclosures: (1) Project Maps and Sketches

cc: Project File

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Davies Pacific Center, Suite 1900, 841 Bishop Street, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

March 21, 2006

KĀ'ANAPALI 2020
c/o Munekiyo & Haraga, Inc.
305 South High Street
Suite 104
Wailuku, Hawai'i 96793

Attn: Ms. Gwen Hiraga

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
DOT-HWY Project Number 30BC-01-04
Public Notification

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M & E PACIFIC, INC.

Michael S. Nishimura, P.E.
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T 808.521.3051 F 808.524.0246 www.m-e-aecom.com

March 21, 2006

LAHAINA BAPTIST CHURCH
209 Shaw Street
Lahaina, Hawai'i 96761

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
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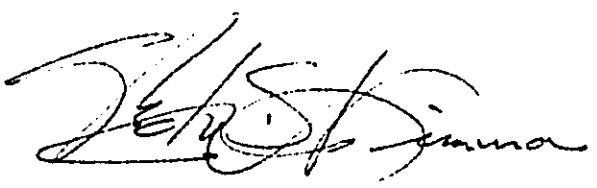
M & E PACIFIC, INC.



Michael S. Nishimura, P.E.
Project Engineer

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cc: Project File

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T 808.521.3051 F 808.524.0246 www.m-e.aecom.com

March 21, 2006

WAIOLA CHURCH
535 Waine'e Street
Lahaina, Hawai'i 96761

Attn: Kahu Donald Schmidt

Subject: State of Hawai'i, Department of Transportation, Highways Division
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
TMK: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
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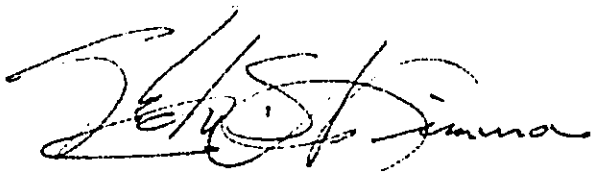
M & E PACIFIC, INC.



Michael S. Nishimura, P.E.
Project Engineer

Enclosures: (1) Project Maps and Sketches

cc: Project File

APPENDIX K

Public Responses and Coordination

Nishimura, Michael

From: Nishimura, Michael
Sent: Wednesday, January 25, 2006 3:06 PM
To: Kodama, Diane
Cc: Tomita, Alan
Subject: DOT-H Honoapiilani Hwy Widen - Telecon with Sacred Hearts School Maui

:ecord of Telephone Conversation
Vednesday, 1/25/06 -- 1:30pm
Paula Pope (PP), Sacred Hearts School (Lahaina, Maui) -- 661-4720
DOT-H Honoapiilani Highway Widening Project

PP called to mention that the school has only one concern with the project:

. The school has an existing fence bordering the highway. What are the impacts of the project on this fence and if .equired, will the fence be relocated further into their property by the DOT-H (at no cost to the school)?

P was told that the design of the project is still only in its preliminary stage and is subject to change with project developments. he was told that we can provide her with a more definitive answer a little further down the road as the project progresses. PP was amenable to this.

ote: From the project topo, the fence is shown to be about 6" within the highway ROW (the school is located on the southwest .orner of the Honoapiilani Hwy - Dickenson St intersection).

hould any questions or problems develop, please contact either Ms. Diane Kodama or myself at the number below.

Thanks,
Michael S. Nishimura

M&E Pacific, Inc.

ETCALF&EDDY | AECOM
Davies Pacific Center
841 Bishop Street, Suite 1900
onolulu, Hawai'i 96813

Telephone: 808.521.3051, Ext. 228
acsimile: 808.524.0246
ectronic Mail: Mike.Nishimura@M-E.AECOM.Com

January 29, 2007

TO: MS. PAULA POPE
SACRED HEARTS SCHOOL
239 DICKENSON STREET
LAHAINA, HAWAII 96761

FROM: BRENNON T. MORIOKA
DEPUTY DIRECTOR-HIGHWAYS

SUBJECT: RESPONSE TO COMMENTS DURING PRECONSULTATION FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for your telephone call on January 25, 2006, commenting on preconsultation for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following response to your comment.

1) **The school has an existing fence bordering the highway. What are the impacts of the project on this fence and, if required, will the fence be relocated further into the property?**

   The existing fence is located less than a foot within the highway right-of-way (ROW), and will be removed to accommodate the newly widened roadway structures. A sound barrier wall will be installed at the ROW that will mitigate noise impacts of the highway. This wall will also deter children and persons from entering the highway from your property, as well as, discourage unauthorized persons from entering your property from the public highway.

Again, thank you for your comments and participation in the project's preconsultation review and comment process.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

LINDA LINGLE
GOVERNOR

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

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:
HWY-M 2.031-07

February 5, 2007

Ms. Paula Pope
Sacred Hearts School
239 Dickenson Street
Lahaina, Hawaii 96761

Dear Ms. Pope:

SUBJECT: RESPONSE TO COMMENTS DURING PRECONSULTATION FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for your January 25, 2006, telephone call commenting on the preconsultation for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following response to your comment.

1) **The school has an existing fence bordering the highway. What are the impacts of the project on this fence and, if required, will the fence be relocated further into the property?**

   The existing fence is located less than a foot within the highway right-of-way (ROW), and will be removed to accommodate the newly widened roadway structures. A sound barrier wall will be installed in the ROW and that will mitigate noise impacts of the highway. The wall will also deter children and persons from entering the highway from your property, as well as, discourage unauthorized persons from entering your property from the public highway.

Again, thank you for your comments and participation in the project's preconsultation review and comment process.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

Very truly yours,

for BRENNON T. MORIOKA, Ph.D., P.E.
Deputy Director-Highways

Nishimura, Michael

From: Nishimura, Michael
Sent: Thursday, January 11, 2007 10:27 AM
To: Kodama, Diane
Cc: Asari, Ryan; Toba, Jason; Pang, Brannon; Pizarro, Catherine; Feng, Kelie
Subject: DOT-HWY Honoapiilani Hwy Widen EA - Telecon with the Boys & Girls Club of Maui

:ecord of Telephone Conversation
.hursday, 1/12/07 - 10am
DOT-HWY Honoapiilani Hwy Widening, Lahainaluna Road to Aholo Road
-oys & Girls Club of Maui (BGCM), West Maui Club, Lahaina Recreation Center, 280 Shaw Street, PO Box 1774, Lahaina, HI 6761
Danielle - 667-9314 (http://www.mauicounty.gov/youth/maui/leisure/centers.htm)

'he BGCM was contacted to followup with any concerns they may have with the project, as project information and a request for .omments was sent to them about a year ago and no response was received.

'anielle inquired whether the call was regarding the Lahaina Bypass Project, and it was pointed out that the project actually is a eparate project that will involve widening a portion of the existing 2-lane highway that runs past the Lahaina Recreational Center park to 4 lanes between Lahainaluna and Aholo Roads. This project could probably be constructed sooner than the bypass, and would ease traffic congestion. Also, it could complement and be incorporated into the Lahaina Bypass Project and allow for easie nd increased access to the bypass.

Danielle mentioned that the BGCM's foremost concern is the safety of the children walking along the highway and especially for rossing the road. As the highway currently is, there have been incidences where motorists have come dangerously close to ccidents. By increasing the highway from 2 lanes to 4, children would have to cross 2 additional lanes in the widened condition. was pointed out that a crossing refuge would be added at the median; however, the height of anything in the median should allow for children to see oncoming traffic.

Danielle pointed out that the Unit Director is no longer Ms. Alison Way, but is now Mr. Dillon Kersh. She will have Dillon contact Charlene at the DOT-HWY with concerns about the highway widening project.

lichael S. Nishimura

M&E Pacific, Inc.

IETCALF&EDDY | AECOM

uvies Pacific Center
841 Bishop Street, Suite 1900
onolulu, Hawai'i 96813

elephone: 808.521.3051, Ext. 228
Facsimile: 808.524.0246
lectronic Mail: Mike.Nishimura@M-E.AECOM.Com

Nishimura, Michael

Subject: RE: DOT-HWY Maui, Honoapiilani Hwy Widen EA - Revised Draft EA & Preconsultation Comment Response Letters

From: Charlene.Shibuya@hawaii.gov [mailto:Charlene.Shibuya@hawaii.gov]
Sent: Monday, January 29, 2007 1:41 PM
To: Nishimura, Michael
Cc: Tomita, Alan; Pizarro, Catherine; Kodama, Diane; Tyler, Jacob G.; Inouye, Paul
Subject: Re: DOT-HWY Maui, Honoapiilani Hwy Widen EA - Revised Draft EA & Preconsultation Comment Response Letters

I spoke to Mr.Dillon Kersh (new Unit Director) and explain how the Shaw Street signalized intersection would have adequate crossing time to allow children to safely cross the additional 2-lanes, similar to signalized crossings at Lahainaluna Rd, Papalaua St, Lahaina Cannery Mall, etc. Also, that the marked crosswalks would be made wider for better advanced visibility. He was also concerned on ped access to their facility during construction. Explained how the temporary construction detour road is proposed thru the Mill Street/ cane haul road and how police officers would be stationed at the Shaw St crossing and Lahainaluna Rd crossing. Told him I could make myself available to meet with him & his staff in person to show him our plans. He said my explanations over the phone were adequate for now.

Our office manager has sent the OEQC letter electronically to our Deputy Director's office in Honolulu (downtown Punchbowl St office) for his signature & pick up by M&E. Getting the response letters processed too.

APPENDIX L

Project Basis of Design

BASIS OF DESIGN (*Preliminary*)

Honoapi'ilani Highway Widening
Lahainaluna Road to 'Aholo Road

Waine'e, Lahaina, Maui, Hawai'i

Tax Map Key Numbers (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [*por each*]

DOT-HWY Project No. 30BC-01-04

AUGUST 2006

Prepared for:

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Prepared by:

M&E Pacific, Inc.

METCALF & EDDY | AECOM

Davies Pacific Center, 841 Bishop Street
Suite 1900, Honolulu, Hawai'i 96813

PROJECT INFORMATION SUMMARY

Project Name:	Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road State Design Project Number: 30BC-01-04
Project Owner:	State of Hawai'i, Department of Transportation, Highways Division Ali'i'aimoku Building 869 Punchbowl Street, Room 513 Honolulu, Hawai'i 96813-5097 Contact: Charlene Shibuya, Project Manager State of Hawai'i, Department of Transportation, Highways Division Maui District 650 Palapala Drive Kahului, Hawai'i 96732 Phone: (808) 873-3535, Fax: (808) 873-3544, Email: Charlene.Shibuya@Hawaii.Gov
Accepting Authorities:	County of Maui, Department of Public Works and Environmental Management State of Hawai'i, Department of Transportation US Department of Transportation, Federal Highway Administration
Location:	Honoapi'ilani Highway, Route 30, between Mileposts 19.90 & 20.97 District of Lahaina, Island of Maui
Proposed Action:	The proposed action involves widening the existing State-owned Honoapi'ilani Highway from two to four lanes in compliance with government standards, and constructing a separate bikelane and sidewalk. This project will ease traffic congestion in Lahaina
Property Owner and TMK Designation:	Honoapi'ilani Highway State of Hawai'i, Department of Transportation The site is located within an 80'-wide roadway right-of-way (ROW) in favor of the State of Hawai'i for Honoapi'ilani Highway, Route 30, bordered on both sides primarily by private residential properties. Tax Map Keys: (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]

OVERVIEW OF PROPOSED PROJECT

The proposed Honoapi'ilani Highway Widening project site is approximately located between milepost 19.0 and 20.97 on Honoapi'ilani Highway (Route 30) in the District of Lahaina, Island of Maui, Hawai'i. The existing Honoapi'ilani highway within the project limits is a two-lane highway, classified as a principal arterial, consisting of two 11-foot lanes, with 4 to 6 feet shoulders on each side. Lahaina town serves as a major tourist destination on the Island of Maui supporting a wide variety of businesses. Traffic in the area has been increasing steadily over the past few years causing congestion on Honoapi'ilani Highway.

The State of Hawai'i, Department of Transportation (HDOT), Highways Division (HWY) is proposing to widen the existing highway from two travel lanes to a four-lane divided highway, easing traffic congestion along the highway and fronting Lahaina Town. The proposed improvements include highway widening, intersections, shoulders, drainage modifications, and installation of roadside safety systems.

DESIGN REFERENCE

AASHTO, "A Policy on Geometric Design of Highways and Streets," 2004.

AASHTO, "Roadside Design Guide," 2002.

DOT, "Standard Plans," 1986, and as amended.

HDOT, "Hawaii Standard Specifications for Road and Bridge Construction," 2005, and as amended.

HDOT, "Hawaii Statewide Uniform Design Manual for Streets and Highways," 1980.

US DOT Federal Highways Administration, "Manual on Uniform Traffic Control Devices (MUTCD)," Millennium Edition (2000).

NCHRP Report 350.

HDOT, "Design Criteria for Highway Drainage," February 1, 2001.

US DOT FHWA, "Applicable Hydraulic Engineer Circulars (HEC)."

Americans with Disabilities Act (ADA), "Accessibility Guidelines for Buildings and Facilities (ADAAG)," 1998 (Revised 2004).

DESIGN CRITERIA

Highway Type: Urban Principal Arterial

Traffic

2004 ADT = 23,500 ('Aholo Road to Prison Street)
26,000 (Prison Street to Lahainaluna Road)

2014 ADT = 26,800 ('Aholo Road to Prison Street)
29,700 (Prison Street to Lahainaluna Road)

DHV = 2,140 ('Aholo Road to Prison Street)
2,520 (Prison Street to Lahainaluna Road)

K_{DES} = 8.0% ('Aholo Road to Prison Street)
8.5% (Prison Street to Lahainaluna Road)

D_{DES} = 50/50 ('Aholo Road to Prison Street)
55/45 (Prison Street to Lahainaluna Road)

T_{DES} = 2.5 ('Aholo Road to Prison Street)
2.5 (Prison Street to Lahainaluna Road)

T_{24} = 4.0 ('Aholo Road to Prison Street)
4.0 (Prison Street to Lahainaluna Road

NHS = No

Type of Terrain = Level

DESIGN ELEMENTS

1. **Design Speed**

Design speed for the proposed widening project is set to be **45 mph**. The posted speeds of existing highway are 40 mph from 'Aholo Road to Prison Street and 35 mph from Prison Street to Lahainaluna Road. The corresponding design speeds, based on HDOT design guide (10 mph above the posted speed), should be 50 mph from 'Aholo Road to Prison Street and 45 mph from Prison Street to Lahainaluna Road. However, it is proposed that the design speed be lowered from 50 mph to 45 mph between 'Aholo Road and Prison Street due to the community's concern for pedestrian safety concern.

Based on the Project Assessment Report (PAR) dated August 2002, and furnished by DOT, the proposed shoulder improvements include providing pedestrian-bicyclist shared ADAAG-compliant shoulders on both sides of highway. Because of the community's concerns on pedestrian safety, especially for elders and children, a raised concrete sidewalk has been proposed to provide a safer pedestrian walkway on the *makai* side of highway. However, AASHTO geometric guide discourages using curb and gutter for high-speed highway (design speed > 45mph). It is recommended and concurred by DOT Maui District to lower the posted and design speeds between 'Aholo Road and Prison Street to 35 mph and 45 mph, respectively.

2. **Horizontal Curves**

The horizontal geometric parameters including superelevation rate will be designed to meet the AASHTO, "A Policy on Geometric Design of Highways and Streets," 2004.

3. **Vertical Curves**

The vertical geometric parameters will be designed to meet the AASHTO, "A Policy on Geometric Design of Highways and Streets," 2004.

4. **Roadside Design**

The roadside system will be designed to meet the AASHTO, "Roadside Design Guide," 2002.

DESIGN OPTIONS

The design option selected for this project is a separated bikelane and pedestrian walkway. The pedestrian walkway is located on the *makai* side of the highway with both vertical and horizontal separation (curb and narrow planting area) provided between it and the bikelane and vehicular travel lanes, thereby

providing added safety for both pedestrians and bicyclists. The bikelane/walkway area will consist of a 4'-wide bikelane, 2½'-wide curb and gutter, 5'-wide sidewalk, and a 1½'-wide planting area. The *mauka* side of the highway will have and 8'-wide paved shoulder.

The widened highway will consist of 4 vehicular travel lanes and a median either paved for left turns or landscaped. This median may also serve as a refuge for pedestrians at highway intersections with cross streets. Embankment will be required to widen the highway toward its ROW edges, and concrete retaining walls and guardrails will be installed where required to accommodate the highway.

Trees of varying sizes are located along the highway Right-of-Way (ROW) that will be impacted by the roadway widening. Along the *makai* side of the highway, a few of these trees will have an impact on the pedestrian sidewalk area. The pedestrian sidewalk will be diverted around these trees to a minimum width of 3'. Where trees outside the ROW affect vertical clearance above the sidewalk, branches will be pruned back. Along the *mauka* side of the highway, primarily near the Lahaina Recreational and Aquatic Center Parks, a row of large trees are located adjacent to the ROW. To minimize adverse impacts on the trees and their root systems, gaps in the retaining wall foundations will be constructed. Vegetation and trees within the ROW that interfere with highway construction will be removed.

DRAINAGE SYSTEM

No existing drainage system exists within the project area, other than a few drain inlets, roadside earthen swales and 3 highway culvert systems. No facilities outlet directly to the ocean. Existing surface runoff from the highway sheet flows to adjacent properties, detention ponds and culverts. Approximately 17.75 cfs sheet flows *mauka* off of the highway while about 20.67 cfs sheet flows *makai*. By widening the highway from two lanes to four lanes, additional runoff will be generated because of hardening the existing

surface. The hydrological analysis contained in the preliminary drainage report shows the increased flow on the *mauka* portion of the highway to be approximately 8.47 cfs, while the increased flow on the *makai* portion is about 3.84 cfs. This adds up to a total of a 12.31 cfs net increase.

A comprehensive geotechnical exploration has been conducted to evaluate the capacity of drywells. Preliminary testing and analyses showed poor results for near-surface soil permeability. Higher water disposal capacities of greater than 1.0 cfs are anticipated to be attainable only by drywells extending to depths over 70 to 110 feet deep. Proposed highway structures (curb and gutter) will contain surface runoff on the *makai* portion of the road; thus, catch basins are recommended. To decrease the net surface runoff quantity, deep drywells are recommended.

Sixteen *makai* drywells are proposed to dispose of the 24.51 cfs of total *makai* runoff, which includes the 3.84 cfs of additional finished drainage. The 8.47 cfs of additional *mauka* runoff (26.22 cfs total) will be allowed to surface flow off the highway over the approximate 1-mile project length. This results in an overall net decrease in surface runoff of about 12.20 cfs, or over 32% from the existing condition.

At a rough estimate of $30,000 per drywell, the 16 proposed drywells will result in a construction cost of about **$480,000**. In addition, the drywells will require State underground injection control (UIC) permits that have to be renewed every five years, and involve the collection and testing of injected samples. Drywells also present maintenance concerns. The main advantage of this option is that drywells will be located within the DOT-HWY ROW and no easement or acquisition private properties are required.

RIGHT-OF-WAY ISSUES

Topographic survey and available record research indicated that existing side streets connecting to Honoapi'ilani Highway, as shown in the roadway plans sheets 18, 21 & 24, encroach into private properties. No easement agreement or acquisition documents were found regarding the property encroachments. Proposed improvements in these

intersections include the installation of retaining walls within the highway ROW to provide larger turning radii and relieve steep grades, and feathered transitions to existing cross-street pavement for smooth continuity. The DOT-HWY plans to acquire temporary construction rights-of-entry from the County of Maui, Department of Public Works in order to complete this transition work.

AMERICANS WITH DISABILITIES ACT (ADA)

ADA-compliant curb ramps and associated improvements including pedestrian pushbuttons will be installed at all intersections. ADA-compliant raised sidewalks will be provided on the *makai* side of highway.

GEOTECHNICAL ENGINEERING

Based on the DOT pavement manual and discussion with HWY-L the new pavements should be designed for 50 year service life. Two of the three CBR tests were good while one was poor. Further soil tests will be conducted at these areas of poor CBR conditions. Permeable base course is provided as required by the pavement manual. The following summarizes the recommend pavement sections:

'Aholo Road to Prison Street

4.0 inches AC
7.0 inches Asphalt Concrete Base
6.0 inches Permeable Base
6.0 inches Aggregate Subbase
23.0 inches total pavement thickness

Prison Street to Lahainaluna Road

4.0 inches AC
7.5 inches Asphalt Concrete Base
6.0 inches Permeable Base
6.0 inches Aggregate Subbase
23.5 inches total pavement thickness

Please note that installation of permeable base requires underdrain pipe, cleanout and outlets, which will increase construction cost. It is recommended that the DOT-HWY Maui office discuss with HWY-L whether the underdrain can be eliminated. The elimination of underdrain system for new pavement section, together with rehabilitation of existing pavement in lieu of replacing it with a new pavement structure, will result in a considerable cost savings.

TRAFFIC STUDY

The "Traffic Forecast for Proposed Honoapi'ilani Highway Widening Project from Lahainaluna Road to 'Aholo Road" for the subject project is attached for DOT-HWY review (Attachment A).

ELECTRICAL ENGINEERING

ELECTRICAL UTILITIES

The existing electrical utilities located along Honoapi'ilani Highway are routed overhead on joint utility poles owned by Maui Electric Company, Ltd. (MECO). The existing utilities include primary and secondary electrical distribution lines by MECO, telephone distribution lines by Hawaiian Telcom, and CATV distribution lines by Oceanic Time Warner Cable.

To facilitate the widening of Honoapi'ilani Highway, existing utility poles, utility lines and associated utility equipment mounted on the poles at the Dickenson Street, Prison Street, and 'Aholo Road will be relocated. The new wood utility poles will be provided by MECO. Relocation of all utility lines and associated utility equipment will be by cost sharing as per Hawai'i Revised Statues (HRS) Chapter 264-33: the first $10,000 will be paid for by the respective utility companies, and the remaining cost thereafter will be covered 50/50 by the utility companies and the DOT-HWY.

STREET LIGHTING

The existing street lighting system for Honoapi'ilani Highway between 'Aholo Road and Lahainaluna Road consists of high-pressure sodium light fixtures mounted on aluminum light poles with aluminum, truss-type mast arms. The existing wiring for the street lighting system is routed underground. The existing street light poles are located at each intersection between 'Aholo Road and Lahainaluna Road. There are no street light poles located along Honoapi'ilani Highway between intersections.

To facilitate the widening of Honoapi'ilani Highway, existing street light poles at the Dickenson Street and Prison Street intersections will be relocated. Since the existing street light poles appear to have been installed recently and are in good condition, they will be reused and mounted on new concrete footings at the new locations.

TRAFFIC SIGNAL SYSTEM

The existing traffic signal systems located at the Dickenson Street and Shaw Street intersections utilize incandescent-type traffic signal heads and pedestrian signal heads mounted on type I and type II traffic signal standards.

The existing traffic signal systems will be replaced with new systems utilizing LED type signal heads and ADA-compliant pedestrian push buttons for crossing the street. The new traffic signal system will also be equipped with EVP detectors for emergency vehicles. New traffic signal controllers and cabinets will be provided for each traffic signal system. The controller cabinets will be stainless steel.

Electrical service for the traffic signal system will be extended from the existing electric service equipment located near the existing traffic signal control cabinets. New underground ducts and feeder conductors will be extended from the existing

service equipment to the new traffic signal controllers prior to disconnecting the existing service conductors to minimize outage time.

STRUCTURAL ENGINEERING

DESIGN GUIDE

1. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, Third Edition (2004).

2. Hawai'i Standard Specification for Road and Bridge Construction (2005 Edition).

DESIGN LOADS

Dead Load

a. Structural Reinforced Concrete = 0.160 kcf
b. Future Wearing Surfaces = 0.150 kcf
c. Compacted Earth Fill: Soil = 0.120 kcf

Live Load (HL-93)

a. Design Truck: HS20-44

b. Design Tandem: Axle 1 = 25 kips
Axle 2 = 25 kips
Axle spaced 4'-0" apart

c. Design Lane Load: 0.64 klf per lane (distributed over 10'-0" width)

Traffic Railing Loads

Traffic railing loads shall be in accordance with Railing Test Level TL-2.

LOADING COMBINATIONS

Loading combinations shall be in accordance with LRFD Section 3.4, Table 3.4.1-1.

MATERIALS

1. Concrete Compressive Strength (at 28 days)

   All concrete: 4.0 ksi

2. Reinforcing Steel: ASTM A 615, Grade 60.

FOUNDATION

1. Static Lateral Earth Pressures

   a. Active Earth Pressure (Level Backfill) = 35 pcf

2. Soil Bearing Capacity

   3 ksf

STRUCTURAL SYSTEM

Free standing cantilever retaining wall. Retaining wall foundation system without toe of footing will be used. Metal guardrail and/or sound barrier will be installed on top of retaining wall.

DRAINAGE STRUCTURAL SYSTEM

Inlet and outlet structures of existing drainage system are concrete pipe and headwall with AC, rip rap or concrete apron.

Road culverts will remain unaltered other than some work on the inlets and outlets to accommodate the increased highway width.

HYDROLOGY AND HYDRAULIC ANALYSES

A comprehensive hydrologic and hydraulic study has been completed for the preliminary design phase. The objective of the study was to analyze and evaluate the existing hydrologic and hydraulic characteristics of the site and its adjacent areas, and investigated the drainage impacts of the project in its finished condition using the 25- and 50-year rainfall criteria for culvert and roadway drainage design conditions, respectively. The State DOT-HWY document *Design Criteria for Highway Drainage*

(February 2001) was used as a basis for computing both existing and finished drainage flows. Design is compliant with the County of Maui Drainage Master Plan.

Increased pavement width and installation of structures will increase rainfall runoff; thus, facilities will be installed to accommodate the net increase in drainage flow. A total of 16 catch basins with drywells are recommended to accommodate drainage flow. Overall drainage surface flow to properties adjacent to the highway will be reduced considerably with project construction. Thus, the project presents no adverse drainage impacts to the highway and adjoining properties.

The Rational Method was used for the drainage assessment because the entire project area is less than 200 acres. The aforementioned State DOT-HWY *storm drainage* standards document states that the Rational Method shall be used for areas of 200 acres or less. The design classification of Honoapi'ilani Highway is "Arterial Highway." The recurrence interval (T_m) for areas 200 acres or less for arterial highway culvert design not covered by the National Flood Insurance Program is T_m = 50 years based on the 1 hour storm. The T_m for roadway drainage is 25 years based on the 1 hour storm. The intensities for these 25-year and 50-year recurrent rainfalls are 2.0 inches and 2½ inches, as shown on isohyetal maps of the island. Permanent measures for Best Management Practices (BMPs) will be installed to meet State requirements. BMP guidelines are provided in Attachment B.

Drainage areas were limited to within the 80' ROW. Drainage area lengths and corresponding slopes were considered from the roadway high point (crown for normal areas or high edge for superelevated areas) to low point of the area outlet or terminus. This outlet was the easement edge for surface flow orthogonal to the highway baseline or the culvert, catch basin or drain inlet for swales, barriers, curb and gutter. The length of flow to these drainage structures was determined along the length of swale, barrier, or curb and gutter.

The character of ground for the drainage areas controlled both the runoff coefficient and the determination of time of concentration for the drainage area. The runoff coefficients for the areas were estimated by an area-weighted approximation based on drainage standard 0.95 for asphaltic concrete (AC) pavement and 0.25 for grassed portions. The minimum time of concentration, as specified by the State DOT-HWY drainage standards was 10 minutes. The calculated concentration times were used to determine rainfall correction factors for design intensities.

Overall estimated increases in surface runoff are 8.47 cfs for the *mauka* side of the highway and 3.84 cfs for the *makai* side. Total runoff (26.22 cfs) on the *mauka* portion of the highway will be allowed to sheet flow off of the road in a pattern similar to the existing condition, and be managed with existing drainage facilities—drain inlets, pipes, culverts, basins and earthen swales.. Drainage from the *makai* side of the highway will be mostly contained within the ROW due to the installation of a curb and gutter; thus, most of the runoff amount of 24.51 cfs (20.67 cfs from the existing condition and the 3.84 cfs increase from the finished condition) will be managed with proposed drywell catch basins. A total of 16 catch basins are recommended for the *makai* side of the highway.

To optimize catch basin spacing, gutter spreads were analyzed for the different drainage areas of the finished condition. The State DOT-HWY drainage standards require the spread to be no more than ⅓ of the travel lane width from the curb or retaining wall face. For the *makai* side, this amounts to 9.7′. A Manning's material roughness coefficient of 0.0142 was estimated to approximate the AC pavement-concrete curb and gutter surface over which water would flow.

The general flatness of the project site with mild slopes of less than 2% contributes to sizable gutter spreads for the finished condition. Additional drywells may be added to

dispose of anticipated runoff and reduce the gutter spread; however, each drywell costs roughly 30,000, and a cost-benefit analysis should be considered to optimize project goals with the available budget.

ENVIRONMENT ASSESSMENTS AND PERMITS

The Environmental Assessment (EA) and permit applications are being prepared at this preliminary design phase.

COST ESTIMATE

The preliminary cost estimate for the project is approximately $14 million. The cost for the retaining walls is roughly $5 million, and for the drywells would be about $480,000.

The preliminary cost estimate is provided as Attachment C.

Electrical Basis of Design
Honoapiilani Highway Widening

ELECTRICAL ENGINEERING

1. Electrical Utilities

The existing electrical utilities located along Honoapiilani Highway are routed overhead on joint utility poles owned by Maui Electric Company, Ltd. (MECO). The existing utilities include primary and secondary electrical distribution lines by MECO, telephone distribution lines by Hawaiian Telcom, and CATV distribution lines by Oceanic Time Warner Cable.

To facilitate the widening of Honoapiilani Highway, existing utility poles, utility lines and associated utility equipment mounted on the poles at the Dickenson St., Prison St., and Aholo Rd. will be relocated. The new wood utility poles will be provided by MECO. Relocation of all utility lines and associated utility equipment will be by the respective utility companies.

2. Street Lighting

The existing street lighting system for Honoapiilani Highway between Aholo Rd. and Lahainaluna Rd. consists of high-pressure sodium light fixtures mounted on aluminum light poles with aluminum, truss-type mast arms. The existing wiring for the street lighting system is routed underground. The existing street light poles are located at each intersection between Aholo Rd. and Lahainaluna Rd. There are no street light poles located along Honoapiilani Highway between intersections.

To facilitate the widening of Honoapiilani Highway, existing street light poles at the Dickenson St. and Prison St. intersections will be relocated. Since the existing street light poles appear to have been installed recently and are in good condition, they will be reused and mounted on new concrete footings at the new locations.

3. Traffic Signal System

The existing traffic signal systems located at the Dickenson St. and Shaw St. intersections utilize incandescent type traffic signal heads and pedestrian signal heads mounted on type I and type II traffic signal standards.

The existing traffic signal systems will be replaced with new systems utilizing LED type signal heads and ADA-compliant pedestrian push buttons for crossing the street. The new traffic signal system will also be equipped with EVP detectors for emergency vehicles. New traffic signal controllers and cabinets will be provided for each traffic signal system. The controller cabinets will be stainless steel.

Electrical service for the traffic signal system will be extended from the existing electric service equipment located near the existing traffic signal control cabinets. New underground ducts and feeder conductors will be extended from the existing service equipment to the new traffic signal controllers prior to disconnecting the existing service conductors to minimize outage time.

Project: DOT-H Honoapiilani Highway Widening

STRUCTURAL BASIS OF DESIGN

A. DESIGN CUDE

1. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, Third Edition (2004).

2. Hawaii Standard Specifications for Road and Bridge Construction (2005 Edition).

B. DESIGN LOADS

1. Dead Load

   a. Structural Reinforced Concrete = 0.160 kcf
   b. Future Wearing Surfaces = 0.150 kcf
   c. Compacted Earth Fill: Soil = 0.120 kcf

2. Live Load (HL-93)

   a. Design Truck: HS20-44

   b. Design Tandem: Axle 1 = 25 kips
      Axle 2 = 25 kips
      Axle spaced 4'-0" apart

   c. Design Lane Load: 0.64 klf per lane (distributed over 10'-0" width)

3. Traffic Railing Loads

   Traffic railing loads shall be in accordance with Railing Test Level TL-2.

C. LOADING COMBINATIONS

Loading combinations shall be in accordance with LRFD Section 3.4, Table 3.4.1-1.

D. MATERIALS

1. Concrete Compressive Strength (at 28 days)

   All concrete: 4.0 ksi

2. Reinforcing Steel: ASTM A 615, Grade 60.

E. FOUNDATION

1. Static Lateral Earth Pressures

a. Active Earth Pressure (Level Backfill) = 35 pcf

2. Soil Bearing Capacity

3 ksf

F. STRUCTURAL SYSTEM

Free standing cantilever retaining wall. Retaining wall foundation system without toe of footing will be used. Metal guardrail will be installed on top of retaining wall.

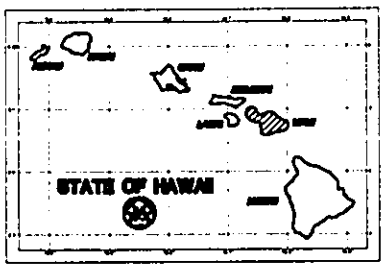
G. DRAINAGE STRUCTURAL SYSTEM

Inlet and outlet structures of existing drainage system are concrete pipe and concrete headwall or metal pipe and rockwall inlet, outlet structure.

Newly extended inlet and outlet structure will be all concrete headwall system to save space.

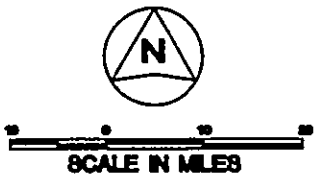
FIGURES

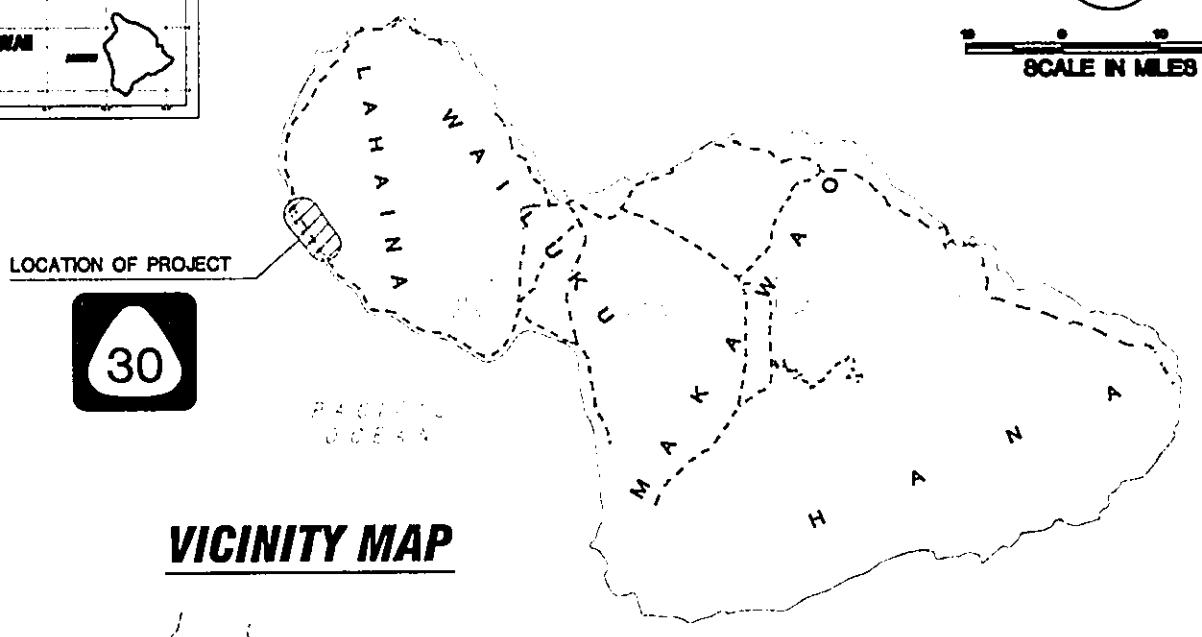
Figure 1 Location Map



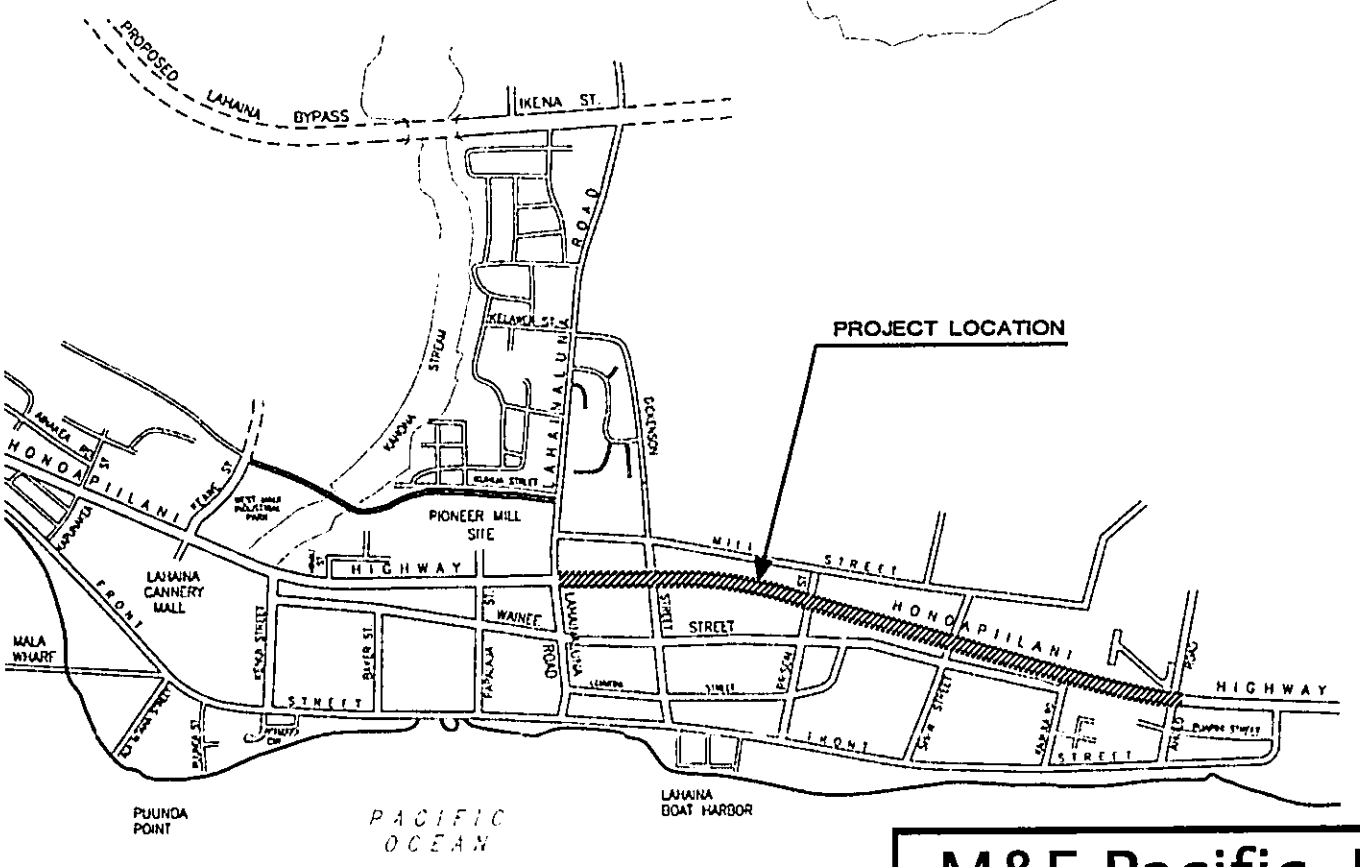
FEDERAL AID PROJECTS PREVIOUSLY CONSTRUCTED OR UNDER CONSTRUCTION

MILE POST 19.9 TO MILE POST 20.97





VICINITY MAP



NOT TO SCALE

LOCATION MAP

M&E Pacific, Inc.

METCALF&EDDY AECOM

DAVIES PACIFIC CTR, STE 1600 • 841 BISHOP ST, HONOLULU, HAWAII 96813

FIGURE 1
Vicinity and Location Map
BASIS OF DESIGN
HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
Wainee, Lahaina, Maui, Hawaii
August 2006

PATH/FILENAME: P:\Projects\Dot-Hwy\Honoapiilani Highway Widening\500 Reports\Basis of Design\Preliminary\HonoapiiliniWiden-DrnRpt-Fig1LocMap.dwg LAST UPDATE: January 29, 2007 @ 12:29:54 pm PLOT DATE: January 29, 2007 @ 12:31:04 pm

ATTACHMENTS

Attachment A	Traffic Forecast for Proposed Honoapi'ilani Highway Widening Project from Lahainaluna Road to 'Aholo Road
Attachment B	BMP Guidelines
Attachment C	Preliminary Cost Estimate

ATTACHMENT A

Traffic Forecast for Proposed Honoapi'ilani Highway Widening Project from Lahainaluna Road to 'Aholo Road

See Appendix N of the Environmental Assessment.

ATTACHMENT B

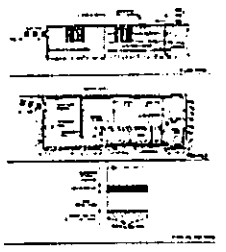
BMP Guidelines

Questions and Answers

Thank you !!

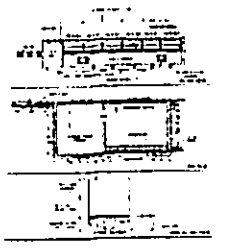
Underground Sand Filter

- The underground sand filter is an option for providing water quality volume where space is limited.



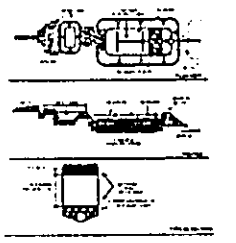
Perimeter Sand Filter

- The perimeter sand filter is most practical for small sites with flat terrain or a high water table.



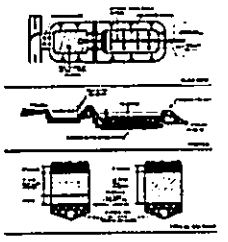
Pocket Sand Filter

- The pocket sand filter is applied to small sites where sediment loads are expected to be moderate to low. The pea gravel windows allow runoff into the filter if the surface becomes clogged.



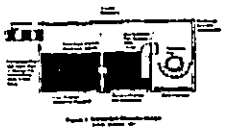
Organic Filter

- The organic filter is used when maximum nutrient or trace metal removals are desired.



Oil and Grit Separator

- Designed to remove trash, debris, and some amount of sediment, oil and grease from storm water runoff. Sedimentation used for grit separation and phase separation for oil. Not designed with significant detention storage.



Stormceptor

- Runoff enters the upper chamber and is diverted into a pipe to the treatment chamber. Petroleum products rise and are trapped beneath a fiberglass insert. Sediment and grit settle to the floor.

BaySaver

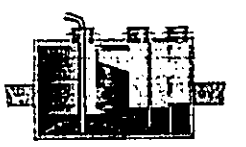
- Rain falls on an impervious surface and carries oils, floatables, (trash and debris) and sediments. The BaySaver separates these materials and treats the runoff in both manholes in series.

CDS Technologies

- Solid pollutants are directed into the lower catchment chamber and the floatables to the surface of the upper chamber using a non-mechanical, non-blocking screen technology.

Vortechnics

- Vortechnics products are used for filtering, screening, and oil and grit separation. The systems maximize surface area and use coalescing media to remove oil and grit. The grit chamber and eliminating turbulence allow the separation of solids and grit.

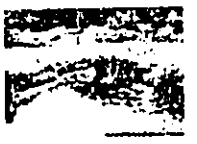


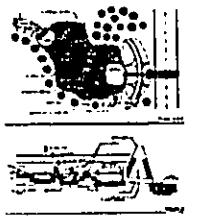
Shallow Wetland

- Shallow wetlands provide water quality volume in a shallow pool that has a large surface area

Pocket Wetland

- A high water table or groundwater intercepton helps maintain the shallow wetland pool in a pocket wetland



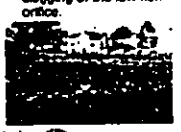


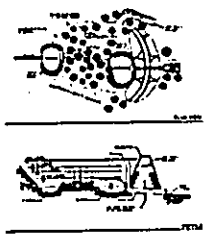
Extended Detention Shallow Wetland

- ED shallow wetlands provide water quality storage by a combination of shallow wetland pool and extended detention storage

Micropool Extended Detention Pond

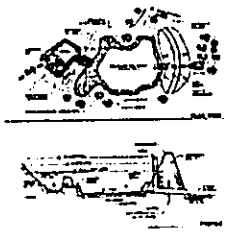
- A micropool is provided in an extended detention pond to prevent resuspension of previously settled sediments and prevent clogging of the low flow orifice.





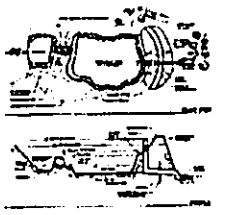
Wet Pond

- A wet pond provides all of water quality volume storage in a permanent pool.



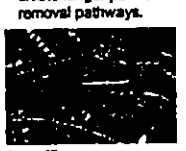
Wet Extended Detention Pond

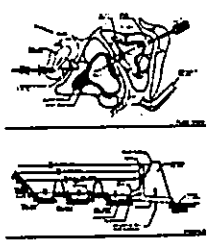
- The wet ED pond provides water quality storage through a combination of permanent pool and extended detention storage.



Multiple Pond System

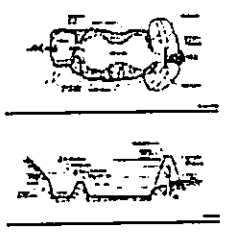
- Multiple pond systems provide water quality volume storage in two or more cells that create longer pollutant removal pathways.





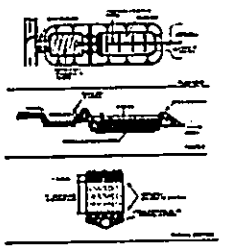
Pocket Pond

- A high water table or groundwater interception maintains permanent pool level in a pocket pond However, excavation to groundwater interception should be avoided where the land uses draining to the pond may contaminate drinking water supplies



Surface Sand Filter

- Surface sand filters can treat the largest drainage area of all the filtering systems.



Implementation Schedule

- Permanent BMP Criteria
  - Projects advertised after February 5, 2006
  - 60-day grace period
- Permanent BMP Manual & Specifications
  - Anticipated – July 2006

Storm Water BMP Options

Vegetated swales
- Dry swales
- Wet swales

Infiltration facilities
- Infiltration trenches
- Infiltration basins
- Bio-retentions

Storm water wetlands
- Shallow wetland
- Extended detention wetland
- Pocket wetland
- Pond/Wetland

Storm Water BMP Options

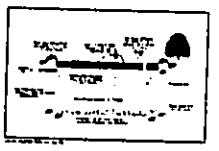
Storm water ponds
- Wet ponds, micro pools, pocket ponds
- Multiple pond systems
- Dry extended ponds
- Combination wet and extended detention ponds

Filtering Systems
- Sand filters
- Organic filter (e.g. Peat Filter)

Proprietary (commercially available) "Hydrodynamic" types BMPs
- Baysaver
- Stormceptor
- CDS
- Oil/Grit separator

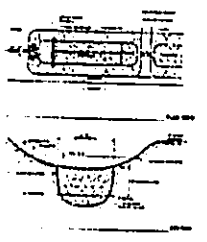
Porous Pavement

- Pavement that allows rain to pass through it, reducing runoff from a site and surrounding areas. Some pollutants are filtered out if properly maintained
- Two types
  - Porous asphalt - Open-graded coarse aggregate with asphalt cement, with sufficient interconnected voids making it permeable to water
  - Pervious concrete - Specially formulated mixtures of Portland cement, open-graded coarse aggregate, and water with enough void space for rapid percolation of liquids through it



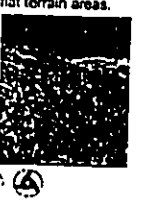
Dry Swale

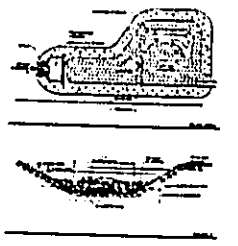
- Dry swales are used for projects with small impervious areas



Wet Swale

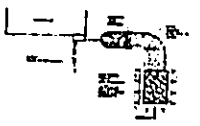
- Wet swales are ideal for treating highway runoff in low lying or flat terrain areas.

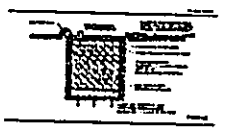




Infiltration Trench

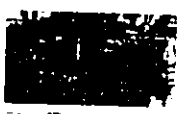
- The infiltration trench provides recharge and water quality volume in one location.

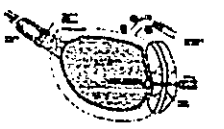




Infiltration Basin

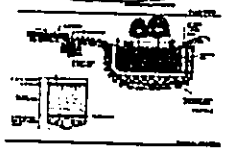
- The water quality volume is retained in an infiltration basin, where it percolates through the basin



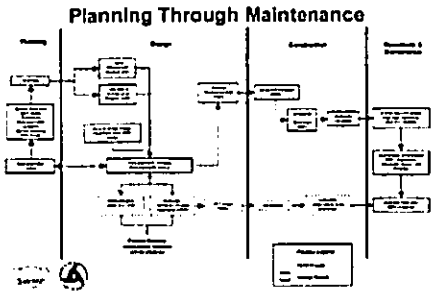


Bioretention

- Bioretention combines open space landscaping with storm water treatment



Permanent BMPs Planning Through Maintenance



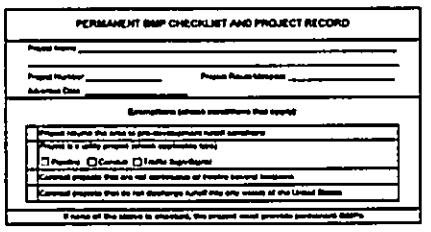
Permanent BMP Concepts in Project Planning

- Consider in impact assessment (EIS & FONSI)
- Evaluate BMP needs during alternative studies
- Develop BMP concepts
- Identify study points
- Determine regulatory needs (WQ & QTY volumes)
- Develop permanent BMPs surface footprints
- Determine R/W needs
- Prepare cost Estimate

Permanent BMP in Design Phase

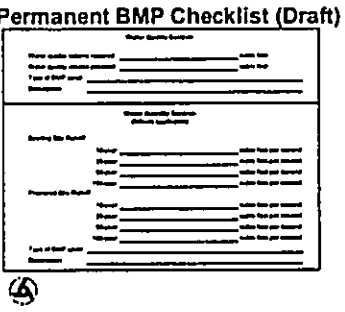
- BMP Checklist
- Permanent BMP Design Report
  - Project description
  - WQ & QTY control requirements
  - Analysis & computations (Geotechnical,hydrologic/hydraulic,structural)
  - BMPs provided
- Construction Drawings
  - Site characteristics (water courses, wetlands, floodplain etc)
  - BMP details
  - BMP specifications
  - Construction sequence

Permanent BMP Checklist (Draft)



PERMANENT BMP CHECKLIST AND PROJECT RECORD

Permanent BMP Checklist (Draft)



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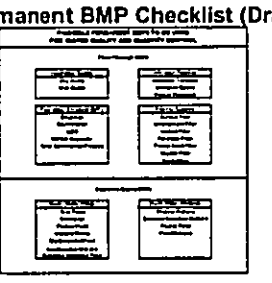


Development of Permanent BMP Manual and Specifications

- Permanent BMP criteria
- Storm water quantity control
- Storm water quality control
- Types of BMPs
- Planning & design requirements
- Submission requirements
- Review process
- Inspection procedure & requirements
- Maintenance responsibility & requirements

Review Process

- Environmental Documents – Impact assessment
- Alternative Study – Permanent BMP concept report
- Preliminary Design Phase – Permanent BMP design report & preliminary drawings
- Final Design Phase – Construction plans, specifications and cost estimate

Inspection & Maintenance Requirements

- Inspection during construction
  - Frequency
  - Stages
  - Correction and compliance
  - As-built drawings & Certification
- Maintenance
  - Responsibility
  - Schedule
  - Reporting

Current DOT Guidelines

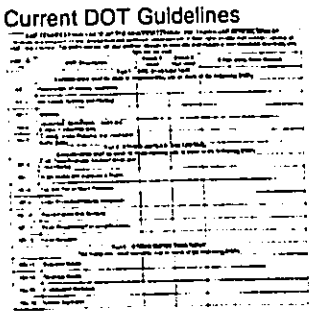
Permanent BMP Consideration Checklist – "Planner and designers of new development and significant redevelopment of State rights-of-way shall consider all BMPs listed. Those BMPs that are not used shall be checked and shall include a brief statement describing why they not used."

Current BMPs Listed -

- *Soil Stabilization*: preservation of existing vegetation, Permanent seeding and planting, mulching, Erosion control blankets, sodding etc
- *Storm Water Flow Control*: earth dikes, slope drains, outlet protections, culvert end sections, slope roughing/terracing, level spreader
- *Storm Water Treatment*: retention basins, detention basins, constructed wetlands, weight separator

Result - ?? *Not many permanent BMPs in place*

Current DOT Guidelines



New HDOT Permanent BMP Criteria

- New development and significant (?) re-development
  - "Redevelopment projects that disturb more than 5,000 square feet of existing development area"
- Unified Criteria – Based on disturbed area & impervious area
- Phased approach
  - Imminent "Structural BMP" – Projects that generate 1 acre or greater of *New Permanent* impervious surface will be required to provide structural BMP based on specific sizing rules

Future: "Non-structural BMP" - Projects (new or re-development) that disturb more than 5,000 square feet of land area may be required to incorporate "non-structural BMPs" in the site design, unless qualify for exemption or waiver

New HDOT Permanent BMP Criteria

- Applicable new or redevelopment projects:
  - Contract projects
  - Permit projects within DOT Highway R/W
  - (Off-site) Projects that need a discharge/connection (to DOT's MS4) permit

Special conditions may apply, as determined by DOT, regardless of square footage of new impervious surface. Examples: DOT projects that drain to sensitive receiving waters (DOH Water Quality Limited Segments (WQLS), Class I Inland Waters, Class AA Marine Waters, and or selected 303d list water bodies)

Exemption & Variance

- Projects that return area to pre-development runoff conditions
- Utility projects – pipelines, conduits, traffic sign/signal projects
- Contract projects that:
  - Are not continuous or involve several locations (e.g., Intersection improvements at various locations)
  - Do not discharge runoff into any Waters of the United States.

Principles of Permanent BMP Criteria

- Storm Water Quality Control
  - Promote "low-impact" & smart site design
  - Promote natural approach
  - Treat "first flush" urban pollutants
- Storm Water Quantity Control
  - Reduce channel erosion (sediment)
  - Prevent down-stream flooding

Storm Water Quantity Control

- Hydrologic Criteria
  - Recurrence Interval
    - Drainage area < 100 acres, use 10-year storm
    - Drainage area < 100 acres with sump, use 50-year storm
    - Drainage area > 100 acres, use 100-year storm
  - To measure runoff quantity, use rational method for <100 acres, and Plate 6 for >100 acres
  - Rational Method – Q=CIA calculates the runoff quantity (cfs) that must be controlled
    - C is the runoff coefficient, based on land use categories
    - I is the rainfall intensity in inches per hour
    - A is the drainage area in acres

Storm Water Quality Control

- Water Quality Criteria
  - All development projects requiring building permits must address storm water quality using BMPs.
  - Sizing requirements for structural BMPs apply to residential developments > 10 acres in size, and all other developments > 5 acres in size that do not require a NPDES permit.
  - Redevelopment projects are under the same criteria as new development only if the value of the redevelopment is greater than 50% of the value of the property.
  - Criteria can be met through detention based BMPs, flow-through BMPs, or a combination of the two.

Storm Water Quality Control

- Detention Based Control
  - Required volume based on the 1-inch storm.
  - C=0.05+0.009*IMP is the Runoff coefficient
    - IMP is the percentage of impervious area
  - WQDV=C*1**A*3630 is the Water Quality Design Volume (cf)
    - C is the runoff coefficient
    - 1" is the 1-inch storm
    - A is the area of the site in acres
    - 3630 is a conversion factor
  - The volume must meet minimum detention times
- Flow-Through Based Control
  - Required volume based on 0.4" per hour
  - WQFR – C*0.4**A is the Water Quality Flow Rate (cfs)
    - C is the runoff coefficient, calculated using tables
    - 0.4" is the hourly rainfall intensity
    - A is the area of the site in acres

Permanent BMP Program Informational Meeting

New Development and Significant Re-development

Introduction

- Hawaii DOT Highway Division, Design Branch
  - Curtis Matsuda, HWY-DH
  - Todd Teshima, HWY-DH
- Hawaii DOT SSWMP Manager – Robert Shin
- Parsons Brinckerhoff (SSWMP Master Consultant)
  - Richard Dahlag – PM
  - Larissa Salo – DPM
  - Michelle Nelson – Training Coordinator
  - Jaime Saavedra – Task Coordinator
  - Chin Y. Lien – Technical Advisor

Agenda

- Background
- Water quality benefits of permanent BMPs
- Comparison of BMP requirements
- Proposed new DOT BMP criteria
- Applicable projects
- Principles and approach
- Life cycle of permanent BMPs – from planning to maintenance
- Permanent BMP Checklist
- Development of permanent BMP manual & specifications
- Implementation schedule
- BMP options
- Q & A

Background

- EPA/DOH Consent Decree (CD)
- NPDES MS4 Permit (Municipal Separate Storm Sewer System)

CD/MS4 Permit Requirements - *"New Development and Significant Re-development Program"*, DOT shall:

- Establish specific criteria for permanent BMPs
- Develop a storm water standards manual
- Implement project review process
- Revise SSWMP to include permanent BMPs
- Develop and implement a GIS-database system to track permanent BMPs (type, location, project & owner info,maintenance and inspection records etc)
- Submit progress reports as required
- Training - minimum annually

Water Quality Benefits of Permanent BMPs

- Impacts of Development
  - Increase impervious surface
    - Increase runoff
    - Reduce groundwater recharge
    - Increase stream erosion potential
    - Increase overbank flooding
  - Accumulate urban pollutants to receiving waters
    - Nutrients (phosphorus and nitrogen)
    - Suspended solids
    - Hydrocarbons
    - Trace metals (cadmium, copper, lead and zinc etc)
- Water Quality Benefits of Permanent BMPs
  - Collect, infiltrate and recharge groundwater
  - Detain storm water and release it into streams at a lower rate
  - Allow pollutants to settle/filter out

Comparison of BMP Requirements

City and County of Honolulu (CCH)

- Water quality must be addressed for all projects that require building permits. New residential developments greater than 10 acres in size and all other developments greater than 5 acres in size must meet specific sizing criteria for structural BMPs.

Maryland Department of the Environment (MDE)

- Any projects that disturb over 5,000 sq ft of land area require permanent BMP to provide storm water management. All redevelopment projects shall reduce existing impervious areas within the project limits by a minimum of 20% or provide water quality control for a minimum of 20% of the project's pre-development impervious area, or a combination.

CALTRANS

- By 8/15/06, new and significant redevelopment projects (public and private) that result in greater than 10,000 square feet of impervious area must provide storm water management. Prior to 8/15/06, the same projects with greater than an acre of impervious area will provide storm water management.

Comparison of BMP Requirements

City and County of Honolulu (CCH)

- Water quality must be addressed for all projects that require building permits
- New residential developments greater than 10 acres in size and all other developments greater than 5 acres in size must meet specific sizing criteria for structural BMPs.
- Water quality requirements are met using structural BMPs (detention based) or flow-through water quality control
- Detention based control is set for the 1 inch storm, while flow-through control is based on a rainfall intensity of 0.4" per hour.
- Flood control for less than 100 acres is based on a 10 year storm, culverts and bridges a 50 year storm, and greater than 100 acres is a 100 year storm.

Comparison of BMP Requirements (con't)

Maryland Department of the Environment (MDE)

- Any projects that disturb over 5,000 square feet of land area (including redevelopment) require permanent BMP to provide storm water management (quantity and quality)
- 90% of runoff from average annual rainfall must be treated
- Certain projects may be qualified for waiver or variance
- Water quality volumes are directly related to the amount of impervious area on a site
- All redevelopment projects shall,
  - reduce existing impervious areas within the project limits by a minimum of 20 percent or,
  - provide water quality control for a minimum of 20% of the project's pre-development impervious area, or
  - a combination

Comparison of BMP Requirements (con't)

CALTRANS

- By 8/15/06, new and significant redevelopment projects (public and private) that result in greater than 10,000 square feet of impervious area must provide storm water management. Prior to 8/15/06, the same projects with greater than an acre of impervious area will provide storm water management.
- 80% of annual runoff must be captured and treated for structural BMPs.
- Non-structural BMPs must collect 10% of the 50-year peak flow rate or the flow produced by a rain event equal to two times the 85th percentile hourly rainfall intensity.

POSSIBLE PERMANENT BMPS TO BE USED FOR WATER QUALITY AND QUANTITY CONTROL

Flow-Through BMPs

Vegetated Swales
- Dry Swale
- Wet Swale

Infiltration Facilities
- Infiltration Trenches
- Infiltration Basins
- Porous Pavement

Proprietary Structural BMPs
- Baysaver
- Stormceptor
- CDS
- Oil/Grit Separator
- Other Commercial Products

Filtering Systems
- Surface Filter
- Underground Filter
- Vertical Filter
- Perimeter Filter
- Pocket Sand Filter
- Organic Filter
- Bioretention

Detention Based BMPs

Storm Water Ponds
- Wet Pond
- Micropool
- Pocket Pond
- Multiple Ponds
- Dry Extended Pond
- Combination Wet and Extended Detention Pond

Storm Water Wetlands
- Shallow Wetland
- Extended Detention Wetland
- Pocket Pond
- Pond/Wetland

Exemption & Variance

- Projects that return area to pre-development runoff conditions
- Utility projects – pipelines, conduits, traffic sign/signal projects
- Contract projects that:
  - Are not continuous or involve several locations (e.g., Intersection improvements at various locations)
  - Do not discharge runoff into any Waters of the United States.

New HDOT Permanent BMP Criteria

- Unified Criteria – Based on impervious area

  "Projects that generate **1 acre or greater** of *New Permanent* impervious surface will be required to provide structural BMP based on specific sizing rules

PERMANENT BMP CHECKLIST AND PROJECT RECORD

Project Name _____

Project Number _____ Project Route/Milepost _____

Advertise Date _____

Exemptions (check conditions that apply):

	Project returns the area to pre-development runoff conditions
	Project is a utility project (check applicable type)
☐ Pipeline	☐ Conduit ☐ Traffic Sign/Signal
	Contract projects that are not continuous or involve several locations
	Contract projects that do not discharge runoff into any waters of the United States

If none of the above is checked, the project must provide permanent BMPs

Water Quality Control:

Water quality volume required _____ cubic feet

Water quality volume provided _____ cubic feet

Type of BMP used _____

Description _____

Water Quantity Control:
(Where applicable)

Existing Site Runoff

1-year:	cubic feet per second
2-year:	cubic feet per second
5-year:	cubic feet per second
10-year:	cubic feet per second
25-year:	cubic feet per second
50-year:	cubic feet per second
100-year:	cubic feet per second

Proposed Site Runoff

1-year:	cubic feet per second
2-year:	cubic feet per second
5-year:	cubic feet per second
10-year:	cubic feet per second
25-year:	cubic feet per second
50-year:	cubic feet per second
100-year:	cubic feet per second

Type of BMP used _____

Description _____

New HDOT Permanent BMP Criteria

- Applicable new or redevelopment projects:
  - Contract projects
  - Permit projects within DOT Highway R/W
  - (Off-site) Projects that need a discharge/connection (to DOT's MS4) permit

Special conditions may apply, as determined by DOT, regardless of square footage of new impervious surface. Examples: DOT projects that drain to sensitive receiving waters (DOH Water Quality Limited Segments (WQLS);Class I Inland Waters; Class AA Marine Waters; and or selected 303d list water bodies)

ATTACHMENT C

Preliminary Cost Estimate

HONOAPIILANI HIGHWAY WIDENING

	CONTRACT ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	Demolish & Remove Guardrail	600	LIN. FT.	$ 30.00	$ 18,000.00
	Remove Trees, Shrubbery, Vegetation, etc..	L.S.	L.S.	L.S.	$ 125,000.00
	Roadway Excavation	11,000	CU. YD.	$ 25.00	$ 275,000.00
	Aggregate Subbase	6,720	CU. YD.	$ 100.00	$ 672,000.00
	Glassphalt Concrete Base Course	4,200	CU. YD.	$ 400.00	$ 1,680,000.00
	Asphalt Concrete Pavement, Mix No. IV	3,000	TON	$ 220.00	$ 660,000.00
	Traverseable Concrete Curb & Gutter	110	LIN. FT.	$ 30.00	$ 3,300.00
	Concrete Sidewalk	3,100	SQ. YD.	$ 30.00	$ 93,000.00
	Aggregate Base Course	3,100	SQ. YD.	$ 7.00	$ 21,700.00
	Curb Ramps	674	SQ. FT.	$ 30.00	$ 20,220.00
	Pre-Cast Concrete Curb, Type 2D	5,450	LIN. FT.	$ 20.00	$ 109,000.00
	Pre-Cast Concrete Curb, Type 3D	10,100	LIN. FT.	$ 25.00	$ 252,500.00
	Signage & Striping	L.S.	L.S.	L.S.	$ 70,000.00
	Catch Basin Drywells (100' Deep)	16	EACH	$ 30,000.00	$ 480,000.00
	Catch Basin Connection to Exist Culvert	3	EACH	$ 8,000.00	$ 24,000.00
	Guardrail on Mauka Side	4,750	LIN. FT.	$ 28.00	$ 133,000.00
	Traffic Control	L.S.	L.S.	L.S.	$ 100,000.00
206.5001	Structure Excavation for CMU Noise Barrier / Retaining Wall Foundation	5,500	CY	$80.00	$440,000.00

HONOAPIILANI HIGHWAY WIDENING

	CONTRACT ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
206.7251	Structure Backfill for CMU Noise Barrier / Retaining Wall	11,000	CY	$80.00	$880,000.00
503.1404	Concrete for Retaining Wall / Drain Manhole	6,400	CY	$600.00	$3,840,000.00
513.0100	CMU Noise Barrier	4,100	SY	$250.00	$1,025,000.00
602.0050	Reinforcing Steel for Retaining Walls / Drain Manhole	L.S.	L.S.	L.S.	$571,000.00
602.0051	Reinforcing Steel for Retaining Wall Footings	L.S.	L.S.	L.S.	$410,900.00
602.0052	Reinforcing Steel for CMU Noise Barrier	L.S.	L.S.	L.S.	$315,700.00
616.0001	Automatic Irrigation System	8,723	S.F.	$ 3.00	$26,169.00
617.0001	Imported Top Soil - 4" Layer **	108	C.Y.	$ 50.00	$5,400.00
617.0002	Soil Amendments - 1" Layer	8,723	S.F.	$ 0.50	$4,361.50
619.0001	Shower Tree/Madagascar Olive- 25 Gal	114	EACH	$ 600.00	$68,400.00
619.0002	Loulu Palm- 25 Gal	78	EACH	$ 600.00	$46,800.00
619.0003	Dwarf Poinciana- FS	48	EACH	$ 800.00	$38,400.00
619.0004	Beach Naupaka - 1 Gal @ 3'-0" o.c.	1,002	EACH	$ 10.00	$10,020.00
619.0005	Croton- 1 Gal	312	EACH	$ 10.00	$3,120.00
619.0006	Bromeliad- 1 Gal	336	EACH	$ 23.00	$7,728.00
619.0007	Pohinahina- 6" Pots	3,708	S.F.	$ 8.00	$29,664.00
619.0008	Maintenance Period (3 Months Total)	3	EACH	$ 1,350.00	$4,050.00
623.1001	Removal of Traffic Signal Controller (2 Each)	L.S.	L.S.	L.S.	$1,000.00

HONOAPIILANI HIGHWAY WIDENING

	CONTRACT ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.1002	Removal of Type I Traffic Signal Standards (10 Each)	L.S.	L.S.	L.S.	$9,500.00
623.1003	Removal of Type II Traffic Signal Standards (4 Each)	L.S.	L.S.	L.S.	$7,400.00
623.1004	Removal of Traffic Signal Microwave Transceiver (1 Each)	L.S.	L.S.	L.S.	$700.00
623.1005	Removal of Traffic Signal Pullboxes (29 Each)	L.S.	L.S.	L.S.	$8,700.00
623.1006	Removal of Traffic Signal Wiring (5000 L.F.)	L.S.	L.S.	L.S.	$2,000.00
623.2001	Traffic Signal Controller (2 Each)	L.S.	L.S.	L.S.	$60,000.00
623.2002	Traffic Signal Standard, Type I (13 Each)	L.S.	L.S.	L.S.	$19,500.00
623.2003	Traffic Signal Standard, Type II (4 Each)	L.S.	L.S.	L.S.	$34,000.00
623.2004	Slipfitter Traffic Signal Head, 1-way (9 Each)	L.S.	L.S.	L.S.	$11,700.00
623.2005	Mast Arm Traffic Signal Assembly (12 Each)	L.S.	L.S.	L.S.	$15,600.00
623.2006	Pedestrian Traffic Signal Assembly (14 Each)	L.S.	L.S.	L.S.	$15,400.00
623.2007	Pedestrian Push Button Assembly (14 Each)	L.S.	L.S.	L.S.	$8,400.00
623.2008	EVP Detector, Top Mount (4 Each)	L.S.	L.S.	L.S.	$4,400.00
623.2009	EVP Detector, Mast Arm Mount (4 Each)	L.S.	L.S.	L.S.	$4,400.00
623.2010	Traffic Signal Pullbox, Type A (12 Each)	L.S.	L.S.	L.S.	$20,400.00
623.2011	Traffic Signal Pullbox, Type B (16 Each)	L.S.	L.S.	L.S.	$32,000.00
623.2012	Traffic Signal Pullbox, Type C (2 Each)	L.S.	L.S.	L.S.	$4,400.00
623.2013	Traffic Loop Detector (48 Each)	L.S.	L.S.	L.S.	$81,600.00

HONOAPIILANI HIGHWAY WIDENING

	CONTRACT ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.2014	5-way Concrete Encased Ductbank (130 L.F.)	L.S.	L.S.	L.S.	$19,500.00
623.2015	4-way Concrete Encased Ductbank (390 L.F.)	L.S.	L.S.	L.S.	$50,700.00
623.2016	5-way Direct Buried Ductbank (20 L.F.)	L.S.	L.S.	L.S.	$2,400.00
623.2017	4-way Direct Buried Ductbank (130 L.F.)	L.S.	L.S.	L.S.	$14,300.00
623.2018	3-way Direct Buried Ductbank (70 L.F.)	L.S.	L.S.	L.S.	$7,000.00
623.2019	1-way Direct Buried Ductbank (2100 L.F.)	L.S.	L.S.	L.S.	$189,000.00
623.2020	26C#14 Traffic Signal Wiring (750 L.F.)	L.S.	L.S.	L.S.	$6,000.00
623.2021	24C#19 Traffic Signal Wiring (2300 L.F.)	L.S.	L.S.	L.S.	$18,400.00
623.2022	2C#14 Traffic Signal Wiring (2500 L.F.)	L.S.	L.S.	L.S.	$7,500.00
623.2023	3C#20 Traffic Signal Wiring (1000 L.F.)	L.S.	L.S.	L.S.	$10,000.00
623.2024	3C#6 Traffic Signal Wiring (40 L.F.)	L.S.	L.S.	L.S.	$480.00
703.0001	Clinker Stone- 8"-12" Dia.	408	C.Y.	$ 160.00	$65,280.00
712.0001	Root Barrier- 5' Lengths, 2' Depth	570	L.F.	$ 10.00	$5,700.00
712.0002	Filter Fabric	13,406	S.F.	$ 2.00	$26,812.00
	Erosion Control During Length of Project	L.S.	L.S.	L.S.	$ 100,000.00
	Maintenance of Field Office and Project Site Laboratory	FA	FA	FA	$ 50,000.00
	Additional Police Officers and/or Additional Traffic Control Devices	FA	FA	FA	$ 100,000.00
	Mobilization (Not to Exceed 10% of the sum of all items excluding the bid price of this item, field office, digital cellular phone and force account items)	L.S.	L.S.	L.S.	$ 799,600.00

HONOAPIILANI HIGHWAY WIDENING

CONTRACT ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
Contingency (5%)				$ 668,800.00
SUM OF ALL ITEMS (EXCLUDING CONTINGENCY)				$ 14,277,204.50

APPENDIX M

Project Soils Report

GEOTECHNICAL ENGINEERING EXPLORATION
HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

JUNE 3, 2005

Prepared for

M&E PACIFIC, INC.

and

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GEOLABS, INC.

Geotechnical Engineering and Drilling Services

W.O. 5107-00

GEOTECHNICAL ENGINEERING EXPLORATION
HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

W.O. 5107-00 JUNE 3, 2005

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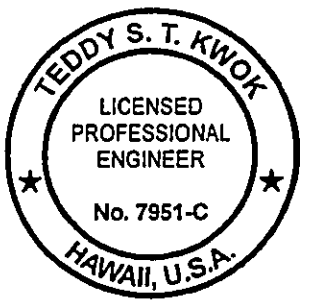

THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

Teddy S T Kwok 4-30-06
SIGNATURE EXPIRATION DATE
OF THE LICENSE

GEOLABS, INC.
Geotechnical Engineering and Drilling Services
2006 Kalihi Street • Honolulu, HI 96819

Hawaii • California

GEOLABS, INC.
Geotechnical Engineering and Drilling Services

June 3, 2005
W.O. 5107-00

Mr. Alan Tomita
M & E Pacific, Inc.
Suite 1900, Davies Pacific Center
841 Bishop Street
Honolulu, HI 96813

Dear **Mr. Tomita:**

Geolabs, Inc. is pleased to submit our report entitled "Geotechnical Engineering Exploration, Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road, Lahaina, Maui, Hawaii" prepared in support of the design of the highway widening project.

Our work was performed in general accordance with the scope of services outlined in our fee proposal of March 25, 2003.

Please note that the soil samples recovered during our field exploration (remaining after testing) will be stored for a period of two months from the date of this report. The samples will be discarded after that date unless arrangements are made for a longer sample storage period. Please contact our office for alternative sample storage requirements, if appropriate.

Detailed discussion and specific recommendations for design are contained in the body of this report. If there is any point that is not clear, please contact our office.

Very truly yours,

GEOLABS, INC.

Clayton S. Mimura

Clayton S. Mimura, P.E.
President

CSM:TK:mj

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Hawaii • California

GEOTECHNICAL ENGINEERING EXPLORATION
HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

W.O. 5107-00 JUNE 3, 2005

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GEOTECHNICAL ENGINEERING EXPLORATION
HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII
W.O. 5107-00 JUNE 3, 2005

SUMMARY OF FINDINGS AND RECOMMENDATIONS

Our field exploration along the highway widening alignment generally encountered surface fill materials underlain by soft to medium stiff alluvial deposits extending to depths of approximately 7 to 20 feet below the existing ground surface. Below the alluvial deposits, the borings generally encountered colluvial soils and dense basaltic cobbles and boulders over medium hard to hard basalt rock formation extending to the maximum depth explored of about 136 feet below the existing ground/pavement surface.

Based on the subsurface conditions encountered at the site and the traffic data provided for our pavement analyses, we recommend that new pavements extending from Aholo Road to Prison Street consist of 4 inches of AC on 7 inches of ACB over 6 inches of UTPB on 6 inches of ASB. New pavements extending from Prison Street to Lahainaluna Road should consist of 4 inches of AC on 7.5 inches of ACB over 6 inches of UTPB on 6 inches of ASB. Based on our engineering analyses, we believe that rehabilitation of the existing pavements between Aholo Road and Prison Street may be performed with an AC overlay of about 2.0 inches in thickness. For the rehabilitation of existing pavements between Prison Street and Lahainaluna Road, the AC overlay should be increased to 2.5 inches.

Based on the subsurface conditions anticipated at the site, we believe that shallow foundations bearing on the recompacted on-site soils or new compacted fills may be utilized for the support of the new retaining walls planned for the project. The retaining structures should be designed to resist the lateral earth pressures due to the adjacent soils and traffic loads.

Based on the results of the permeability tests conducted at the site, the shallow subsurface conditions appear to be unfavorable for the use of drainage drywells for the disposal of storm water runoff. In general, a very low disposal capacity of about 0.1 cfs may be anticipated for drywells embedding in the upper alluvial soils. A higher disposal capacity of over 1 cfs may be anticipated for drywells extending into the basalt rock formation underlying the site at depths of over 70 to 110 feet below the existing ground surface.

Detailed discussion of these items and our geotechnical engineering design recommendations are presented in the following sections of this report.

END OF SUMMARY OF FINDINGS AND RECOMMENDATIONS

SECTION 1.0 - GENERAL

1.1 Introduction

This report presents the results of our geotechnical engineering exploration performed for the Honoapiilani Highway Widening project extending from Lahainaluna Road to Aholo Road located in the District of Lahaina on the Island of Maui, Hawaii. The general location and vicinity of the project site are shown on the Project Location Map, Plate 1.

This report summarizes our findings and geotechnical engineering recommendations resulting from our field exploration, laboratory testing, and engineering analyses. These recommendations are intended for the design and rehabilitation of pavements, retaining walls, and storm water runoff disposal system only. The findings and recommendations presented herein are subject to the limitations noted at the end of this report.

1.2 Project Considerations

The project site is located approximately between Milepost (MP) 19.9 and 20.97 on Honoapiilani Highway (Route 30) in the District of Lahaina on the Island of Maui, Hawaii. Based on the information provided, the existing highway from Dickenson Street towards Kaanapali is presently a four-lane highway, while towards Wailuku is two lanes. We understand that it is desired to widen Honoapiilani Highway from two lanes to four lanes to ease traffic congestion fronting Lahaina town. The approximate limits of the proposed highway widening project are shown on the General Site Plan, Plate 2. In general, the highway-widening project will consist of the following improvements and construction:

MP 19.9 to MP 20.3 (Aholo Road to Shaw Street)

Taper two lanes of traffic to four lanes after the Aholo Road intersection. Relocate existing signs. Install retaining walls and guardrails. Restripe lanes near Shaw Street intersection to provide four lanes of traffic and shoulders on both sides of the highway. Relocate traffic signals to line up with the readjusted lanes. Install

curb ramps compliant to the Americans with Disabilities Act Accessibility Guidelines (ADAAG) at Shaw Street intersection.

MP 20.3 to MP 20.5 (Shaw Street to Prison Street)
Continue widened roadway. Relocate signs and extend culverts. Install new inlets and outlets for culverts. Install retaining walls and guardrails. Install curb ramps compliant to ADAAG at Prison Street intersection.

MP 20.5 to MP 20.8 (Prison Street to Dickenson Street)
Continue widened roadway. Relocate signs and extend culverts. Install new inlets and outlets for culverts. Install retaining walls and guardrails. Relocate concrete curbed right turn island at private driveway and remove existing right turn pocket into existing private driveway at MP 20.5. Restripe roadway near MP 20.5. Adjust existing water manhole near Dickenson Street to grade. Install curb ramps compliant to ADAAG at Dickenson Street. Adjust traffic signal to provide adequate clearance per ADAAG.

MP 20.8 to MP 20.97 (Dickenson Street to Lahainaluna Road)
Continue widened roadway. Relocate signs and extend culverts. Install new inlet for culvert. Install retaining walls and guardrails. Match lanes into existing four-lane section of Honoapiilani Highway prior to Lahainaluna Road. Replace existing destination sign with a smaller sign to provide space for the extra lane of traffic.

As part of the highway widening project, it is desired to evaluate the feasibility of storm water drainage through drywells. Therefore, field percolation testing were conducted in some of the drilled borings extending to depths of approximately 100 feet below the existing ground surface to evaluate the infiltration characteristics of the subsurface soils.

We understand that the proposed construction will not be a federally funded project. Therefore, a pavement justification report conforming to the requirements and guidelines of the State of Hawaii – Department of Transportation will not be required for this project. However, the new pavements for the project will be designed based on the

methodology described in the Pavement Design Manual dated March 2002 prepared by the State of Hawaii - Department of Transportation, Highways Division, Materials Testing and Research Branch.

1.3 Purpose and Scope

The purpose of our exploration was to obtain an overview of the surface and subsurface conditions at the site to develop a soil/rock data set for the formulation of geotechnical engineering recommendations pertaining to the proposed highway widening project. Our work was performed in general accordance with our fee proposal dated March 25, 2003. The scope of our work included the following tasks and work efforts:

1. Research and review of available soils and boring data in the vicinity of the project site.

2. Coordination with the State of Hawaii – Department of Transportation, Highways Division to obtain the necessary excavation permits and with the various utility companies for toning of the boring locations.

3. Mobilization and demobilization of a truck-mounted drill rig and operators to and from the site.

4. Drilling and sampling of six borings extending to depths ranging from about 20 to 136 feet below the existing ground surface for a total of approximately 390 lineal feet of exploration.

5. Coordination of the field exploration and logging of the borings by a field engineer from our firm.

6. Performance of eight field permeability tests to evaluate the subsoil infiltration characteristics for the formulation of preliminary recommendations pertaining to the design of the surface runoff disposal system.

7. Laboratory testing of selected soil samples obtained during the field exploration as an aid in classifying the materials encountered and evaluating their engineering properties.

8. Analyses of field and laboratory data for the formulation of geotechnical engineering recommendations pertaining to the design and rehabilitation of pavements, retaining structures, and storm water runoff disposal system.

9. Preparation of this report summarizing our work on the project and presenting our findings and recommendations.

10. Coordination of our work on the project by a senior engineer from our firm.

11. Quality assurance of our work and client/design team consultation by a principal engineer from our firm.

12. Miscellaneous work efforts, such as drafting, word processing, and clerical support.

Detailed descriptions of our field exploration methodology and the Logs of Borings are presented in Appendix A of this report. The results of the laboratory tests performed on selected soil samples retrieved from our field exploration are presented in Appendix B. Detailed calculations and analyses of the pavement design are presented in Appendix C. Results of the field permeability tests are presented in Appendix D.

END OF GENERAL

SECTION 2.0 - SITE CHARACTERIZATION

2.1 Regional Geology

The Island of Maui was built by two major volcanoes, the older West Maui (Tertiary Epoch) and the more recent East Maui, also known as Haleakala (Pleistocene Epoch). The Isthmus of Maui is a narrow, gently sloping plain located between these two volcanoes. The project site is located along the south and southwest flanks of West Maui.

The volcanic rocks of the West Maui have been divided into three volcanic series. The Wailuku Volcanic Series is the oldest and is comprised of the basaltic lava flows and associated pyroclastic and intrusive rocks that built the major shield volcano. The Wailuku Volcanic Series was covered by a thin, discontinuous "frosting" of andesitic and trachytic flows, domes, and pyroclastic deposits known as the Honolua Volcanic Series. After a long period of inactivity, when erosion incised deep valleys into the volcanic flows, volcanic activity returned with the eruptions that produced the flows and cones of the Lahaina Volcanic Series.

In-situ chemical weathering of the lava flows has occurred for the last 1 to 2 million years. The weathering process has formed a mantle of residual and saprolitic soils. In general, saprolite is composed mainly of silty material and is typical of the tropical weathering of volcanic rocks. The saprolite grades to basaltic rock formation with increased depth.

In the mountainous regions of Hawaii, the erosional processes are dominated by detachment of soil and rock mass from the slopes and movement of the material downslope toward the axis of the valley by gravity to form colluvial deposits. Once the colluvium reaches streams in the valley, alluvial processes become dominant, and the sediments are transported and deposited as alluvium. Large areas of alluvium can be found in the lowland areas and bordering streams.

When deposits are left in-place for long periods of time, chemical processes begin to alter the materials, simultaneously causing a breakdown or weathering of the

materials. Chemical processes also cause induration, or cementation, of the coarse-grained portion of the sediment into a poorly consolidated sedimentary rock or conglomerate. Simultaneously, erosion continues in the areas above the valley floors and upstream in headwaters. This continued erosion generates material, which is transported downslope covering the older alluvial deposits. Depending on the local base level and rate of transport, these newer sediments are generally transient in terms of geologic time. In addition, their consistency and density are generally less than those of the older, partially consolidated deposits.

2.2 Existing Site Conditions

The project site is located approximately between MP 19.9 and 20.97 on Honoapiilani Highway (Route 30) in the District of Lahaina on the Island of Maui, Hawaii. The approximate limits of the proposed highway widening project are shown on the General Site Plan, Plate 2.

The section of Honapiilani Highway extending from MP 19.18 to MP 20.8 (Wailuku bound) is a two-lane highway, which is classified as a principal arterial. The highway from MP 19.18 to MP 20.9 (Kapalua bound) is also limited to two lanes of traffic. The existing roadway consists of two undivided 11-foot lanes, with 4 to 6 feet of shoulders on each side. The bikeway and pedestrian access utilizes the shared paved shoulder area. There are no sidewalks or striped bike lanes along the highway.

Based on our field observations and the information provided, there are two concrete curb ramps on the mauka side of the highway at the Shaw Street intersection and three concrete curb ramps at the Dickenson Street intersection. Light poles are installed on the makai side of the highway from Prison Street to Lahainaluna Road with utility poles located on the mauka side of the roadway. Other utilities and manhole structures also exist within the highway right of way, including two fire hydrants on the makai side of the highway between Prison Street and Dickenson Street, a water manhole on the mauka side of the highway at the Dickenson Street intersection, and a sanitary sewer manhole near MP 20 on the mauka side of the roadway.

The existing ground surface along Honoapiilani Highway within the project limits generally slopes up gradually from the beginning of the project at Lahainaluna Road towards Dickenson Street with elevations ranging from about +28 feet Mean Sea Level (MSL) at about Sta. 72+00 (Lahainaluna Road) to about +32 feet MSL at about Sta. 80+50 (Dickenson Street). The roadway then slopes down from Dickenson Street towards Prison and Shaw Streets with elevations dropping to about +13 feet MSL at about Sta. 100+00 (about midway between Prison and Shaw Streets) before rising up again to about +30 feet MSL at about Sta. 128+00 (Aholo Road), the end of the highway widening project.

2.3 Subsurface Conditions

The subsurface conditions at the project site were explored by drilling and sampling six borings, designated as Boring Nos. 1 through 6, extending to depths ranging from about 20 to 136 feet below the existing ground surface. In addition, three bulk samples of the near-surface soils, designated as Bulk-1 through Bulk-3, were collected for R-Value tests to evaluate the pavement support characteristics of the pavement subgrade soils. The approximate locations of the borings drilled and bulk samples collected for the project are shown on the Site Plans, Plates 3.1 through 3.4.

Our field exploration along the Honoapiilani Highway alignment generally encountered surface fill materials consisting of stiff sandy silts extending to depths ranging from about 3 to 6 feet below the existing ground surface. The surface fill soils are generally underlain by alluvial deposits consisting of soft to medium stiff clayey silts extending to depths of approximately 7 to 20 feet below the ground surface. Below the alluvial deposits, the borings generally encountered colluvial soils consisting of medium dense silty sands overlying dense basaltic cobbles and boulders extending to depths of about 69 to 115 feet below the ground surface. Medium hard to hard basalt rock formation was then generally encountered and extended to the maximum depth explored of about 136 feet below the existing ground surface.

Groundwater was encountered at depths ranging from about 3 to 34.5 feet below the existing ground surface at the time of our field exploration. The groundwater levels

encountered generally correspond to about Elevations –2.0 to +10.5 feet MSL. Due to the proximity of the project site to the Pacific Ocean, water levels are expected to vary with tidal fluctuations and storm surge events. In addition, it should be noted that water levels also may vary with seasonal rainfall, time of the year, and other factors.

Detailed descriptions of the materials encountered and water levels observed in the borings are presented on the Logs of Borings in Appendix A. The results of the laboratory tests performed on selected soil samples retrieved during our field exploration are presented in Appendix B.

END OF SITE CHARACTERIZATION

SECTION 3.0 - DISCUSSION AND RECOMMENDATIONS

Our field exploration along the Honoapiilani Highway widening alignment generally encountered surface fill materials consisting of stiff sandy silts extending to depths ranging from about 3 to 6 feet below the existing ground surface. The surface fill soils are generally underlain by alluvial deposits consisting of soft to medium stiff clayey silts extending to depths of approximately 7 to 20 feet below the ground surface. Below the alluvial deposits, the borings generally encountered colluvial soils consisting of medium dense silty sands overlying dense basaltic cobbles and boulders extending to depths of about 69 to 115 feet below the ground surface. Medium hard to hard basalt rock formation was then generally encountered and extended to the maximum depth explored of about 136 feet below the existing ground surface.

We envision that new flexible pavements will be used for the proposed highway widening project. Based on the subsurface conditions encountered at the site and the traffic data provided for our pavement analyses, we recommend that new pavements for the highway widening project consist of 4 inches of AC on 7 inches of ACB over 6 inches of UTPB on 6 inches of ASB for the portion of alignment extending from Aholo Road to Prison Street. New pavement section consisting of 4 inches of AC on 7.5 inches of ACB over 6 inches of UTPB on 6 inches of ASB may be used for the portion of alignment extending from Prison Street to Lahainaluna Road.

One of the primary distress mechanisms in pavement structures is pumping due to saturation of the base, subbase, and/or subgrade soils. Therefore, the pavement surface should be sloped, and drainage gradients should be maintained to carry surface water off the pavement to appropriate drainage structures. To collect infiltrated water in the pavement structural section, we recommend that a pavement edge drain system (hydraulically connected to the untreated permeable base) be provided along the edges of the new pavements.

Based on our engineering analyses, we believe that rehabilitation of the existing pavements between Aholo Road and Prison Street may be performed with an AC overlay of about 2.0 inches in thickness. For the rehabilitation of existing

pavements between Prison Street and Lahainaluna Road, the thickness of the AC overlay should be increased to 2.5 inches. Cold planing of the existing AC surface should be performed prior to the overlay for a smoother overlay surface and/or to reduce the amount of reflection cracking in the future.

Based on the information provided, we understand that retaining walls up to about 8 feet high will be required along big drop off areas in order to accommodate the new lanes planned for the proposed highway widening project. Based on the subsurface conditions anticipated at the site, we believe that shallow foundations bearing on the recompacted on-site soils or new compacted fills may be utilized for the support of the new retaining walls planned along the highway widening alignment. The retaining structures should be designed to resist the lateral earth pressures due to the adjacent soils and traffic loads.

We understand that new drywells will be required to handle the additional storm water runoff resulting from the proposed highway widening project. Based on the results of the permeability tests conducted at the site, the shallow subsurface conditions appear to be unfavorable for the use of drainage drywells for the disposal of storm water runoff. In general, a very low disposal capacity on the order of about 0.1 cubic feet per second (cfs) may be anticipated for drywells embedding in the upper alluvial soils. A higher disposal capacity of over 1 cfs may be anticipated for drywells extending into the basalt rock formation underlying the site at depths of over 70 to 110 feet below the existing ground surface. It should be noted that the subsurface conditions were observed to vary depending upon location and our conclusions are based on the drilling and permeability testing of a relatively small diameter test boring. Detailed discussion of these items and our geotechnical engineering design recommendations are presented in the following sections of this report.

3.1 New Pavement Construction

Based on the current design concept and guidelines, we envision that new flexible pavements will be used for the proposed highway widening project. Because the project will involve less than 4-lane miles of new pavements, a detailed economic

comparison involving a flexible pavement section and rigid pavement section will not be required for the proposed highway widening project. The following sections of this report provide discussion on the areas necessary for new pavement analyses and design.

- Methodology of Pavement Design
- Design Traffic Loading Conditions/Traffic Index
- Design Subgrade Conditions

3.1.1 Methodology of Pavement Design

The pavement structural section presented in this report generally was determined based on the methodology described in Chapter 3 of the Pavement Design Manual dated March 2002. The Pavement Design Manual was prepared by the State of Hawaii - Department of Transportation, Highways Division, Materials Testing and Research Branch. The pavement design methodology is based on the Hveem Stabilometer method developed and used by the California Department of Transportation (Caltrans).

3.1.2 Design Traffic Loading Conditions/Traffic Index

Based on the "Straight Line Diagram" published by the Planning Branch of the Highways Division, the proposed highway intersection improvement project should be categorized as "High Volume Urban and Tunnels"; and therefore, should be designed based on a design life of 50 years. Design traffic loading conditions were based on the information provided by the Department of Transportation, Highways Division, and are summarized as follows. A copy of the design traffic parameters is presented on Plate C-1 of Appendix C. A review of the traffic count data dating from 1991 to 2003 suggests that a simple growth rate may be used for this highway widening project. Due to the lack of site-specific traffic data and growth projections (beyond Year 2014), similar growth rates were used to extrapolate the data to the Year 2006 (project completion) and 2056 (50-year design life required for this road classification).

LOCATION	TRAFFIC VOLUME (Average Daily Traffic)			
	Year 2004	Year 2014	Year 2006	Year 2056
Aholo Road to Prison Street	23,500	26,800	24,160	40,660
Prison Street to Lahainaluna Road	26,000	29,700	26,740	45,240
NOTE: Traffic data for Years 2006 and 2056 was extrapolated based on growth rate from Years 2004 to 2014				

LOCATION	TRAFFIC VOLUME (ADT per Direction)		
	Design Distribution	Year 2006	Year 2056
Aholo Road to Prison Street	50/50	12,080	20,330
Prison Street to Lahainaluna Road	55/45	14,707	24,882

DESIGN TRAFFIC PARAMETERS	
Design Period	50 Years
24-Hour Truck Traffic	4%
Type of Axle	Truck Traffic Distribution
2-axle	65.22%
3-axle	18.33%
4-axle	2.64%
5-axle	12.57%
6-axle	0.75%
7-axle	0.49%

Based on the design period, traffic volume, and truck traffic distribution information provided, the Traffic Index (TI) has been determined for the two segments of the proposed highway widening project. Results of the Traffic Index Determination are summarized in the following table. Detailed analyses on the Traffic Index Determination are presented on Plates C-2 and C-3 of this report.

TRAFFIC INDEX DETERMINATION	
Location	Traffic Index (TI)
Aholo Road to Prison Street	12.0
Prison Street to Lahainaluna Road	12.5

3.1.3 Design Subgrade Conditions

Based on our field exploration results and the current design concept, we anticipate that the pavement subgrade soils will likely consist of the near-surface sandy silt and clayey silt soils for the proposed highway widening project. Laboratory Resistance (R) Value tests performed on the near-surface soils obtained from our field exploration indicated that the materials exhibited R-Values of 53, 11, and 56. The test results are presented on Plates B-9 through B-11 of Appendix B. Based on these assumptions and test results, a design R-Value of 40 was adopted in our pavement analyses for the subgrade materials. If site grading exposes soils other than those assumed, additional tests should be performed to confirm and/or revise the recommended pavement section for actual field conditions.

3.1.4 Design Pavement Sections

Based on the traffic data provided and the R-Value test results for the near-surface soils collected along the proposed highway widening alignment, we believe that the new pavements for the proposed roadway widening project may be designed based on the following pavement structural sections incorporating the permeable base layer. Detailed calculations and analyses of the pavement design are presented on Plates C-4 and C-5 of Appendix C.

Aholo Road to Prison Street

4.0 Inches Asphalt Concrete
7.0 Inches Asphalt Concrete Base (91 Percent Relative Specific Gravity)
6.0 Inches Untreated Permeable Base
6.0 Inches Aggregate Subbase (95 Percent Relative Compaction)
23.0 Inches Total Pavement Thickness on Compacted Subgrade

Prison Street to Lahainaluna Road

4.0 Inches Asphalt Concrete
7.5 Inches Asphalt Concrete Base (91 Percent Relative Specific Gravity)
6.0 Inches Untreated Permeable Base
6.0 Inches Aggregate Subbase (95 Percent Relative Compaction)
23.5 Inches Total Pavement Thickness on Compacted Subgrade

Due to the relatively wet environment at the site, we recommend that a permeable drainage layer be incorporated into the pavement design as shown in the pavement design sections presented above. Detailed calculations pertaining to the thickness of the permeable drainage layer are presented on Plate C-6 of Appendix C.

3.1.5 Subgrade Preparation Below Pavement Section

In general, the area within the contract grading limits should be thoroughly cleared and grubbed at the on-set of earthwork. Vegetation, debris, deleterious materials, and other unsuitable materials should be removed and disposed of properly off-site. The existing AC, underlying base and subbase materials should also be completely removed and properly disposed of off-site. Soft and yielding areas encountered during clearing below areas designated to receive the pavement section should be over-excavated to expose firm or stiff material, and the resulting excavation should be backfilled with well-compacted general fill. The excavated soft and/or organic soils should be properly disposed of off-site.

After clearing and grubbing, the future pavement areas should be excavated, where necessary, to the pavement subgrade level, i.e., bottom of the aggregate subbase layer. The pavement subgrade soils should be scarified to a depth of at least 8 inches, moisture-conditioned to at least 2 percent above the optimum moisture content, and recompacted to a minimum of 95 percent relative compaction. Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same soil established in accordance with AASHTO T 180 or ASTM D 1557 test procedures. Optimum moisture is the water content (percentage by dry weight) corresponding to the maximum dry density.

If pumping conditions are encountered during compaction of the subgrade soils, the subgrade soils may be stabilized by cement treatment to reduce the potential for pumping subgrade conditions. As a guide, one sack of cement may be used for every 50 square feet of subgrade area. This preliminary mix should be adjusted in the field to suit the exposed soil conditions. Alternatively, the subgrade may be proof-rolled and a woven geotextile fabric, such as Mirafi 500X or equivalent, should be placed on the subgrade prior to placement of the aggregate subbase layer.

Where shrinkage cracks are observed after compaction of the subgrade, we recommend that the soils be scarified and prepared again as recommended above. Saturation and subsequent yielding of the exposed subgrade due to inclement weather and poor drainage may require over-excavation of the soft areas and replacement with well-compacted fill. Contract documents should include additive and deductive unit prices for over-excavation and compacted fill placement to account for variations in the over-excavation quantities.

Pavement subgrade preparation should be observed by a representative from Geolabs. It is important that a representative from our office observe the site preparation operation to evaluate whether undesirable materials are encountered during the excavation and scarification process and whether the exposed soil/rock conditions are similar to those encountered in our field exploration.

3.1.6 Fill Materials

In general, the excavated on-site materials may be re-used as a source of general fill and backfill materials up to the bottom of the aggregate subbase layer, provided that they are free of organic materials, contain no lumps or rock fragments greater than 6 inches in largest dimension, and have a minimum R-Value of 40 or more. The on-site fill materials should be moisture-conditioned to at least 2 percent above the optimum moisture content, placed in level lifts not exceeding 8 inches in loose thickness, and compacted to a minimum of 95 percent relative compaction.

Imported fill materials, if required, should consist of non-expansive select granular material, such as crushed coral, mudrock, or basalt. The material should be well graded from coarse to fine with no particles greater than 3 inches in largest dimension. The material should have a laboratory CBR value of 20 or more with a maximum swell value of 1 percent or less when tested in accordance with AASHTO T 193 or ASTM Test Designation D 1883 test procedures. Select granular fill material should contain between 10 and 30 percent particles passing the No. 200 sieve. In addition, the material should have a minimum R-Value of 40 or more. Imported materials should be brought to above the optimum moisture content and compacted to not less than 95 percent relative compaction. Surfaces should be wetted, finished to create relatively smooth, unyielding subgrades and kept moist until covered by pavements. Imported materials should be tested and approved by Geolabs prior to delivery to the project site for the intended use.

3.1.7 Compaction Requirements

Field density tests should be performed on the fills and backfills in general accordance with ASTM D 1556 and ASTM D 2216. As an alternative, field density tests may be conducted on the fills and backfills in general accordance with ASTM D 2922 and ASTM D 3017. In general, field density tests should be performed at the frequencies presented in the following table.

Material	Location of Material	Test Frequency
Asphalt Concrete Base	Pavements & Shoulders	One test per 100 lineal feet per lift.
Aggregate Subbase	Pavements & Shoulders	One test per 100 lineal feet per lift.
Subgrade	Pavements & Shoulders	One test per 5,000 square feet per lift.
Structural Fill (3-Inch Minus Granular Materials)	Embankment	One test per 2,500 square feet per lift.
Trench Backfill	Utility Trench	One test per 100 lineal feet per lift of backfill.

Aggregate subbase (ASB) materials required for the new pavements should conform to the requirements stipulated in the Hawaii Standard Specifications for

Road, Bridge, and Public Works Construction (1994). The aggregate subbase should be moisture-conditioned to above the optimum moisture content, placed in 8-inch level loose lifts, and compacted to not less than 95 percent of the maximum density according to Section 106.09 – Special Test Methods of the Hawaii Standard Specifications for Road, Bridge, and Public Works Construction.

Asphalt concrete base (ACB) material should consist of asphalt-treated basalt aggregate, placed in a layer not to exceed 6 inches in compacted thickness, and compacted to more than 91 percent of the maximum theoretical specific gravity determined in accordance with AASHTO T-209 or ASTM D 2041 test procedures.

Asphaltic concrete (AC) material should be constructed in accordance with Section 401 Asphalt Concrete Pavement of the State of Hawaii, Standard Specifications for Road, Bridge, and Public Works Construction (1994) and its amendments.

3.1.8 Pavement Drainage

One of the primary distress mechanisms in pavement structures is pumping due to saturation of the base, subbase, and/or subgrade soils. Therefore, the pavement surface should be sloped and drainage gradients maintained to carry surface water off the pavement to appropriate drainage structures. Surface water ponding should not be allowed on the site during or after construction. To collect infiltrated water into the pavement structural section, we recommend that a pavement edge drain system be provided along the sides of the new travelway.

We envision that an edge drain will be needed to collect and daylight the infiltrated water into the pavement structural section from the untreated permeable base layer. The edge drain should consist of a 6-inch PVC perforated pipe (with perforations facing down) surrounded by untreated permeable base. A permeable separator (non-woven filter fabric) conforming to Section 648 of the Hawaii Standard Specifications for Road, Bridge, and Public Works Construction, 1994 (HSS) should be placed around the untreated permeable base to reduce the potential for migration of fines into the drainage material, as shown on Plate 4. In

addition, a permeable separator should also be placed between the untreated permeable base and aggregate subbase. Care should be exercised when placing the subbase, base, and/or construction of the surface course to avoid damaging the edge drain collector pipe. A typical edge drain detail is provided on Plate 4. The edge drains should be daylighted into appropriate drainage structures for proper discharge.

Subdrains should be provided in areas where seepage is observed during and/or after grading or as recommended by the Engineer during construction. Subdrains should conform to the requirements of Section 605 – Underdrains of the State of Hawaii Standard Specifications for Road, Bridge, and Public Works Construction, 1994 (HSS). As a minimum, the subdrain pipes should consist of 6-inch diameter perforated pipes conforming to Subsection 706.12 of the HSS with the perforations facing down. The subdrains should be daylighted into appropriate drainage structures for proper discharge.

Development of good shoulder drainage with a greater frequency of drywells and disposal conduits, along with a program to maintain the drainage structures to be free of obstructions, is strongly recommended to reduce the potential for pavement deterioration or premature failure of the pavements.

3.2 Pavement Rehabilitation

Based on the information, we understand that rehabilitation of some of the existing pavements may be required in localized areas along the proposed highway widening project. In general, the type and severity of the distresses exhibited in the pavement areas would determine whether rehabilitation or reconstruction of the existing pavements should be performed. Existing pavements with minor distresses of low severity are generally rehabilitated with an AC overlay with cold-planing. In the method outlined for AC overlays, the strength of the existing AC is evaluated based on the type and severity of the distresses observed. The existing AC may be reduced to that of asphalt concrete base (ACB) – Option 1, Untreated Base (UTB) - Option 2, or remain unchanged - Option 3.

3.2.1 Design Traffic Loading Conditions/Traffic Index

Based on the instructions provided by the State of Hawaii - Department of Transportation, Highways Division, Material Testing and Research Branch, reconstruction of the severely distressed or failed pavement areas should be designed for a pavement life of 10 years. Design traffic loading conditions were based on the information provided by the Department of Transportation, Highways Division, and are summarized as follows.

LOCATION	TRAFFIC VOLUME (ADT per Direction)		
	Design Distribution	Year 2006	Year 2016
Aholo Road to Prison Street	50/50	12,080	13,730
Prison Street to Lahainaluna Road	55/45	14,707	16,742

Based on the design period, traffic volume, and truck traffic distribution information provided, the Traffic Index (TI) has been determined for the two segments of the proposed highway-widening project. Results of the Traffic Index Determination are summarized in the following table. Detailed analyses on the Traffic Index Determination are presented on Plates C-7 and C-8 of this report.

TRAFFIC INDEX DETERMINATION	
Location	Traffic Index (TI)
Aholo Road to Prison Street	9.5
Prison Street to Lahainaluna Road	10.0

3.2.2 Existing Pavement Section

Based on the construction drawings for the Lahaina – Wailuku Road project dated June 1955, the pavement section along the proposed highway widening alignment generally consisted of 2 inches of asphalt concrete over 4 inches of untreated base on 8 inches of aggregate subbase material. During the Honoapiilani Highway

Resurfacing project conducted in 1997, 3 inches of asphalt concrete overlay was added to the existing pavement section along the widening alignment. Based on our evaluation of the available data and information, we have assumed that the existing pavement section along the highway widening alignment consists of 5 inches of AC over 4 inches of untreated base on 8 inches of aggregate subbase materials in our engineering analyses.

3.2.3 Rehabilitation with AC Overlay

Based on our field observations, the majority of the existing pavements under consideration are in fair condition with minor distresses of low severity. Therefore, it is our opinion that an AC overlay may be used for the rehabilitation of these existing pavement areas.

For the AC overlay design, the strength of the existing AC layer has been reduced to that of asphalt concrete base (ACB) based on the low severity of the distresses observed at the subject roadway. Design input parameters and our recommended AC overlay thicknesses are summarized in the following tables. The recommended AC overlay thicknesses already take into account the reduced thickness of the existing AC resulting from the cold-planing operation. Detailed calculations and analyses are presented on Plates C-9 and C-10 of this report.

STREET NAME	EXISTING AC (inches)	EXISTING UTB (inches)	EXISTING ASB (inches)	SUBGRADE R-VALUE	TI
Aholo Road to Prison Street	5.0	4.0	8.0	40	9.5
Prison Street to Lahainaluna Road	5.0	4.0	8.0	40	10.0

STREET NAME	EXISTING AC THICKNESS (inches)	MAXIMUM COLD-PLANING THICKNESS (inches)	REDUCED EXISTING AC THICKNESS (inches)	NEW AC OVERLAY THICKNESS (inches)	ELEVATION DIFFERENCE (inches)
Aholo Road to Prison Street	5.0	1.0	4.0	2.0	+1.0
Prison Street to Lahainaluna Road	5.0	1.0	4.0	2.5	+1.5

It should be noted that there will be an elevation difference of about 1.0 and 1.5 inches above the existing grade for the AC overlay along the highway widening alignment, as shown in the table above.

The contractor should vacuum-sweep areas immediately after cold-planing to remove all gravel-sized material and dust not picked up by the cold-planing operation. The vacuum-sweep should not preclude the dust control operation during cold-planing. In general, the contractor should begin paving no later than three working days after cold-planing begins. Finally, vacuum sweeping of cold-planed surfaces should also be done immediately prior to paving.

3.3 Retaining Structures

Based on the information provided, we understand that retaining walls on the order of about 4 to 8 feet high are required along portions of the highway widening alignment where large drop offs occur in order to accommodate the new lanes planned for the project. In general, retaining structures should be designed to resist the lateral earth pressures due to the adjacent soils and traffic loads. Design of foundations for the retaining walls should be based on the parameters presented in the following subsections of this report.

3.3.1 Shallow Retaining Wall Foundations

Based on our field exploration results, we anticipate that shallow foundations bearing on the stiff in-situ soils encountered at the project site may be utilized for support of the planned retaining walls. Based on the field exploration results, we

believe that the following values may be used to evaluate the bearing support, sliding resistance, and passive pressure resistance of the planned retaining walls based on Load and Resistance Factor Design (LRFD) methods.

RETAINING WALL FOUNDATIONS			
Description	Extreme Event Limit State	Strength Limit State	Service Limit State
Bearing Pressure (psf)	9,000	5,500	3,000
Coefficient of Sliding Friction	0.42	0.34	N/A
Passive Pressure Resistance (pcf)	360	180	N/A

Based on a service limit state bearing pressure of 3,000 pounds per square foot (psf), we estimate that foundation settlements under the anticipated design loads for foundations bearing on the stiff in-situ soils to be less than 1 inch.

In general, foundations should be embedded a minimum of 2 feet below the lowest adjacent finished grades. If foundations are located next to utility trenches or easements, the footing should be embedded below a 45-degree imaginary plane extending upward from the bottom edge of the utility trench, or the footing should be extended to a depth as deep as the inverts of the utility lines. This requirement is necessary to avoid surcharging adjacent below-grade structures with additional structural loads and to reduce the potential for appreciable foundation settlement.

Lateral loads acting on the structure may be resisted by frictional resistance between the base of the foundation and the bearing soil and by passive earth pressure developed against the near-vertical faces of the embedded portion of the foundation. The values presented in the table above, expressed in pounds per square foot per foot of depth (pcf), may be used to evaluate the passive pressure resistance for footings embedded in and bearing on the stiff in-situ soils. Unless

covered by pavements or slabs, the passive resistance in the upper 12 inches should be neglected.

3.3.2 Static Lateral Earth Pressures

Retaining structures should be designed to resist lateral earth pressures due to the adjacent soils and surcharge effects caused by loads adjacent to the retaining structures. The recommended lateral earth pressures for design of retaining structures, expressed in equivalent fluid pressures, are presented in the following table.

LATERAL EARTH PRESSURES FOR DESIGN OF RETAINING STRUCTURES			
Backfill Condition	**Earth Pressure Component**	**Active** (pcf)	**At-Rest** (pcf)
Level Backfill	Horizontal	40	60
	Vertical	None	None
Maximum 2H:1V Sloping Backfill	Horizontal	58	76
	Vertical	29	38

The values provided above assume that Type A Structure Backfill Material conforming to Section 703.20 of the Hawaii Standard Specifications for Roads, Bridges, and Public Works Construction, 1994 (HSS) or other granular materials will be used to backfill behind the retaining structures. It is assumed that the backfill behind retaining structures will be compacted to at least 95 percent relative compaction. In general, an active condition may be used for gravity walls or walls that are free to deflect by as much as 0.5 percent of the wall height. If the tops of walls are not free to deflect beyond this degree or are restrained, the walls should be designed for the at-rest condition. These lateral earth pressures do not include hydrostatic pressures that might be caused by groundwater trapped behind the walls.

Surcharge stresses due to areal surcharges, line loads, and point loads within a horizontal distance equal to the depth of the wall should be considered in the design. For uniform surcharge stresses imposed on the loaded side of the wall, a rectangular distribution with uniform pressure equal to 33 percent of the vertical surcharge pressure acting over the entire height of the wall, which is free to deflect (cantilever), may be used in design. For walls that are restrained, a rectangular distribution equal to 50 percent of the vertical surcharge pressure acting over the entire height of the wall may be used for design. Additional analyses during design may be needed to evaluate the surcharge effects of point loads and line loads.

3.3.3 Dynamic Lateral Earth Pressures

Since the project site is located on the seismically active Island of Maui, dynamic lateral earth pressures will need to be considered in the design of retaining structures. For seismic loading conditions, a force of $11.7H^2$ pounds per lineal foot (H in feet) due to dynamic lateral earth pressures (based on a_{max} of 0.26g) may be used for design. The dynamic lateral earth force presented above is in addition to the static lateral earth pressures. The resultant force should be assumed to act through the mid-height of the wall. An appropriately reduced factor of safety may be used when dynamic lateral earth forces are accounted for in the design of the retaining structure.

3.3.4 Drainage

Retaining walls should be well drained to reduce the potential for the build-up of hydrostatic pressures. A typical drainage system would consist of a 12-inch wide zone of permeable material, such as open-graded gravel (AASHTO M43 Size No. 67), immediately adjacent to the wall with a perforated pipe (perforations facing down) at the base of the wall discharging to an appropriate outlet or weepholes. As an alternative, a prefabricated drainage product, such as MiraDrain or EnkaDrain, may be used instead of the drainage material. The prefabricated drainage product also should be hydraulically connected to a perforated pipe at the base of the wall.

Backfill behind the permeable drainage zone should consist of Type A Structure Backfill Material conforming to Section 703.20 of the HSS (a minimum of 95 percent relative compaction). Unless covered by concrete slabs or pavements, the upper 12 inches of backfill should consist of relatively impervious material to reduce the potential for water infiltration behind the walls. In addition, the backfill below the drainage outlet (or weepholes) should consist of the relatively impervious material to reduce the potential for water infiltration into the footing subgrade. The relatively impervious material should be compacted to not less than 90 percent relative compaction.

3.4 Site Preparation

Based on the existing topography and the anticipated design finish grades for the proposed highway widening project, we anticipate that site grading work consisting of cuts and fills of less than about 3 feet thick will be required for the project construction. In general, the area within the contract grading limits should be thoroughly cleared and grubbed at the on-set of earthwork. All vegetation, debris, deleterious material and other unsuitable materials should be removed and disposed of properly off-site. Soft and yielding areas encountered during clearing below areas designated to receive fill or future improvements should be over-excavated to expose firm and/or stiff material, and the resulting excavation should be backfilled with well-compacted fill. The excavated soft and/or organic soils should be properly disposed of off-site.

Existing structures and pavements that are to be demolished should be completely removed. The over-excavations resulting from demolition should be backfilled with compacted granular fill material. Existing utilities to be abandoned should be removed, and the resulting excavation should be properly backfilled with granular fill material moisture-conditioned to above the optimum moisture content, placed in 8-inch level loose lifts, and compacted to a minimum of 95 percent relative compaction. Utilities that are to be abandoned in-place under the proposed structures should be backfilled by pumping lean concrete under low pressure.

Imported fill materials for the project construction should consist of non-expansive select granular material, such as crushed coral or basalt. The material should be well graded from coarse to fine with no particles larger than 3 inches in largest dimension. In addition, the material should contain between 10 and 30 percent particles passing the No. 200 sieve. The material should have a laboratory CBR value of 20 or more and should have a maximum swell of 1 percent or less when tested in accordance with ASTM Test Designation D 1883. In addition, the material should have a minimum R-Value of 40 or more. The materials should be moisture-conditioned to above the optimum moisture content, placed in 8-inch level loose lifts, and compacted to a minimum of 95 percent relative compaction. Imported fill materials should be tested by Geolabs for conformance with these recommendations prior to delivery to the project site for the intended use.

Site grading operations should be observed by a representative from Geolabs. It is important that a representative from our office observe the site preparation to evaluate whether undesirable materials are encountered during the excavation and scarification process and whether the exposed soil/rock conditions are similar to those encountered in our field exploration.

3.5 Utility Trenches

We understand that the highway widening project may require the installation of new drain lines connecting the drywells planned for the project. In general, good construction practices should be utilized for the installation and backfilling of the trenches for the new utilities at the site. The method and equipment to be used for trench excavation should be determined by the contractor, subject to practical limits and safety considerations. In addition, the excavations should comply with the applicable federal, state, and local safety requirements.

Based on the results of our field exploration, it appears that conventional excavation methods may generally be utilized for utility line excavation at the site. The upper fill soils encountered at the site are generally stiff to very stiff. However, it is anticipated that utilities extending deeper than about 3 to 6 feet below the existing

ground surface may encounter the soft to very soft alluvial deposits as described above. Where soft and/or loose soils are encountered at the pipe invert elevation, we recommend that a subgrade stabilization layer consisting of 24 inches of No. 2 Rock (ASTM C 33, No. 4 gradation) wrapped in a non-woven filter fabric (Mirafi 180N or equivalent) be provided below the bedding layer for uniform support for the new utility line. The stabilization layer should also extend beyond the sides of the pipe a minimum width of one-fourth the outside diameter of the pipe or 12 inches, whichever is greater.

In general, we recommend that granular bedding consisting of 6 inches of No. 3B Fine gravel (ASTM C 33, No. 67 gradation) be used for support under the pipes. Free-draining granular materials, such as No. 3B Fine gravel (ASTM C 33, No. 67 gradation), should also be used for the initial trench backfill up to about 12 inches above the pipes to provide adequate support around the pipes. It is critical to use this free-draining material to reduce the potential for formation of voids below the haunches of pipes and to provide adequate support for the sides of the pipes. Improper trench backfill could result in settlement of the backfill and damage to the pipes.

The upper portion of the trench backfill from the level 12 inches above the pipes to the top of the subgrade or finished grade may consist of the on-site soils (with a maximum particle size of 6 inches) or select granular fill material. The backfill should be placed in maximum 8-inch level loose lifts and mechanically compacted to not less than 90 percent relative compaction to reduce the potential for appreciable future ground subsidence. Where trenches are below pavement areas, the upper 3 feet of the trench backfill below the pavement finished grade should be compacted to a minimum of 95 percent relative compaction.

3.6 Storm Water Runoff Disposal System

Based on the information provided, we understand that the proposed highway widening project will result in an additional increase of surface storm water runoff of 12 cubic feet per second (cfs) based on a 25-year storm event. In order to handle the additional storm water runoff, we understand that drywells for storm water runoff disposal are planned at selected locations along the highway widening alignment.

A total of eight field permeability tests using the constant head method were performed in Boring Nos. 1 through 3 at selected depths to evaluate the infiltration characteristics of the subsurface materials. Results of our field permeability tests and the calculated permeabilities are presented on Plates D-1 through D-8 of Appendix D. The tests indicate that the subsurface soils have a relatively wide range of coefficient of permeability, k, ranging from about 6.0×10^{-3} to 1.7×10^{-1} feet per minute. These coefficients of permeability generally correspond to a water run-off disposal capacity ranging from about 0.1 to 4 cubic feet per second (cfs) for a 2-foot diameter, 30-foot deep drywell.

In general, a very low disposal capacity of about 0.1 cfs may be anticipated for drywells embedding in the upper alluvial soils. A higher disposal capacity of over 1 cfs may be anticipated for drywells extending into the basalt rock formation underlying the site at depths of over 70 to 110 feet below the existing ground surface. Basalt is considered to be relatively permeable rock and can transmit water quite readily in both the horizontal and vertical directions. Water is transmitted through the porous rock matrix, along joints, fractures and inter-flow contacts, cavities, and along clinker layers. The permeability of the clinker and cavities is high; therefore, they serve as the major water transmission features. However, it should be noted that the percolation rate in basalt rock formation will depend significantly on the amount of fractures and the presence of clinker layers. Therefore, the actual disposal capacity of the drywell may vary significantly from the calculated value since the fracturing characteristics of the basalt rock formation may not be well represented in a 4-inch diameter borehole.

Drywells on the Island of Maui are generally 2 feet in diameter and about 30 feet in depth. The actual size and depth of the storm water runoff disposal system will depend on the design quantity of the surface runoff. Extension of the drywell from the planned 30-foot depth may be required depending on the specific site conditions at the proposed drywell locations. Therefore, we recommend that unit prices for additional drilling be obtained during bidding. Provisions should be incorporated into the construction documents to extend the drywell depths from the planned 30 feet to 100 feet below the ground surface using a minimum 15-inch diameter extension hole.

The unit prices for drywell extension should be obtained in 20-foot increments. Considering the highly variable percolation rates of the subsurface conditions, we strongly recommend that testing of the drywells be performed during construction.

In general, the type of drilling operation may alter the hydraulic characteristics of the formation materials at the edges of the borehole and may result in significant reduction of the hydraulic conductivity of the drilled hole. We envision that the drilling fluid may seal the permeable surfaces of the drywell. Therefore, pressure washing or water jetting to remove the seal should be included in the specifications, if the drywells are to be installed by drilling. The contractor should forward the proposed excavation method and equipment to be used on the project to Geolabs for evaluation and comments. Geolabs should review the submittal and assess the impact of drywell construction procedures on the permeability characteristics.

Due to the potential for encountering clinker materials during drilling, consideration should also be given to the installation of concrete rings in the clinker layers to reduce the potential for collapse when saturated. Unit prices for installation of concrete rings should also be obtained during bidding.

The drywell installation and testing program should be conducted under the observation of a representative from Geolabs. This would allow our firm to monitor the subsurface conditions, to evaluate the storm water disposal capacity, and to allow for additional recommendations to be made. The drywell design recommendations presented herein are contingent upon such observations and additional tests. The owner/client should be aware that substantial variations in subsurface rock conditions may occur. Therefore, a contingency fund is recommended to accommodate the potential extra costs associated with these variations.

3.7 Design Review

Drawings and specifications for the proposed construction should be forwarded to Geolabs for review and written comments prior to advertisement for bid. This review is necessary to evaluate conformance of the plans and specifications to the

recommendations provided herein. If this review is not made, Geolabs cannot assume responsibility for misinterpretation of the recommendations presented.

3.8 Construction Observation

It is recommended that Geolabs be retained to provide geotechnical engineering services during construction of the project. The items of construction monitoring that are critical requiring "Special Inspection" for this project include the following:

- Observation of the retaining wall footing excavation.
- Observation of the pavement subgrade soil pavement.
- Observation of the fill and backfill placement and compaction.
- Observation and injection testing of new drywells.

Other aspects of earthwork construction should also be observed by a representative from Geolabs. This is to observe compliance with the intent of the design concepts, specifications, or recommendations and to expedite suggestions for design changes that may be required in the event that subsurface conditions differ from those anticipated at the time this report was prepared. The recommendations provided in this report are contingent upon such observations. If the actual soil conditions encountered during construction are different from those assumed or considered in this report, then appropriate modifications to the design should be made.

END OF DISCUSSION AND RECOMMENDATIONS

SECTION 4.0 - LIMITATIONS

The analyses and recommendations submitted in this report are based in part upon information obtained from the field borings and bulk samples. Variations of subsurface conditions between and beyond the field borings and bulk samples may occur, and the nature and extent of these variations may not become evident until construction is underway. If variations then appear evident, Geolabs should be contacted to re-evaluate the recommendations presented in this report.

The locations of the field borings indicated in this report were taped with reference to the features shown on the Preliminary Topographic Maps transmitted by M & E Pacific, Inc. on May 24, 2005. Elevations of the field borings were estimated by interpolation from the spot elevations shown on the same plans. The physical locations and elevations of the field borings should be considered accurate only to the degree implied by the methods used.

The stratification lines shown on the graphic representations of the borings depict the approximate boundaries between soil/rock types and, as such, may denote a gradual transition. Water level data from the borings were measured at the times shown on the graphic representations and/or presented in the text of this report. These data have been reviewed and interpretations made in the formulation of this report. However, it must be noted that fluctuation may occur due to seasonal precipitation, surface water runoff, groundwater withdrawal, and other factors.

This report has been prepared for the exclusive use of M & E Pacific, Inc., their client, State of Hawaii – Department of Transportation, and other project consultants for specific application to the design of the proposed Honoapiilani Highway Widening project from Lahainaluna Road to Aholo Road in accordance with generally accepted geotechnical engineering principles and practices. No warranty is expressed or implied.

This report has been prepared solely for the purpose of assisting the architect and/or engineer in the design of the proposed project. Therefore, this report may not contain sufficient data, or the proper information, to serve as the basis for preparation of

construction cost estimates. A contractor wishing to bid on this project is urged to retain a competent geotechnical engineer to assist in the interpretation of this report and/or in the performance of additional site-specific exploration for bid estimating purposes.

The owner/client should be aware that unanticipated soil and/or rock conditions are commonly encountered. Unforeseen subsurface conditions, such as soft deposits, hard layers, cavities, or perched groundwater, may occur in localized areas and may require additional probing or corrections in the field (which may result in construction delays) to attain a properly constructed project. Therefore, a sufficient contingency fund is recommended to accommodate these possible extra costs.

The geotechnical engineering exploration conducted at the project site was not intended to investigate the *potential for hazardous materials* existing at the project site. It should be noted that the equipment, techniques, and personnel used to conduct a geo-environmental exploration differ substantially from those applied in geotechnical engineering.

END OF LIMITATIONS

CLOSURE

The following plates and appendices are attached and complete this report:

Plate 1	-	Project Location Map
Plate 2	-	General Site Plan
Plates 3.1 thru 3.4	-	Site Plans
Plate 4	-	Typical Edge Drain Detail
Appendix A	-	Field Exploration
Plate A	-	Boring Log Legend
Plates A-1 thru A-6	-	Logs of Borings
Appendix B	-	Laboratory Testing
Plates B-1 thru B-11	-	Laboratory Test Data
Appendix C	-	Pavement Design
Plates C-1 thru C-10	-	Pavement Calculations

Appendix D	-	Field Permeability Testing
Plates D-1 thru D-8	-	Field Permeability Test Data

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Respectfully submitted,

GEOLABS, INC.

By Teddy S.T. Kwok

Teddy S.T. Kwok, P.E.
Senior Project Engineer

By Clayton S. Mimura

Clayton S. Mimura, P.E.
President

CSM:TK:mj

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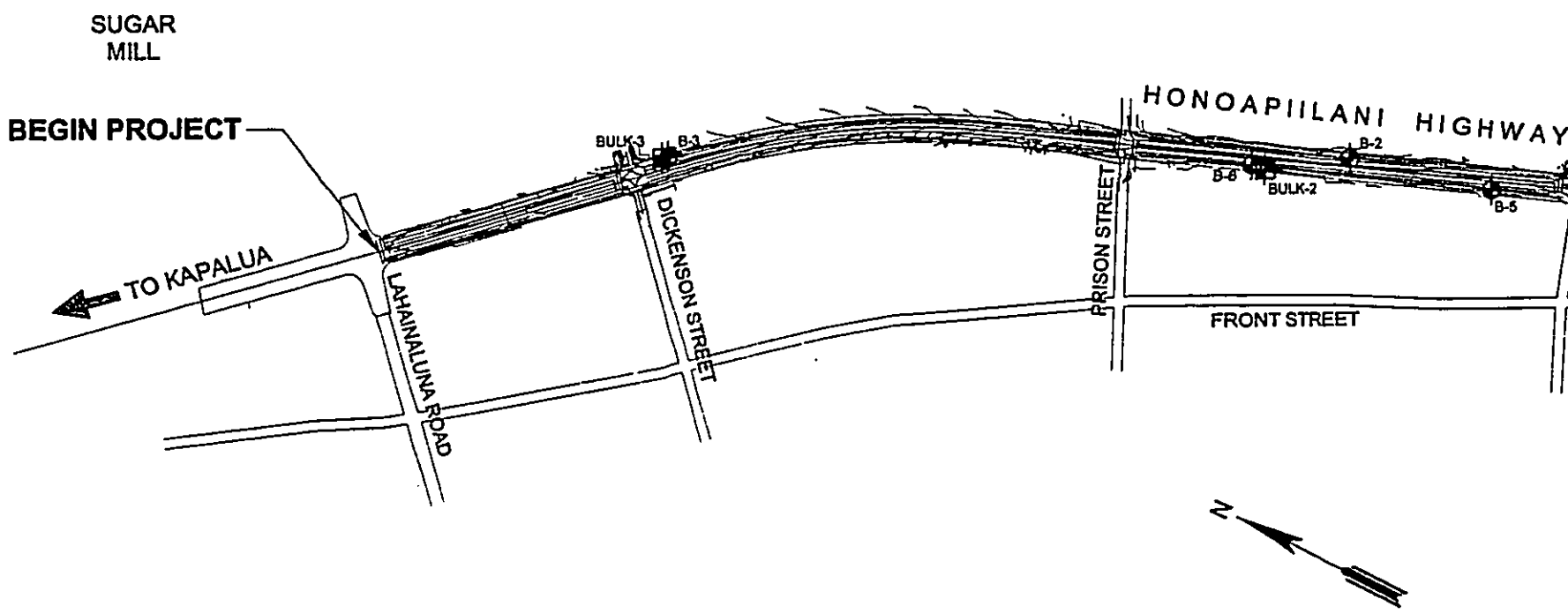
PLATES



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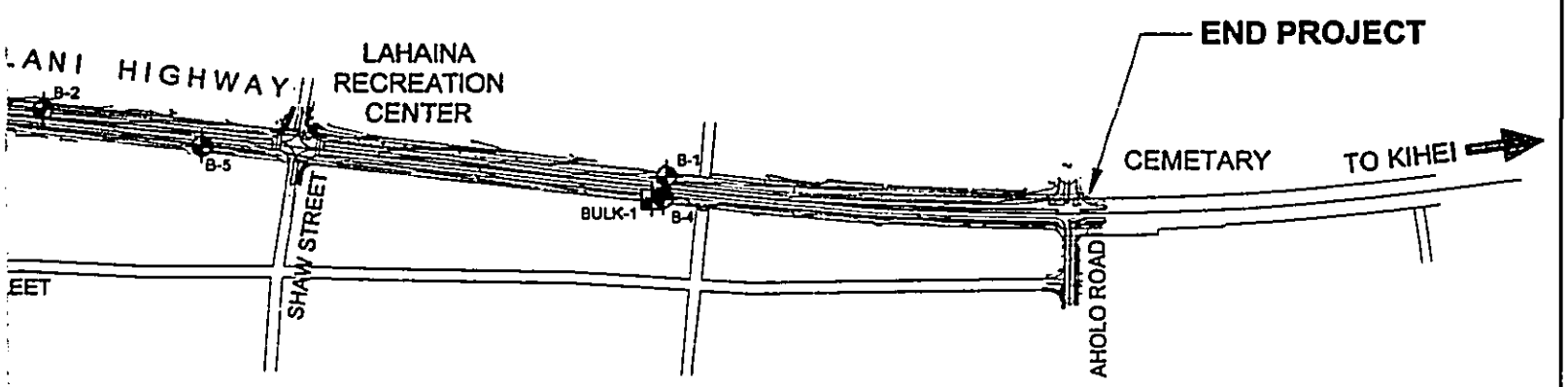

GENERAL SITE PLAN

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

0 250 500 1000 1500 FT.

GRAPHIC SCALE

GEOLABS, INC.

Geotechnical Engineering

DATE	DRAWN BY	PLATE
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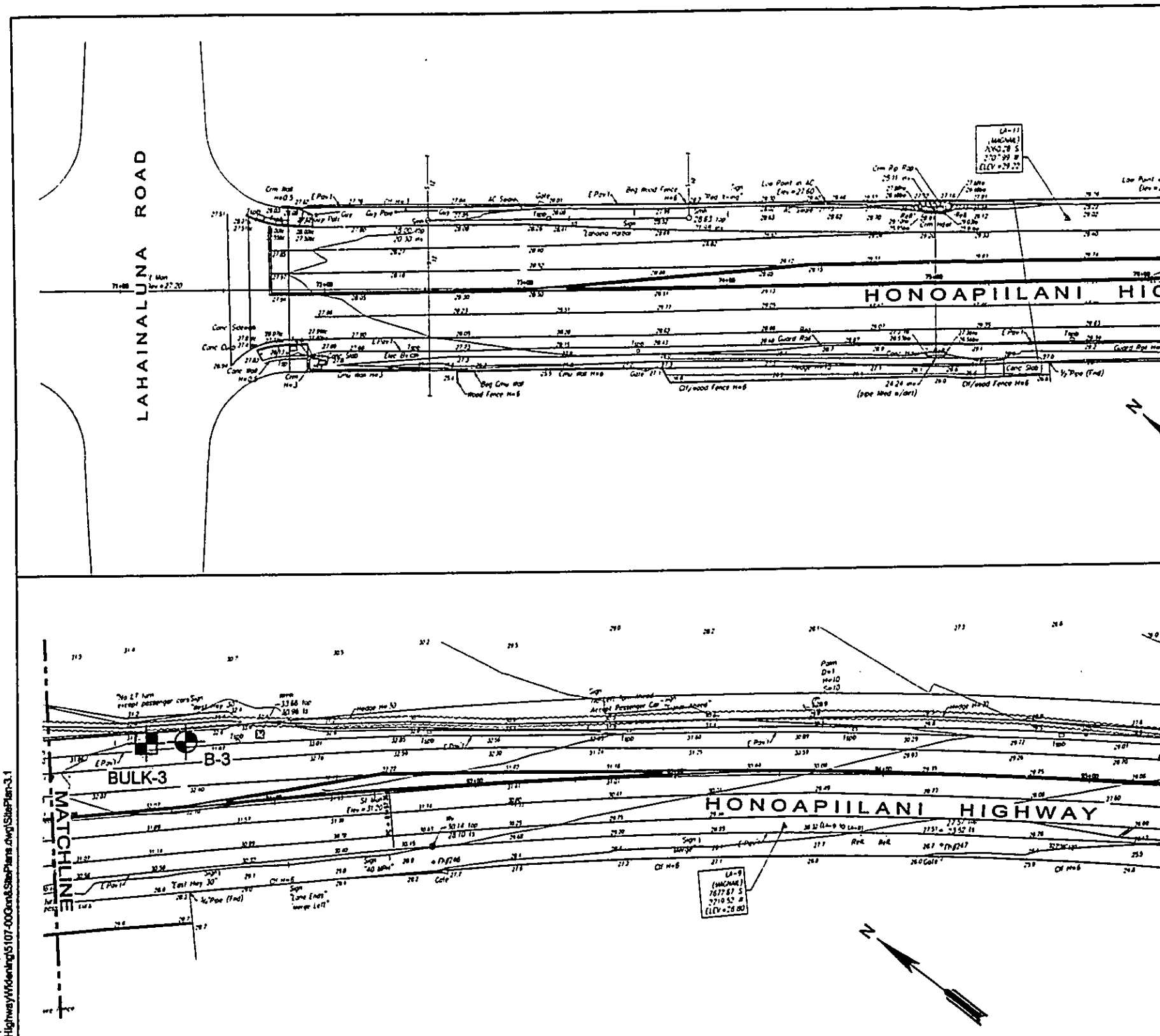

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APPROXIMATE BORING LOCATION

APPROXIMATE BULK SAMPLE LOCATION

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0 30 60 120 180 FT.

GRAPHIC SCALE

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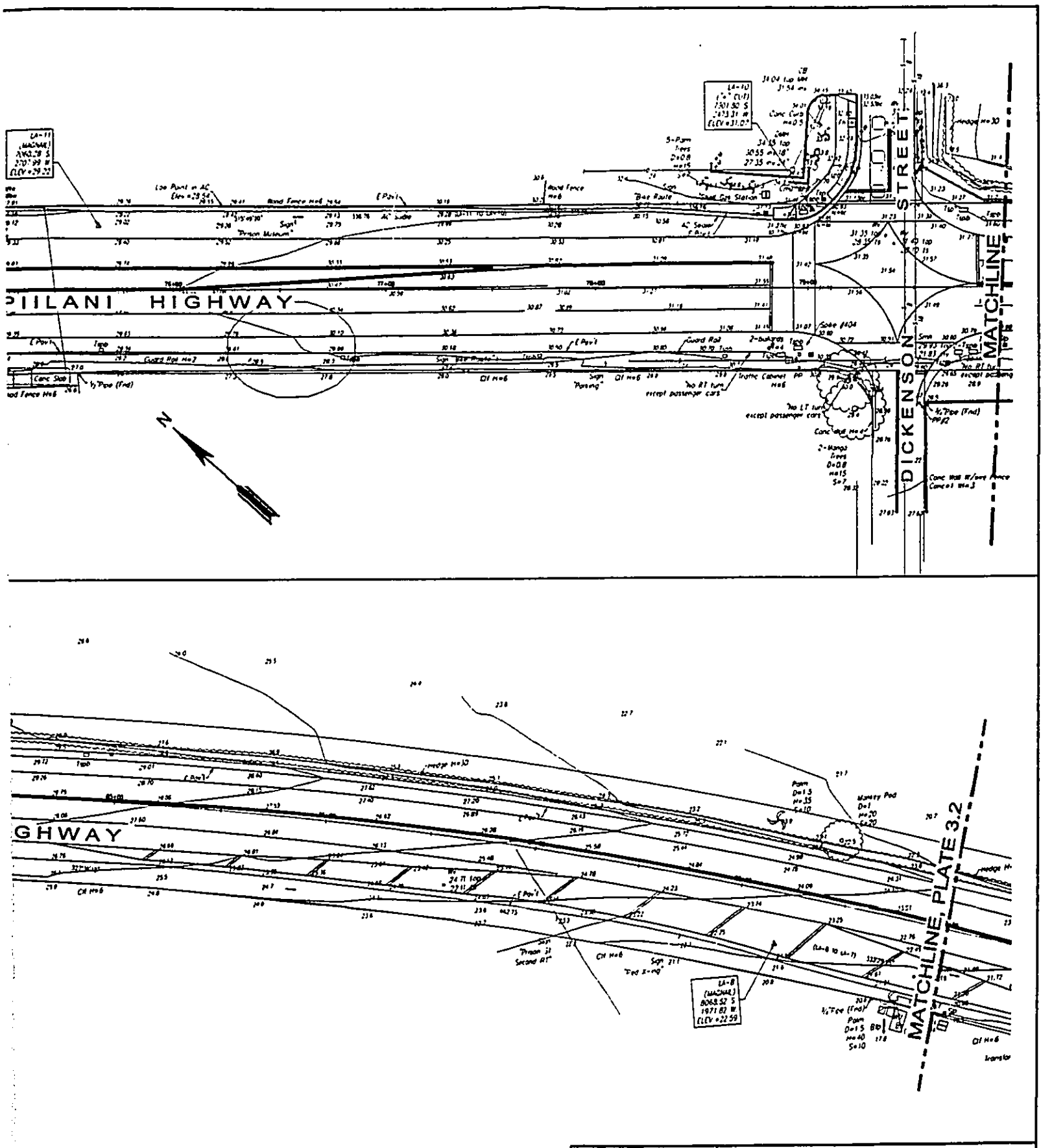

180 FT.

SITE PLAN

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

GEOLABS, INC.
Geotechnical Engineering

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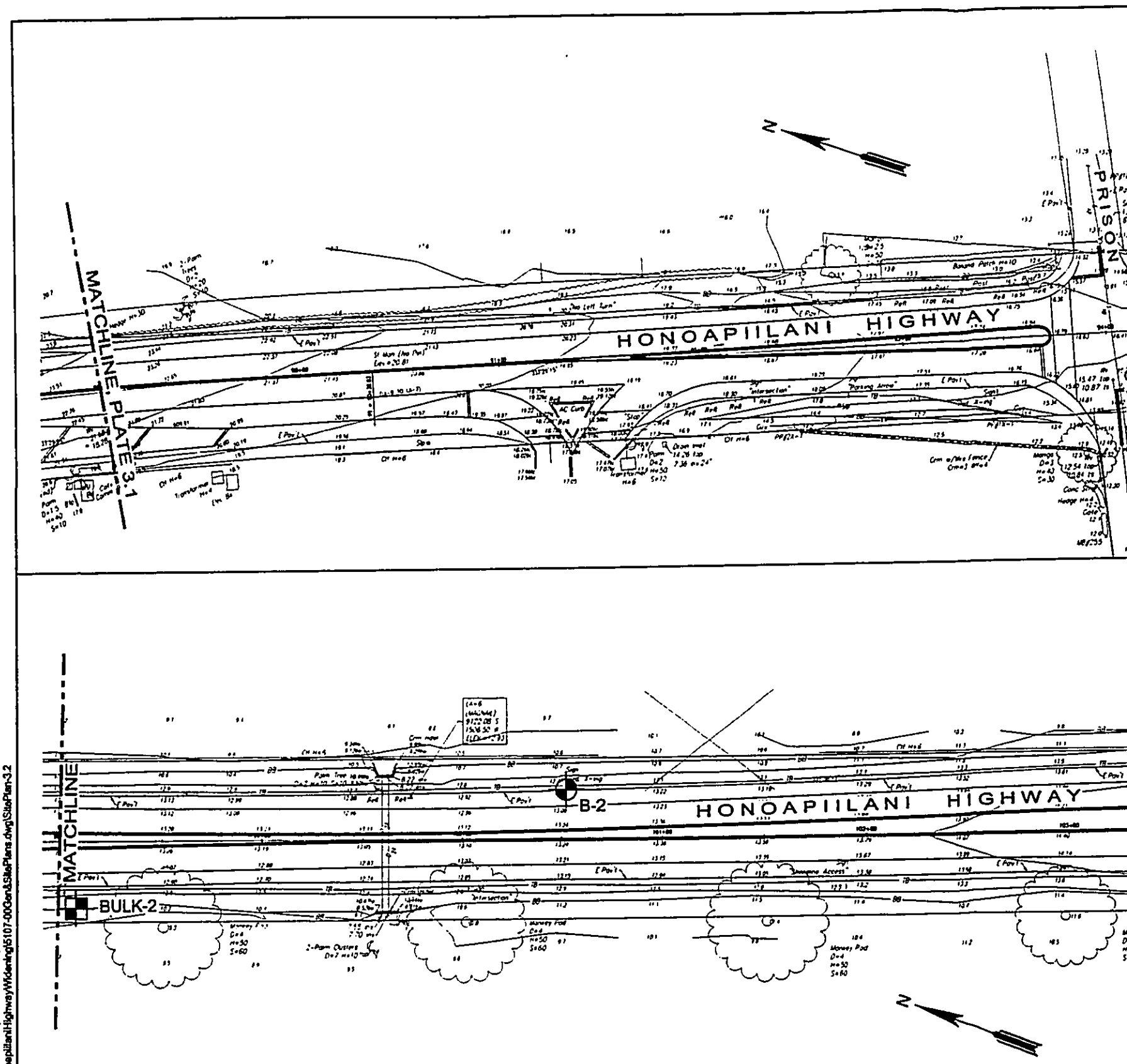

LEGEND:

APPROXIMATE BORING LOCATION

APPROXIMATE BULK SAMPLE LOCATION

0 30 60 120 180 FT.

GRAPHIC SCALE

REFERENCE: PRELIMINARY TOPOGRAPHIC MAP TRANSMITTED BY M & E PACIFIC, INC. ON MAY 24, 2005.

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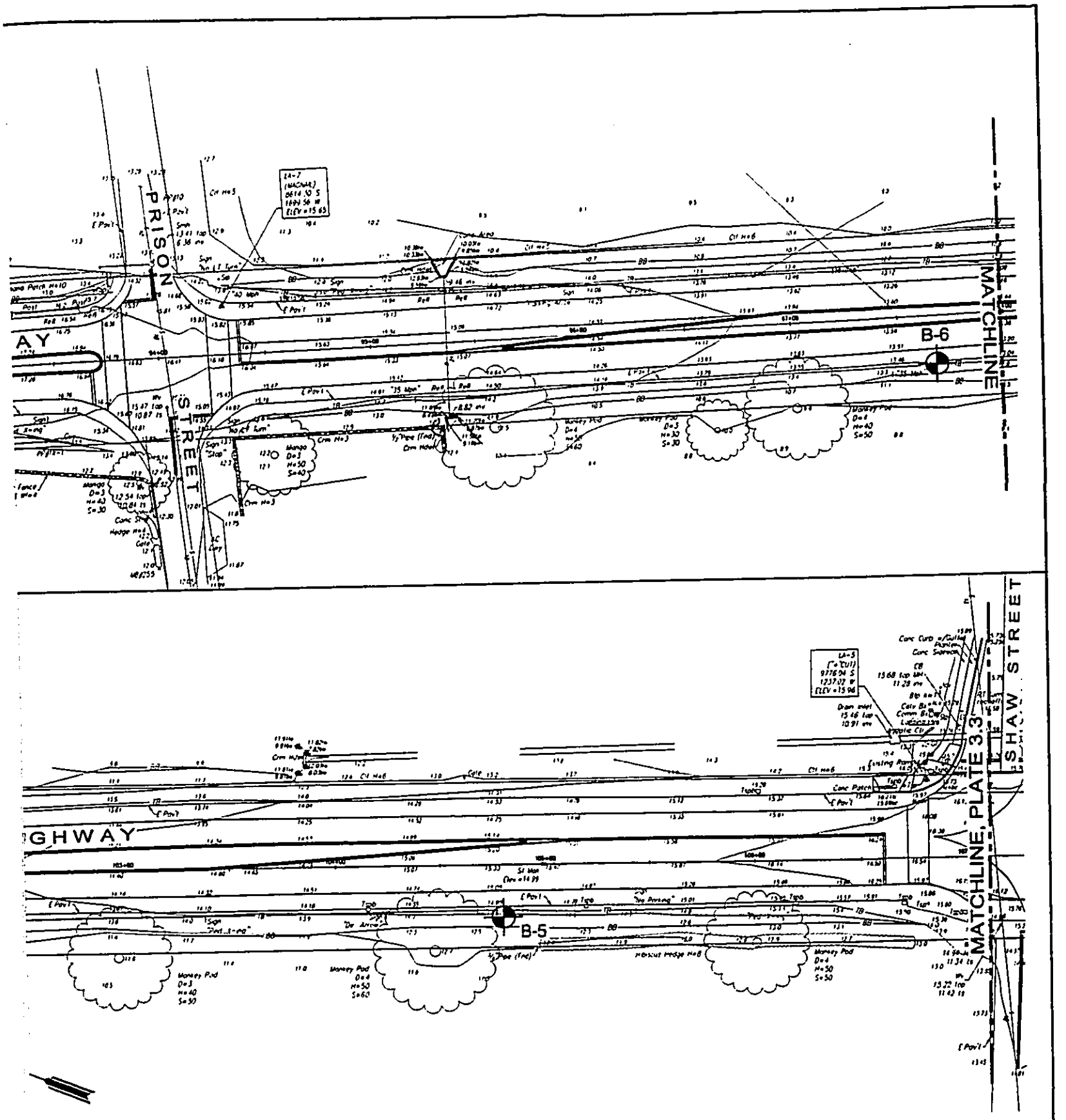

180 FT.

SITE PLAN

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

GEOLABS, INC.
Geotechnical Engineering

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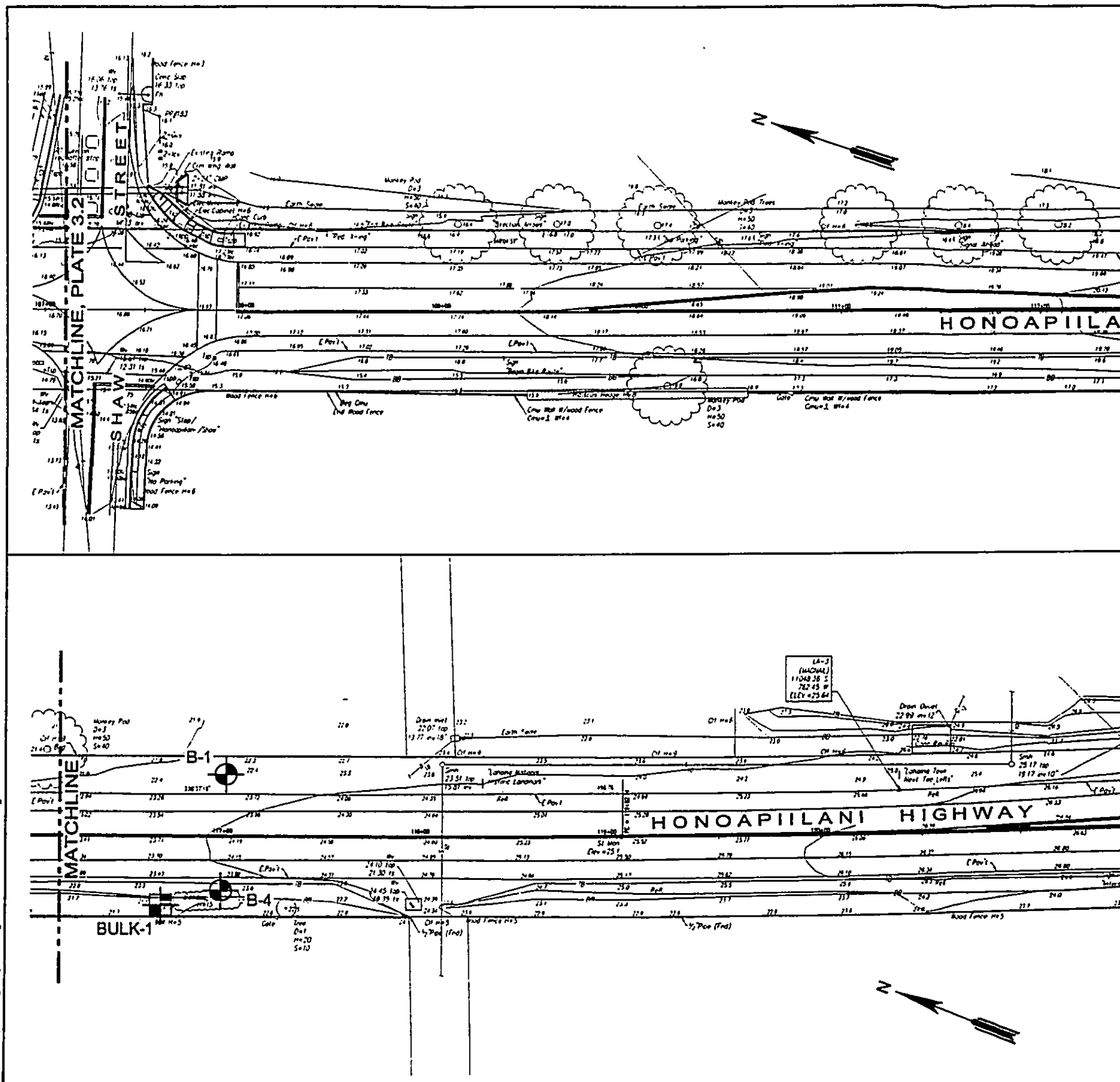

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APPROXIMATE BORING LOCATION

APPROXIMATE BULK SAMPLE LOCATION

0 30 60 120 180 FT.

GRAPHIC SCALE

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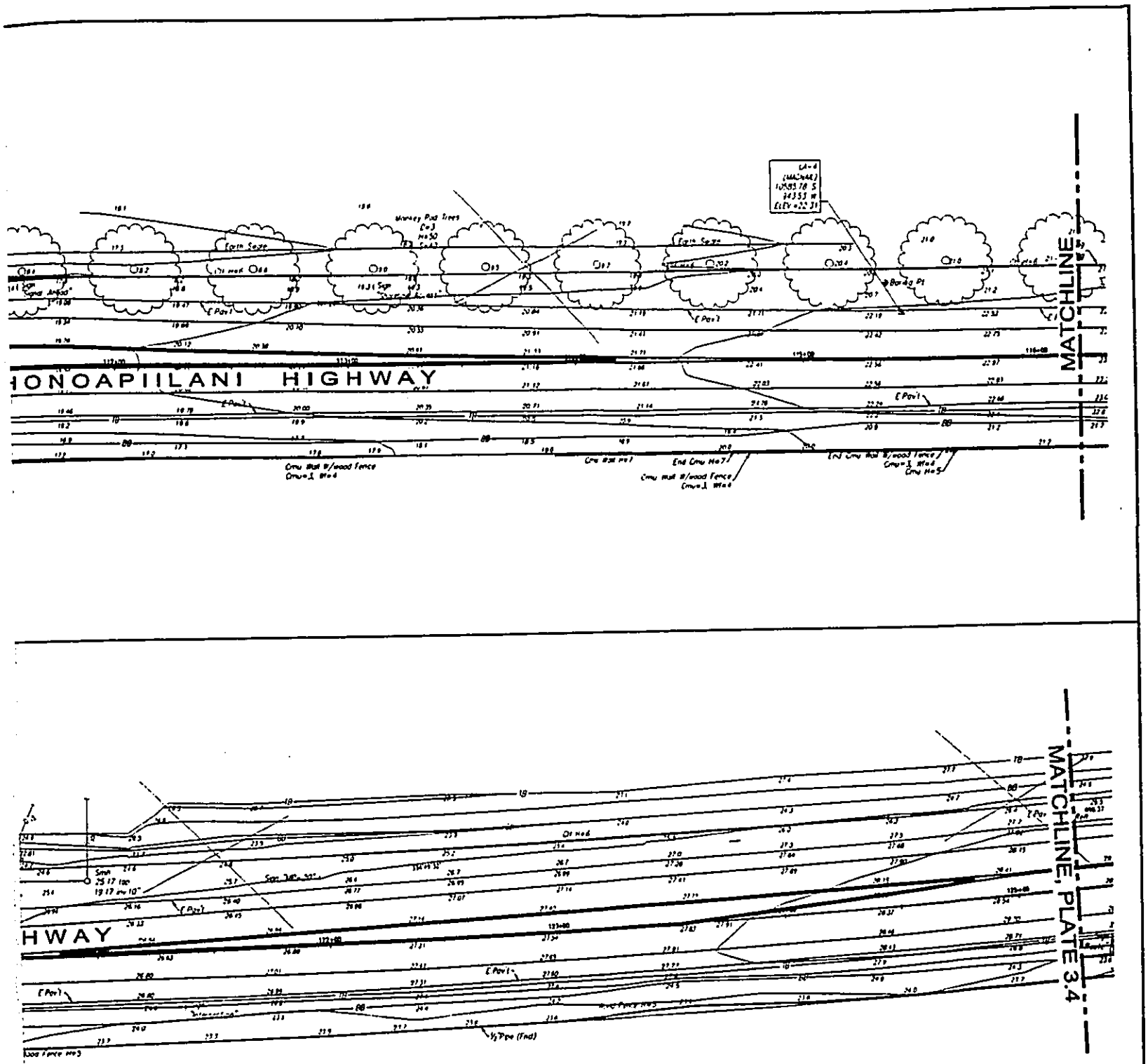

180 FT.

SITE PLAN

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

GEOLABS, INC.
Geotechnical Engineering

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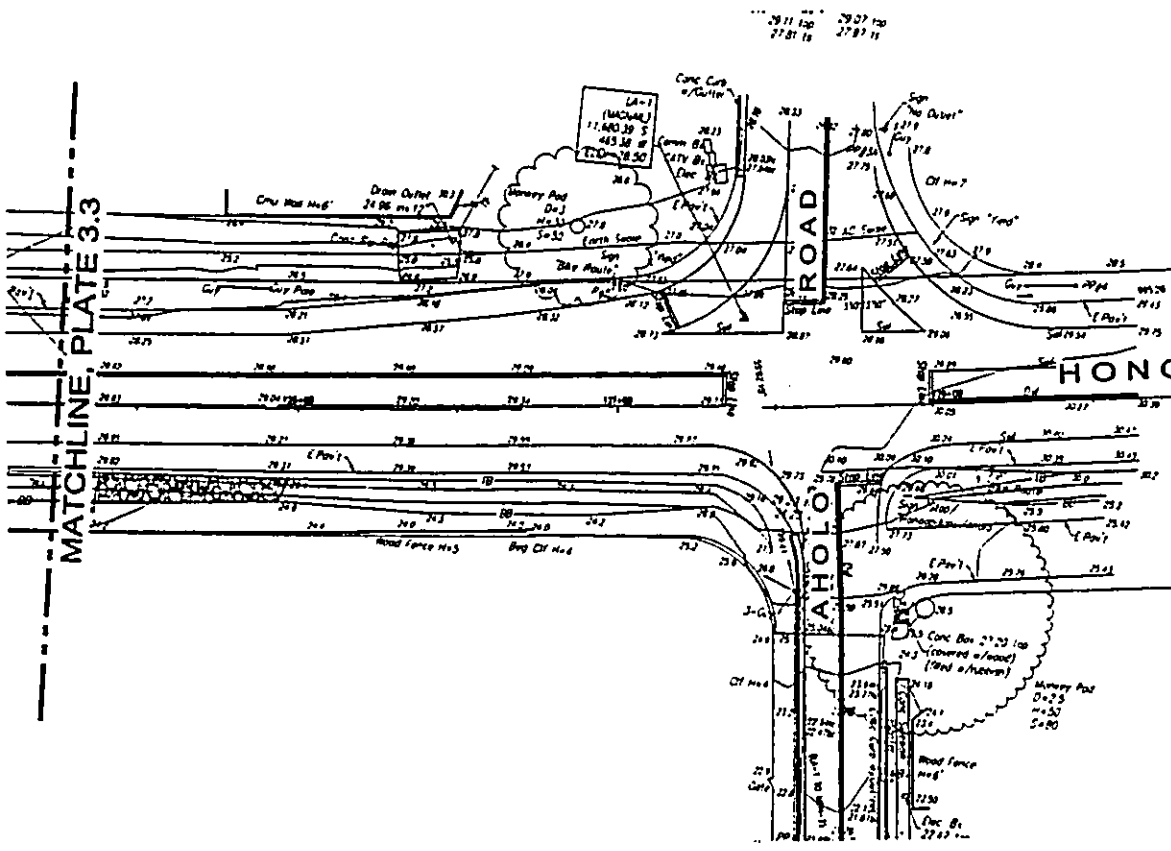

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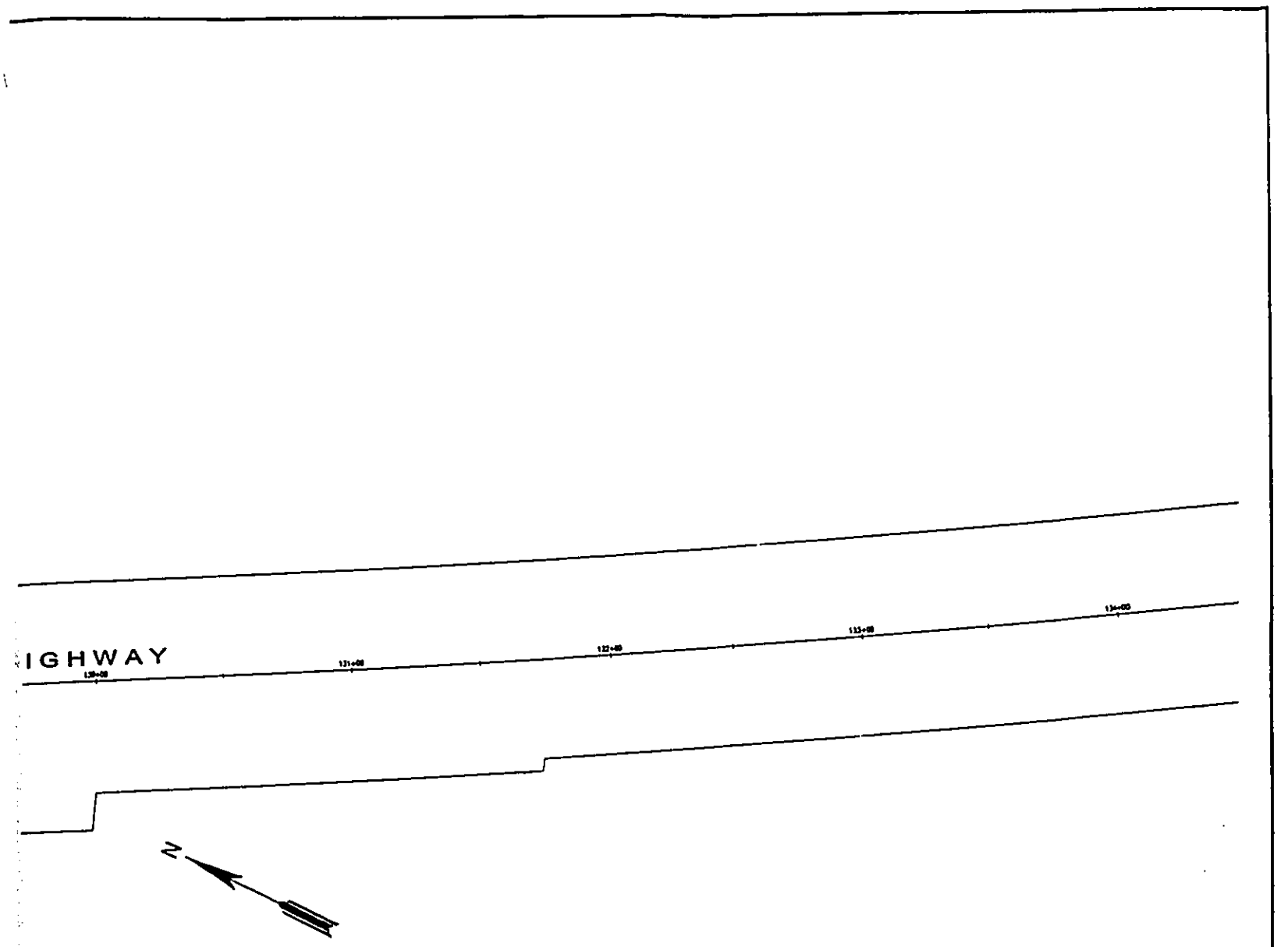

180 FT.

SITE PLAN

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

GEOLABS, INC.
Geotechnical Engineering

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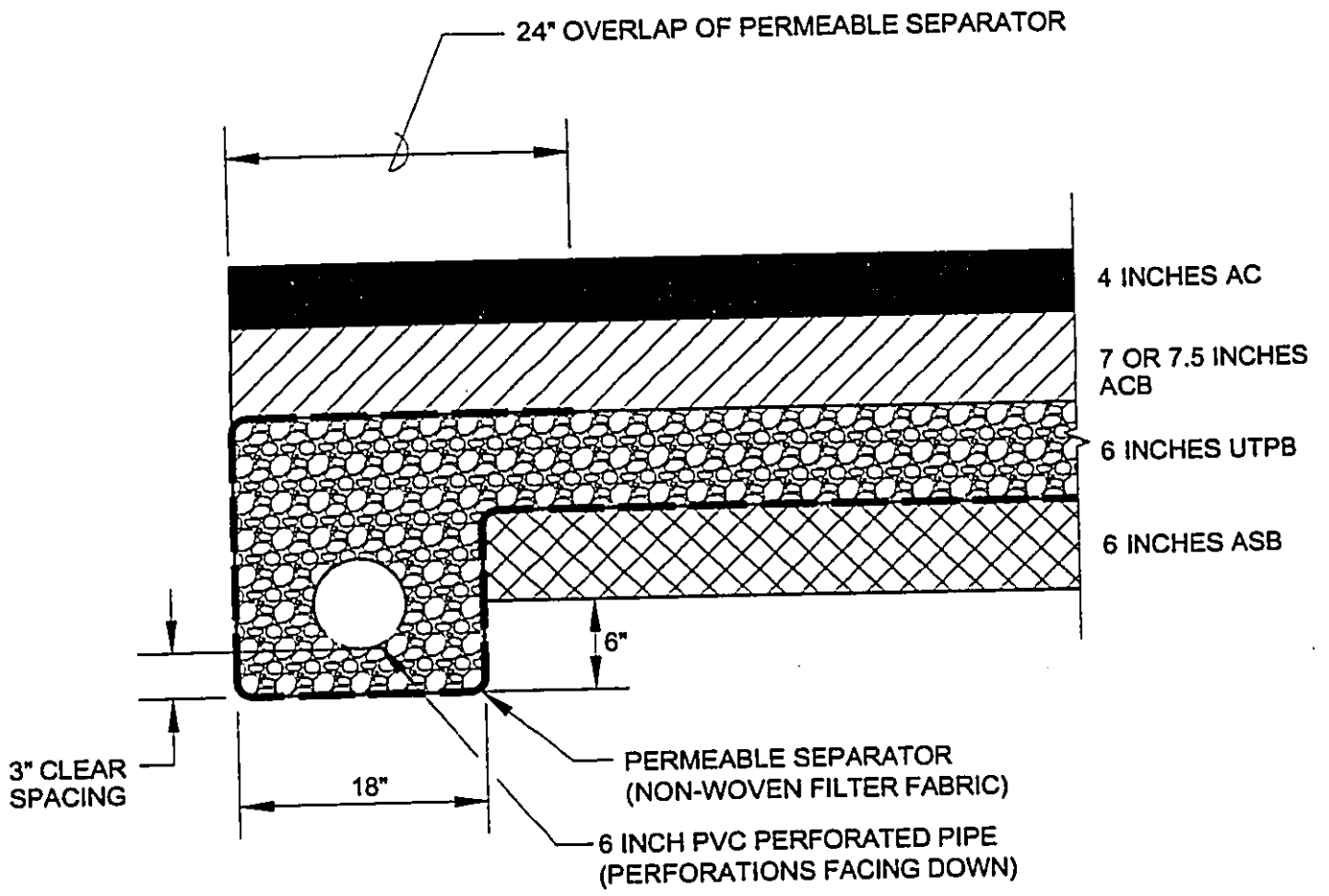

TYPICAL EDGE DRAIN DETAIL

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

GEOLABS, INC.
Geotechnical Engineering

DATE	DRAWN BY	PLATE
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APPENDIX A

Field Exploration

GEOLABS, INC.

Geotechnical Engineering

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Log of Boring **6**

Approximate Ground Surface Elevation (feet MSL): 13.5 *

Laboratory			Field							Description
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	USCS	
	29				12				ML	Reddish brown **SANDY SILT**, medium stiff, moist (fill)
	125	38			2		5		ML	Brown **CLAYEY SILT**, soft (alluvium)
									CH	Gray **SILTY CLAY**, soft (alluvium)
	50				2		10		SM	Dark gray **SILTY SAND**, loose (river deposit)
	21	101			30		15		SP	Grayish tan poorly graded **SAND**, dense (river deposit)
	35				16		20			grades with some coralline gravel, medium dense
										Boring terminated at 20 feet
							25			
							30			
							35			

Date Started:	February 24, 2004	Water Level: ∇	4 ft. 2/24/04 0900 HRS
Date Completed:	February 24, 2004		3 ft. 2/24/04 1300 HRS
Logged By:	V. Bounlangsy	Drill Rig:	MOBILE B-53
Total Depth:	20 feet	Drilling Method:	4" Auger
Work Order:	5107-00	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 6

BORING LOG 5107-00.GPJ GEOLABS.GDT 6/2/05

GEOLABS, INC.

Geotechnical Engineering

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Log of Boring **5**

Approximate Ground Surface Elevation (feet MSL): 14.5 *

Laboratory: Other Tests	Laboratory: Moisture Content (%)	Laboratory: Dry Density (pcf)	Field: Core Recovery (%)	Field: RQD (%)	Field: Penetration Resistance (blows/foot)	Field: Pocket Pen. (tsf)	Depth (feet)	USCS	Description
LL=49 PI=20	24				7			ML	Reddish brown **SANDY SILT**, medium stiff, moist (fill)
	45	72			3		5	MH	Reddish brown **CLAYEY SILT**, soft, moist (alluvium)
	86				2		10	CH	Gray **SILTY CLAY** with some roots, soft (alluvium)
	46	74			17		15	SP-SM	Whitish gray poorly graded **SAND** with silt, medium dense (river deposit)
	36				10		20		Boring terminated at 20 feet
							25		
							30		
							35		

Date Started:	February 23, 2004	Water Level: ∇	5.9 ft. 2/23/04 1300 HRS
Date Completed:	February 23, 2004		5.9 ft. 2/23/04 1500 HRS
Logged By:	V. Bounlangsy	Drill Rig:	MOBILE B-53
Total Depth:	20 feet	Drilling Method:	4" Auger
Work Order:	5107-00	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 5

BORING LOG 5107-00.GPJ GEOLABS.GDT 6/2/05

GEOLABS, INC.

Geotechnical Engineering

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Log of Boring **4**

Approximate Ground Surface Elevation (feet MSL): 23.5 *

Laboratory			Field								Description
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	
										GW	4-inch **ASPHALTIC CONCRETE**
	24	94			17/.3'						Tannish gray **BASALTIC SANDY GRAVEL**, dense, moist
	24				16					MH	Reddish brown **CLAYEY SILT**, stiff, moist (alluvium)
					5		5				
										ML	Brown **CLAYEY SILT** with traces of fine sand, soft, moist (alluvium)
	46				3		10				
	50	69			4		15				grades with a little gravel
	85				4		20			CH	Dark brown to black **SILTY CLAY** with some roots, soft
											Boring terminated at 21.5 feet
							25				
							30				
							35				

Date Started:	February 23, 2004	Water Level: ∇	13.6 ft. 2/23/04 1215 HRS
Date Completed:	February 23, 2004		13.5 ft. 2/23/04 1215 HRS
Logged By:	V. Bounlangsy	Drill Rig:	MOBILE B-53
Total Depth:	21.5 feet	Drilling Method:	4" Auger
Work Order:	5107-00	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 4

BORING LOG 5107-00.GPJ GEOLABS.GDT 6/2/05

GEOLABS, INC.

Geotechnical Engineering

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Log of Boring **3**

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
											(Continued from previous plate)
			100	0							Gray **BASALT**, severely fractured, highly to completely weathered, soft to medium hard
							75				
			100	42							Gray vesicular **BASALT**, moderately to closely fractured, slightly to moderately weathered, hard to very hard
							80				
			50	7							Gray vesicular **BASALT**, severely fractured, slightly weathered, medium hard (pahoehoe basalt formation)
							85				
			67	30							
							90				
											Boring terminated at 91 feet
							95				
							100				
							105				

Date Started:	February 27, 2004	Water Level: ▽	17.5 ft. 2/27/04 0955 HRS
Date Completed:	March 1, 2004		34.5 ft. 3/1/04 1005 HRS
Logged By:	S. Latronic	Drill Rig:	MOBILE B-53
Total Depth:	91 feet	Drilling Method:	4" Auger, 4" Casing & HQ Coring
Work Order:	5107-00	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 3.3

BORING LOG 5107-00.GPJ GEOLABS.GDT 6/2/05

GEOLABS, INC.

Geotechnical Engineering

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Log of Boring

3

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
											(Continued from previous plate)
										MH	
	40				11					SM	Tannish gray **SILTY SAND**, loose
							40			MH	Gray **CLAYEY SILT** interbedded with brown silty sand, soft (alluvium)
							45			SP	Dark gray poorly graded **SAND**, dense (river deposit)
	33				41						
							50				
							55				
			83		25/.0' Ref.						Gray **BASALTIC BOULDERS, COBBLES AND GRAVEL** with sand, very dense (river channel)
			27				60				
							65				grades with more sand locally
			28								
							70				

Date Started:	February 27, 2004	Water Level: ∇	17.5 ft. 2/27/04 0955 HRS
Date Completed:	March 1, 2004		34.5 ft. 3/1/04 1005 HRS
Logged By:	S. Latronic	Drill Rig:	MOBILE B-53
Total Depth:	91 feet	Drilling Method:	4" Auger, 4" Casing & HQ Coring
Work Order:	5107-00	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 3.2

BORING LOG 5107-00.GPJ GEOLABS.GDT 6/2/05

GEOLABS, INC.

Geotechnical Engineering

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Log of Boring **3**

Approximate Ground Surface Elevation (feet MSL): 32.5 *

Laboratory			Field							Description
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	USCS	
									ML	Brown **SANDY SILT** with gravel, stiff, dry (fill)
	21	87			42				CH	Brown **SILTY CLAY**, very stiff, damp (fill)
	25				8	>4.5				
	15	87			22	3.0	5			grades with sand and gravel
									MH	Brown **CLAYEY SILT**, very stiff, moist (alluvium)
									MH	Dark brown **CLAYEY SILT** with sand, soft, moist to wet (alluvium)
	34				3	0.3	10			
	37	83			9					
							15			grades locally interbedded with coarse river sand lenses
	40				9				SM	Brown **SILTY SAND**, loose to medium dense (river deposit)
							20			
	45				11					
							25			grades locally interbedded with stiff brown silt lenses
										grades with gravel
	23				42				SM	Grayish brown **SILTY SAND** with gravel, dense (river deposit)
							30			
	61				4				MH	Gray **CLAYEY SILT** with sand, soft (alluvium)
							35			

Date Started:	February 27, 2004	Water Level: ∇	17.5 ft. 2/27/04 0955 HRS
Date Completed:	March 1, 2004		34.5 ft. 3/1/04 1005 HRS
Logged By:	S. Latronic	Drill Rig:	MOBILE B-53
Total Depth:	91 feet	Drilling Method:	4" Auger, 4" Casing & HQ Coring
Work Order:	5107-00	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 3.1

BORING LOG 5107-00.GPJ GEOLABS.GDT 6/2/05

GEOLABS, INC. Geotechnical Engineering	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD LAHAINA, MAUI, HAWAII	Log of Boring 2

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
											(Continued from previous plate)
			63								
							75				
			68								
							80				grades to well cemented, very dense
			40							CH	Dark reddish brown **SILTY CLAY**, very stiff (alluvium)
							85				
			55	20							Gray vesicular **BASALT** with some clinker, moderately fractured, slightly to moderately weathered, medium hard to hard
											grades to very hard
							90				Gray **BASALT**, severely fractured, highly weathered, soft to medium hard
			50	0							
							95				
			60	45							
							100				Gray dense **BASALT**, massive, unweathered, very hard
											Boring terminated at 101.5 feet
							105				

Date Started:	February 25, 2004	Water Level: ∇	6 ft. 2/25/04 1220 HRS	Plate
Date Completed:	February 26, 2004		9.3 ft. 2/26/04 0845 HRS	
Logged By:	S. Latronic	Drill Rig:	MOBILE B-53	
Total Depth:	101.5 feet	Drilling Method:	4" Auger, 4" Casing & HQ Coring	A - 2.3
Work Order:	5107-00	Driving Energy:	140 lb. wt., 30 in. drop	

BORING LOG 5107-00.GPJ GEOLABS.GDT 6/2/05

GEOLABS, INC. Geotechnical Engineering	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD LAHAINA, MAUI, HAWAII	Log of Boring . 2

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
										SM	(Continued from previous plate)
					19		40				
							45				Gray **BASALTIC BOULDERS, COBBLES AND GRAVEL** with sand, dense (river channel)
			69		25/.0' Ref.		50				
			22								grades with more sand
			57				55				
			80				60				Brown/gray **BOULDERS, COBBLES AND GRAVEL,** moderately to well cemented in a brown silty sand matrix, dense
			0				65				grades with more sand
							70				

Date Started:	February 25, 2004	Water Level: ∇	6 ft. 2/25/04 1220 HRS
Date Completed:	February 26, 2004		9.3 ft. 2/26/04 0845 HRS
Logged By:	S. Latronic	Drill Rig:	MOBILE B-53
Total Depth:	101.5 feet	Drilling Method:	4" Auger, 4" Casing & HQ Coring
Work Order:	5107-00	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 2.2

BORING LOG 5107-00.GPJ GEOLABS.GDT 6/2/05

GEOLABS, INC.

Geotechnical Engineering

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Log of Boring **2**

Approximate Ground Surface Elevation (feet MSL): 13.0 *

Laboratory			Field								Description
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	
	25	70			42					ML	Brown **SANDY SILT** with gravel, very stiff, damp (fill)
	28				19	3.5				MH	Brown **CLAYEY SILT** with traces of organics, stiff, moist (alluvium)
	45	76			2	0.0	5			MH	Brown **CLAYEY SILT,** very soft, wet to saturated (alluvium)
	186				2	0.0	10			OL-PT	Black **ORGANIC SILT** with abundant peat, very soft (swamp)
					2						
	358	18					15			SP	Black and white poorly graded **SAND,** medium dense (river deposit and beach sand)
	25				18		20				
	23				20		25				grades with pebbles and rounded gravel
	29				17		30			SM	Gray **SILTY FINE SAND** with gravel, medium dense (river/estuary deposit)
							35				

Date Started:	February 25, 2004	Water Level: ∇	6 ft. 2/25/04 1220 HRS
Date Completed:	February 26, 2004		9.3 ft. 2/26/04 0845 HRS
Logged By:	S. Latronic	Drill Rig:	MOBILE B-53
Total Depth:	101.5 feet	Drilling Method:	4" Auger, 4" Casing & HQ Coring
Work Order:	5107-00	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 2.1

BORING LOG 5107-00.GPJ GEOLABS.GDT 6/2/05

GEOLABS, INC.

Geotechnical Engineering

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Log of Boring **1**

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS

(Continued from previous plate)

Description

Core Recovery (%)	RQD (%)	Description
75		
65		
50	27	Gray vugular **BASALT**, closely fractured, slightly weathered, very hard (a'a)
97	52	Gray **BASALT**, severely fractured, moderately weathered, medium hard (a'a clinker)
80	27	Gray dense **BASALT**, moderately fractured, slightly weathered, very hard (a'a)
25		Gray **BASALT**, severely fractured, moderately weathered, medium hard (a'a clinker)

Depth (feet): 110, 115, 120, 125, 130, 135, 140

Boring terminated at 136 feet

* Elevations estimated from Preliminary Topographic Map transmitted by M & E Pacific, Inc. on May 24, 2005.

Date Started:	February 17, 2004	Water Level: ∇	14 ft. 2/17/04 1150 HRS
Date Completed:	February 20, 2004		14.2 ft. 2/19/04 0820 HRS
Logged By:	S. Latronic	Drill Rig:	MOBILE B-53
Total Depth:	136 feet	Drilling Method:	4" Auger, 4" Casing & HQ Coring
Work Order:	5107-00	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 1.4

BORING LOG 5107-00.GPJ GEOLABS.GDT 6/2/05

GEOLABS, INC. Geotechnical Engineering	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD LAHAINA, MAUI, HAWAII	Log of Boring 1

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	(Continued from previous plate) Description
			30								
			53		20/.0' Ref.		75				
			50				80				
			52				85				
			30				90				grades with more sand
			50				95				
			20				100				Brownish gray **BASALTIC BOULDERS, COBBLES AND GRAVEL** in a reddish brown silt matrix, dense (alluvium/conglomerate)
							105				

Date Started:	February 17, 2004	Water Level: ∇	14 ft. 2/17/04 1150 HRS	Plate
Date Completed:	February 20, 2004		14.2 ft. 2/19/04 0820 HRS	
Logged By:	S. Latronic	Drill Rig:	MOBILE B-53	
Total Depth:	136 feet	Drilling Method:	4" Auger, 4" Casing & HQ Coring	A - 1.3
Work Order:	5107-00	Driving Energy:	140 lb. wt., 30 in. drop	

BORING LOG 5107-00.GPJ GEOLABS.GDT 6/2/05

GEOLABS, INC.

Geotechnical Engineering

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Log of Boring **1**

(Continued from previous plate)

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
	14				15					SM	Black **SILTY SAND** with some gravel, medium dense (river deposit)
			16								
							40				Brownish gray **BASALTIC COBBLES AND GRAVEL** with sand, dense (river channel)
	48				25/.5' +25/.0' Ref.						
			31								
							45				
	7		60		50/.4' Ref.						
							50				grades to slightly cemented (conglomerate)
			62								grades with small boulders
							55			SW	Grayish brown **GRAVELLY SAND** with some cobbles, very dense (river channel)
			17								
							60				
	4		41		50/.3' Ref.						
							65				Gray **BASALTIC BOULDERS, COBBLES AND GRAVEL** with sand, dense (river channel)
			53		20/.0' Ref.						
							70				

Date Started:	February 17, 2004	Water Level: ∇	14 ft. 2/17/04 1150 HRS
Date Completed:	February 20, 2004		14.2 ft. 2/19/04 0820 HRS
Logged By:	S. Latronic	Drill Rig:	MOBILE B-53
Total Depth:	136 feet	Drilling Method:	4" Auger, 4" Casing & HQ Coring
Work Order:	5107-00	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 1.2

BORING LOG 5107-00.GPJ GEOLABS.GDT 6/2/05

GEOLABS, INC.

Geotechnical Engineering

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Log of Boring **1**

Approximate Ground Surface Elevation (feet MSL): 22.5 *

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	USCS	Description
	24	88			16	2.5			ML	Brown **SANDY SILT** with traces of gravel, stiff, moist (fill)
	22				5	0.8				
	29	84			6		5		MH	Brown **CLAYEY SILT**, medium stiff, moist (alluvium)
	28				4		10		SM	Brown to black **SILTY SAND**, loose, very moist (river deposit)
	49				5		15		MH	Brown **CLAYEY SILT**, medium stiff (alluvium)
	84	49			7		20		OL-PT	Gray **ORGANIC SILT** with abundant peat, soft (swamp)
	43				3		25		SM	Black **SILTY FINE SAND**, very loose (estuary)
	40				9		30			
			50				35			Gray **BASALTIC COBBLES AND GRAVEL** with sand, dense (river channel)

Date Started:	February 17, 2004	Water Level: ∇	14 ft. 2/17/04 1150 HRS
Date Completed:	February 20, 2004		14.2 ft. 2/19/04 0820 HRS
Logged By:	S. Latronic	Drill Rig:	MOBILE B-53
Total Depth:	136 feet	Drilling Method:	4" Auger, 4" Casing & HQ Coring
Work Order:	5107-00	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 1.1

BORING LOG 5107-00.GPJ GEOLABS.GDT 6/2/05

GEOLABS, INC.

Geotechnical Engineering

Boring Log Legend

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

MAJOR DIVISIONS			USCS	TYPICAL DESCRIPTIONS
COARSE-GRAINED SOILS	GRAVELS	CLEAN GRAVELS	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		LESS THAN 5% FINES	GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
		MORE THAN 12% FINES	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
MORE THAN 50% OF MATERIAL RETAINED ON NO. 200 SIEVE	SANDS	CLEAN SANDS	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		LESS THAN 5% FINES	SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
	50% OR MORE OF COARSE FRACTION PASSING THROUGH NO. 4 SIEVE	SANDS WITH FINES	SM	SILTY SANDS, SAND-SILT MIXTURES
		MORE THAN 12% FINES	SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE-GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
50% OR MORE OF MATERIAL PASSING THROUGH NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT 50 OR MORE	MH	INORGANIC SILT, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

LEGEND

- (2-INCH) O.D. STANDARD PENETRATION TEST
- (3-INCH) O.D. MODIFIED CALIFORNIA SAMPLE
- SHELBY TUBE SAMPLE
- GRAB SAMPLE
- CORE SAMPLE

LL LIQUID LIMIT

PI PLASTICITY INDEX

TV TORVANE SHEAR (tsf)

PEN POCKET PENETROMETER (tsf)

UC UNCONFINED COMPRESSION (psi)

WATER LEVEL OBSERVED IN BORING

Plate

A

The Rock Quality Designation (RQD) is also a subjective guide to the relative quality of rock masses. RQD is defined as the percentage of the core run that is sound material in excess of 4 inches in length without any discontinuities, discounting any drilling-induced fractures or breaks. If 2.5 feet of sound material is recovered from a 5-foot core run, the RQD would be 50 percent and would be shown on the Logs of Borings as RQD = 50%. Generally, the following is used to describe the relative quality of the rock, based on the "Practical Handbook of Physical Properties of Rocks and Minerals."

Rock Quality	RQD (%)
Very Poor	0 – 25
Poor	25 – 50
Fair	50 – 75
Good	75 – 90
Excellent	90 – 100

The rippability of a rock mass is a function of the relative hardness of the rock, its relative quality, brittleness, and fissile characteristics. A dense rock formation with a high RQD would be very difficult to rip and would probably require more arduous methods of excavation.

(h:\5100 Series\5107-00.tk1 – pg.43)

APPENDIX A

Field Exploration

The subsurface conditions along the highway widening alignment were explored by drilling and sampling six borings, designated as Boring Nos. 1 through 6, extending to depths ranging from about 20 to 136 feet below the existing ground surface. In addition, three bulk samples, designated as Bulk-1 through Bulk-3, were obtained of the near-surface soils to evaluate the pavement support characteristics. The approximate locations of the borings drilled and bulk samples collected are shown on the Site Plans, Plates 3.1 through 3.4. The borings were drilled using truck-mounted drilling equipment equipped with continuous flight augers and coring tools.

The materials encountered in the borings were classified by visual and textural examination in the field by our geologist, who monitored the drilling operations on a near-continuous basis. These classifications were further reviewed visually and by testing in the laboratory. Soils were classified in general conformance with the Unified Soil Classification System, as shown on Plate A. Graphic representations of the materials encountered during drilling are provided on the Logs of Borings, Plates A-1 through A-6.

Soil samples were obtained from the drilled borings in general accordance with ASTM Test Designation D 1586, Penetration Test and Split-Barrel Sampling of Soils, by driving a 2-inch OD standard penetration sampler or a 3-inch OD split-barrel sampler with a 140-pound hammer falling 30 inches. The blow counts needed to drive the sampler the second and third 6 inches (a total of 12 inches) of an 18-inch drive are shown on the Logs of Borings at the appropriate sample depths.

Pocket penetrometer tests were performed on selected cohesive soil samples retrieved in the field. The pocket penetrometer test provides an indication of the unconfined compressive strength of the soil sample. Results of the pocket penetrometer tests are presented on the Logs of Borings at the appropriate sample depths.

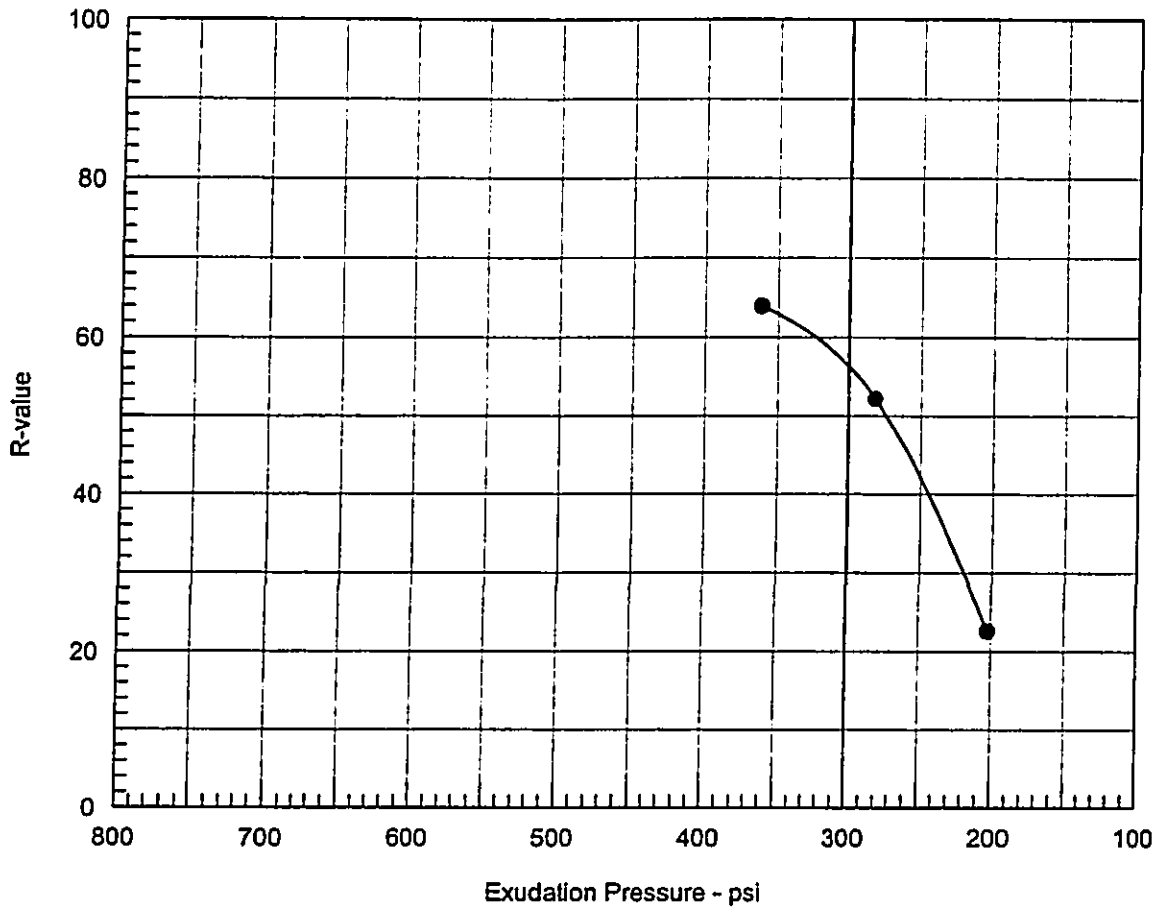
Core samples of the rock (coral) formations encountered at the site were obtained using diamond core drilling techniques in general accordance with ASTM Standard Practice D 2113, Diamond Core Drilling for Site Investigation. Core drilling is a rotary drilling method, which uses a hollow bit to cut into the rock formation. The material left in the hollow core of the bit is mechanically recovered for examination and classification.

Recovery (REC) is used as a subjective guide to the interpretation of the relative quality of rock masses. Recovery is defined as the actual length of material recovered from a coring attempt versus the length of the core attempt. For example, if 4 feet of material is recovered from a 5-foot core run, the recovery would be 80 percent and would be shown on the Logs of Borings as REC = 80%.

APPENDIX B

Laboratory Testing

R-VALUE TEST REPORT



Exudation Pressure - psi

Resistance R-Value and Expansion Pressure - Cal Test 301

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psf	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	50	99.4	22.4	0	107	2.62	202	21	23
2	100	99.4	21.5	0	58	2.51	282	52	52
3	150	99.7	20.5	0	40	2.55	361	64	64

Test Results	Material Description
R-value at 300 psi exudation pressure = 56	Red brown sandy silt with gravel, Bulk #3, sampled received 5/7/2004

Project No.: 0007653
Project: Honoapiilani Hwy Widening, WO #5107-00
Location: Bulk #3
Sample Number: S16665-3
Date: 6/2/2004

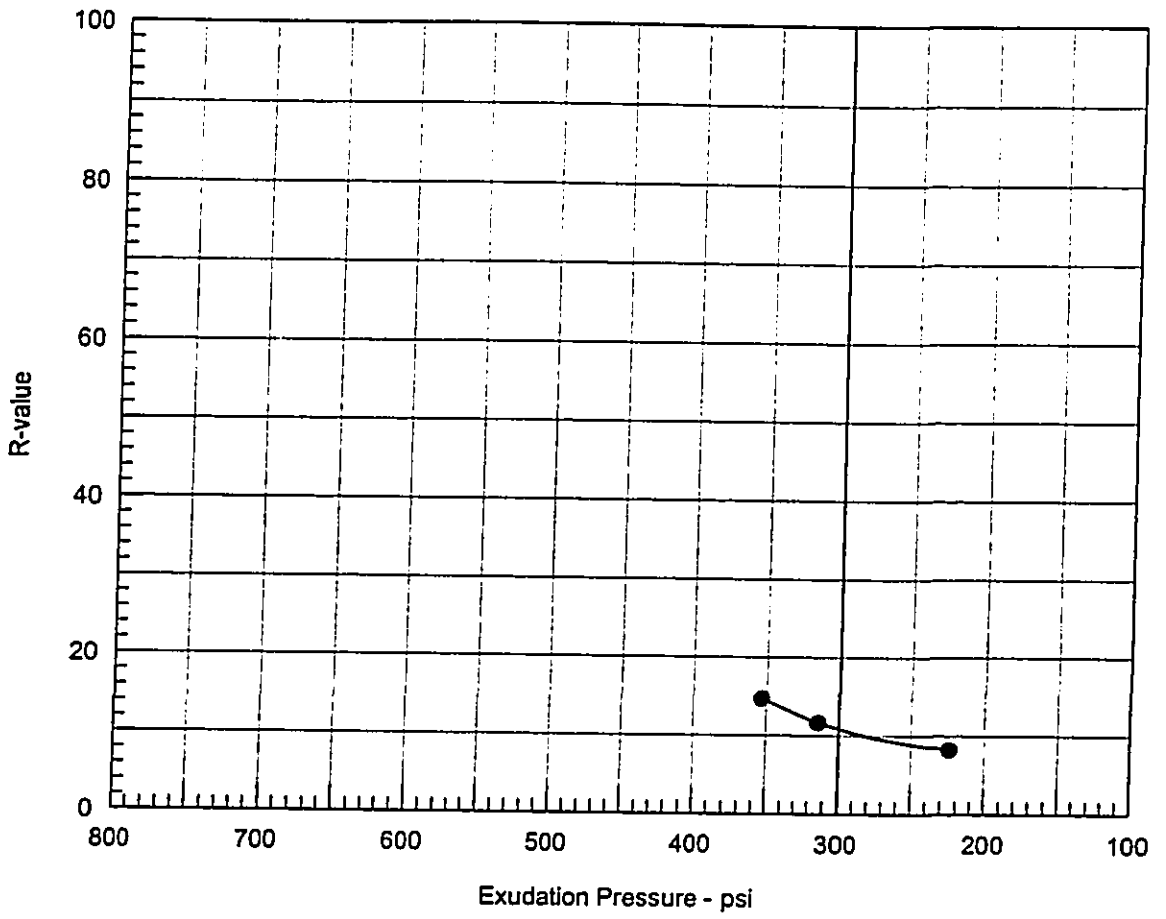
Tested by: LKL
Checked by: LKL
Remarks:

R-VALUE TEST REPORT

SIGNET TESTING LABS, INC.

PLATE B-11

R-VALUE TEST REPORT



Resistance R-Value and Expansion Pressure - Cal Test 301

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psf	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	50	89.9	31.4	0	137	2.56	224	8	8
2	110	92.4	29.9	131	122	2.53	353	15	15
3	80	91.1	30.7	22	130	2.59	314	11	12

Test Results	Material Description
R-value at 300 psi exudation pressure = 11	Red brown silty clay, Bulk #2, sample received 5/7/2004

Project No.: 0007653
Project: Honoapiilani Hwy Widening, WO #5107-00
Location: Bulk #2
Sample Number: S16665-2
Date: 6/2/2004

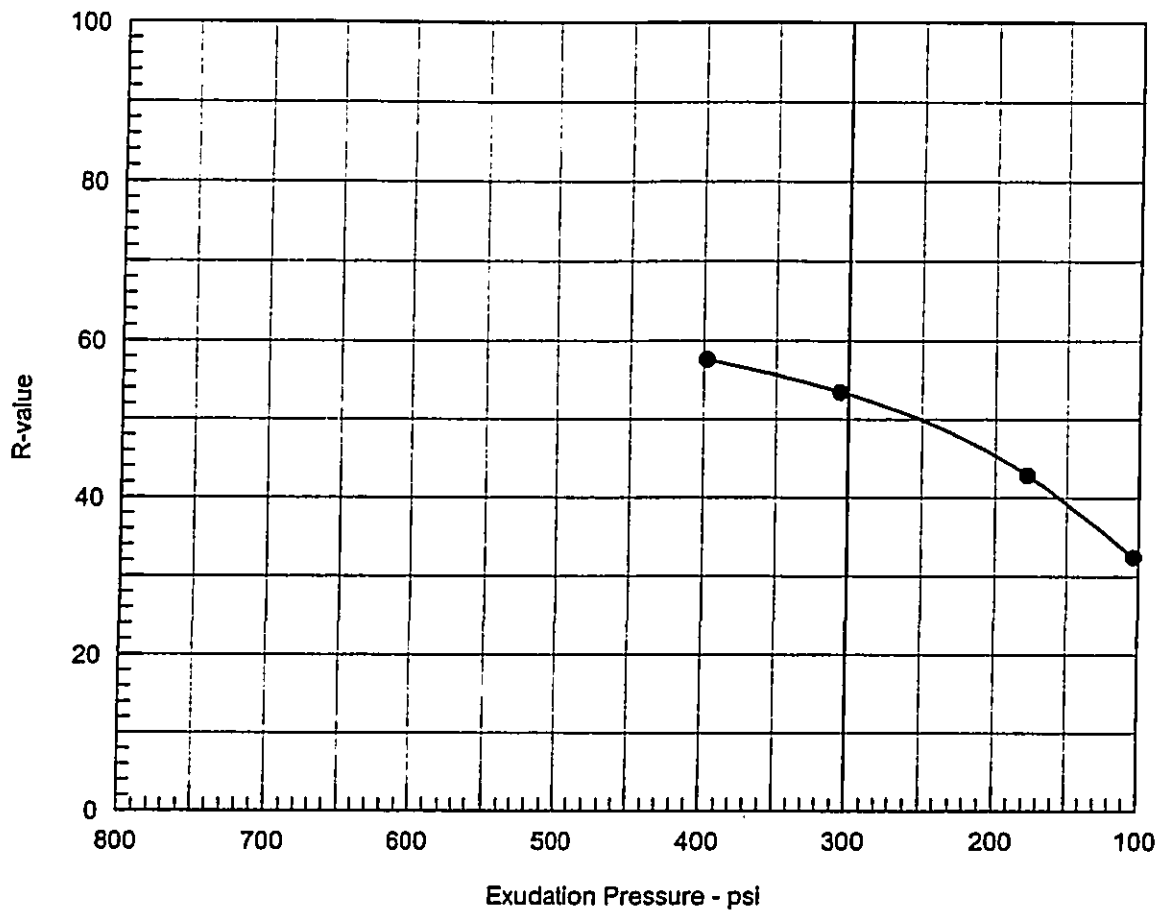
Tested by: LKL
Checked by: LKL
Remarks:

R-VALUE TEST REPORT

SIGNET TESTING LABS, INC.

PLATE B-10

R-VALUE TEST REPORT



Resistance R-Value and Expansion Pressure - Cal Test 301

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psf	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	75	90.8	24.3	0	86	2.69	103	29	32
2	125	92.5	22.8	0	66	2.60	178	40	43
3	200	93.5	21.4	0	52	2.47	306	54	54
4	270	94.6	20.4	0	46	2.55	398	58	58

Test Results	Material Description
R-value at 300 psi exudation pressure = 53	Red brown sandy silt w/ gravel, Bulk #1, sample received 5/7/2004

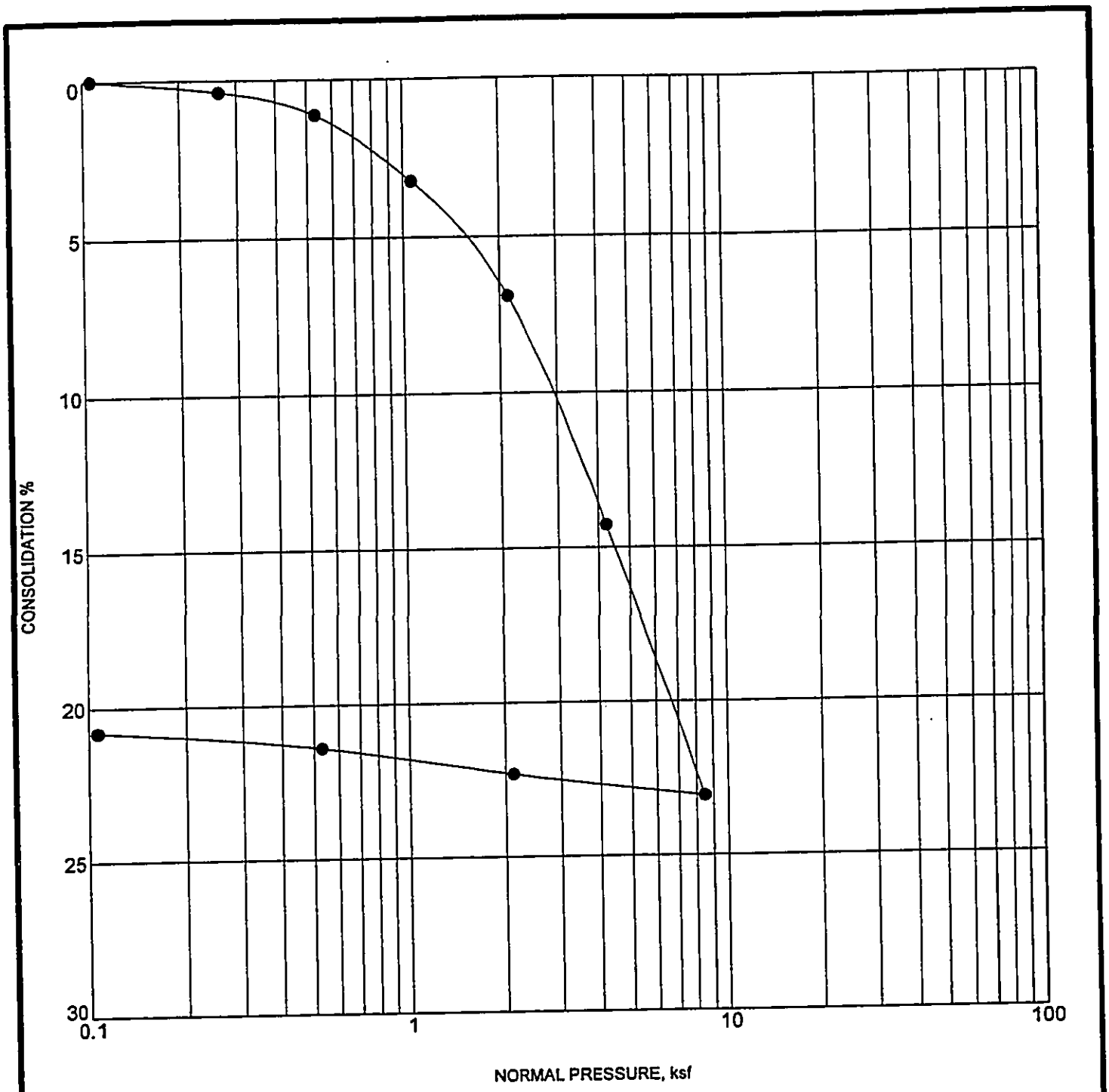
Project No.: 0007653
Project: Honoapiilani Hwy Widening, WO #5107-00
Location: Bulk #1
Sample Number: S16665-1
Date: 6/2/2004

Tested by: LKL
Checked by: LKL
Remarks:

R-VALUE TEST REPORT

SIGNET TESTING LABS, INC.

PLATE B-9



	Initial	Final
water content, %:	118.1	87.8
dry density, pcf:	39.0	49.3

Sample: B-6
Depth: 5.0 - 6.5 feet
Description: Brown CLAYEY SILT

G CONSOL 5107-00.GPJ GEOLABS.GDT 5/27/05

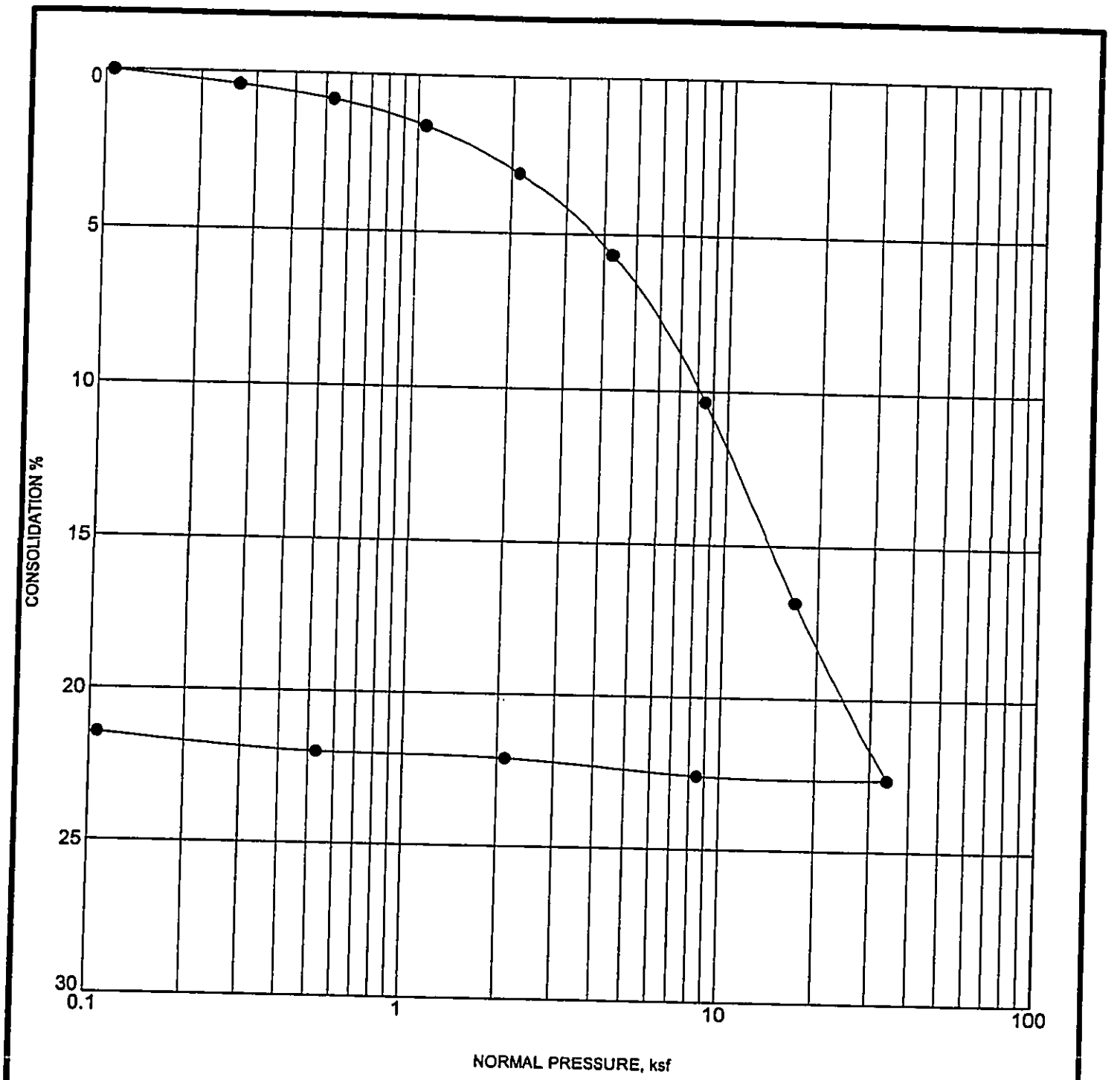
GEOLABS, INC.
GEOTECHNICAL ENGINEERING

W.O. 5107-00

CONSOLIDATION TEST - ASTM D 2435

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Plate
B - 8



	Initial	Final
water content, %:	57.8	41.9
dry density, pcf:	63.9	63.9

Sample: B-4
Depth: 15.0 - 16.5 feet
Description: Brown CLAYEY SILT

G CONSOL 5107-00.GPJ GEOLABS.GDT 5/27/05

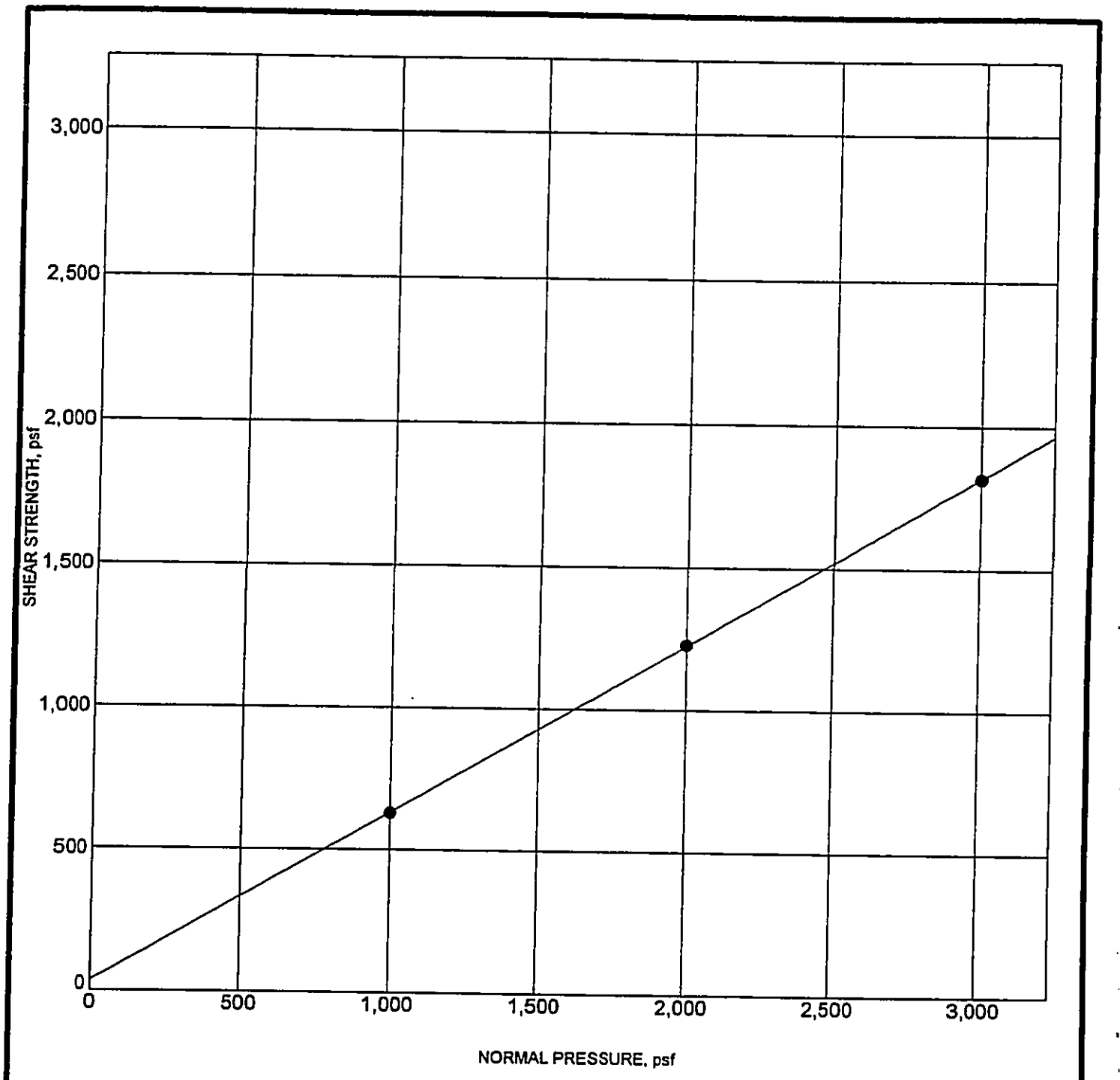
GEOLABS, INC.
GEOTECHNICAL ENGINEERING

W.O. 5107-00

CONSOLIDATION TEST - ASTM D 2435

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Plate
B - 7

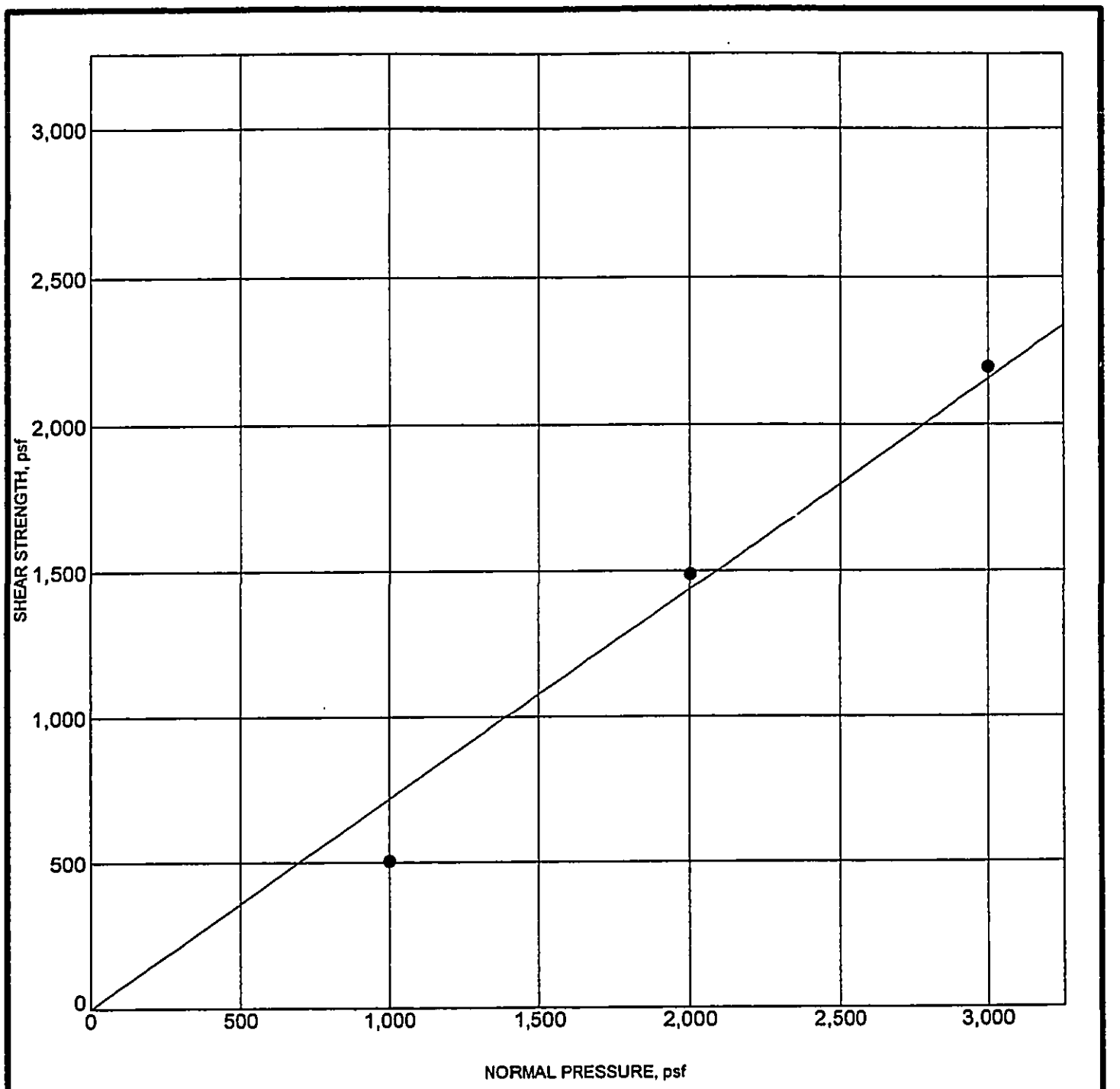


Friction angle (degrees):	31
cohesion (psf):	37

Sample: B-5
Depth: 5.0 - 6.5 feet
Description: Reddish brown CLAYEY SILT

G DIRECT SHEAR 5107-00 GPJ GEOLABS GDT 5/27/05

GEOLABS, INC. GEOTECHNICAL ENGINEERING W.O. 5107-00	**DIRECT SHEAR TEST - ASTM D 3080** HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD LAHAINA, MAUI, HAWAII	Plate B - 6

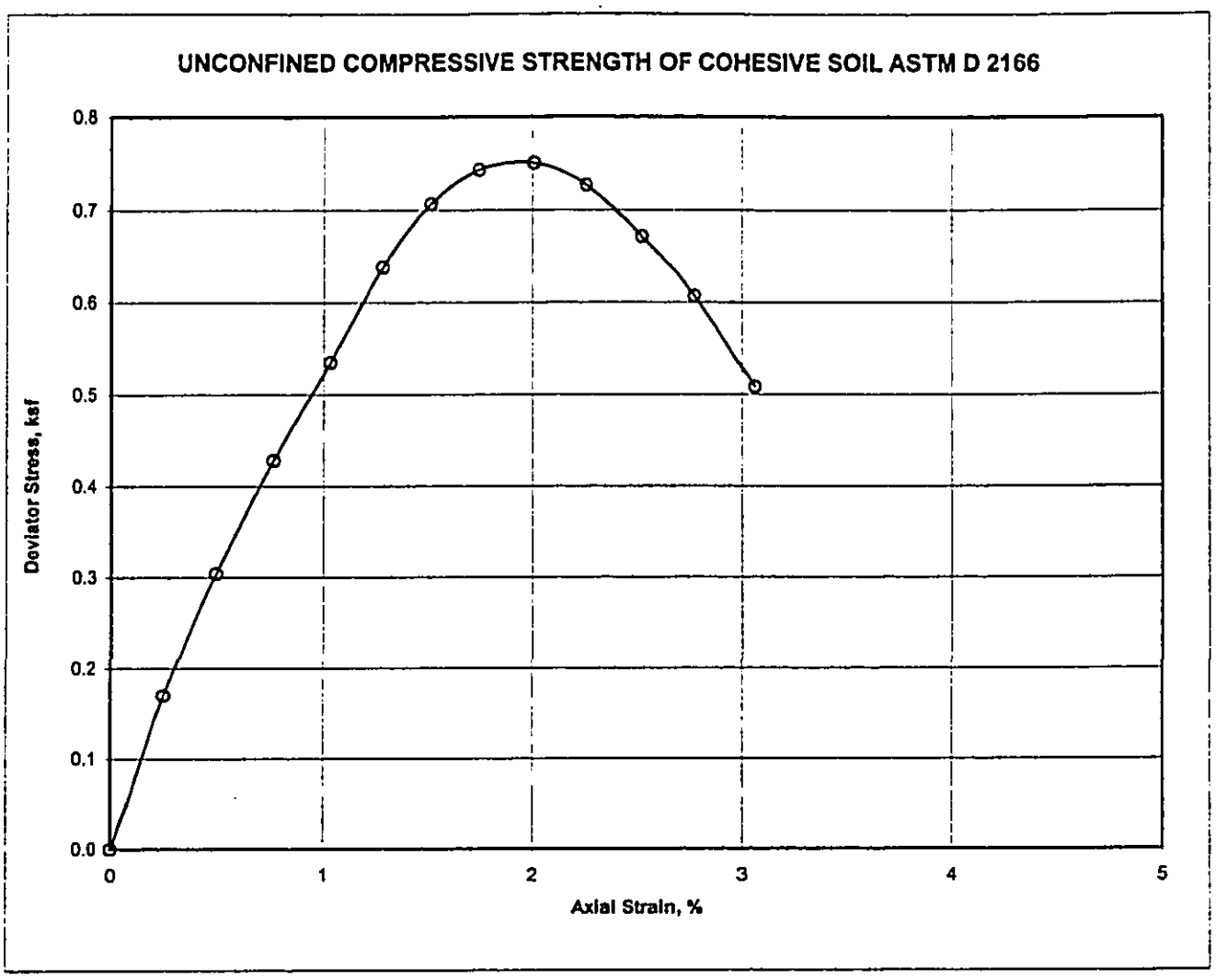


Friction angle (degrees):	36
cohesion (psf):	0

Sample: B-1
Depth: 5.0 - 6.5 feet
Description: Brown CLAYEY SILT

G DIRECT SHEAR 5107-00.GPJ GEOLABS.GDT 5/27/05

GEOLABS, INC. GEOTECHNICAL ENGINEERING W.O. 5107-00	**DIRECT SHEAR TEST - ASTM D 3080** HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD LAHAINA, MAUI, HAWAII	Plate B - 5



LOCATION: B - 4
DEPTH: 5 - 6.5 feet

DESCRIPTION: Reddish brown CLAYEY SILT

DRY DENSITY:	85.3 pcf	SAMPLE DIAMETER:	2.387 inches
MOISTURE CONTENT:	23.3 %	SAMPLE HEIGHT:	5.230 inches

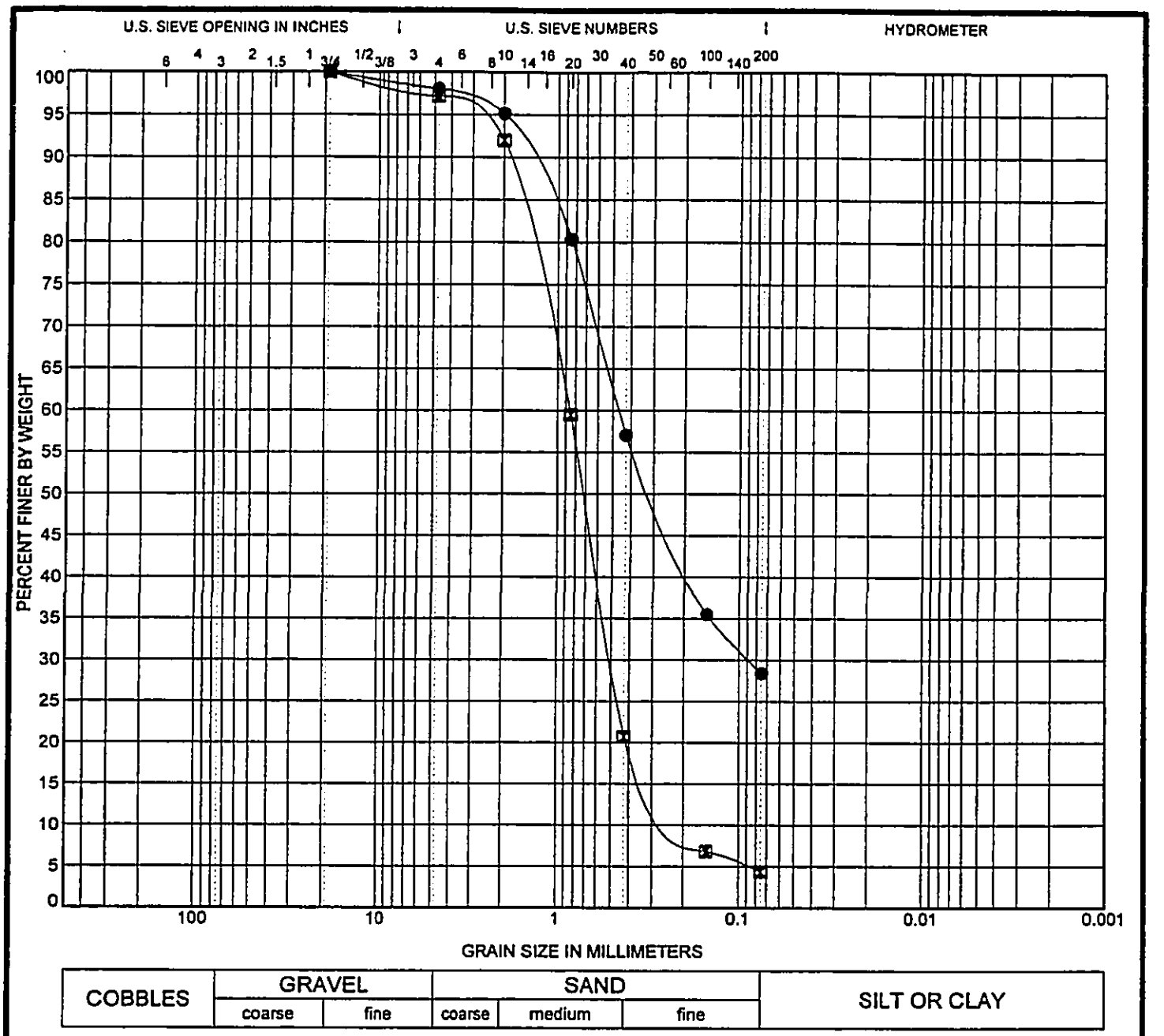
AT FAILURE

STRAIN RATE =	0.99 %/min.		
UNCONFINED COMPRESSIVE STRENGTH =	0.8 ksf @	2.0	% STRAIN

PROJECT:
HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

UNCONFINED COMPRESSION TEST	
GEOLABS, INC. *Geotechnical Engineering*	
DATE Mar-04	W.O. 5107-00

PLATE B - 4



	Sample	Depth (ft)	Description	LL	PL	PI	Cc	Cu
●	B-6	10.0 - 11.5	Dark gray SILTY SAND (SM)					
⊠	B-6	15.0 - 16.5	Grayish tan poorly graded SAND (SP)				1.5	4.5

	Sample	Depth (ft)	D100 (mm)	D60 (mm)	D30 (mm)	D10 (mm)	%Gravel	%Sand	%Fine
●	B-6	10.0 - 11.5	19	0.464	0.088		1.9	69.6	28.4
⊠	B-6	15.0 - 16.5	19	0.862	0.502	0.19	2.8	92.8	4.4

GEOLABS, INC.
GEOTECHNICAL ENGINEERING

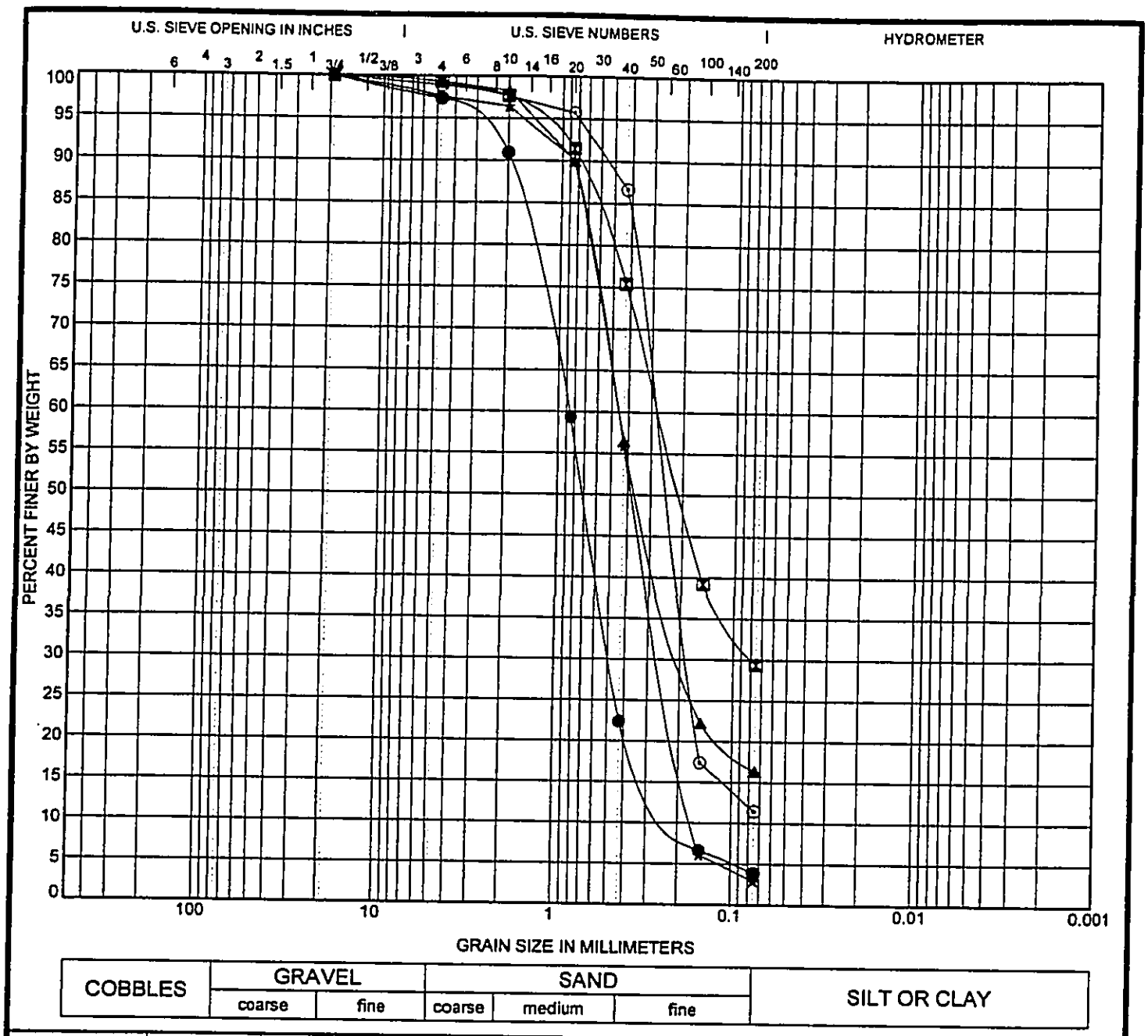
W.O. 5107-00

GRAIN SIZE DISTRIBUTION - ASTM C 117 & C 136

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Plate
B - 3

G_GRAIN_SIZE 5107-00.GPJ GEOLABS.GDT 6/2/05



	Sample	Depth (ft)	Description	LL	PL	PI	Cc	Cu
●	B-2	18.0 - 19.5	Black and white poorly graded SAND (SP)				1.5	4.6
⊠	B-3	18.0 - 19.5	Brown SILTY SAND (SM)					
▲	B-3	38.0 - 39.5	Tannish gray SILTY SAND (SM)					
★	B-3	48.0 - 49.5	Dark gray poorly graded SAND (SP)				0.8	2.8
⊙	B-5	15.0 - 16.5	Whitish gray poorly graded SAND (SP-SM) with silt				1.8	4.5

	Sample	Depth (ft)	D100 (mm)	D60 (mm)	D30 (mm)	D10 (mm)	%Gravel	%Sand	%Fine
●	B-2	18.0 - 19.5	19	0.865	0.49	0.187	2.6	93.5	3.9
⊠	B-3	18.0 - 19.5	19	0.273	0.078		0.7	70.0	29.4
▲	B-3	38.0 - 39.5	19	0.457	0.19		0.7	82.9	16.4
★	B-3	48.0 - 49.5	19	0.462	0.247	0.163	2.4	94.6	2.9
⊙	B-5	15.0 - 16.5	19	0.285	0.181		1.1	87.5	11.4

GEOLABS, INC.
GEOTECHNICAL ENGINEERING

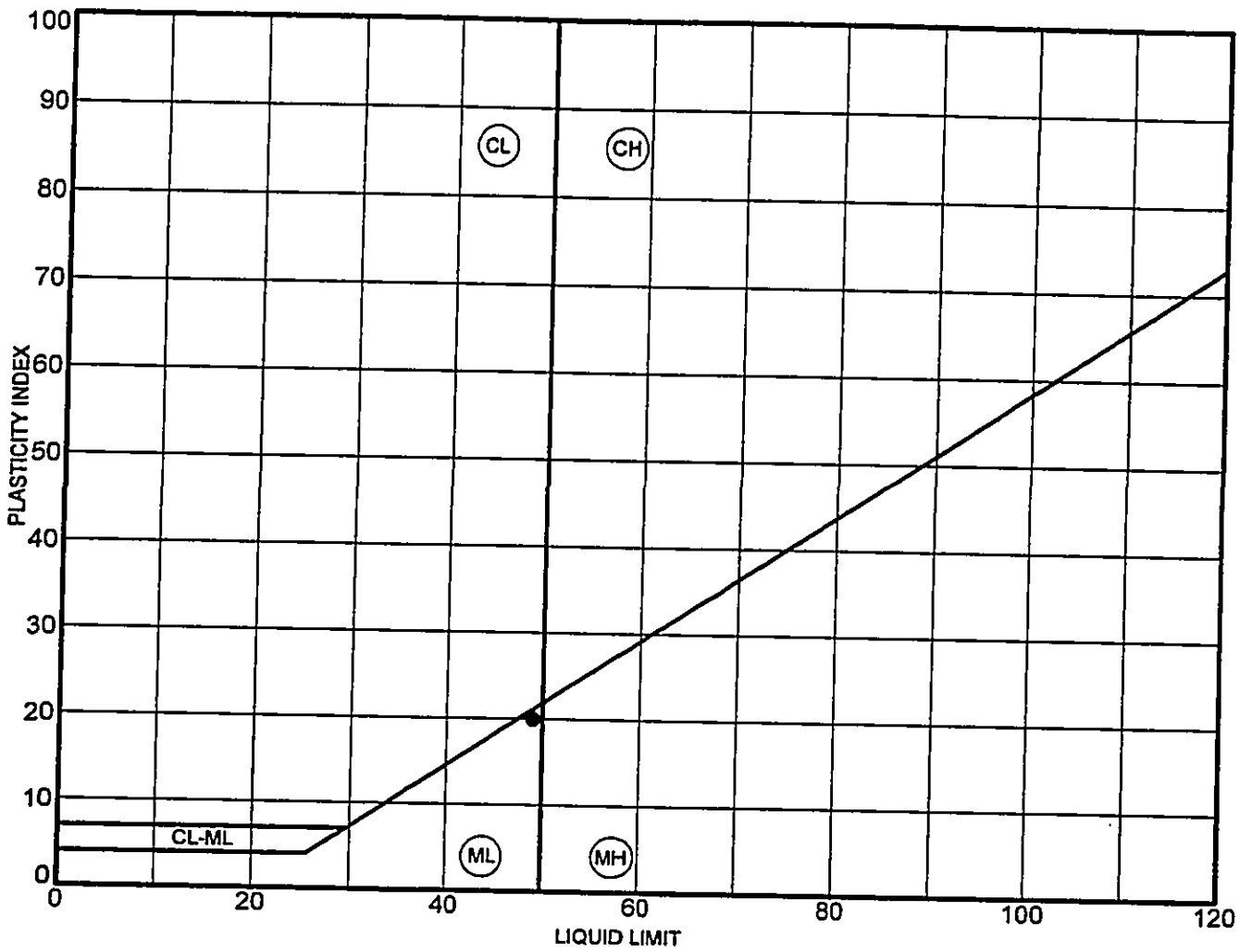
W.O. 5107-00

GRAIN SIZE DISTRIBUTION - ASTM C 117 & C 136

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Plate
B - 2

G_GRAIN SIZE 5107-00.GPJ GEOLABS.GDT 6/2/05



	Sample	Depth (ft)	LL	PL	PI	Description
●	B-5	0.5 - 2.0	49	29	20	Reddish brown SANDY SILT (ML)

GEOLABS, INC.
GEOTECHNICAL ENGINEERING

W.O. 5107-00

ATTERBERG LIMITS TEST RESULTS - ASTM D 4318

HONOAPIILANI HIGHWAY WIDENING
LAHAINALUNA ROAD TO AHOLO ROAD
LAHAINA, MAUI, HAWAII

Plate
B - 1

G ATTERBERG 5107-00.GPJ GEOLABS.GDT 5/27/05

APPENDIX B

Laboratory Testing

Moisture Content (ASTM D 2216) and Unit Weight determinations (ASTM D 2937) were performed on selected soil samples as an aid in the classification and evaluation of soil properties. The results of these tests are presented on the Logs of Borings at the appropriate sample depths.

One Atterberg Limits test (ASTM D 4318) was performed on a selected sample of the clayey soils to evaluate the liquid and plastic limits and to aid in soil classification. Graphic presentation of the test results is provided on Plate B-1. Results of the test are also summarized on the Logs of Borings at the appropriate sample depth.

Seven Sieve Analysis tests (ASTM C 136 & ASTM C 117) were performed on selected soil samples to evaluate the gradation characteristics of the soils and to aid in soil classification. Graphic presentation of the grain size distribution is provided on Plates B-2 and B-3.

One unconfined compression test (ASTM D 2166) was performed on a selected soil sample to evaluate the unconfined compressive strength of the on-site clayey soils. The test results and stress-strain curve of the unconfined compression test are presented on Plate B-4.

Two Direct Shear tests (ASTM D 3080) were performed on selected soil samples to evaluate the shear strength characteristics of the materials tested. The results of the Direct Shear tests are presented on Plates B-5 and B-6.

Two Consolidation tests with time rates (ASTM D 2435) were performed on samples of the potentially compressible soils to evaluate the compressibility characteristics of the materials encountered. Results of the consolidation tests are presented on Plates B-7 and B-8.

Three laboratory Resistance (R) Value Tests (ASTM D 2844) were performed on selected bulk samples of the near-surface soils to evaluate the pavement support characteristics of the soils. The test results are presented on Plates B-9 through B-11.

(h:\5100 Series\5107-00.tk1 – pg.45)

APPENDIX C

Pavement Design

ASPHALT CONCRETE OVERLAY DESIGN

Street Name: Honoapiilani Highway Widening (from Prison Street to Lahainaluna Road)

Design Parameters

Traffic Index	10.00	(10 years design period)
Gf_{AC}	1.79	
Gf_{TB}	1.70	

Strength Reduction: Based on the existing pavement condition, the strength of the existing AC has been reduced to that of ACB.

Layer	Existing Thickness (inches)	Gf_{exist}	Existing GE	Sum GE_{exist}	R-value	GE_{req}	GE_{add}
AC	4.0	1.70	0.57	0.00	90	0.32	0.32
Treated Base	0.0	1.70	0.00	0.57	90	0.32	0.00
Untreated Base	4.0	1.10	0.37	0.57	80	0.64	0.07
Subbase	8.0	1.00	0.67	0.93	60	1.28	0.35
Subgrade				1.60	40	1.92	0.32

GE_{add}	AC_{add}	Tolerance	$AC_{overlay}$
0.35	2.31	0.24	2.55

Use AC overlay of: 2.50 Inches

ASPHALT CONCRETE OVERLAY DESIGN

Street Name: Honoapiilani Highway Widening (from Aholo Road to Prison Street)

Design Parameters

Traffic Index	9.50	(10 years design period)
Gf_{AC}	1.84	
Gf_{TB}	1.75	

Strength Reduction: Based on the existing pavement condition, the strength of the existing AC has been reduced to that of ACB.

Layer	Existing Thickness (inches)	Gf_{exist}	Existing GE	Sum GE_{exist}	R-value	GE_{req}	GE_{add}
AC	4.0	1.75	0.58	0.00	90	0.30	0.30
Treated Base	0.0	1.75	0.00	0.58	90	0.30	0.00
Untreated Base	4.0	1.10	0.37	0.58	80	0.61	0.03
Subbase	8.0	1.00	0.67	0.95	60	1.22	0.27
Subgrade				1.62	40	1.82	0.21

GE_{add}	AC_{add}	Tolerance	$AC_{overlay}$
0.30	1.98	0.24	2.22

Use AC overlay of: 2.00 inches

TRAFFIC INDEX DETERMINATION

Project: Honoapiilani Highway Widening
Lahaina, Maui, Hawaii

Street Name: Prison Street to Lahainaluna Road (10-year Rehabilitation)

(1) Design Period (years) 10

(2) Current Average Daily Traffic (ADT) Per Direction 14707

(3) Future Average Daily Traffic (ADT) Per Direction 16742

(4) Average ADT Per Direction Over Design Period 15724.5

(5) Design Lane Factor 1

Number of Lanes In One Direction	Design Lane Factor
1	1
2	1
3	0.8
4	0.75

(6) 24-Hour Truck Traffic, T_{24} (%) 4

Truck Traffic Distribution :

2-axle	=	65.22%
3-axle	=	18.33%
4-axle	=	2.64%
5-axle	=	12.57%
6-axle	=	0.75%
7-axle	=	0.49%

(7) Average Daily Truck Traffic Per Direction, ADTT 629

(8) Equivalent 18-kip Single Axle Loads, ESAL

2-axle : % of 2-axle trucks x No. trucks x 65	=	26664
3-axle : % of 3-axle trucks x No. trucks x 525	=	60528
4-axle : % of 4-axle trucks x No. trucks x 1162	=	19295
5-axle : % of 5-axle trucks x No. trucks x 1462	=	115590
6-axle : % of 6-axle trucks x No. trucks x 968	=	7550
Annual ESAL :	=	229627
Total ESAL For Design Period	=	2296273
TRAFFIC INDEX (TI) = 9 (ESAL/1,000,000)EXP(0.119)		9.94
	SAY	10.0

TRAFFIC INDEX DETERMINATION

Project: Honoapiilani Highway Widening
Lahaina, Maui, Hawaii

Street Name: Aholo Road to Prision Street (10-year Rehabilitation)

(1) Design Period (years) — 10

(2) Current Average Daily Traffic (ADT) Per Direction — 12080

(3) Future Average Daily Traffic (ADT) Per Direction — 13730

(4) Average ADT Per Direction Over Design Period — 12905

(5) Design Lane Factor — 1

Number of Lanes In One Direction	Design Lane Factor
1	1
2	1
3	0.8
4	0.75

(6) 24-Hour Truck Traffic, T_{24} (%) — 4

Truck Traffic Distribution :

2-axle	=	65.22%
3-axle	=	18.33%
4-axle	=	2.64%
5-axle	=	12.57%
6-axle	=	0.75%
7-axle	=	0.49%

(7) Average Daily Truck Traffic Per Direction, ADTT — 516

(8) Equivalent 18-kip Single Axle Loads, ESAL

2-axle : % of 2-axle trucks x No. trucks x 65	=	21883
3-axle : % of 3-axle trucks x No. trucks x 525	=	49675
4-axle : % of 4-axle trucks x No. trucks x 1162	=	15835
5-axle : % of 5-axle trucks x No. trucks x 1462	=	94864
6-axle : % of 6-axle trucks x No. trucks x 968	=	6196
Annual ESAL :	=	188454
Total ESAL For Design Period	=	1884537
TRAFFIC INDEX (TI) = 9 (ESAL/1,000,000)EXP(0.119)		9.70
	SAY	9.5

DRAINAGE DESIGN FOR FLEXIBLE PAVEMENT

PROJECT Honoapiilani Highway Widening
Lahaina, Maui, Hawaii

Reference Pavement Design Manual
State of Hawaii
Department of Transportation
Dated Revised March 2002

Design Parameters

Design Hourly Rainfall Intensity, I_{DHA}	2	inch per hour
Width of Drainage Layer Measured Normal to Center Line, W	22	feet
Peameability of Untreated Peameable Base, K_{UPB}	10,000	feet per day
Peameability of Asphalt Treated Peameable Base, K_{ATPB}	8,000	feet per day
Pavement Cross Slope of Tangent Sections, S	0.02	
Assume Tolerance of Required Thickness of Drainage Layer	1	inch

Therefore,

Infiltration Rate

I= 0.7 inches per hour

Estimation of Quantity of Surface Water Penetrating AC Pavement

Q= 29.04 cubic feet per day per linear foot of roadway

Required Thickness of the Drainage Layer

t_d= 2.7 inches for UTPB
or
t_d= 3.2 inches for ATPB

Minimum Design Thickness of Drainage Layer 6 inches

Conclusion

Minimum Design Thickness of UTPB Layer is Sufficient **Use 6 inches**
Minimum Design Thickness of ATPB Layer is Sufficient **Use 7 inches**

Project: Honoapiilani Highway Widening
Lahaina, Maui, Hawaii

Street: Prision Street to Lahainaluna Road (50 years, R = 40)

Design Parameters

Traffic Index	12.5
R value of ACB	90
R value of UTPB	55
R value of ASB	60
R value of Subgrade	40

Pavement Section using Asphalt Concrete Base and Untreated Permeable Base

Trial Thickness of AC + ACB 11.5

(1) **Asphalt Concrete (AC)**

GE required					0.400	
GE with Tolerance =	0.400	+	0.240	=	0.640	
Gf of AC					1.952	
GE/Gf	=	3.93		SAY	4.00	Inches

(2) **Asphalt Concrete Base (ACB)**

GE required	=				1.800	
GE of AC	=				0.651	
GE required of ACB	=				1.149	
Gf of ACB					1.85	
GE/Gf	=	7.44		SAY	7.50	Inches

(3) **Calculate New Gf of AC**

Thickness of AC + Thickness of ACB	0.958
New Gf of AC	1.952

(4) **Untreated Permeable Base (UTPB)**

GE required	=			1.600	
GE of AC	=			0.651	
GE of ACB	=			1.159	
GE required of UTPB	=			-0.210	
Gf of UTPB	=			1.100	
GE/Gf	=	-2.29		0.00	
Minimum required for drainage				6.00	Inches
			SAY	6.00	Inches

(5) **Aggregate Subbase (ASB)**

GE required	=			2.400	
GE of AC	=			0.651	
GE of ACB	=			1.159	
GE of UTPB	=			0.550	
GE required of ASB	=			0.040	
GE less tolerance	=			-0.200	
Gf of ASB	=			1.000	
GE/Gf	=	-2.40		0.00	Inches
			SAY	6.00	Inches

Design Pavement Section

4.0	Inches	AC
7.5	Inches	ACB
6.0	Inches	UTPB
6.0	Inches	ASB
23.5	Inches	Total Thickness

Project: Honoapiilani Highway Widening
Lahaina, Maui, Hawaii

Street: Aholo Road to Prision Street (50 years, R = 40)

Design Parameters

Traffic Index	12.0
R value of ACB	90
R value of UTPB	55
R value of ASB	60
R value of Subgrade	40

Pavement Section using Asphalt Concrete Base and Untreated Permeable Base

Trial Thickness of AC + ACB 11

(1)	**Asphalt Concrete (AC)**						
	GE required					0.384	
	GE with Tolerance =	0.384	+	0.240	=	0.624	
	Gf of AC					1.963	
	GE/Gf	=	3.81		SAY	4.00	Inches
(2)	**Asphalt Concrete Base (ACB)**						
	GE required	=				1.728	
	GE of AC	=				0.654	
	GE required of ACB	=				1.074	
	Gf of ACB					1.86	
	GE/Gf	=	6.91		SAY	7.00	Inches
(3)	**Calculate New Gf of AC**						
	Thickness of AC + Thickness of ACB					0.917	
	New Gf of AC					1.963	
(4)	**Untreated Permeable Base (UTPB)**						
	GE required	=				1.536	
	GE of AC	=				0.654	
	GE of ACB	=				1.088	
	GE required of UTPB	=				-0.206	
	Gf of UTPB	=				1.100	
	GE/Gf	=	-2.25			0.00	
	Minimum required for drainage					6.00	Inches
					SAY	6.00	Inches
(5)	**Aggregate Subbase (ASB)**						
	GE required	=				2.304	
	GE of AC	=				0.654	
	GE of ACB	=				1.088	
	GE of UTPB	=				0.550	
	GE required of ASB	=				0.012	
	GE less tolerance	=				-0.228	
	Gf of ASB	=				1.000	
	GE/Gf	=	-2.74			0.00	Inches
					SAY	6.00	Inches

Design Pavement Section

4.0	**Inches**	**AC**
7.0	**Inches**	**ACB**
6.0	**Inches**	**UTPB**
6.0	**Inches**	**ASB**
23.0	**Inches**	**Total Thickness**

TRAFFIC INDEX DETERMINATION

Project: Honoapiilani Highway Widening
Lahaina, Maui, Hawaii

Street Name: Prision Street to Lahainaluna Road (50 years, R = 40)

(1)	Design Period (years)	50
(2)	Current Average Daily Traffic (ADT) Per Direction	14707
(3)	Future Average Daily Traffic (ADT) Per Direction	24882
(4)	Average ADT Per Direction Over Design Period	19794.5
(5)	Design Lane Factor	1

Number of Lanes *In One Direction*	Design Lane *Factor*
1	1
2	1
3	0.8
4	0.75

(6) 24-Hour Truck Traffic, T_{24} (%) 4

Truck Traffic Distribution :

2-axle	=	65.22%
3-axle	=	18.33%
4-axle	=	2.64%
5-axle	=	12.57%
6-axle	=	0.75%
7-axle	=	0.49%

(7) Average Daily Truck Traffic Per Direction, ADTT 792

(8) Equivalent 18-kip Single Axle Loads, ESAL

2-axle : % of 2-axle trucks x No. trucks x 65	=	33566
3-axle : % of 3-axle trucks x No. trucks x 525	=	76195
4-axle : % of 4-axle trucks x No. trucks x 1162	=	24289
5-axle : % of 5-axle trucks x No. trucks x 1462	=	145508
6-axle : % of 6-axle trucks x No. trucks x 968	=	9504
Annual ESAL :	=	289062
Total ESAL For Design Period	=	14453109
TRAFFIC INDEX (TI) = 9 (ESAL/1,000,000)EXP(0.119)		12.37
	SAY	12.5

TRAFFIC INDEX DETERMINATION

Project: Honoapiilani Highway Widening
Lahaina, Maui, Hawaii

Street Name: Aholo Road to Prision Street (50 years, R = 40)

(1)	Design Period (years)	50
(2)	Current Average Daily Traffic (ADT) Per Direction	12080
(3)	Future Average Daily Traffic (ADT) Per Direction	20330
(4)	Average ADT Per Direction Over Design Period	16205
(5)	Design Lane Factor	1

Number of Lanes In One Direction	Design Lane Factor
1	1
2	1
3	0.8
4	0.75

(6) 24-Hour Truck Traffic, T_{24} (%) 4

Truck Traffic Distribution :

2-axle	=	65.22%
3-axle	=	18.33%
4-axle	=	2.64%
5-axle	=	12.57%
6-axle	=	0.75%
7-axle	=	0.49%

(7) Average Daily Truck Traffic Per Direction, ADTT 648

(8) Equivalent 18-kip Single Axle Loads, ESAL

2-axle : % of 2-axle trucks x No. trucks x 65	=	27479
3-axle : % of 3-axle trucks x No. trucks x 525	=	62378
4-axle : % of 4-axle trucks x No. trucks x 1162	=	19885
5-axle : % of 5-axle trucks x No. trucks x 1462	=	119122
6-axle : % of 6-axle trucks x No. trucks x 968	=	7780
Annual ESAL :	=	236644
Total ESAL For Design Period	=	11832207
TRAFFIC INDEX (TI) = 9 (ESAL/1,000,000)EXP(0.119)		12.08
	SAY	12.0

DOCUMENT CAPTURED AS RECEIVED

MEMORANDUM

TO: HWY-MD

ATTN: C. Shibuya

FROM: HWY-PH

The following data are submitted for your information:

NAME OF PROJECT: Honoapiilani Highway Widening, Aholo Road to Lahainaluna Road

PROJECT NO.: 30BC-01-04

SECTION:

		Honoapiilani Highway, Aholo Road to Prison Street	Honoapiilani Highway, Prison Street to Lahainaluna Road
2004	ADT	23,500	26,000
2014	ADT	26,800	29,700
DHV		2,140	2,520
Design K		8.0	8.5
Design D		50/50	55/45
Design T		2.5	2.5
T24		4.0	4.0

24-HOUR TRUCK COMPOSITION

CLASSIFICATION	PERCENT	PERCENT
BUS	17.57	17.57
2D	47.65	47.65
3X	18.33	18.33
4X	0.65	0.65
2S1, 3S1, 2S2	1.99	1.99
3S2, 3-2, 2-3	12.30	12.30
6/6+X S-TLR	0.34	0.34
5X M-TLR	0.27	0.27
6X M-TLR	0.41	0.41
7X M-TLR	0.49	0.49

REF. NO. TA 04-11

APPENDIX D

Field Permeability Testing

APPENDIX D

Field Permeability Testing

The permeability of the in-situ materials was evaluated by performing eight constant head tests at various depths within Boring Nos. 1 through 3. The constant head test was performed by pumping water into the borehole until the water surface stabilized and remained at equilibrium for a period of time. The water height and the rate of pumping were then measured to provide data upon which to base the calculation of the subsurface material permeability. The results of the field permeability tests are presented on Plates D-1 through D-8.

(h:\5100series\5107-00.tk1-pg53)

PERMEABILITY TEST NO. 1

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Lahaina, Maui, Hawaii

TEST LOCATION:	B-1
DATE OF TEST:	February 19, 2004
TYPE OF TEST:	Constant Head Method
DEPTH OF HOLE:	111 feet
CASING DEPTH:	110 feet
DIAMETER OF HOLE:	3.5 inches
DEPTH TO GROUNDWATER:	14 feet

Elapsed Time (minutes)	Depth to Water (feet)	Flow Rate (gal/min)
30	0.5	30

Calculated Permeability = 7.3×10^{-2} feet/min.

(h:\5100series\5107-00.tk1-pg49)

PERMEABILITY TEST NO. 2

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Lahaina, Maui, Hawaii

TEST LOCATION: B-1
DATE OF TEST: February 18, 2004
TYPE OF TEST: Constant Head Method
DEPTH OF HOLE: 111 feet
CASING DEPTH: 105 feet
DIAMETER OF HOLE: 3.5 inches
DEPTH TO GROUNDWATER: 14 feet

Elapsed Time (minutes)	Depth to Water (feet)	Flow Rate (gal/min)
20	1.5	40

Calculated Permeability = 3.3×10^{-2} feet/min.

(h:\5100series\5107-00.tk1-pg50)

PERMEABILITY TEST NO. 3

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Lahaina, Maui, Hawaii

TEST LOCATION:	B-1
DATE OF TEST:	February 20, 2004
TYPE OF TEST:	Constant Head Method
DEPTH OF HOLE:	136 feet
CASING DEPTH:	131.5 feet
DIAMETER OF HOLE:	3.5 inches
DEPTH TO GROUNDWATER:	14.8 feet

Elapsed Time (minutes)	Depth to Water (feet)	Flow Rate (gal/min)
15	0	34

Calculated Permeability = 3.3×10^{-2} feet/min.

(h:\5100series\5107-00.tk1-pg51)

PERMEABILITY TEST NO. 4

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Lahaina, Maui, Hawaii

TEST LOCATION: B-1
DATE OF TEST: February 20, 2004
TYPE OF TEST: Constant Head Method
DEPTH OF HOLE: 136 feet
CASING DEPTH: 126 feet
DIAMETER OF HOLE: 3.5 inches
DEPTH TO GROUNDWATER: 14.8 feet

Elapsed Time (minutes)	Depth to Water (feet)	Flow Rate (gal/min)
60	0.5	37.5

Calculated Permeability = 2.0×10^{-2} feet/min.

(h:\5100series\5107-00.tk1-pg52)

PERMEABILITY TEST NO. 5

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Lahaina, Maui, Hawaii

TEST LOCATION:	B-1
DATE OF TEST:	February 25, 2004
TYPE OF TEST:	Constant Head Method
DEPTH OF HOLE:	136 feet
CASING DEPTH:	34 feet
DIAMETER OF HOLE:	4.0 inches
DEPTH TO GROUNDWATER:	15 feet

Elapsed Time (minutes)	Depth to Water (feet)	Flow Rate (gal/min)
60	1.5	63

Calculated Permeability = 6.0×10^{-3} feet/min.

(h:\5100series\5107-00.tk1-pg53)

PERMEABILITY TEST NO. 6

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Lahaina, Maui, Hawaii

TEST LOCATION: B-2
DATE OF TEST: February 26, 2004
TYPE OF TEST: Constant Head Method
DEPTH OF HOLE: 101.5 feet
CASING DEPTH: 97.5 feet
DIAMETER OF HOLE: 3.5 inches
DEPTH TO GROUNDWATER: 6.8 feet

Elapsed Time (minutes)	Depth to Water (feet)	Flow Rate (gal/min)
30	0.1	66.5

Calculated Permeability = 1.5×10^{-1} feet/min.

(h:\5100series\5107-00.tk1-pg54)

PERMEABILITY TEST NO. 7

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Lahaina, Maui, Hawaii

TEST LOCATION:	B-2
DATE OF TEST:	February 26, 2004
TYPE OF TEST:	Constant Head Method
DEPTH OF HOLE:	88 feet
CASING DEPTH:	50.5 feet
DIAMETER OF HOLE:	4.0 inches
DEPTH TO GROUNDWATER:	6.7 feet

Elapsed Time (minutes)	Depth to Water (feet)	Flow Rate (gal/min)
60	0	33

Calculated Permeability = 1.5×10^{-2} feet/min.

(h:\5100series\5107-00.tk1-pg55)

PERMEABILITY TEST NO. 8

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Lahaina, Maui, Hawaii

TEST LOCATION:	B-3
DATE OF TEST:	March 1, 2004
TYPE OF TEST:	Constant Head Method
DEPTH OF HOLE:	91 feet
CASING DEPTH:	85.5 feet
DIAMETER OF HOLE:	3.5 inches
DEPTH TO GROUNDWATER:	25.7 feet

Elapsed Time (minutes)	Depth to Water (feet)	Flow Rate (gal/min)
30	19	120

Calculated Permeability = 1.7×10^{-1} feet/min.

(h:\5100series\5107-00.tk1-pg56)

APPENDIX N

Traffic Forecast for

Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road

TRAFFIC FORECAST FOR HONOAPI'ILANI HIGHWAY WIDENING
Lahainaluna Road to 'Aholo Road

Waine'e, Lahaina, Maui, Hawai'i

Tax Map Key Numbers (2)4-5-006 & 009 and (2)4-6-004-013 & 034 *[por each]*

DOT-HWY Project No. 30BC-01-04

MAY 2006

Prepared for:
STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Prepared by:

M&E Pacific, Inc.

METCALF&EDDY | AECOM

Davies Pacific Center, 841 Bishop Street
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TRAFFIC FORECAST FOR PROPOSED HONOAPI'ILANI HIGHWAY WIDENING PROJECT FROM LAHAINALUNA ROAD TO "AHOLO ROAD

Lahaina, Island of Maui, Hawai'i

Final Report

TMKs: (2)4-5-006 & 009 and (2)4-6-004-013 & 034 [*por each*]

May 2006

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FINAL REPORT

TRAFFIC FORECAST FOR PROPOSED HONOAPI'ILANI HIGHWAY WIDENING PROJECT FROM LAHAINALUNA ROAD TO 'AHOLO ROAD

The State of Hawai'i Department of Transportation (HDOT) proposes to widen Honoapi'ilani Highway in Lahaina, Maui, Hawai'i. M&E Pacific, Inc., was contracted to be the design engineer for project. This paper describes the traffic forecasting methodology and results of a study conducted to determine the design parameters of the highway, including the lengths of the left turn lanes on the highway, lane lengths on the side streets, and placement of pedestrian crosswalks across the highway.

PROJECT DESCRIPTION

The proposed project involves widening Honoapi'ilani Highway in Lahaina, Maui, from two to four lanes. The project limits are from Lahainaluna Road to 'Aholo Road. Honoapi'ilani Highway currently expands from one to two lanes in the northbound direction between Dickenson Street and Lahainaluna Road. The roadway in the southbound direction of travel decreases from two lanes to one lane just south of the Dickenson Street intersection. Since the Lahainaluna Road intersection already has a four lane design, this study looked at the next four intersections to the south which included Dickenson Street, Prison Street, Shaw Street and 'Aholo Road. The first and third intersections have traffic signal controls while the second and fourth intersections are unsignalized. The proposed highway widening would be supplemental to the Lahaina Bypass Highway that is scheduled for completion in late 2016.

In addition to analyzing the impacts of widening the highway, the study also analyzed the feasibility of design changes initially proposed to the side streets at Shaw Street and 'Aholo Road. The *mauka* bound approach at Shaw Street would be widened to two lanes and would require right-of-way taking. Islands would be built on the *mauka* side of the 'Aholo Road intersection to terminate the four lane design. A schematic diagram of the existing and proposed intersection designs are shown on **Figure 1**.

CURRENT TRAFFIC DATA

HDOT takes traffic counts at selected locations of Maui County in years ending in odd numbers. The latest counts available at the time of this study were taken in 2003. Two traffic count stations on Honoapi'ilani Highway in the vicinity of the project are at Lahainaluna Road (Station 25-C) and at Front Street south intersection (Station 25-E). The information provided on the data sheets includes a historical biannual record of daily traffic counts and the latest daily volumes by 15 minute intervals on the various intersection approaches. The latter information was processed and graphed to show the trend in hourly traffic from 5:00 AM to 7:00 PM at the two stations. The graph for Honoapi'ilani Highway at Lahainaluna Road is shown on **Figure 2**, while the hourly trend at the south intersection of Front Street is shown on **Figure 3**.

There are some similar and dissimilar trends for the two stations. At Lahainaluna Road, the northbound traffic has a small spike in the morning peak and a longer lasting peak in the afternoon. The southbound traffic has a short morning spike, a longer midday peak, and another long and higher peak in the afternoon. The combined two way traffic volumes show a short spike in the morning peak hour and a four hour long afternoon peak lasting from 2:00 to 6:00 PM. At Front Street, the northbound traffic has a small spike in the morning peak and a longer lasting peak in the afternoon as at Lahainaluna Road. The southbound traffic has a mid-morning peak and an afternoon peak, unlike at Lahainaluna Road that has three peaks. The combined two way traffic volumes show relatively constant levels from 7:00 AM to 1:00 PM, and a four hour long afternoon peak lasting from 2:00 to 6:00 PM.

The maximum one directional traffic volume was about 1,000 vehicles per hour (vph) in the northbound direction, and slightly higher for the southbound movement at Lahainaluna Road. The 1,000 vph is the approximate one direction carrying limit for a two lane highway. Although the highway is four lanes wide at Lahainaluna Road, the northbound flow is constrained by the volume of vehicles that could reach it from the one lane roadway section to the south. The southbound volumes at Lahainaluna Road

reached about 1300 vph. This indicates that the traffic backup from the two lane section south of Dickenson Street does not always reach Lahainaluna Road, and that traffic demand exceeds the roadway capacity at certain times of the day.

The annual traffic data on Honoapi'ilani Highway from 1991 to 2003 was plotted to determine the trend in daily traffic volumes, as shown on **Figure 4**. The south leg of Honoapi'ilani Highway at Lahainaluna Road was used since it was within the project's northern limit. The north leg at the south junction of Front Street was used since it abuts the southern end of the project limit. Traffic volumes at Lahainaluna Road reached a peak in 1999, decreased in 2001, and then increased slightly in 2003. There has been a 14% increase between 1991 and 1999, and an 18% increase from 1993 to 2003. Traffic volumes at the south junction of Front Street steadily increased to 1997, showed slow growth to 2001, and dipped slightly in 2003. There was a 21% increase from 1991 to 1997 and 3% increase from 1997 to 2001.

Manual turning movement traffic counts were taken at the four study intersections in late April and early May to obtain data on current traffic volumes. These counts require traffic surveyors to position themselves at the intersection and record through and turning movements by 15 minute intervals. Based on HDOT's hourly traffic information shown on **Figures 2** and **3**, the turning movement counts were taken during the midday peak period (11:00 AM to 1:00 PM) and afternoon peak period (3:30 to 5:30 PM). The hourly volumes in each peak hour are graphically summarized on **Figure 5**. The midday and afternoon counts had one direction volumes reaching 1200 vph, which were higher than the highest volumes for the State's metered counts. Traffic volumes from the side streets were much higher at the signalized intersections compared to the unsignalized intersections.

A supplemental traffic count was taken during the morning peak period (6:30 to 8:30 AM) at the Shaw Street intersection on December 14, 2004, to obtain information for determining queue lengths in the highway left turn lanes. Only the Shaw Street intersection was counted since it is the only intersection with large volumes of

northbound left turns and *mauka* bound right turns in the other periods. The northbound morning peak hour volume of 1436 vph was much higher than recorded in the midday and afternoon manual counts and the HDOT counts. This higher volume could be attributed to the December count being taken during the peak tourist season, when traffic volumes are higher that the April-May time frame of the other counts. It also implies that traffic conditions are more congested in December.

The traffic counters reported that Honoapi'ilani Highway was generally congested during all times of the counts. They noted that traffic queues in the left turn lanes of the highway were generally one vehicle except at Shaw Street. They also reported that over half of the vehicles entering Honoapi'ilani Highway from Prison Street wanted to turn left but "gave up" due to the long wait and turned right instead. Hence, there is *greater demand for left turns than indicated in the counts.*

The number of pedestrians crossing Honoapi'ilani Highway at each of the four intersections was also counted. In general, there were very few pedestrian crossings as noted below for each study intersection:

- There were no pedestrian crossing noted at the 'Aholo Road intersection, an unsignalized intersection without any marked crosswalks.
- There were two crossings in the north crosswalk and five crossings in the south crosswalk at the Prison Street intersection, an unsignalized intersection with marked crosswalks on both sides of the intersection.
- At the signalized Dickenson Street intersection, there were five pedestrian crossings using the north crosswalk and two illegal crossings on the unmarked south side. There were also four bicycle crossings on the south side.
- At the signalized Shaw Street intersection, there were 50 pedestrians crossing during the midday count. These were described as groups of school children going between the schools located on the *makai* side of the highway and the County pool on the *mauka* side. There were no pedestrian crossings observed in the morning or afternoon peak.

HDOT also provided information on the current traffic signal timing plans on Honoapi'ilani Highway. The traffic signals at the Papalaua Street, Lahainaluna Road, Dickenson Street and Shaw Street intersections are interconnected for coordinated operations. These signals are coordinated with a 130 second cycle during the morning peak and a 135 second cycle in the afternoon peak. These traffic signals currently run free during the midday period, and from the evening to early morning periods.

TRAFFIC FORECASTS

The U.S. Department of Transportation/Federal Highways Administration requires 20 and 50 year traffic forecasts for the design of federally funded highway projects. The 20 year forecast is used for the design of roadway elements such as turning lane lengths. The 50 year forecast is used by the geotechnical consultant for pavement design. The HDOT Highway Planning Branch traditionally prepares traffic forecasts for State highway improvements. They provided 10 and 20 year forecasts for 2014 and 2024, respectively. The 10 year forecasts were used to forecast mid-term traffic operations with and without the highway widening. The 20 year forecasts were used to identify design requirements.

HDOT provided 10 and 20 year forecasts for two segments of Honoapi'ilani Highway: 'Aholo Road to Prison Street, and Prison Street to Lahainaluna Road. The forecasts are summarized below:

	'Aholo Road to Prison Street	Prison Street to Lahainaluna Road
2004 ADT	23,500	26,000
2014 ADT	26,800	29,700
% increase	14.0%	14.2%
Design K	8.0%	8.5%
2014 DHV	2,140	2,520
2024 ADT	30,100	33,400
% increase	28.1%	28.5%
2024 DHV	2,410	2,840

The 14.0% and 14.2% growth rates for the 10 year forecast were derived from the 2004 and 2014 ADT forecasts. The current traffic volumes shown on **Figure 5** were increased by these rates to obtain the 10 year forecast shown on **Figure 6**. The growth rates for the 20 year forecast were determined to be 28.1% and 28.5% based on the 2004 and 2024 ADT forecasts. The current traffic volumes shown on **Figure 5** were increased by these rates to obtain the 20 year forecast shown on **Figure 7**.

The HDOT forecasts assume the following implementation timetable for the Lahiana Bypass Highway:

- Keawe to Lahainaluna Road—2008
- Lahainaluna Road to Launiupoko—2011
- Keawe to Pulelehua—2016.

Based on the above schedule, the south portion of the bypass roadway would be completed by the 2014 forecast date, and the entire roadway would be completed by the 2024 forecast date.

LEVEL OF SERVICE ANALYSIS

The concept of level of service is used to quantify the quality of traffic flow on roadway facilities. The Transportation Research Board (TRB) has developed procedures to calculate level of service value(s) by measuring traffic volumes against the capacities of different types of roadway facilities. Their Highway Capacity Manual 2000 (HCM2000) describes the various procedures developed for freeways, highways, signalized and unsignalized intersections, etc.

Two of the study intersections are signalized. The methodology for analyzing signalized intersections calculates the levels of service for individual movements, approaches and the intersection as a whole based on the average stopped delay per vehicle. The results range from level of service A (best with average delays less than ten seconds) to F (worst with average delays longer than 80 seconds), described as follows:

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds/Vehicle)
A	< 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	> 80.1

Many jurisdictions consider levels of service A to D as acceptable for areas like Lahaina, with levels of service E and F indicating the need for mitigating measures. For signalized intersections, the major streets can be designed to have a higher level of service than the side streets or turning lanes. Level of service E conditions are sometimes tolerated for minor traffic movements such as left turn movements.

The other two study intersections are unsignalized. The procedure used for analyzing unsignalized intersections calculates vehicle delays and levels of service based on the distribution of gaps in traffic on the major street and driver judgment in selecting gaps through which to execute turns. For two-way stop intersections where only the minor street traffic is controlled by a stop sign, levels of service are calculated for the critical turning movements including outbound movements from the stop-controlled approach, and left turns from the major street to the minor street. The procedure does not calculate an overall intersection level of service.

The Highway Capacity Manual defines the relationship between level of service and delay (in seconds/vehicle) for unsignalized intersections as shown below:

LEVEL OF SERVICE	DELAY (Seconds/Vehicle)
A	< 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	> 50.1

Levels of service A to E are considered acceptable for unsignalized intersections. Level of service F (with average delays longer than 50 seconds) is considered undesirable for unsignalized intersections and would indicate the possible need for mitigation. Level of service F conditions could be tolerated if the delays are not much higher than 60 seconds, traffic queues are short, and there are no reasonable mitigating measures available.

The levels of service for the four study intersections were calculated for current, 10 year (2014) forecast without improvements, 10 year forecast with improvements, and 20 year (2024) forecast with improvements. The 20 year forecast without improvements alternative was not calculated since traffic conditions for the 10 year (2014) forecast without improvements were determined to be very unacceptable, and would be infeasible for the 20 year forecast.

Table 1 summarizes the analysis for the two signalized and two unsignalized intersections for the midday peak hour (**Table 1-A**), the afternoon peak hour (**Table 1-B**), and the morning peak hour (**Table 1-C**). The morning peak hour is shown last since only the Shaw Street intersection was analyzed. The signalized intersection analyses show the levels of service for the overall intersection, each approach, and specific lane groups of each approach. The unsignalized intersection analyses show

the levels of service for the side street lane approaches and the left turn lanes from the main highway. Both sets of analyses include the calculated 70% queue lengths for the side street and left turn lane approaches.

The traffic signal cycle length is a key input for the analysis of signalized intersections. For this analysis, it was assumed a shorter cycle length of 110 seconds could be used at the two signalized study intersections with improvements due to the higher capacity of Honoapi'ilani Highway. Since all traffic signals in an interconnected system must run on the same cycle length, this assumes that the signal cycle lengths at Papalaua Street and Lahainaluna Road, which are outside of this study area, could also be decreased after the highway is widened.

The traffic operations at each intersection in each analysis peak period is discussed in the following paragraphs.

The Dickenson Street intersection is currently operating at an acceptable level of service C in the midday period with both highway left turn lanes operating at an unacceptable level of service E. Both side street approaches are at a minimally acceptable level D. For the 10 year forecast with the Lahaina Bypass Highway and no highway improvements, the intersection could continue to operate at an acceptable level of service C if the cycle length were increased to 140 seconds. Both highway left turn lanes would be operate at unacceptable level of service E and the side streets at minimally acceptable level D. With the proposed highway improvements, the intersection is forecast to operate at level of service C with the levels of service on the left turn lanes and side streets expected to improve by one level, primarily due to an expected shorter traffic signal cycle length.

For the 20 year forecast with proposed highway improvements, the intersection is forecast to operate at level of service C, the two highway left turn lanes at level D, and both side street approaches at level C. The proposed highway improvements combined with the Lahaina Bypass Highway would improve traffic operations at the Dickenson

Street intersection and maintain acceptable levels of service during the future midday periods.

The Dickenson Street intersection is currently operating at an acceptable level of service B in the afternoon peak based on the current traffic signal timing which gives preference to the through highway traffic. Both left turn lanes are operating at level of service D; however, both side street approaches are operating at unacceptable levels of service. The *mauka* bound approach is operating at level F and the *makai* bound approach is operating at level of service E. For the 10 year forecast with bypass roadway and no highway improvements, the intersection operations is forecast to decrease to level of service C. Both highway left turn lanes would be operating at unacceptable level of service E and the side streets at levels E and D. The *mauka* bound approach level of service improved from F to E because its phase length was lengthened. With the proposed highway improvements, the overall intersection level of service would improve to B, and both highway left turn lanes and side street approaches are expected to improve to acceptable level D, primarily due to an expected shorter traffic signal cycle length.

For the 20 year forecast with proposed highway improvements, the intersection is forecast to operate at level of service C, the two highway left turn lanes at level D, and both side street approaches at level D. The proposed highway improvements combined with the Lahaina Bypass Highway would maintain acceptable traffic operations at the Dickenson Street intersection during the future afternoon peak periods.

The Shaw Street intersection is currently operating at level of service D in the midday period with all but the *makai* bound approach at the same level. For the 10 year forecast with Lahaina Bypass highway and no highway improvements, the intersection operations would decline to an unacceptable level of service E even if the cycle length were increased to 155 seconds. Both highway left turn lanes and the side streets would be operating at minimally acceptable level D. With the proposed highway improvements, the intersection and *makai* bound approach levels of service would

improve to an acceptable level C, both highway left turn lanes and the *mauka* bound approach would remain at level D. Even though the level of service for the *mauka* bound approach would remain at D with the widening to two lanes, the queue lengths in each new lane would decrease considerably, minimizing the length of required right-of-way taking.

For the 20 year forecast with proposed highway improvements, the intersection is forecast to operate at level of service C, the two highway left turn lanes and expanded *mauka* bound approach at level D, and the *makai* bound approach at level C. The proposed highway improvements combined with the Lahaina Bypass Highway are expected to turn unacceptable traffic operations to acceptable at the Shaw Street intersection during the future midday periods.

During the afternoon peak, the Shaw Street intersection is operating at minimally acceptable level of service D with the left turn lanes and southbound through lane operating at unacceptable level E. The *mauka* bound lane is at unacceptable level F with a calculated queue length of 15 vehicles, which exceeds the estimated approach capacity of 10 vehicles. For the 10 year forecast with bypass roadway and no highway improvements, the intersection level of service would worsen to an unacceptable F, along with that of the southbound and *mauka* bound approaches. The queue length would be seven vehicles on the northbound left turn lane and 18 vehicles on the single lane *mauka* bound approach. Implementing the proposed highway improvements would result in the overall level of service improving to an acceptable C and all but one of the current levels E and F lane groups improving to acceptable levels D or better. The southbound left turn lane is forecast to improve slightly to level of service E. The queue length in each new *mauka* bound lane would decrease considerably, from 18 to five vehicles or less.

For the 20 year forecast with proposed highway improvements, the Shaw Street intersection is forecast to operate at an acceptable level of service C, the northbound highway left turn lane and widened *mauka* bound approach at an acceptable level D,

the southbound left turn lane at an unacceptable level E, and the makai bound approach at an acceptable level C. Although not shown on Table 1-B, widening the highway without widening the *mauka* approach would result in level of service F on the *mauka* bound approach and queue length of 14 vehicles, which exceeds the estimated approach capacity. The proposed highway improvements combined with the bypass roadway are expected to result in acceptable traffic operations at the Shaw Street intersection during the future afternoon peak periods with the exception of the southbound left turn lane. However, level of service E could be tolerated for this particular low volume movement.

During the morning peak hour with the higher December volumes, the Shaw Street intersection is currently operating at an unacceptable level of service E, with the northbound and *mauka* bound approaches at unacceptable level F. For the 10 year forecast with Lahaina Bypass Highway and no highway improvements, the intersection level of service would worsen to an unacceptable level F. Paradoxically, the level of service and queue length on the northbound left turn lane would improve due to a longer phase length. With the proposed highway improvements, the overall level of service would improve to an acceptable C. The levels of service on both highway left turn lanes would be D, and both side street approaches would be at C.

For the 20 year forecast with proposed highway improvements, the Shaw Street intersection is forecast to operate at level of service C, both highway left turn lanes and expanded *mauka* bound approach at level D, and the *makai* bound approach at level C. The proposed highway improvements combined with the Lahaina Bypass Highway are expected to change unacceptable traffic operations at this intersection to acceptable conditions during the future morning peak periods.

The lower levels of service at the Shaw Street intersection relative to the Dickenson Street intersection indicate that the former intersection is the current bottleneck on Honoapi'ilani Highway in Lahaina. The proposed highway improvements combined with the Lahaina Bypass Highway are expected to remove this bottleneck and result in

acceptable traffic conditions for the highway. In addition, traffic queue lengths on the widened *mauka* bound approach of Shaw Street would be shortened considerably, especially in the morning and afternoon peak periods.

Only the critical turning movements of unsignalized intersections are analyzed. The movements for which levels of service are calculated at the Prison Street intersection include the one lane *mauka* bound Prison Street approach and highway northbound left turn lane. The *mauka* bound approach is currently at a minimally acceptable level of service E in the midday peak and would decrease to an unacceptable level F for the 10 year forecast with Lahaina Bypass Highway and no highway improvements. The approach level of service would improve to an acceptable D with the proposed highway improvements since the wider highway would increase the capacity of the side streets by providing more gaps. The higher traffic volumes with the 20 year forecast would result in the approach level of service declining to E. Level of service E is considered minimally acceptable for a stop sign controlled approach. The level of service on the northbound left turn lane would remain at B for all four scenarios.

For the afternoon peak, the *mauka* bound movement is currently at an acceptable level of service C but would decline to a still acceptable level D with the 10 year forecast with bypass roadway and no highway improvements. With the proposed highway improvements, the *mauka* bound level of service would improve to level C and remain at that level with the 20 year forecast. The level of service on the northbound left turn lane would remain at B for all four scenarios.

However, the levels of service for the *mauka* bound approach would be worse than described above since they do not account for the left turners who "gave up" turning left into the heavy traffic on Honoapi'ilani Highway and turned right instead. With more left turns, the approach levels of service would have been worse. Even with the highway widening increasing the capacity of the side street approach, *mauka* bound vehicles would continue to have difficulty making left turns. The steep grade of the Prison Street approach also makes left turns more difficult to make. For these reasons, the *mauka*

bound approach should be restricted to right turn in, right turn out movements. The left turn volumes from the highway are light and could be made at the signalized Shaw Street or Dickenson Street intersections. The traffic volumes do not warrant signalizing this intersection.

The 'Aholo Road intersection movements for which levels of service are calculated include the *mauka* and *makai* bound approaches, and both left turn lanes on the highway. The *mauka* bound lane is currently at an unacceptable level of service F in both analysis periods and is forecast to remain so with the highway improvements, even with the low volumes of traffic counted. This would indicate that the highway volumes are high enough to significantly disrupt side street traffic flow unto the highway. The *makai* bound approach has separate right and through/left turn lanes. The right turn lane is currently at an acceptable level of service C in both the midday and afternoon peak periods, The through/left turn lane does not show a level of service in the midday period since no vehicles used it. The movement would be at an unacceptable level of service F if there were even one vehicle on it. It is at level of service F in the afternoon peak, like the *mauka* bound lane, due to the high traffic volumes on the highway. Both highway left turn lanes are currently at levels of service A or B. The southbound left turn lane is forecast to remain at level of service B, while the northbound left turn lane is forecast to change to C in 2024 with the proposed improvements. Observations elsewhere have indicated that making left turns from the main approach with level of service C can be difficult to make.

As with the unsignalized Prison Street intersection, it is difficult to make through and left turns from the stop sign controlled 'Aholo Road approaches. Since the traffic volumes do not warrant traffic signals, both 'Aholo Road approaches should be made right turn in, right turn out, and both left turn lanes from the highway eliminated. Because the *mauka* neighborhood served by 'Aholo Road does not have an alternate route unto the highway, there may be opposition to closing two of the ingress and egress routes into the neighborhood. However, the lack of any left and through movements from the *mauka* approach of 'Aholo Road in the midday period and very small volumes in the

afternoon peak indicate that the residents recognize the problem and are resigned to making right turns. There is a small number of southbound left turns made from the highway since it is at a higher level of service. This movement could be maintained and monitored until it becomes too difficult to make. The left turn should be closed off at that time.

DESIGN PARAMETERS

The three design parameters forecast in this study were the lengths of the left turn lanes on the highway, length of storage lanes on the side streets, and placement of pedestrian crosswalks across the highway.

Based on the queue lengths that were output from the level of service analysis, the following highway left turn lane storage lengths (in vehicles) are recommended for the signalized intersections:

- Dickenson Street northbound and southbound left turn lanes—2
- Shaw Street northbound left turn lane—8
- Shaw Street southbound left turn lane—2

Right turn in, right turn out operations are recommended for the side streets at the unsignalized study intersections of Prison Street and 'Aholo Road. If inbound and outbound left turns continue to be permitted at the unsignalized intersections, storage for two (2) vehicle lengths should be provided. The traffic volumes at these intersections do not warrant traffic signals.

The proposed widening of the *mauka* bound approach of Shaw Street to two lanes would significantly improve traffic operations and reduce the traffic queue lengths on the approach. The calculated queue lengths of 15 and higher during the afternoon peak hour without the improvements are greater than the current estimated storage length of 10 vehicles. The proposed additional lane would reduce the right turn lane queue length in the afternoon peak hour to less than ten vehicles.

Providing two crosswalks across the main roadway (Honoapi'ilani Highway) increases pedestrian convenience by reducing the distance walked crossing the roadway. However, providing two crosswalks can also disrupt outbound traffic from the side streets by creating interference between turning vehicles and pedestrians. When pedestrian volumes and traffic volumes warrant, only one crosswalk across the main roadway should be provided to increase the capacity of outbound vehicles, and reduce the green time required for side street traffic. Based on current observations, the current sidewalk locations should be retained since there is very little pedestrian traffic and conflicting cross traffic at all the study intersections.

CONCLUSIONS

The projected growth in traffic on Honoapi'ilani Highway in Lahaina will require mitigation within the next 10 years even with the proposed Lahaina Bypass Highway. The Shaw Street intersection which is the current bottleneck on Honoapi'ilani Highway is forecast to operate at an unacceptable level of service F during the morning, midday and afternoon peak hours in about 10 years with the proposed Lahaina Bypass Highway and current highway design. The proposed highway widening would be required to provide acceptable traffic levels of service for the 20 year time frame.

The proposed widening would benefit the two signalized intersections at Dickenson Street and Shaw Street by increasing the capacity of the through movements considerably, resulting in decreased delay for the through movements and improved levels of service. This would allow shorter cycle lengths that would decrease delays for the side street traffic and the left turn movements from the highway lanes. The single lane *mauka* bound approach at Shaw Street should be widened to two lanes to mitigate a current congested condition.

The higher highway traffic volumes forecast for the future will make it more difficult for side street and highway left turn traffic at the two unsignalized intersections of Prison Street and 'Aholo Road. Traffic signals are not warranted at either intersection.

Therefore, it is recommended for these two intersections that the side street approaches be made right turn in, right turn out only, and that the left turn lanes on the highway be eliminated. Since the *mauka* neighborhood served by 'Aholo Road does not have an alternate route unto the highway, the southbound left turn movement could be maintained and monitored until the movement becomes too difficult to make. The left turn lane should be closed off at that time.

References

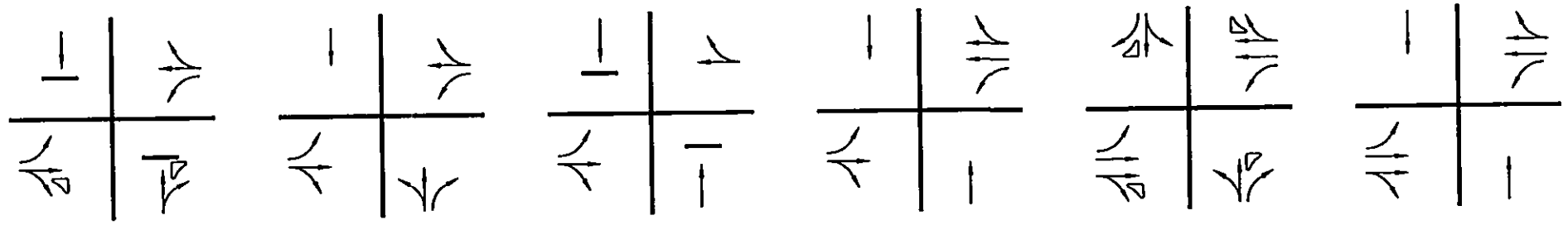
1. *Highway Capacity Manual*, Transportation Research Board, National Research Council, Washington, D.C., 2000 Edition.

2. *Highway Capacity Analysis Program, Version 1*, Catalina Engineering, Inc., 2003.

3. State of Hawai'i Department of Transportation, Traffic Forecasts for Honoapi'ilani Highway in Lahaina, 2004.

FIGURES

Existing Configuration



AHOLO ST
STOP
CONTROLLED
NO X-WALK

SHAW ST
SIGNAL
CONTROLLED

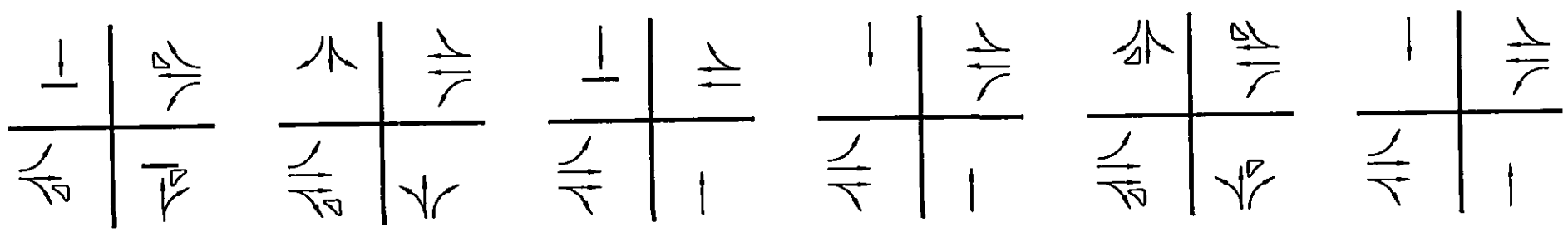
PRISON ST
STOP
CONTROLLED

DICKENSON ST
SIGNAL
CONTROLLED

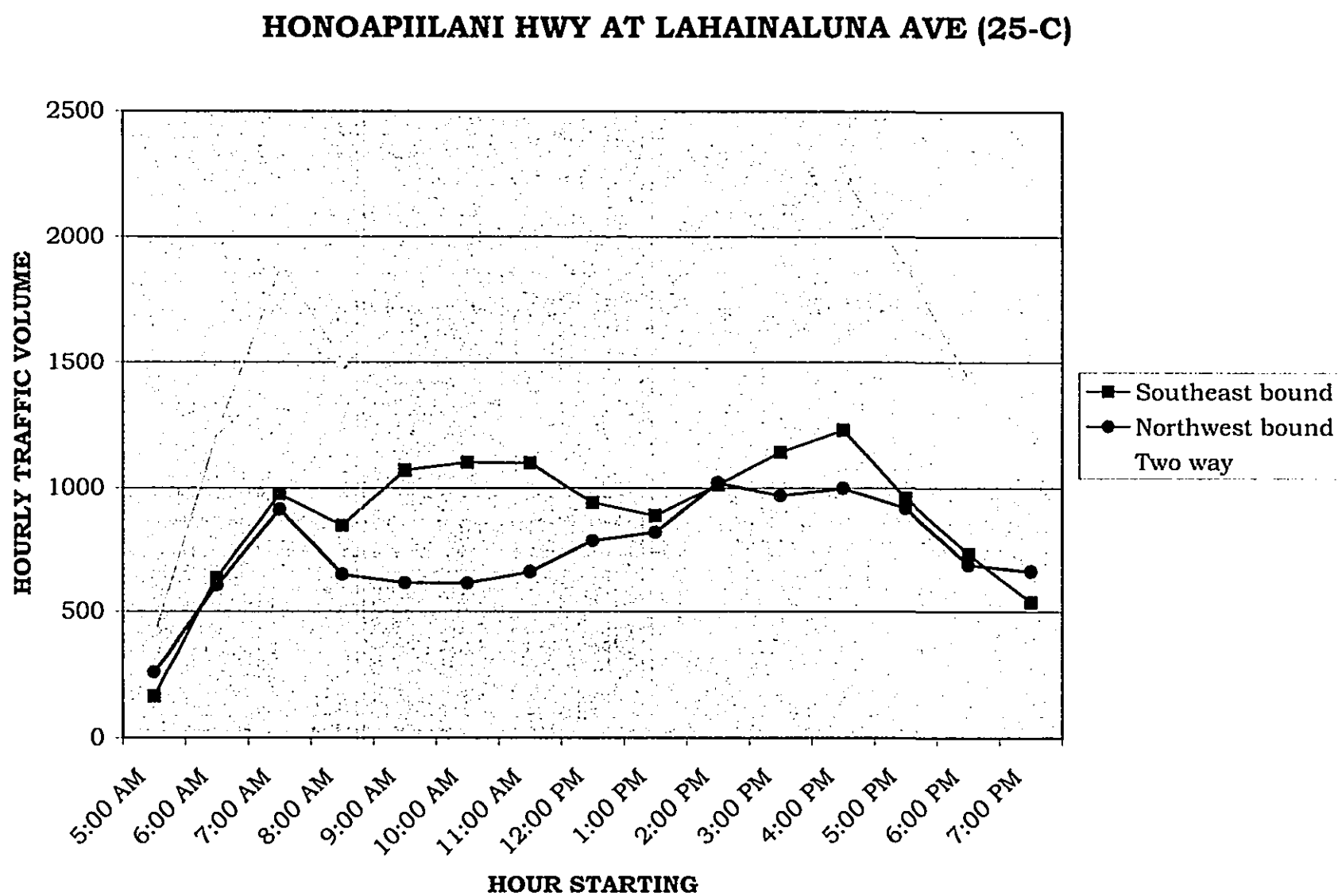
LAHAINALUNA RD
SIGNAL
CONTROLLED

PAPALAUA ST
SIGNAL
CONTROLLED

Proposed Configuration

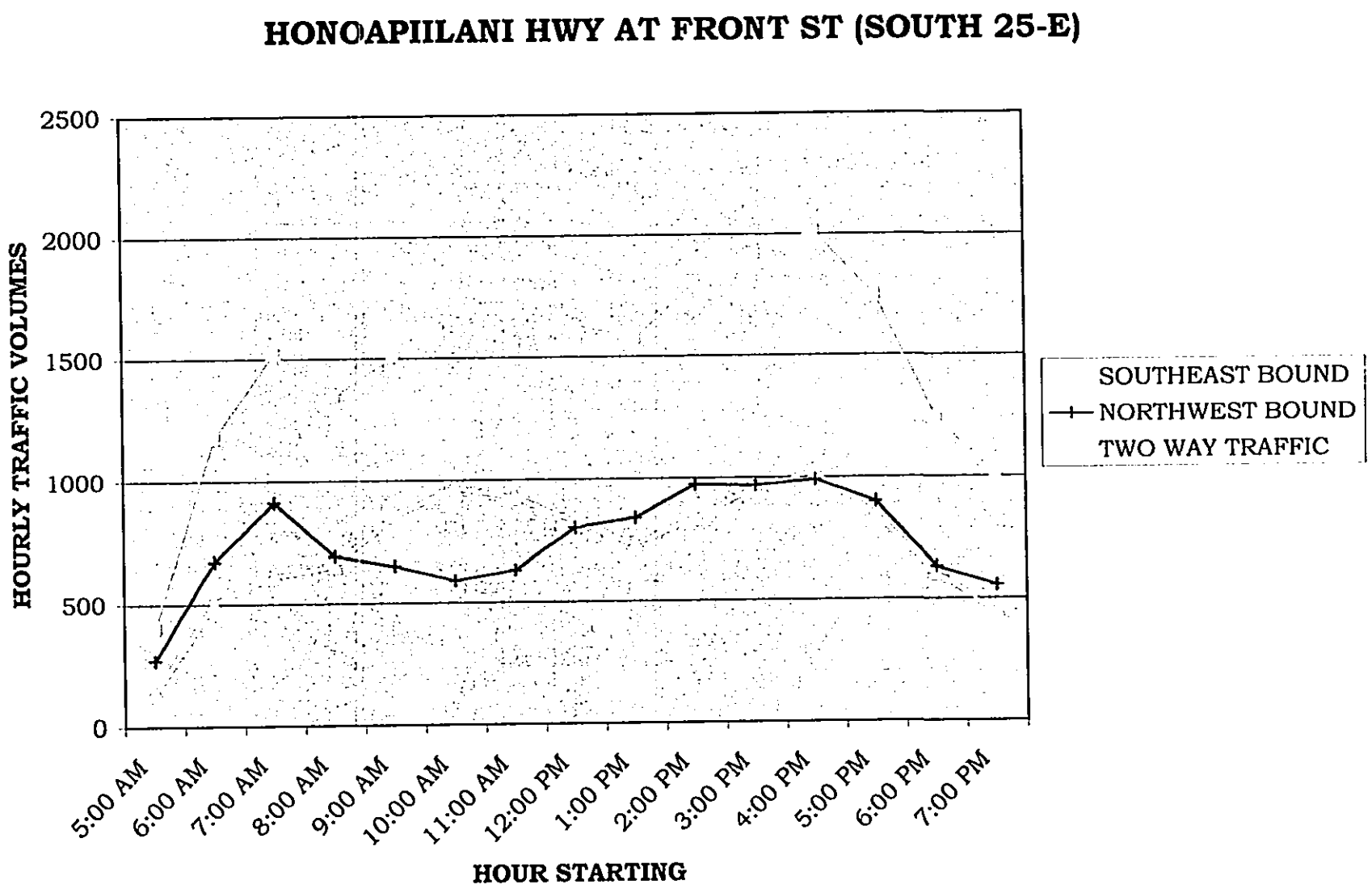


M&E Pacific, Inc. METCALF&EDDY | AECOM DAVIES PACIFIC CTR, STE 1900 · 841 BISHOP ST, HONOLULU, HAWAII 96813	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION	FIGURE 1 LAHAINA HISTORIC DISTRICTS MAP
	HONOAPIILANI HIGHWAY WIDENING LAHAINALUNA ROAD TO AHOLO ROAD	TRAFFIC FORECAST May 2006



HOURLY TREND IN TRAFFIC, HONOAPIILANI HIGHWAY @LAHAINALUNA ROAD

FIGURE 2

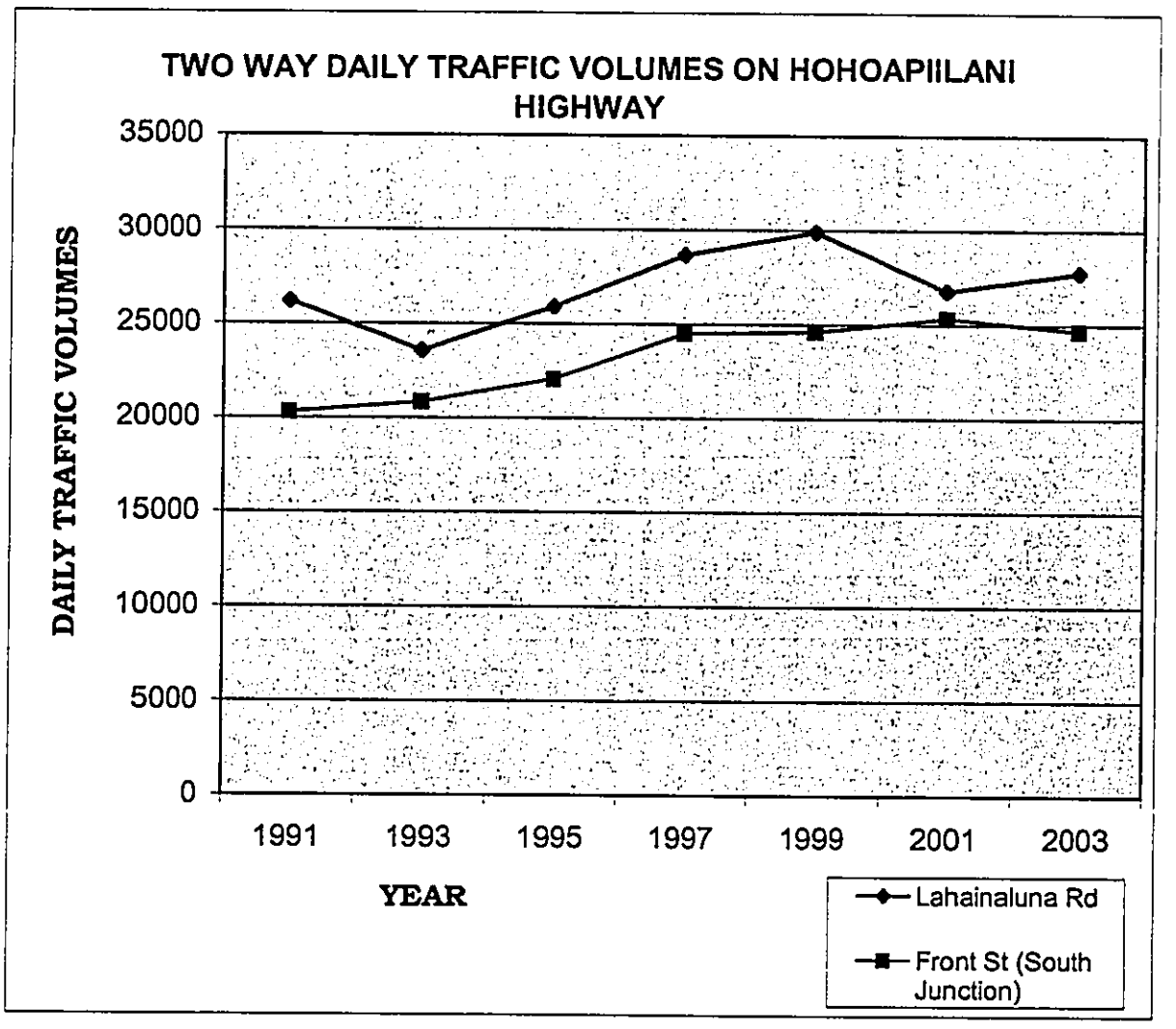


HOURLY TREND IN TRAFFIC, HONOAPIILANI HWY. @ FRONT ST. (SOUTH JUNCT.)

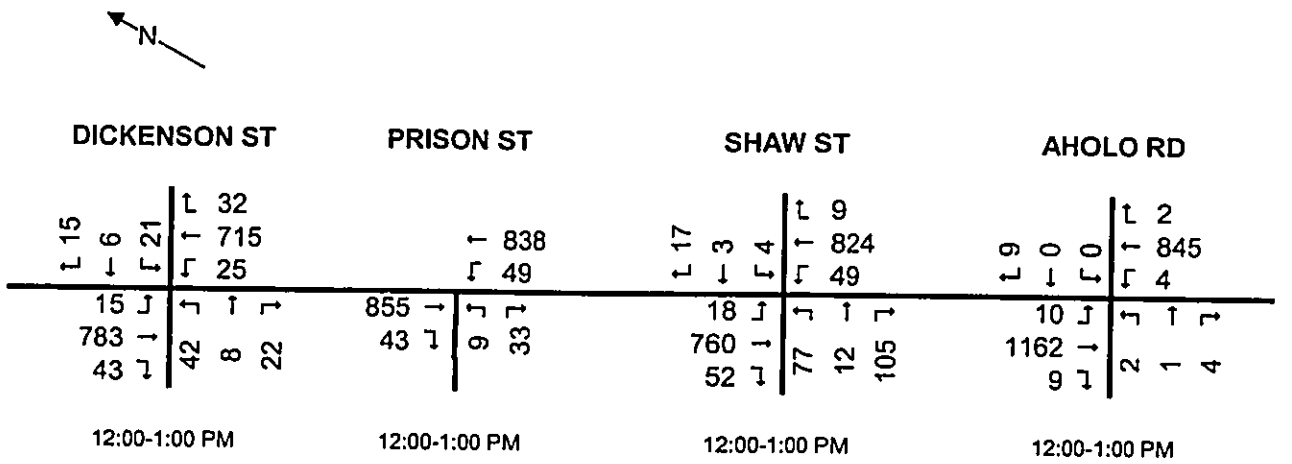
FIGURE 3

24 HOUR TWO WAY TRAFFIC VOLUMES ON HONOAPIILANI HWY IN LAHAINA

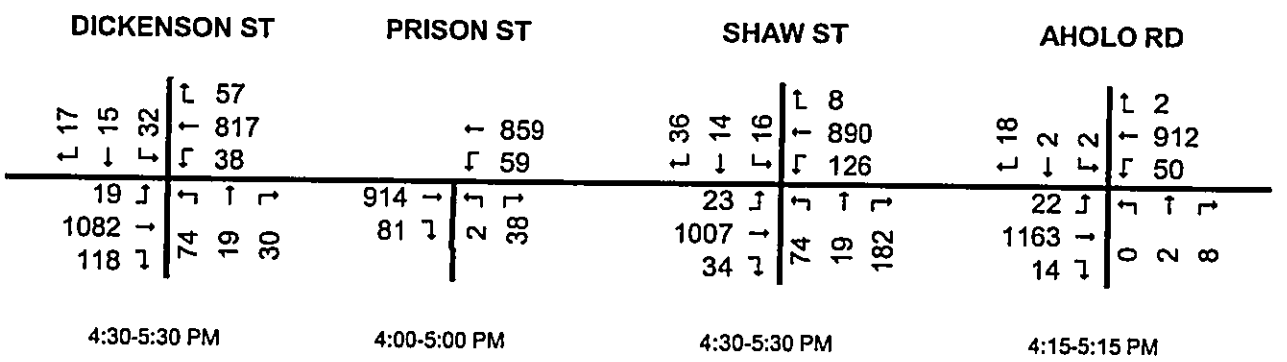
YEAR	STATION 25-C LAHAINALUNA RD SOUTH LEG	STATION 25-E FRONT ST (SOUTH) NORTH LEG
1991	26170	20280
1993	23545	20830
1995	25900	22060
1997	28645	24490
1999	29890	24600
2001	26765	25330
2003	27750	24670



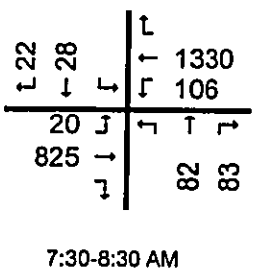
HISTORICAL TREND IN DAILY TRAFFIC VOLUMES
FIGURE 4



MIDDAY HOUR



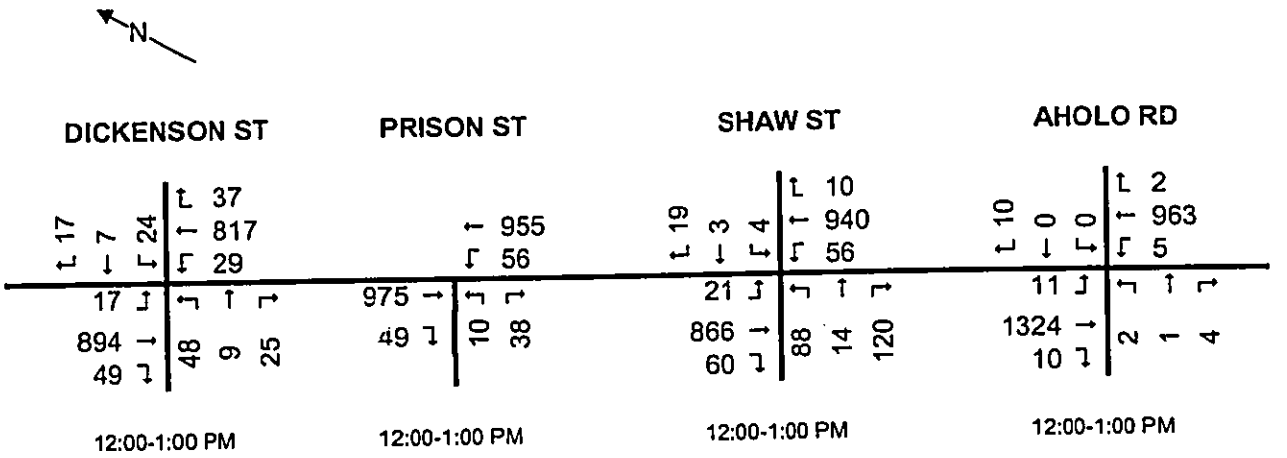
PM PEAK HOUR



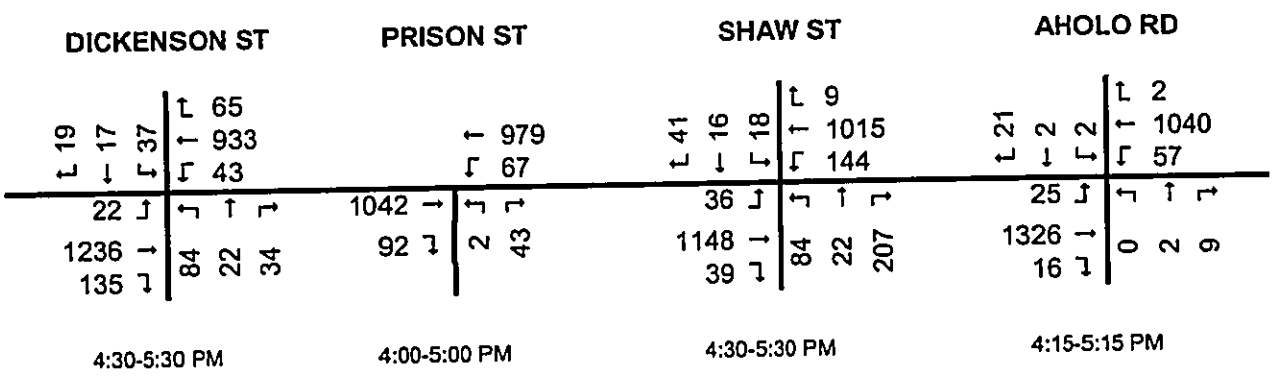
AM PEAK HOUR

EXISTING TRAFFIC VOLUMES

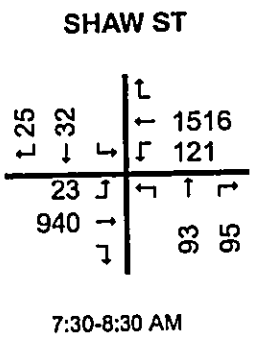
FIGURE 5



MIDDAY HOUR



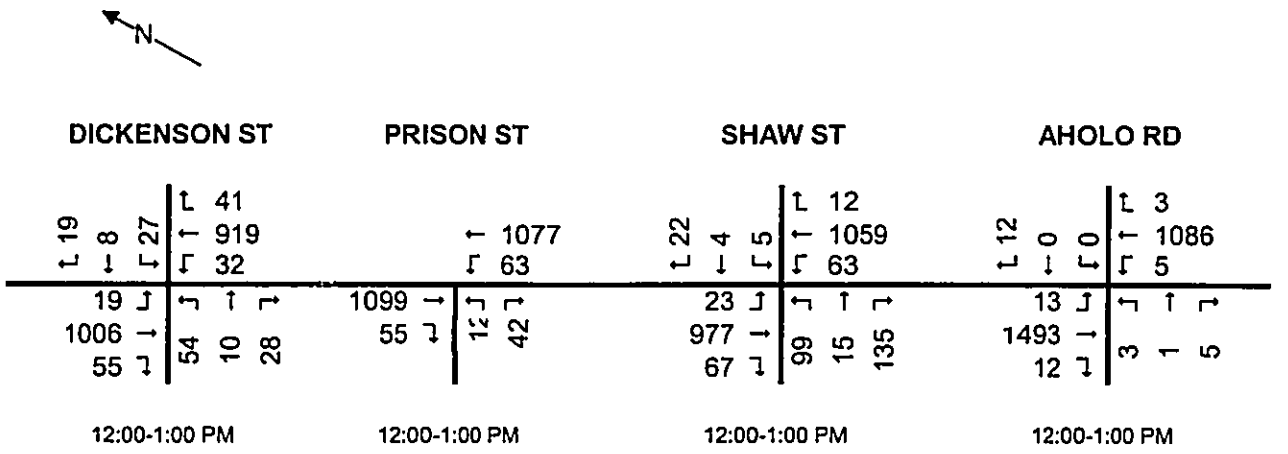
PM PEAK HOUR



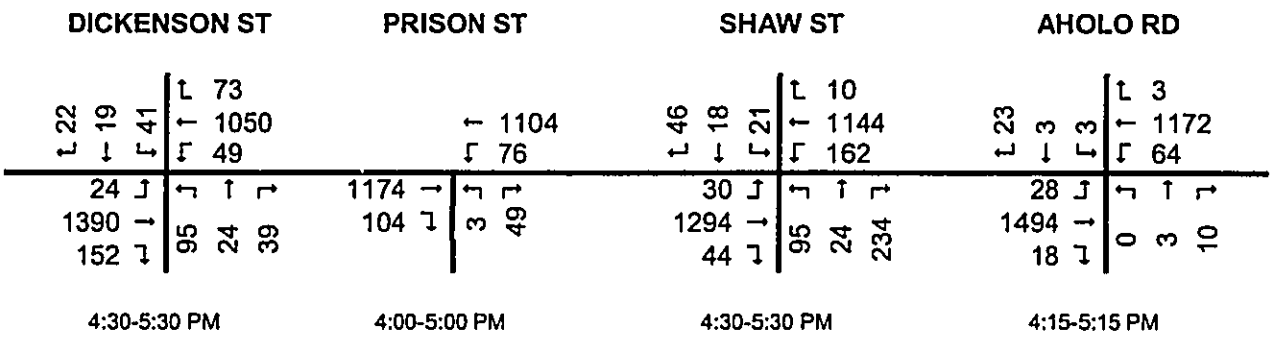
AM PEAK HOUR

TEN YEAR TRAFFIC FORECAST

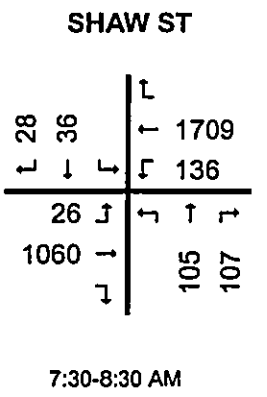
FIGURE 6



MIDDAY HOUR



PM PEAK HOUR



AM PEAK HOUR

TWENTY YEAR TRAFFIC FORECAST

FIGURE 7

TABLES

TABLE 1-A
LEVEL OF SERVICE ANALYSIS FOR EXISTING AND PROPOSED DESIGNS
HONOAPIILANI HIGHWAY WIDENING - MIDDAY PEAK HOUR

INTERSECTION MOVEMENT	MIDDAY PEAK HOUR							
	2004 EXISTING		2014 AMBIENT		2014 W/PROJECT		2024 W/PROJECT	
	LOS	QUEUE	LOS	QUEUE	LOS	QUEUE	LOS	QUEUE
SIGNALIZED INTERSECTIONS								
Dickenson Street, overall	C		C		C		C	
NB	C		C		C		C	
NB left	E	1.0	E	1.2	D	<1	D	1
NB thru and right	C		C		C		C	
SB	B		B		C		C	
SB left	E	<1	E	<1	D	<1	D	<1
SB thru and right	B		B		C		C	
EB	D	2.6	D	3.1	C	2.2	C	2.5
WB	D	1.5	D	1.7	C	1.3	C	1.4
Shaw Street, overall	D		E		C		C	
NB	D		E		C		C	
NB left	D	1.7	D	2	D	1.9	D	2.1
NB thru and right	D		E		B		C	
SB	D		E		B		C	
SB left	D	<1	D	<1	D	<1	D	<1
SB thru and right	D		E		B		C	
EB overall	D	6.8	D	8.7	D		D	
EB left and thru					D	3.0	D	3.5
EB right					D	3.6	D	4.1
WB overall	C		D		C		C	
WB left and thru	C	<1	D	<1	C	<1	C	<1
WB right	C	<1	D	<1	C	<1	C	<1
UNSIGNALIZED INTERSECTIONS								
Prison Street								
EB	E	1.0	F	2.0	D	1.0	E	2.0
NB left	B	<1	B	<1	B	<1	B	<1
Aholo Road								
EB	F	<1	F	<1	F	1.0	F	1.0
WB right	C	<1	C	<1	C	<1	C	<1
WB left and thru								
SB left	A	<1	B	<1	B	<1	B	<1
NB left	B	<1	B	<1	B	<1	B	<1

TABLE 1-B
LEVEL OF SERVICE ANALYSIS FOR EXISTING AND PROPOSED DESIGNS
HONOAPIILANI HIGHWAY WIDENING - AFTERNOON PEAK HOUR

INTERSECTION	AFTERNOON PEAK HOUR							
	2004 EXISTING		2014 AMBIENT		2014 W/PROJECT		2024 W/PROJECT	
MOVEMENT	LOS	QUEUE	LOS	QUEUE	LOS	QUEUE	LOS	QUEUE
SIGNALIZED INTERSECTIONS								
Dickenson Street, overall	B		C		B		C	
NB	C		D		B		B	
NB left	D	1.6	E	1.9	D	1.3	D	1.5
NB thru and right	B		D		B		B	
SB	A		A		B		B	
SB left	D	<1	E	<1	D	<1	D	<1
SB thru and right	A		A		B		B	
EB	F	5.5	E	6	D	4.3	D	5.1
WB	E	2.7	D	3	D	2.2	D	2.6
Shaw Street, overall	D		F		C		C	
NB	C		D		B		B	
NB left	E	5.5	E	6.8	D	5	D	5.8
NB thru and right	C		D		B		B	
SB	E		F		C		C	
SB left	E	1.4	F	1.7	E	1.3	E	1.1
SB thru and right	E		F		C		C	
EB overall	F	15	F	17.8	D		D	
EB left and thru					D	3.1	D	3.5
EB right					D	5.1	D	6.2
WB overall	D		D		C		C	
WB left and thru	D	1.1	D	1.2	C	<1	C	1.1
WB right	D	<1	D	1.1	C	<1	C	1
UNSIGNALIZED INTERSECTIONS								
Prison Street								
EB	C	1.0	D	1.0	C	1.0	C	1.0
NB left	B	<1	B	<1	B	<1	B	1
Aholo Road								
EB	F	<1	F	1.0	F	1.0	F	1.0
WB right	C	<1	C	<1	C	<1	C	<1
WB left and thru	F	<1	F	1	F	1.0	F	2.0
SB left	B	<1	B	<1	B	<1	B	<1
NB left	B	<1	B	<1	B	<1	C	1

TABLE 1-C
LEVEL OF SERVICE ANALYSIS FOR EXISTING AND PROPOSED DESIGNS
HONOAPIILANI HIGHWAY WIDENING - MORNING PEAK HOUR

INTERSECTION	MORNING PEAK HOUR							
	2004 EXISTING		2014 AMBIENT		2014 W/PROJECT		2024 W/PROJECT	
MOVEMENT	LOS	QUEUE	LOS	QUEUE	LOS	QUEUE	LOS	QUEUE
SIGNALIZED INTERSECTIONS								
Dickenson Street, overall								
NB								
NB left								
NB thru and right								
SB								
SB left								
SB thru and right								
EB								
WB								
Shaw Street, overall	E		F		C		C	
NB	F		F		C		C	
NB left	F	6.1	D	2.1	D	4.1	D	4.7
NB thru and right	F		F		C		C	
SB	B		D		B		C	
SB left	E	<1	E	<1	D	<1	D	<1
SB thru and right	B		F		B		B	
EB overall	F	9.5	F	11.9	C		D	
EB left and thru					D	2.7	D	3.1
EB right					C	1.5	C	1.9
WB overall	D		E		C		C	
WB left and thru	D	1.1	E	1.4	C	<1	C	1
WB right	D	<1	E	<1	C	<1	C	<1
UNSIGNALIZED INTERSECTIONS								
Prison Street								
EB								
NB left								
Aholo Road								
EB								
WB right								
WB left and thru								
SB left								
NB left								

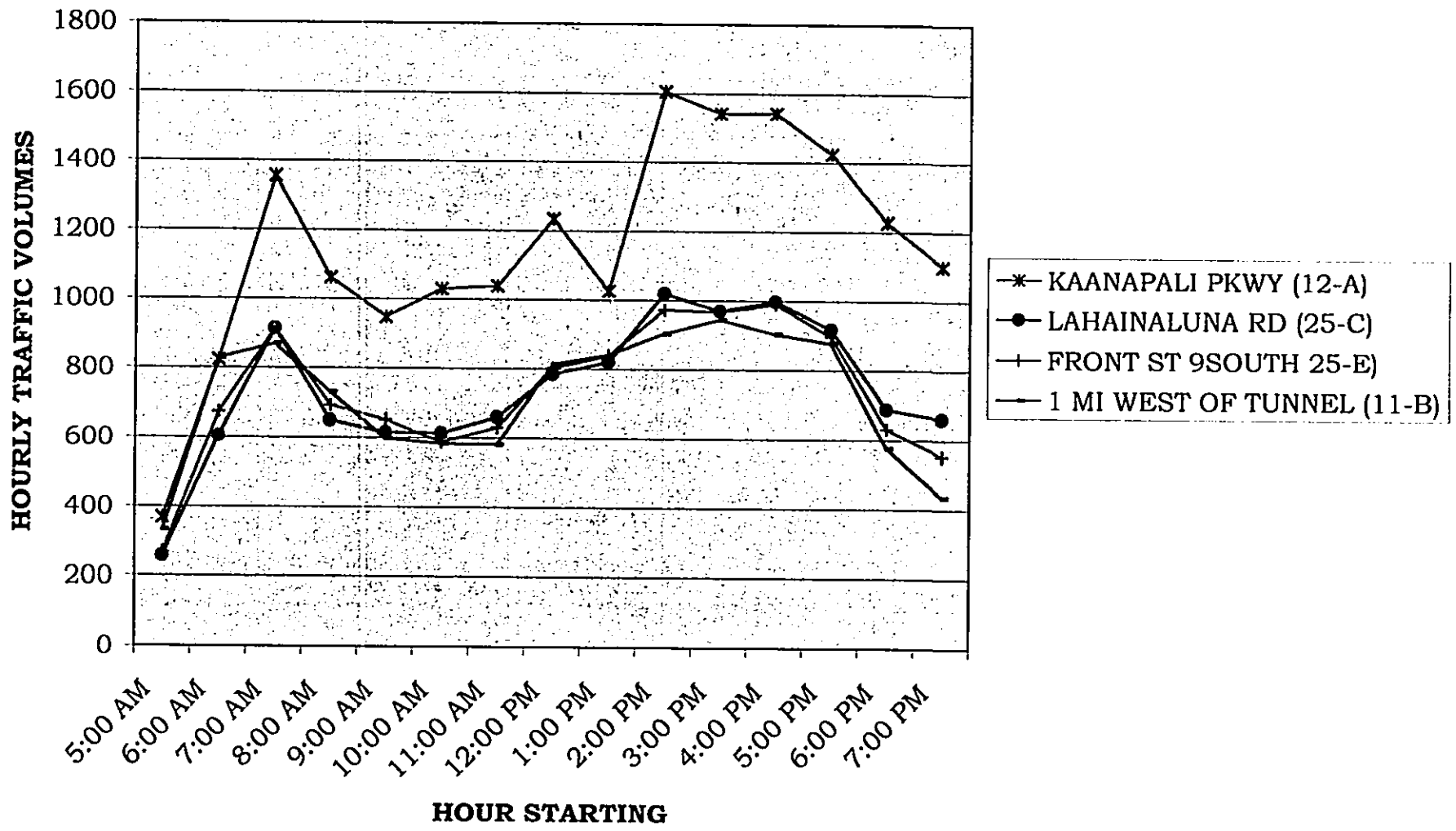
HONOAPIILANI HIGHWAY WIDENING PROJECT

HOURLY TRAFFIC VOLUMES AT FOUR STATIONS ON HONOAPIILANI HIGHWAY AROUND LAHAINA

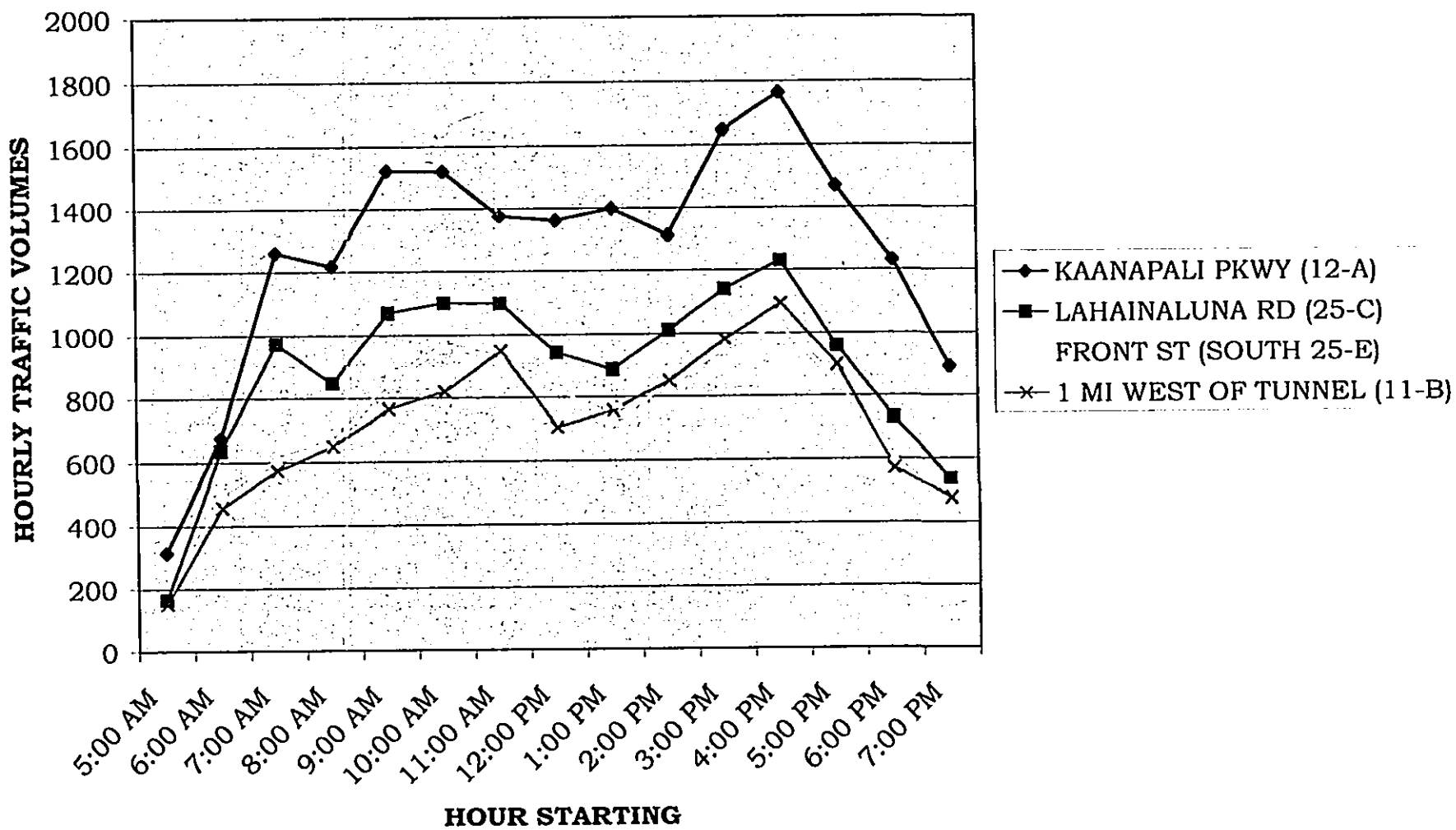
SOURCE: State of Hawaii Department of Transportation

	SOUTHEASTBOUND				NORTHWESTBOUND				TWO-WAY TRAFFIC			
	STA 12-A	STA 25-C	STA 25-E	STA 11-B	STA 12-A	STA 25-C	STA 25-E	STA 11-B	STA 12-A	STA 25-C	STA 25-E	STA 11-B
TIME STARTING	Kaanapali Pkwy	Lahaina-luna Rd	Front St (south)	West of Tunnel	Kaanapali Pkwy	Lahaina-luna Rd	Front St (south)	West of Tunnel	Kaanapali Pkwy	Lahaina-luna Rd	Front St (south)	West of Tunnel
5:00 AM	315	165	135	153	368	259	271	334	683	424	406	487
6:00 AM	676	635	503	459	823	604	674	829	1499	1239	1177	1288
7:00 AM	1262	973	609	575	1355	913	912	869	2617	1886	1521	1444
8:00 AM	1218	847	655	649	1062	650	693	730	2280	1497	1348	1379
9:00 AM	1522	1069	854	766	947	615	652	598	2469	1684	1506	1364
10:00 AM	1519	1100	965	819	1030	614	587	582	2549	1714	1552	1401
11:00 AM	1375	1098	925	946	1039	660	631	581	2414	1758	1556	1527
12:00 PM	1361	940	826	706	1233	784	802	813	2594	1724	1628	1519
1:00 PM	1398	887	732	757	1026	820	839	841	2424	1707	1571	1598
2:00 PM	1313	1011	835	850	1605	1019	971	903	2918	2030	1806	1753
3:00 PM	1646	1140	954	981	1542	968	966	944	3188	2108	1920	1925
4:00 PM	1764	1230	1022	1094	1543	997	989	903	3307	2227	2011	1997
5:00 PM	1469	958	845	900	1425	917	897	877	2894	1875	1742	1777
6:00 PM	1232	732	603	573	1228	688	632	576	2460	1420	1235	1149
7:00 PM	892	536	442	476	1102	662	553	436	1994	1198	995	912

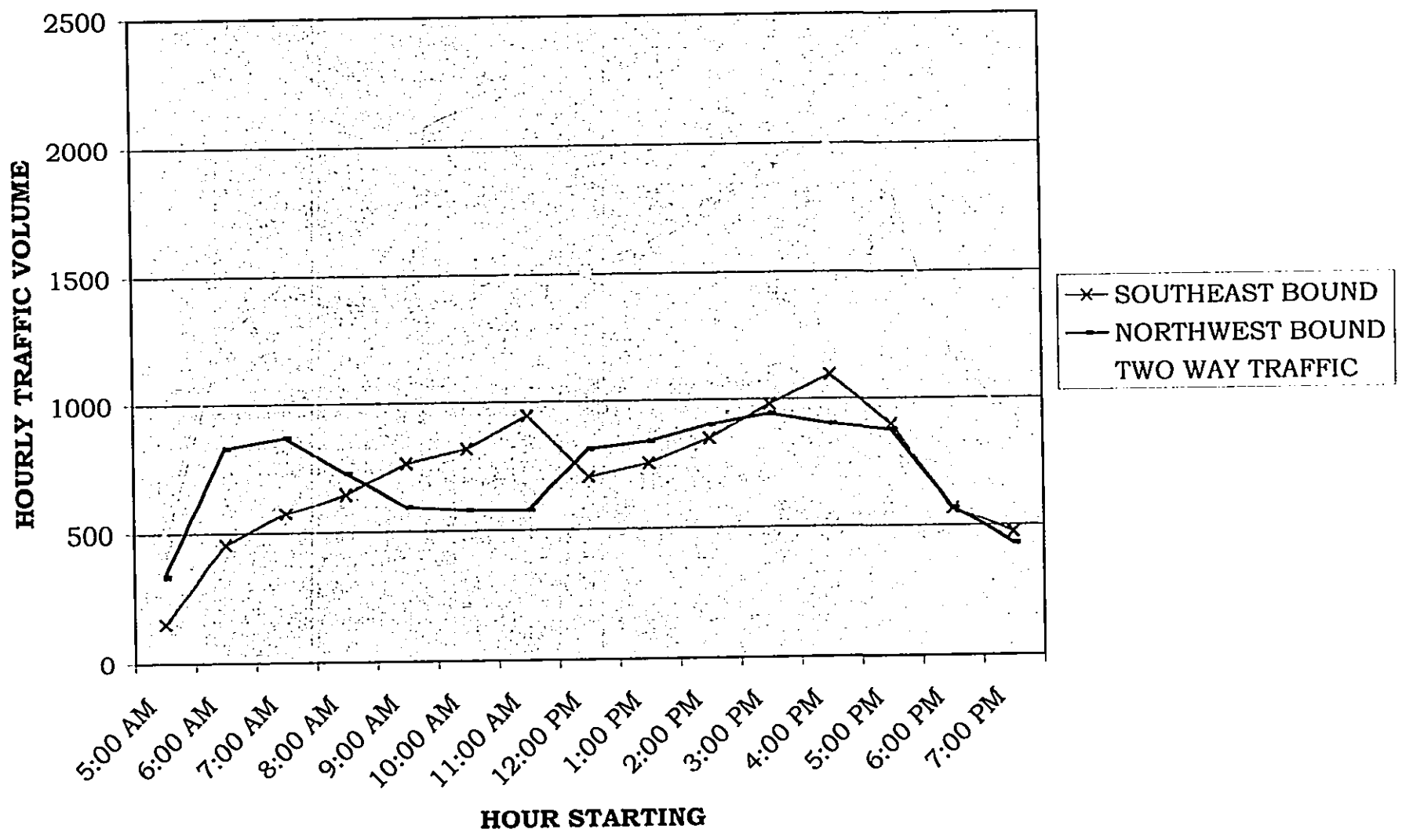
NORTHWEST BOUND TRAFIC ON HONOAPIILANI HWY AT FOUR STATIONS AROUND LAHAINA



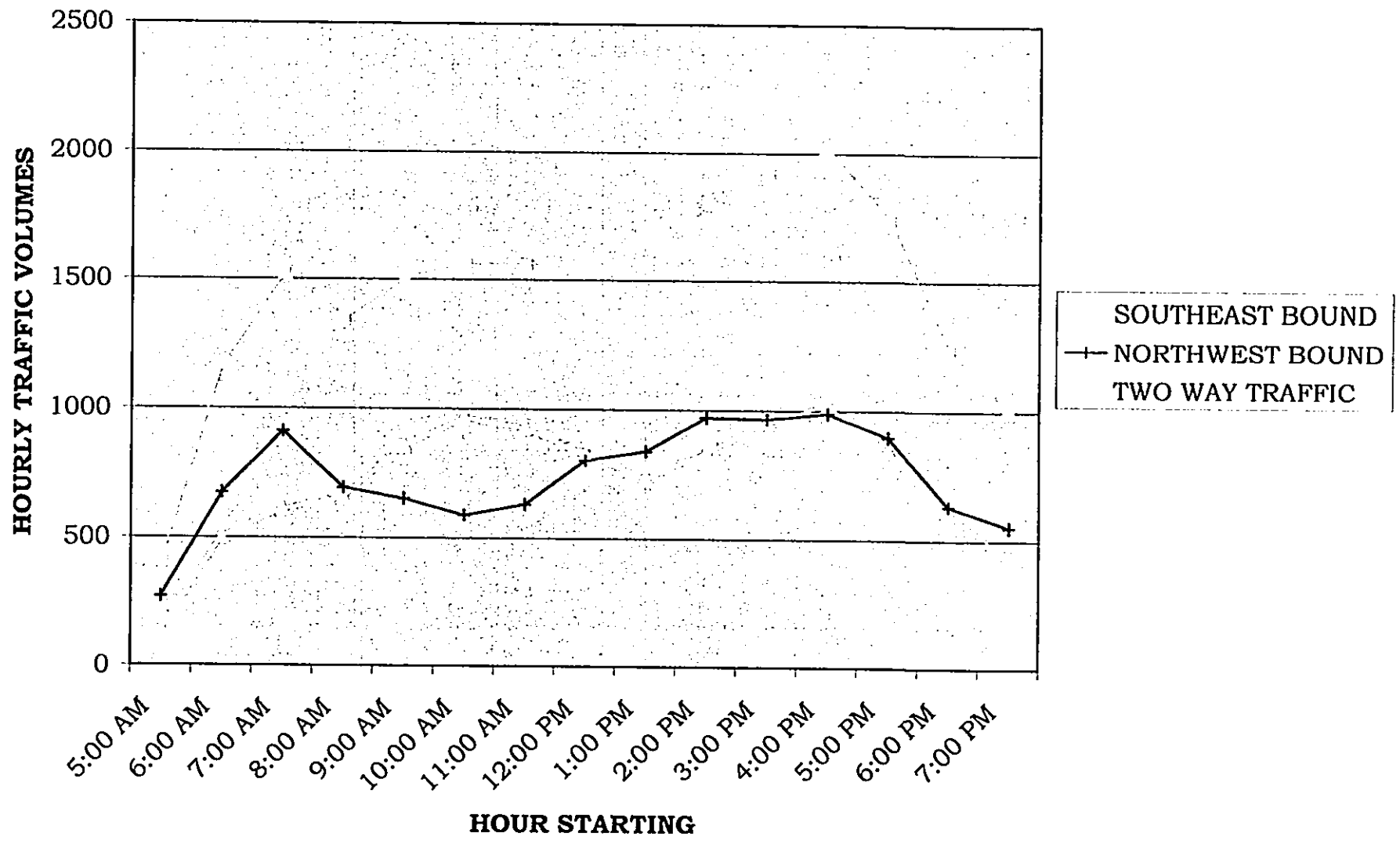
SOUTHEAST BOUND TRAFFIC ON HONOAPIILANI HWY AT FOUR STATIONS AROUND LAHAINA



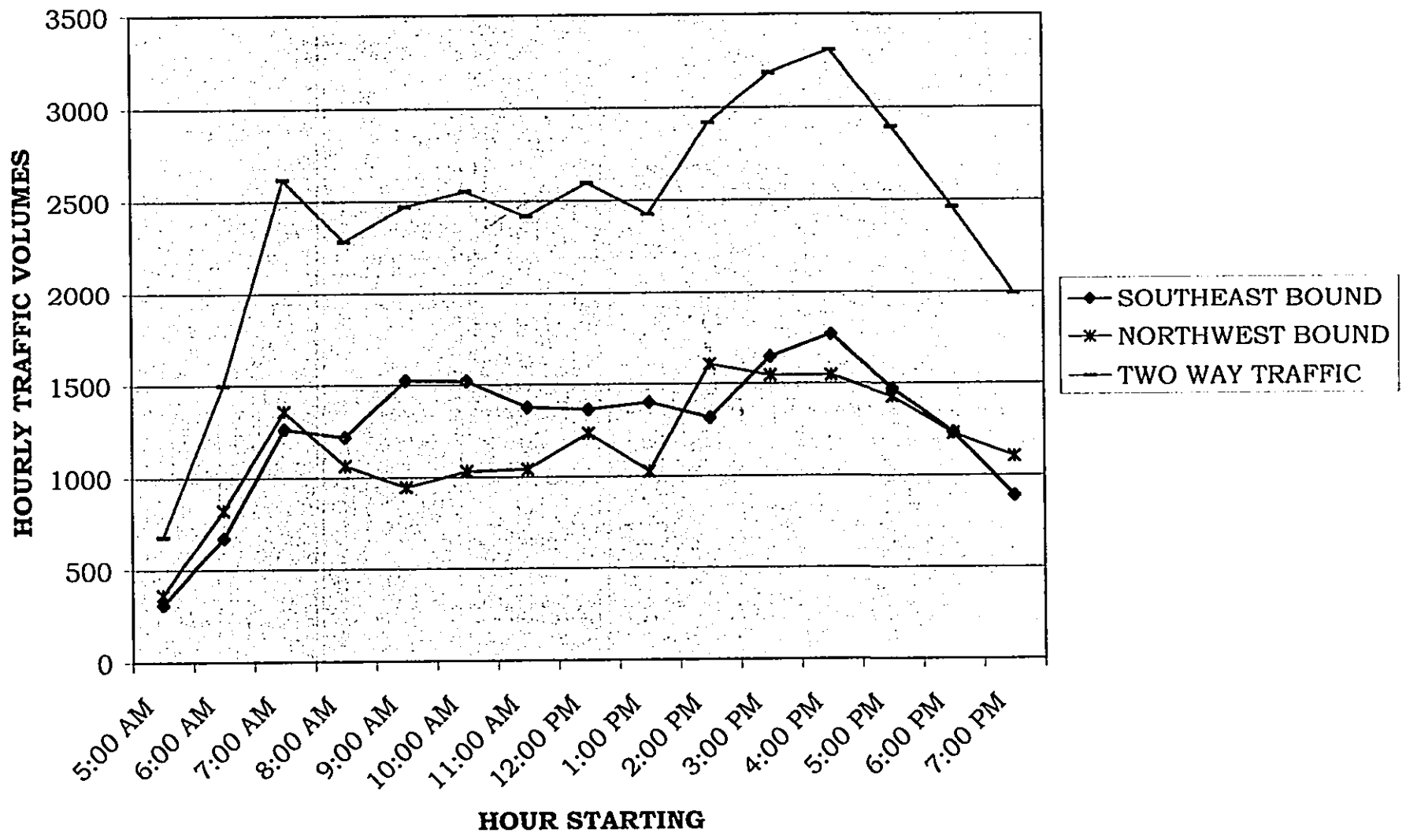
HONOAPIILANI HWY ONE MILE WEST OF TUNNEL (11-B)

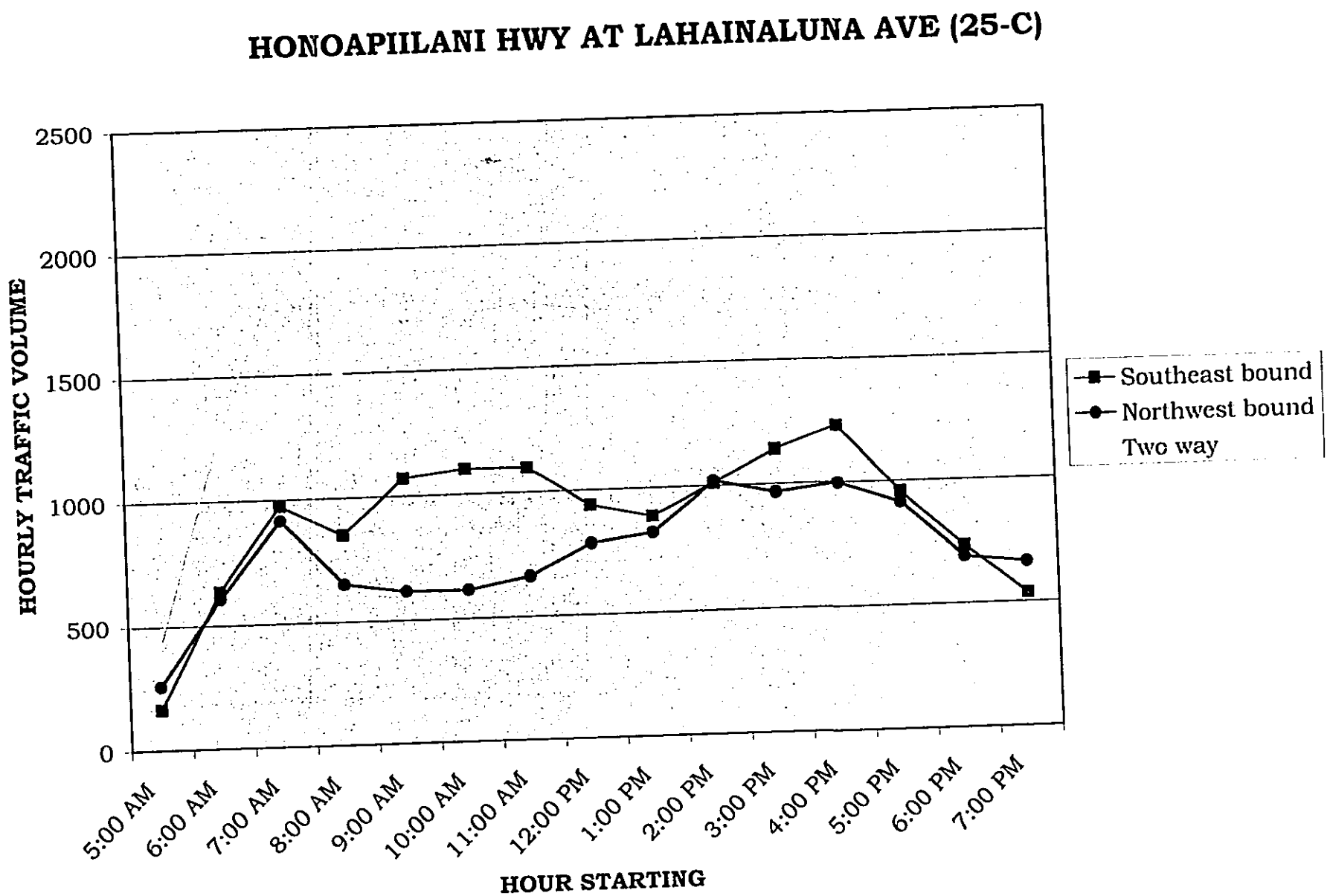


HONOAPIILANI HWY AT FRONT ST (SOUTH 25-E)



HONOAPIILANI HWY AT KAANAPALI PARKWAY (12-A)




HONOAPIILANI HWY AT LAHAINALUNA AVE (25-C)
HOURLY TRAFFIC VOLUME
2500
2000
1500
1000
500
0
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
HOUR STARTING
Southeast bound
Northwest bound
Two way

APPENDIX O

Noise Analysis and Abatement Study for

Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road

D. L. ADAMS ASSOCIATES, LTD.
Consultants in Acoustics and Performing Arts Technologies

Noise Impact Assessment
Honoapiilani Highway Widening Project
Lahaina, Maui, Hawaii

September 2006

DLAA Project No. 06-48

Prepared for:
M & E Pacific, Inc.
Honolulu, Hawaii

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1.0 EXECUTIVE SUMMARY

1.1 The Hawaii Department of Transportation proposes to widen Honoapiilani Highway to four travel lanes and improve the shoulder from Aholo Road to Lahainalua Road.

1.2 The project area currently experiences relatively high ambient noise levels that are relatively dynamic and depend significantly on the vehicular traffic patterns of Honoapiilani Highway. Long term noise measurements taken along Honoapiilani Highway in two locations show an average calculated day-night level, L_{dn}, of 71.5 dBA.

1.3 The various construction phases of the project may generate significant amounts of noise that could impact businesses and residences. The actual noise levels produced during construction will be a function of the methods employed during each stage of the construction process. The noise from construction activities should be relatively short term, occur only during daytime hours, and must comply with State Department of Health noise regulations.

1.4 During the construction period, residences in the surrounding area may experience heavier traffic due to the re-routing of vehicles away from the construction site. The increase in traffic will be short term and only during the construction period.

1.5 Noise receptors located 50 feet from the centerline of the roadway currently experience traffic noise levels that exceed the Federal Highway Administration (FHWA) and Hawaii Department of Transportation (HDOT) noise limit of 67 dBA. Noise mitigation should be considered for locations along the project corridor.

1.6 The projected change in traffic noise due to the widening of Honoapiilani Highway is less than 2 dB for the 10-year and 20-year forecast for residences located 50 feet from the centerline of the roadway. A change in sound level less than 3 dB is not considered to be significant.

1.7 The elementary school adjacent to Honoapiilani Highway may be exposed to noise levels in excess of the Board of Education (BOE) Policy 6700 design exterior noise guideline of $L_{10} = 65$ dBA.

2.0 PROJECT DESCRIPTION

The Honoapiilani Highway Widening project is located in Lahaina on the north-west coast of Maui, Hawaii. The proposed project stretches approximately one mile along Honoapiilani Highway from Aholo Road to Lahainalua Road. This part of Lahaina is a developed area with residential, commercial, and school buildings situated on both sides of the highway. The Lahaina Recreational Center and Lahaina Aquatic Center are also within the boundaries of the project.

The Department of Transportation proposes to increase the paved width of Honoapiilani Highway to accommodate four travel lanes with a median. The project also includes a bikelane, concrete curbs and gutters, planting areas, and concrete sidewalks along the makai side and a paved shoulder on the mauka side. The speed limit along this portion of the highway will be posted at 35 mph. During construction, continual traffic will be permitted along the highway throughout the project. A single lane will be closed for detour and traffic will be diverted along the remaining existing pavement. This disruption in traffic will be temporary.

3.0 NOISE GUIDELINES, STANDARDS, AND REGULATIONS

Various local and federal agencies have established guidelines and standards for assessing environmental noise impacts and set noise limits as a function of land use. A brief description of common acoustic terminology used in these guidelines and standards is presented in Appendix A.

3.1 State of Hawaii, Community Noise Control

The State of Hawaii Community Noise Control Rule [Reference 1] defines three classes of zoning districts and specifies corresponding maximum permissible sound levels due to *stationary* noise sources such as air-conditioning units, exhaust systems, generators, compressors, pumps, etc. The Community Noise Control Rule does not address most *moving* sources, such as vehicular traffic noise, air traffic noise, or rail traffic noise. However, the Community Noise Control Rule does regulate noise related to agricultural, construction, and industrial activities, which may not be stationary.

The maximum permissible noise levels are enforced by the State Department of Health (DOH) for any location at or beyond the property line and shall not be exceeded for more than 10% of the time during any 20-minute period. The specified noise limits which apply are a function of the zoning and time of day as shown in Figure 1. With respect to mixed zoning districts, the rule specifies that the primary land use designation shall be used to determine the applicable zoning district class and the maximum permissible sound level. In determining the maximum permissible sound level, the background noise level is taken into account by the DOH.

3.2 U.S. Federal Highway Administration (FHWA)

The FHWA defines four land use categories and assigns corresponding maximum hourly equivalent sound levels, $L_{eq(h)}$, for traffic noise exposure [Reference 2],

which are listed in Figure 3. For example, Category B, defined as picnic and recreation areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals, has a corresponding maximum exterior L_{eq} of 67dBA and a maximum interior L_{eq} of 52 dBA. These limits are viewed as design goals, and all projects meeting these limits are deemed in conformance with FHWA noise standards. Calculation of traffic noise levels should be conducted using a Federal Highway Administration traffic noise model [Reference 3].

3.3 Hawaii Department of Transportation (HDOT)

The HDOT has adopted FHWA's design goals for traffic noise exposure in its noise analysis and abatement policy [Reference 4]. According to the policy, a traffic noise impact occurs when the predicted traffic noise levels "approach" or exceed FHWA's design goals or when the predicted traffic noise levels "substantially exceed the existing noise levels." The policy also states that "approach" means at least 1 dB less than FHWA's design goals and "substantially exceed the existing noise levels" means an increase of at least 15 dB.

3.4 U.S. Environmental Protection Agency (EPA)

The U.S. EPA has identified a range of yearly day-night equivalent sound levels, L_{dn}, sufficient to protect public health and welfare from the effects of environmental noise [Reference 5]. The EPA has established a goal to reduce exterior environmental noise to an L_{dn} not exceeding 65 dBA and a future goal to further reduce exterior environmental noise to an L_{dn} not exceeding 55 dBA. Additionally, the EPA states that these goals are not intended as regulations as it has no authority to regulate noise levels, but rather they are intended to be viewed as levels below which the general population will not be at risk from any of the identified effects of noise.

3.5 Board of Education (BOE)

BOE policy 6700 [Reference 6] sets four classroom noise level requirements:

1. Soundproofing design shall be used to reduce the noise level whenever the internal noise level exceeds 50 dBA.

2. Noise control shall be provided for all school facilities which generate exterior noise levels at the property line exceeding Hawaii Community Noise Control maximum permissible sound levels.

3. Noise control measures shall be installed in classrooms and administration/staff facilities (excluding shop classrooms) whenever 50 percent of the intruding noise level measurements exceed 55 dBA when inside the classroom with windows and doors open and the room empty.

4. Air conditioning shall be provided to facilities exposed to exterior noise levels greater than L_{10} =65dBA.

4.0 EXISTING ACOUSTICAL ENVIRONMENT

4.1 Noise Measurement Procedure

Ambient noise level measurements were conducted from August 31, 2006 to September 1, 2006 to assess the existing acoustical environment in two different locations along Honoapiilani Highway. The noise measurement locations are shown in Figure 3 and are summarized in Table 1.

The measurements were taken using two Larson-Davis Laboratories, Model 820, Type-1 Sound Level Meters together with Larson-Davis, Model 2560 Type-1 Microphones. Calibration was checked before and after the measurements with a Larson-Davis Model CAL200 calibrator. Both sound level meters and the calibrator have been certified by the manufacturer within the recommended calibration period. For each measurement the microphones were mounted approximately 6 feet above the existing grade. Windscreens covered the microphones during the entire measurement period. The sound level meters were secured in a weather resistant case.

4.2 Noise Measurement Results

The measured hourly equivalent sound levels, L_{eq}, in A-weighted decibels (dBA) are graphically presented in Figure 4 for each location. The ambient sound levels are relatively dynamic and depend significantly on the vehicular traffic patterns. The ambient environment at the Sacred Hearts School near Dickenson Street (L1) is nearly identical to the ambient noise environment at the Lahaina Aquatic Center near Shaw Street (L2). The dominant noise source for both locations is vehicular traffic noise along Honoapiilani Highway. Secondary noise sources include birds, wind, pedestrian noise, aircraft flyovers, and noises typical of an urban environment. At location L1, children playing in the school playground during recess and physical education class contributed to the ambient sound environment, however, noise from vehicular traffic masked these sounds. The measured ambient sound level on Friday afternoon (September 1, 2006) may have been influenced by the closure of Honoapiilani Highway due to a brush fire. As a result, traffic counts and traffic noise levels were lower than the previous day. The range of equivalent sound levels, L_{eq}, during the day (7:00 a.m. to 10:00 p.m.) and during the night (10:00 p.m. to 7:00 a.m.) and average calculated day-night level, L_{dn}, are summarized in Table 1.

5.0 POTENTIAL NOISE IMPACTS

5.1 Project Construction Noise

The proposed project site along Honoapiilani Highway is designated as urban and zoned for both residential and business uses. The Hawaii Community Noise Control Rules state that the primary land use designation shall be used to determine the applicable zoning district class. Maximum permissible noise levels are specified by the State rules for daytime and nighttime hours, but ambient noise levels are also taken into account. Construction noise levels are expected to

exceed both daytime and nighttime limits and a permit must be obtained from the State DOH to allow the operation of construction equipment.

Construction methods may include cutting of existing pavement, grading, filling, compacting, paving, etc. and will utilize equipment such as jackhammers, saw cutters, backhoes, front loaders, dump trucks, generators, and compressors. The various construction phases of the project may generate significant amounts of noise that could impact businesses and residences. Pavement cutters, jackhammers, backhoes and earthmoving equipment, e.g., bulldozers and diesel-powered trucks will probably be the loudest equipment used during construction.

Much of the project area can be considered noise sensitive as businesses, schools, and residences along Honoapiilani Highway will be impacted by the project construction noise. Typical ranges of construction equipment noise are shown in Figure 5. The actual noise levels produced during construction will be a function of the methods employed during each stage of the construction process.

5.2 Vehicular Traffic Noise Impacts

A vehicular traffic noise analysis was completed for the existing conditions, as well as a 10 and 20 year traffic forecast, using the FHWA Traffic Noise Model Look-up Tables Software Version 2.5 (2004) [Reference 7]. A no-build alternative was not considered. The traffic noise analysis is based on the peak hour AM, PM, and midday (MD) traffic volumes provided by the Traffic Consultant [Reference 8]. Vehicular traffic noise levels were calculated for 3 locations, Locations A, B, and C, as shown in Figure 3. The short-term noise measurement and corresponding traffic counts were used to calibrate the software at the noise prediction locations along Honoapiilani Highway. The results of the traffic noise analysis for the existing and future year projections are described below and summarized in Table 2.

5.2.1 Long Term Vehicular Traffic Noise Impacts

The calculated existing vehicular traffic noise levels are on average 69 dBA for noise prediction Locations A, B, and C, located approximately 50 feet from the centerline of Honoapiilani Highway. This exceeds the FHWA/DOT maximum noise limit of 67 dBA.

The projected change in traffic noise with the proposed widening of Honoapiilani Highway is less than 2 dB for the 10-year and 20-year forecast. A change in sound level of less than 3 dB is not considered to be significant. Table 2 shows a slight decrease in future traffic noise for Locations B and C due to the change in the posted speed limit (from 40 mph to 35 mph) between Aholo Road and Prison Street. The speed limit between Prison Street and Lahainaluna Road will remain posted at 35 mph in the future, hence the traffic noise increase at Location A. Because a no-build alternative was not considered, the projected traffic noise increase cannot be directly attributed to the widening of the highway.

The proposed new lanes will improve the traffic flow along the highway. Noises that are likely to increase due to the new lanes are noises caused by more vehicles traveling at the posted speed limits. Vehicles will not need to slow or stop to wait for turning vehicles. Another factor that should be considered is the fact that the highway will be widened on both sides throughout the project limits. Thus, the highway widening will move the noise source closer to a noise receptor, i.e., for each resident along the highway, the near traffic lane will become closer and the far lane will become farther away. Consequently, the occupants of these residences will experience a traffic noise increase.

5.2.2 Short Term Vehicular Traffic Noise Impacts

Traffic is currently the main source of noise for the residences, businesses and schools located along Honoapiilani Highway. Traffic noise is expected to decrease during the construction period due to slower moving traffic.

During the construction period, residences, businesses, and schools in the *surrounding area of Lahaina may experience heavier traffic due to the re-*routing of vehicles away from the construction site. The increase in traffic will be short term and only during the construction period.

5.3 Compliance with EPA Noise Guidelines

The EPA has an existing design goal of $L_{dn} \leq$ 65 dBA and a future design goal $L_{dn} \leq$ 55 dBA for exterior noise levels. The results from the long-term noise measurements conducted along Honoapiilani Highway show an average calculated day-night level, L_{dn}, of 71.5 dBA which exceeds both the existing and future EPA design goal. In the future, increased traffic noise will contribute to the overall noise level. It is important to note that the EPA noise guidelines are design goals and not enforceable regulations. However, these guidelines and design goals are useful tools for assessing the noise environment.

5.4 Compliance with BOE Noise Guidelines

Board of Education (BOE) Policy 6700 requires that air conditioning be installed for schools exposed to an exterior noise level of L_{10}=65dBA. The Sacred Hearts School property (noise measurement location L1) currently experiences an L_{10} greater than 65 dBA in areas where the line of sight to the highway is not blocked, i.e., the playground and field. However, the cafeteria building acts as a noise barrier for the adjacent classroom buildings and the exterior L_{10} in the courtyard between the three buildings may be less than 65 dBA.

6.0 NOISE IMPACT MITIGATION

6.1 Mitigation of Construction Noise

In cases where construction noise exceeds, or is expected to exceed the State's "maximum permissible" property line noise levels [Reference 1], a permit must be

obtained from the State DOH to allow the operation of vehicles, cranes, construction equipment, power tools, etc., which emit noise levels in excess of the "maximum permissible" levels.

In order for the State DOH to issue a construction noise permit, the Contractor must submit a noise permit application to the DOH, which describes the construction activities for the project. Prior to issuing the noise permit, the State DOH may require action by the Contractor to incorporate noise mitigation into the construction plan. The DOH may also require the Contractor to conduct noise monitoring or community meetings inviting the neighboring residents and business owners to discuss construction noise. The Contractor should use reasonable and standard practices to mitigate noise, such as using mufflers on diesel and gasoline engines, using properly tuned and balanced machines, etc. However, the State DOH may require additional noise mitigation, such as temporary noise barriers, or time of day usage limits for certain kinds of construction activities.

Specific permit restrictions for construction activities [Reference 1] are:

> "No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels ... before 7:00 a.m. and after 6:00 p.m. of the same day, Monday through Friday."
>
> "No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels... before 9:00 a.m. and after 6:00 p.m. on Saturday."
>
> "No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels on Sundays and on holidays."

The use of hoe rams and jack hammers 25 lbs. or larger, high pressure sprayers, chain saws, and pile drivers are restricted to 9:00 a.m. to 5:30 p.m., Monday through Friday. In addition, construction equipment and on-site vehicles or devices whose operations involve the exhausting of gas or air, excluding pile hammers and pneumatic hand tools weighing less than 15 pounds, must be equipped with mufflers [Reference 1].

The State DOH noise permit does not limit the noise level generated at the construction site, but rather the times at which noisy construction can take place. Therefore, noise mitigation for construction activities should be addressed using project management, such that the time restrictions within the State DOH permit are followed.

6.2 Mitigation of Vehicular Traffic Noise

Vehicular traffic noise from Honoapiilani Highway currently exceeds the FHWA/DOT maximum permissible noise limit of 67 dBA at a distance of 50 feet from the centerline of the highway. Thus, the noise receptors adjacent to the

highway are experiencing a traffic noise impact even before the new lanes are added. Although the added lanes do not substantially increase future traffic noise levels over the existing noise levels, a traffic noise impact still occurs since the traffic noise levels exceed the FHWA criteria [Reference 9]. Therefore, noise abatement measures must be considered.

Abatement consideration should weigh the abatement benefits, costs, and overall social, economic, and environmental effects. The FHWA considers a 5 dB reduction in noise level to be significant. Per FHWA/HDOT's standards, mitigation measures need to be reasonable, i.e., under $35,000 per affected household, and feasible, i.e., acceptable to the affected residents. Possible mitigation measures, listed in order of effectiveness, include:

a. Air-conditioning or forced ventilation for those impacted residences along Honoapiilani Highway. At the impacted homes, jalousie windows should be replaced with standard storm windows with acoustical gasketing. Typical exterior-to-interior noise reductions for naturally ventilated homes, i.e., with open windows, are approximately 9 dB.

b. Construction of noise barriers (including landscaping for aesthetic purposes) whether within or outside the highway right-of-way. Factors such as distances to roadways and setbacks, intervening ground conditions, barrier construction, barrier height, roadway elevations, etc., will determine the noise reduction afforded by a traffic noise barrier.

c. Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development which would be adversely impacted by traffic noise.

d. Traffic management measures (e.g., traffic control devices and signing for prohibition of certain vehicle types, time-use restrictions for certain vehicle types, modified speed limits, and exclusive land designations).

6.3 Mitigation of Noise at the Proposed Elementary School

The Sacred Hearts School could experience an L_{10} greater than 65 dBA, due to traffic noise from Honoapiilani, if no measures are taken to mitigate the traffic noise such as erecting noise barriers. Any buildings (such as the cafeteria), barrier walls, earthen berms, or other structures constructed along the highway will act to reduce noise levels. The reduction in L_{10} afforded by such obstructions depends on their placement and dimensions. In general, noise barrier walls should be placed as close as possible to the roadway.

REFERENCES

1. Chapter 46, *Community Noise Control*, Department of Health, State of Hawaii, Administrative Rules, Title 11, September 23, 1996.

2. *Department of Transportation, Federal Highway Administration Procedures for Abatement of Highway Traffic Noise*, Title 23, CFR, Chapter 1, Subchapter J, Part 772, 38 FR 15953, June 19, 1973; Revised at 47 FR 29654, July 8, 1982.

3. *Federal Highway Administration's Traffic Noise Model*, FHWA-RD-77-108; U.S. Department of Transportation, December 1978.

4. *Noise Analysis and Abatement Policy*, Department of Transportation, Highways Division, State of Hawaii, June 1977.

5. *Toward a National Strategy for Noise Control*, U.S. Environmental Protection Agency, April 1977.

6. *Policies and Standards for School Facilities Design*, Board of Education, Policy 6700, Appendix A, Acoustical and Environmental Control, March 1995.

7. *Federal Highway Administration's Traffic Noise Model Look-up Tables Software*, Ver. 2.5; U.S. Department of Transportation, December 17, 2004.

8. *Traffic Forecast for Proposed Honoapi'ilani Highway Widening Project from Lahainaluna Road to 'Aholo Road*, M & E. Pacific, Inc., May, 2006.

9. *Highway Traffic Noise Analysis and Abatement Policy and Guidance*, U.S. Department of Transportation, Federal Highways Administration, June 1995.

TABLE 1:
Long Term Noise Measurement Location Summary and Results

	Location[+]	Distance[*]	AM L_{eq}	PM L_{eq}	L_{dn} (Calculated)
L1	Sacred Hearts School	40	66 - 73 dBA	58 - 68 dBA	71 dBA
L2	Lahaina Recreational Center	50	67 - 74 dBA	59 - 69 dBA	72 dBA

[+] Noise measurement locations are shown in Figure 3
[*] Distance from sound level meter location to the centerline of Honoapiilani Highway

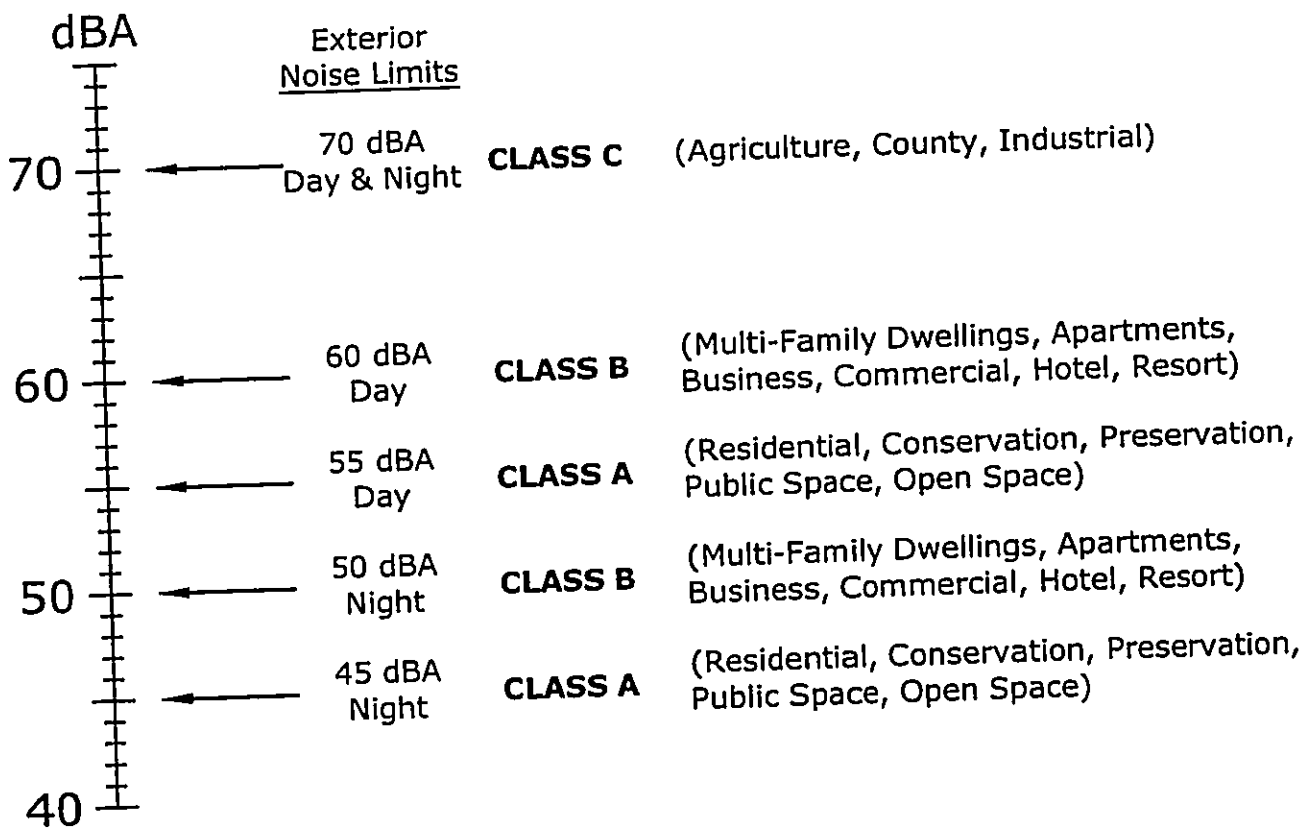
TABLE 2:
Predicted Traffic Noise Levels in dBA and Resulting Increases Due to the Project[+]

	Location A[*]		Location B[*]		Location C[*]		
	MD	PM	MD	PM	AM	MD	PM
Existing (Calculated)	66.2	67.9	68.9	69.2	70.5	70.2	69.9
Future With Project (10 Year Forecast)	67.7	68.7	67.9	68.3	69.4	69.4	69.1
Future With Project (20 Year Forecast)	68.2	69.1	68.5	68.8	69.8	69.9	69.6
Future Increase With Project (10 Year Forecast)	1.5	0.8	-1.0	-0.9	-1.1	-0.8	-0.8
Future Increase With Project (20 Year Forecast)	2.0	1.2	-0.4	-0.4	-0.7	-0.3	-0.3

[+] The noise level calculations were based on the peak hour AM, PM, and midday (MD) traffic volumes provided by the Traffic Consultant [Reference 8].

[*] Noise prediction locations are shown in Figure 3:
Location A - 50 feet mauka of Honoapiilani Highway centerline
Location B - 50 feet makai of Honoapiilani Highway centerline
Location C - 50 feet makai of Honoapiilani Highway centerline

Zoning District	Day Hours (7 AM to 10 PM)	Night Hours (10 PM to 7 AM)
CLASS A Residential, Conservation, Preservation, Public Space, Open Space	55 dBA (Exterior)	45 dBA (Exterior)
CLASS B Multi-Family Dwellings, Apartments, Business, Commercial, Hotel, Resort	60 dBA (Exterior)	50 dBA (Exterior)
CLASS C Agriculture, Country, Industrial	70 dBA (Exterior)	70 dBA (Exterior)



Hawaii Maximum Permissible Sound Levels for Various Zoning Districts

Honoapiilani Highway Widening Project

Not to Scale

Figure No 1

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Date	Project No.	Drawn By
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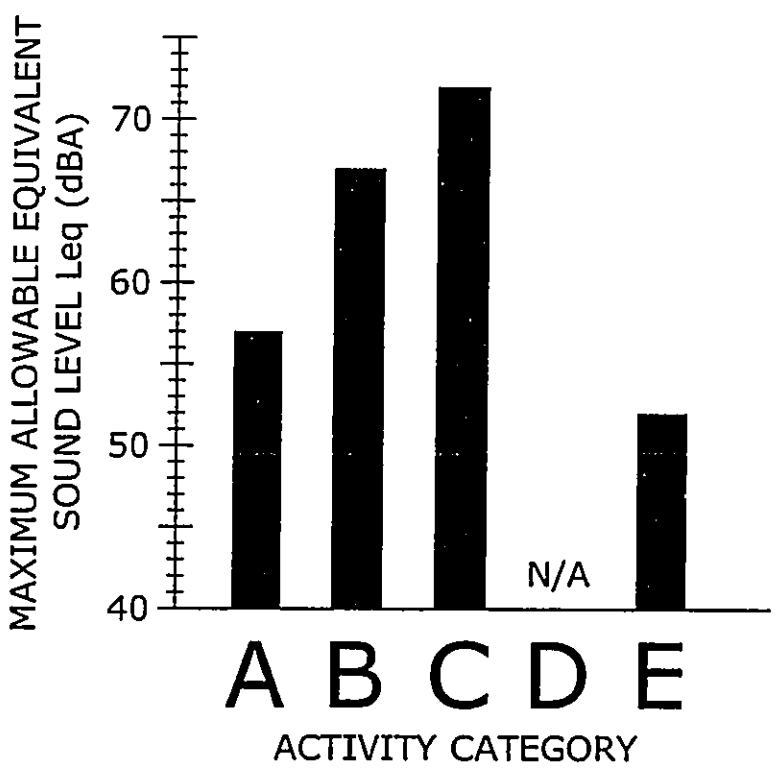
ACTIVITY CATEGORY	ACTIVITY CATEGORY DESCRIPTION	MAXIMUM EQUIVALENT SOUND LEVEL $L_{eq(h)}$
A	LANDS ON WHICH SERENITY AND QUIET ARE OF EXTRAORDINARY SIGNIFICANCE AND SERVE AN IMPORTANT PUBLIC NEED AND WHERE THE PRESERVATION OF THOSE QUALITIES IS ESSENTIAL IF THE AREA IS TO CONTINUE TO SERVE ITS INTENDED PURPOSE.	57 dBA (EXTERIOR)
B	PICNIC AREAS, RECREATION AREAS, PLAYGROUNDS, ACTIVE SPORT AREAS, PARKS, RESIDENCES, MOTELS, HOTELS, SCHOOLS, CHURCHES, LIBRARIES, AND HOSPITALS.	67 dBA (EXTERIOR)
C	DEVELOPED LANDS, PROPERTIES, OR ACTIVITIES NOT INCLUDED IN ACTIVITY CATEGORIES A OR B ABOVE.	72 dBA (EXTERIOR)
D	UNDEVELOPED LAND	N/A
E	RESIDENCES, MOTELS, HOTELS, PUBLIC MEETING ROOMS, *SCHOOLS, CHURCHES, LIBRARIES, HOSPITALS, AND* AUDITORIUMS.	52 dBA (INTERIOR)



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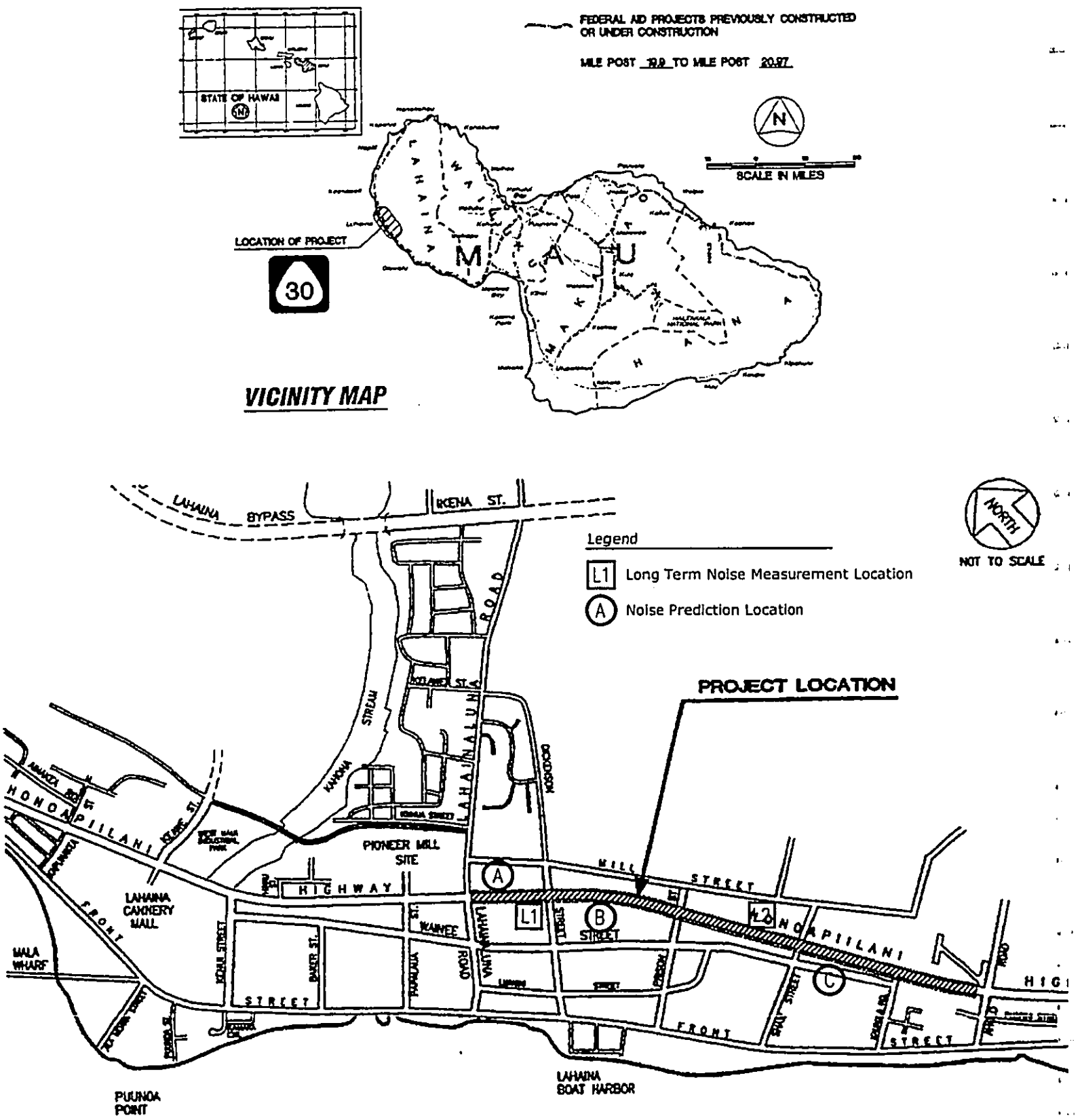
Federal Highways Administration Recommended Equivalent Hourly Sound Levels Based on Land Use

Honoapiilani Highway Widening Project

Not to Scale

Date	Project No.	Drawn By
September 2006	06-48	TRB

Figure No 2



Noise Measurement and Prediction Locations

Honoapiilani Highway Widening Project

Not to Scale

Date	Project No.	Drawn By
September 2006	06-48	DFD

Figure No 3

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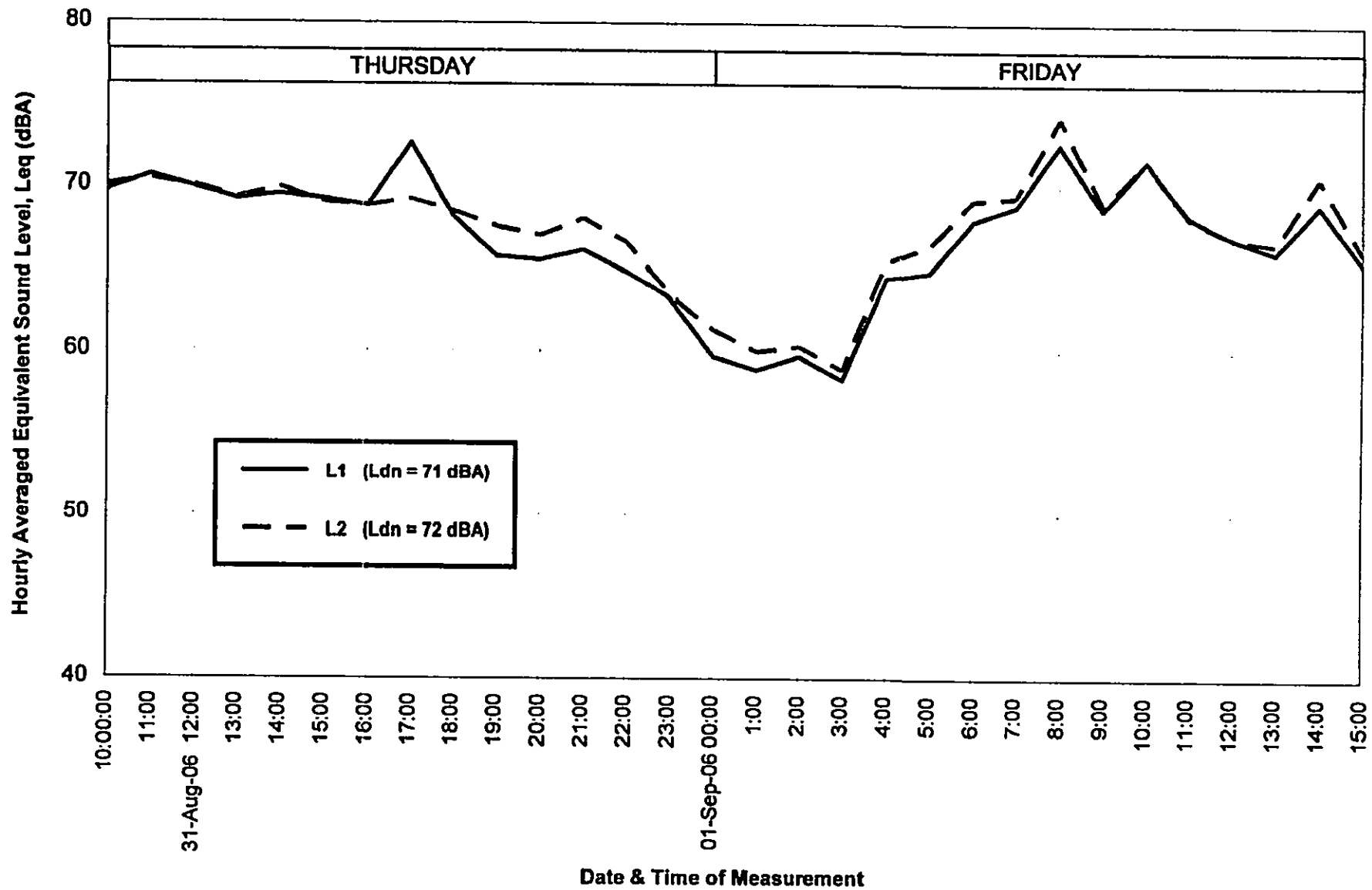

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Graph of Long Term Noise Measurements

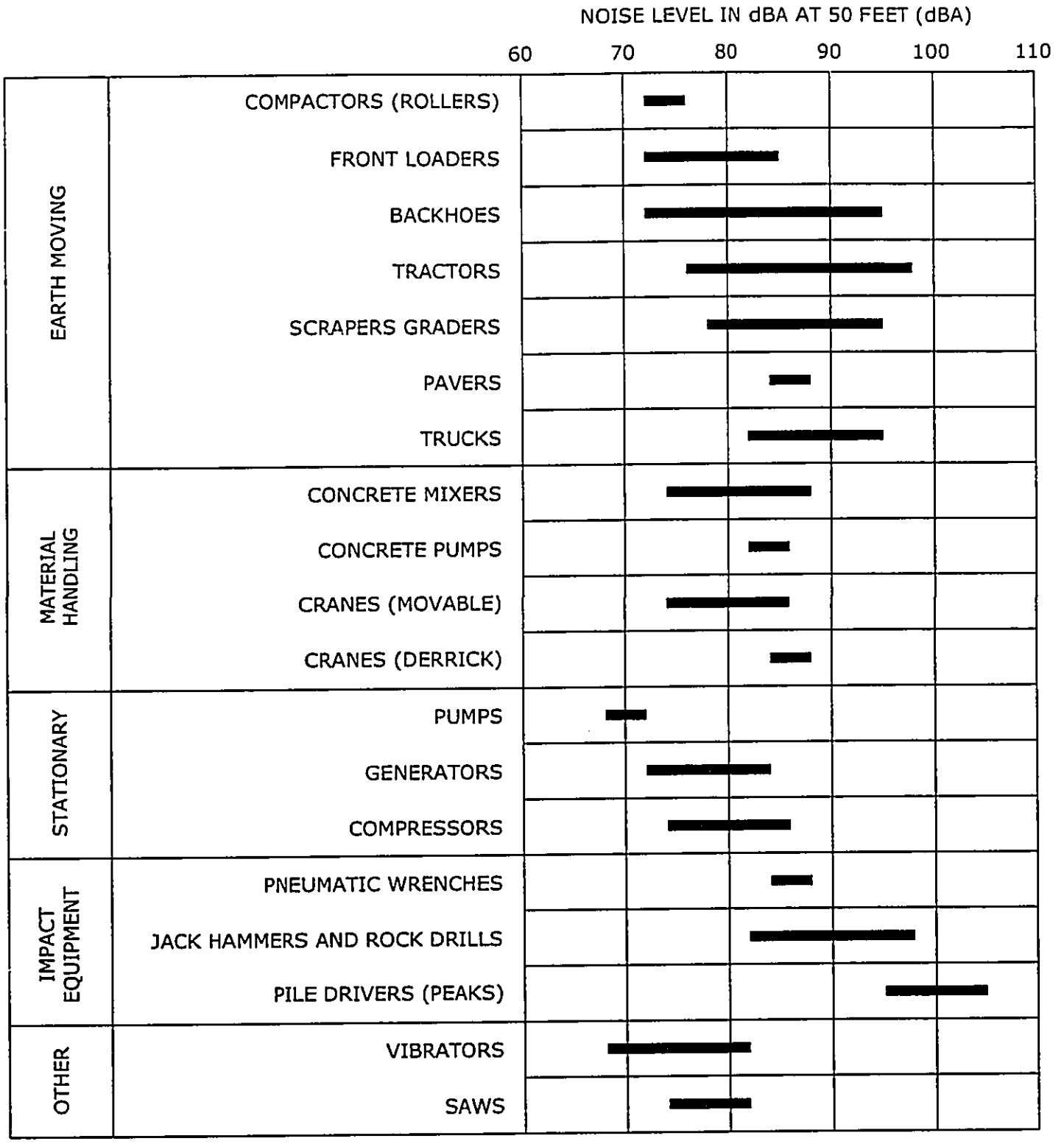
Honoapiilani Highway Widening Project

Not to Scale

Date	Project No.	Drawn By
September 2006	06-48	DFD

Figure No

4



NOTE: BASED ON LIMITED AVAILABLE DATA SAMPLES

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Typical Sound Levels from Construction Equipment

Honoapiilani Highway Widening Project

not to scale

Date	Project No.	Drawn By
September 2006	06-48	TRB

Figure No

5

APPENDIX A

Acoustic Terminology

Acoustic Terminology

Sound Pressure Level

Sound, or noise, is the term given to variations in air pressure that are capable of being detected by the human ear. Small fluctuations in atmospheric pressure (sound pressure) constitute the physical property measured with a sound pressure level meter. Because the human ear can detect variations in atmospheric pressure over such a large range of magnitudes, sound pressure is expressed on a logarithmic scale in units called decibels (dB). Noise is defined as "unwanted" sound.

Technically, sound pressure level (SPL) is defined as:

$$SPL = 20 \log (P/P_{ref}) \text{ dB}$$

where P is the sound pressure fluctuation (above or below atmospheric pressure) and P_{ref} is the reference pressure, 20 μPa, which is approximately the lowest sound pressure that can be detected by the human ear. For example:

If P = 20 μPa, then SPL = 0 dB
If P = 200 μPa, then SPL = 20 dB
If P = 2000 μPa, then SPL = 40 dB

The sound pressure level that results from a combination of noise sources is not the arithmetic sum of the individual sound sources, but rather the logarithmic sum. For example, two sound levels of 50 dB produce a combined sound level of 53 dB, not 100 dB. Two sound levels of 40 and 50 dB produce a combined level of 50.4 dB.

Human sensitivity to changes in sound pressure level is highly individualized. Sensitivity to sound depends on frequency content, time of occurrence, duration, and psychological factors such as emotions and expectations. However, in general, a change of 1 or 2 dB in the level of sound is difficult for most people to detect. A 3 dB change is commonly taken as the smallest perceptible change and a 6 dB change corresponds to a noticeable change in loudness. A 10 dB increase or decrease in sound level corresponds to an approximate doubling or halving of loudness, respectively.

A-Weighted Sound Level

Studies have shown conclusively that at equal sound pressure levels, people are generally more sensitive to certain higher frequency sounds (such as made by speech, horns, and whistles) than most lower frequency sounds (such as made by motors and engines)[1] at the same level. To address this preferential response to frequency, the A-weighted scale was developed. The A-weighted scale adjusts the sound level in each frequency band in much the same manner that the

---

[1] D.W. Robinson and R.S. Dadson, "A Re-Determination of the Equal-Loudness Relations for Pure Tones," *British Journal of Applied Physics*, vol. 7, pp. 166 - 181, 1956. (Adopted by the International Standards Organization as Recommendation R-226.

human auditory system does. Thus the A-weighted sound level (read as "dBA") becomes a single number that defines the level of a sound and has some correlation with the sensitivity of the human ear to that sound. Different sounds with the same A-weighted sound level are perceived as being equally loud. The A-weighted noise level is commonly used today in environmental noise analysis and in noise regulations. Typical values of the A-weighted sound level of various noise sources are shown in Figure A-1.

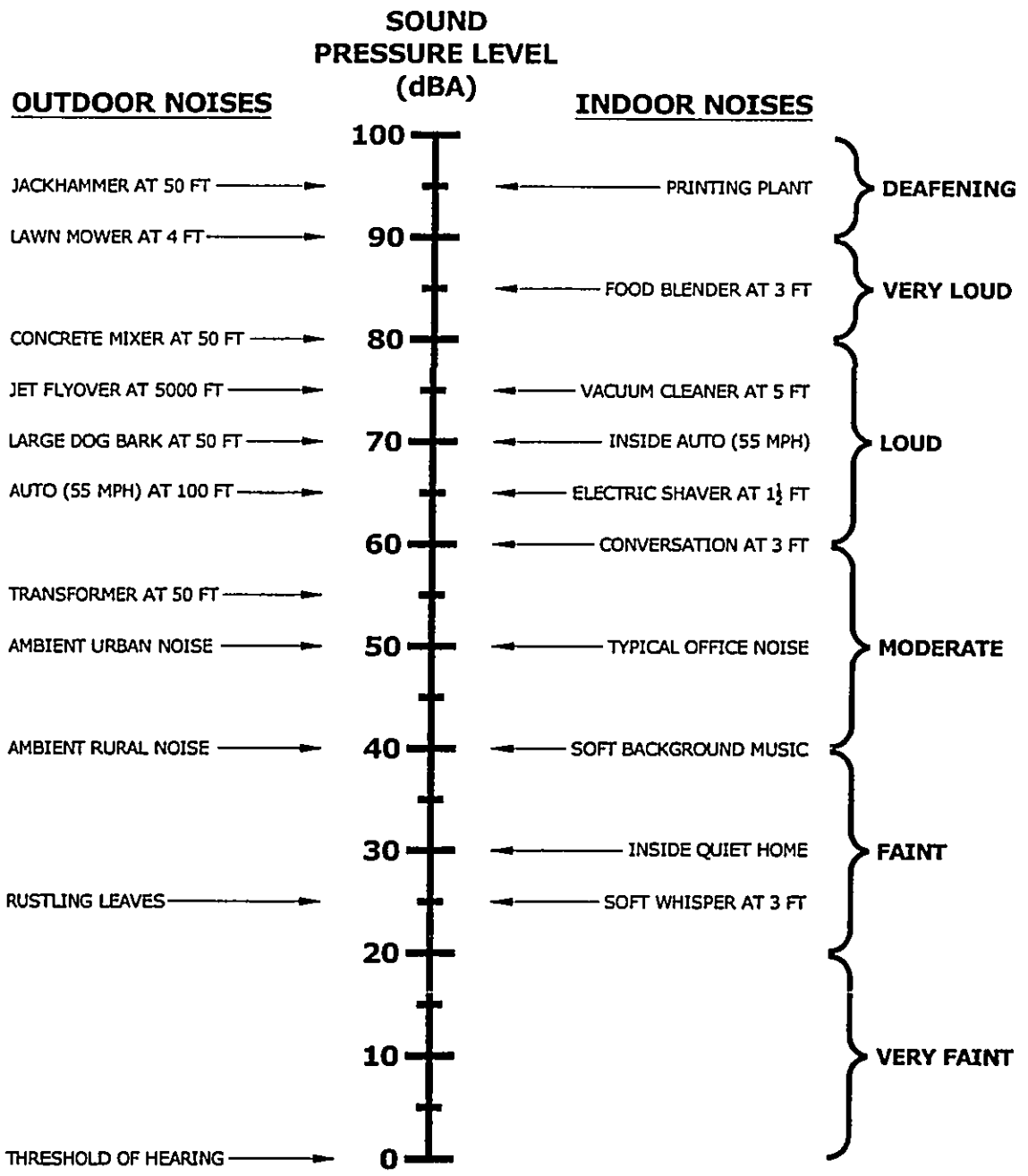

Figure A-1. Common Outdoor/Indoor Sound Levels

Equivalent Sound Level

The Equivalent Sound Level (L_{eq}) is a type of average which represents the steady level that, integrated over a time period, would produce the same energy as the actual signal. The actual *instantaneous* noise levels typically fluctuate above and below the measured L_{eq} during the measurement period. The A-weighted L_{eq} is a common index for measuring environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.

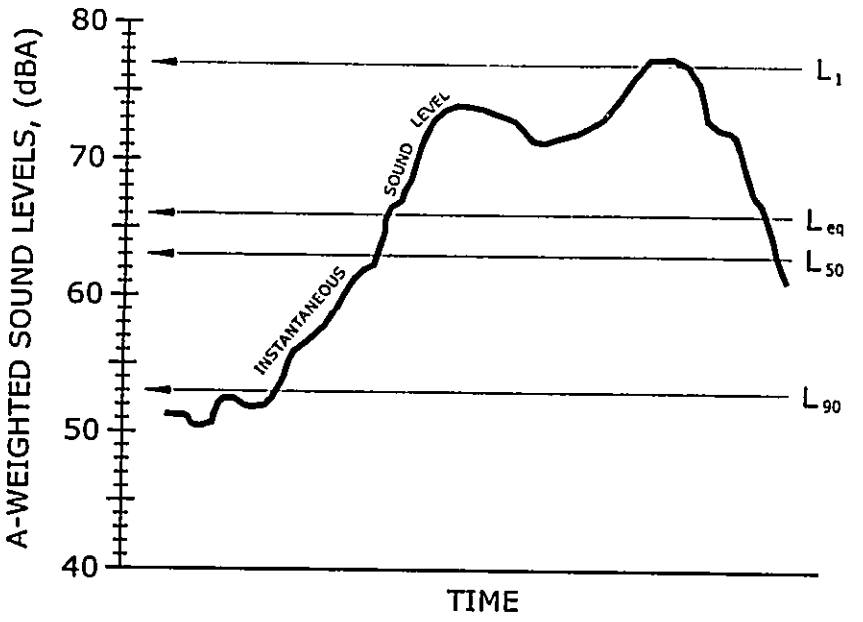

Figure A-2. Example Graph of Equivalent and Statistical Sound Levels

Statistical Sound Level

The sound levels of long-term noise producing activities such as traffic movement, aircraft operations, etc., can vary considerably with time. In order to obtain a single number rating of such a noise source, a statistically-based method of expressing sound or noise levels has been developed. It is known as the Exceedence Level, L_n. The L_n represents the sound level that is exceeded for n% of the measurement time period. For example, L_{10} = 60 dBA indicates that for the duration of the measurement period, the sound level exceeded 60 dBA 10% of the time. Typically, in noise regulations and standards, the specified time period is one hour. Commonly used Exceedence Levels include L_{01}, L_{10}, L_{50}, and L_{90}, which are widely used to assess community and environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.

Day-Night Equivalent Sound Level

The Day-Night Equivalent Sound Level, L_{dn}, is the Equivalent Sound Level, L_{eq}, measured over a 24-hour period. However, a 10 dB penalty is added to the noise levels recorded between 10 p.m. and 7 a.m. to account for people's higher sensitivity to noise at night when the background noise level is typically lower. The L_{dn} is a commonly used noise descriptor in assessing land use compatibility, and is widely used by federal and local agencies and standards organizations.

APPENDIX P

Draft Environmental Assessment Responses and Coordination

LINDA LINGLE
GOVERNOR OF HAWAII

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

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

DIVISION OF STATE PARKS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 21, 2006

Mr. Michael S. Nishimura, Project Engineer
M & E Pacific, Inc.
Davies Pacific Center, Suite 1900
Honolulu, Hawaii 96813

Dear Mr. Nishimura:

SUBJECT: Draft Environmental Assessment for Widening of Honoapi'ilani Highway
Lahainaluna Road to 'Aholo Road, Waine'e, Lahaina, Maui
TMK: (2) 4-5-006 & 009 and (2) 4-6-004: 13 & 34

Thank you for the opportunity to review the subject project. The project will not impact any State Park, but the Lahaina Recreation Center (West Maui Regional Park and Lahaina Aquatic Center) under the County of Maui, Department of Parks and Recreation, is adjacent to the proposed widening project. Land and Water Conservation Fund (LWCF) grant funds were used for three phases of park improvements at Lahaina Recreation Center between 1985 and 2005. The 6(f) status of this park requires that the land be retained for outdoor recreation. The DEA states that park use will not be disrupted or altered and facilities for bicycle and pedestrian use of the highway will increase the recreational opportunities.

We initially commented on this project in August 2005. Our preliminary assessment was that there would be no taking of parkland if the widening stayed within the highway right-of-way and modification of the culverts did not affect the park. Based on the DEA, all construction will be within the ROW and the culverts will be unaltered. Our other concern involved the possible removal of trees along the park boundary. It was unclear from the DEA (page 2-16) how the vegetation along the park boundary will be affected.

The Lahaina Recreation Center is not labeled on any of the figures, which made it difficult to use the maps to evaluate any other potential impacts of this project on the parkland. The DEA does not suggest any temporary use of the park during the construction, such as a staging area. However, if any such use is proposed, this use will require approval as a "temporary non-conforming use" by the National Park Service.

If you have any questions, please feel free to contact Martha Yent at 587-0287 or Martha.E.Yent@hawaii.gov

Very truly yours,

DANIEL S. QUINN
State Parks Administrator

RECEIVED
JUN 27 2006
M & E PACIFIC, INC.

cc: Gloria Shinn, LWCF Project Manager, NPS
Glenn Correa, County of Maui, Dept. of Parks and Recreation

LINDA LINGLE
GOVERNOR

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

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:
HWY-M 2.020-07

February 5, 2007

TO: DANIEL S. QUINN, STATE PARKS ADMINISTRATOR
DIVISION OF STATE PARKS
DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: BRENNON T. MORIOKA, Ph.D., P.E.
DEPUTY DIRECTOR-HIGHWAYS

SUBJECT: RESPONSE TO COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for your letter dated June 21, 2006, commenting on the Draft Environmental Assessment for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following responses to your comments in the order as they appear in your letter.

1) **The project will not impact any State Park, but the Lahaina Recreational Center (West Maui Regional Park and Lahaina Aquatic Center) under the County of Maui, Department of Parks and Recreation, is adjacent to the proposed widening project.**

   Project coordination is being done with the County of Maui, Department of Parks and Recreation, to insure construction activities are effectively shielded from recreational activities. Also, no adverse impact will result on the monkeypod trees lining the park.

2) **Land and Water Conservation Fund (LWCF) grant funds were used for three phases of park improvements at Lahaina Recreation Center between 1985 and 2005. The 6(f) status of this park requires that the land be retained for outdoor recreation. The DEA states that park use will not be disrupted or altered and facilities for bicycle and pedestrian use of the highway will increase the recreational opportunities.**

The highway widening project will not alter the outdoor recreation use of the Lahaina Recreation Center and Park. Access to the park and its facilities will be maintained throughout the project construction, and the widened highway, with provisions for new sidewalks and maintaining existing bike routes, will allow increased use of and access to the park.

3) **We initially commented on this project in August 2005. Our preliminary assessment was that there would be no taking of parkland if the widening stayed within the highway right-of-way and modification of the culverts did not affect the park. Based on the DEA, all construction will be within the ROW and the culverts will be unaltered. Our other concern involved the possible removal of trees along the park boundary. It was unclear from the DEA (page 2-16) how the vegetation along the park boundary will be affected.**

All finished highway structures will be within the ROW. Trees outside of the highway ROW will not be removed; thus, the existing trees along the park boundary will be left in place. A landscaping plan will be included in the final version of the Environmental Assessment and construction documents.

4) **The Lahaina Recreation Center is not labeled on any of the figures, which made it difficult to use the maps to evaluate any other potential impacts of this project on the parkland. The DEA does not suggest any temporary use of the park during the construction, such as a staging area. However, if any such use is proposed, this use will require approval as a "temporary non-conforming use" by the National Park Service.**

The Lahaina Recreation Center will be labeled on applicable figures of the final version of the Environmental Assessment.

The Contractor's temporary storage and staging area will be coordinated with the DOT-HWY, landowner, and all regulating agencies. Contract documents will prohibit the use of the park for staging and storage.

Again, thank you for your comments and participation in the Draft Environmental Assessment review and comment process.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

LINDA LINGLE
GOVERNOR OF HAWAI'I

235 S BERETANIA ST SUITE 702
HONOLULU HAWAI'I 96813

STATE OF HAWAI'I
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

GENEVIEVE SALMONSON
DIRECTOR

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

June 26, 2006

Brennon Morioka
Department of Transportation, Highways Division
869 Punchbowl Street
Honolulu, HI 96813

Attn: Charlene Shibuya, Maui Office

Dear Mr. Morioka:

Subject: Draft environmental assessment (EA), **Honoapiilani Highway Widening**

We have the following comments to offer:

Two-sided pages: HRS 342G-44 requires double-sided copying in all state and county agencies, offices and facilities. Please print on both sides of the pages in the final document to reduce bulk and save on paper. This is especially critical in a document of this size.

Cultural Resources Commission meeting: The draft EA contains the agenda for the 3/2/2006 meeting, showing the highway widening presentation as an agenda item. More important are the results of that meeting and the commissioners' reactions and discussion, which should appear in the minutes. In the final EA attach a copy of the minutes for that meeting.

Attachments:

a. Following page 6-5 are 22 pages of section dividers (printed on white paper), each listing the contents of that section. The section contents, however, are missing. The fully complete attached sections then follow with blue or buff dividers. Remove the white pages from the final EA as they are confusing.

b. The title of the appendices that appear on page *App-ii* do not correspond with the appendices themselves. Correct this in the final EA.

Noise: In the final EA, in addition to your discussion of noise include a discussion of vibration as well, along with appropriate mitigation measures. Since jackhammers and other very noisy machinery will be used, we recommend contacting the nearest neighbors and neighboring landowners to pre-notify them of your schedule.

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

Sincerely,

Genevieve Salmonson

GENEVIEVE SALMONSON
Director

c: Mike Nishimura

CORRECTION

THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S) IMMEDIATELY FOLLOWING

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LINDA LINGLE
GOVERNOR OF HAWAI'I

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STATE OF HAWAI'I
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

GENEVIEVE SALMONSON
DIRECTOR

Telephone (808) 586-4185
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Email: oeqc@doh.hawaii.gov

June 26, 2006

Brennon Morioka
Department of Transportation, Highways Division
869 Punchbowl Street
Honolulu, HI 96813

Attn: Charlene Shibuya, Maui Office

Dear Mr. Morioka:

Subject: *Draft environmental assessment (EA).* ***Honoapiilani Highway Widening***

We have the following comments to offer:

Two-sided pages: HRS 342G-44 requires double-sided copying in all state and county agencies, offices and facilities. Please print on both sides of the pages in the final document to reduce bulk and save on paper. This is especially critical in a document of this size.

Cultural Resources Commission meeting: The draft EA contains the agenda for the 3/2/2006 meeting, showing the highway widening presentation as an agenda item. More important are the results of that meeting and the commissioners' reactions and discussion, which should appear in the minutes. In the final EA attach a copy of the minutes for that meeting.

Attachments:

a. Following page 6-5 are 22 pages of section dividers (printed on white paper), each listing the contents of that section. The section contents, however, are missing. The fully complete attached sections then follow with blue or buff dividers. Remove the white pages from the final EA as they are confusing.

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Noise: In the final EA, in addition to your discussion of noise include a discussion of vibration as well, along with appropriate mitigation measures. Since jackhammers and other very noisy machinery will be used, we recommend contacting the nearest neighbors and neighboring landowners to pre-notify them of your schedule.

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

Sincerely,

Genevieve Salmonson

GENEVIEVE SALMONSON
Director

c: Mike Nishimura

LINDA LINGLE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
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BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:
HWY-M 2.024-07

February 5, 2007

TO: GENEVIEVE SALMONSON, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
DEPARTMENT OF HEALTH

FROM: BRENNON T. MORIOKA, Ph.D., P.E.
DEPUTY DIRECTOR-HIGHWAYS

SUBJECT: RESPONSE TO COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for your letter dated June 26, 2006, commenting on the Draft Environmental Assessment for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following responses to your comments in the order as they appear in your letter.

1) **Two-sided pages: HRS 342G-44 requires double-sided copying in all state and county agencies, offices and facilities. Please print on both sides of the pages in the final document to reduce bulk and save on paper. This is especially critical in a document of this size.**

   The final version of the Environmental Assessment will be printed double-sided.

2) **Cultural Resources Commission meeting: The draft EA contains the agenda for the 3/2/2006 meeting, showing the highway widening presentation as an agenda item. More important are the results of that meeting and the commissioners' reactions and discussion, which should appear in the minutes. In the final EA attach a copy of the minutes for that meeting.**

   Minutes of the CRC meeting and a response letter from the CRC will be added to the final version of the Environmental Assessment.

3) **Attachments:**
   a) **Following page 6-5 are 22 pages of section dividers (printed on white paper), each listing the contents of that section. The section contents, however, are missing. The fully complete attached sections then follow with blue or buff dividers. Remove the white pages from the final EA as they are confusing.**

The final version of the Environmental Assessment will have these white pages removed.

b) **The title of the appendices that appear on page *App-ii* do not correspond with the appendices themselves. Correct this in the final EA.**

The final version of the Environmental Assessment will have the titles of the appendices coordinated.

4) **Noise: In the final EA, in addition to your discussion of noise, include a discussion of vibration as well, along with appropriate mitigation measures. Since jackhammers and other very noisy machinery will be used, we recommend contacting the nearest neighbors and neighboring landowners to pre-notify them of your schedule.**

A noise study and mitigation report is being completed for the project and a draft version of this analysis will be included in the final version of the Environmental Assessment. Sound barriers will be constructed to alleviate increased levels of noise. Information regarding the project, Special Management Area Permit application and details of a public meeting will be sent to residents within 500′ of the project area.

Again, thank you for your comments and participation in the Draft Environmental Assessment review and comment process.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

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LINDA LINGLE
GOVERNOR OF HAWAII

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

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

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

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JUL 2006
M & E PACIFIC, INC.

June 28, 2006

Mr. Michael Nishimura, P.E.
M & E Pacific, Inc
Davies Pacific Center, Suite 1900
841 Bishop Street
Honolulu, Hawai'i, 96813

LOG NO: 2006.2120
DOC NO: 0606MK39
Archaeology

Dear Mr. Nishimura:

SUBJECT: National Historic Preservation Act (NHPA) Section 106 Review [State/Highways] – Draft Environmental Assessment (DEA) for State of Hawai'i, Department of Transportation, Highways Division, Maui District, Honoapi'ilani Highway Widening, Lahainaluna Road to Aholo Road Waine'e Ahupua'a, Lahaina District, Island of Maui TMK: (2) 4-5-006 &009 and 4-6-004-013 &034

The proposed project consists of widening a roadway that will occur within the existing established right-of-way (ROW), effectively converting the highway from two (2) to four (4) lanes. The existing road is constructed on fill. The widening will include fill importation to meet the existing highway grade. The proposed DOT project is partially federally funded.

We concur that **no historic properties will be affected** by this undertaking because:

- ☐ Intensive cultivation has altered the land
- ☐ Residential development/urbanization has altered the land
- ☒ Previous grubbing/grading has altered the land
- ☐ An accepted archaeological inventory survey (AIS) found no historic properties
- ☐ SHPD previously reviewed this project and mitigation has been completed
- ☒ Other: *The project will occur within the existing highway right-of-way, and will not include excavation below original grade. Feedback was solicited by your firm to the Maui/Lana'i Islands Burial Council Chair and Vice-Chair, Mr. Charles Maxwell and Ms. Dana Naone Hall who expressed no concerns at this time since the project is located within the existing right-of-way in which no known historic properties are known to exist.*

In the event that historic resources, including human skeletal remains, are identified during routine 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 Division, Maui Section, needs to be contacted immediately at (808) 243-5169.

Aloha,

for Peter Young, Chair
State Historic Preservation Officer

MK:kf:gf

c: Bert Ratte, DPWEM, County of Maui
Michael Foley, Director, Dept. of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Resources Commission, Dept. of Planning, 250 S. High St, Wailuku, HI 96793

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LINDA LINGLE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
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BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:
HWY-M 2.021-07

February 5, 2007

TO: PETER YOUNG, CHAIR
STATE HISTORIC PRESERVATION OFFICER
DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: BRENNON T. MORIOKA, Ph.D., P.E.
DEPUTY DIRECTOR-HIGHWAYS

SUBJECT: RESPONSE TO COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for your letter dated June 28, 2006, commenting on the Draft Environmental Assessment for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following response to your comment as stated in your letter.

1) **In the event that historic resources, including human skeletal remains, are identified during routine 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 Division, Maui Section, needs to be contacted immediately at (808) 243-5169.**

   Project construction will be subject to the standard DOT-HWY archaeological requirements. Should historic material be encountered, construction work in the immediate vicinity of the find will stop, the resources will be protected against further disturbance, and the SHPD-Maui will be contacted for further direction.

   The contract bid documents will include Section 107.13—*Pollution Control and Protection of Archeological, Historical and Burial Sites*, Paragraph (B)—*Archaeological, Historical, and Burial Sites*, of the State of Hawai'i, Department of Transportation, Highways Division, *Hawaii Standard Specifications for Road and Bridge Construction* (2005). This paragraph states the following:

   "Whenever the Contractor encounters sites of potentially historic or archaeological significance such as walls, platforms, pavements and mounds, or remains such as

artifacts, burials, concentration of charcoal or shells, work shall cease in the immediate vicinity of the site and the site shall be protected from damage. The Contractor shall suspend any work that may affect the site and inform the Engineer immediately. Upon direction by the Engineer, the Contactor shall provide and install temporary fencing to protect such sites. The Contractor shall not resume the work suspended without the prior written direction of and subject to the conditions set by the Engineer."

Again, thank you for your comments and participation in the Draft Environmental Assessment review and comment process.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

DON COUCH
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

RECEIVED
JUL 12 2006
M & E PACIFIC, INC.

July 10, 2006

Mr. Michael S. Nishimura, P.E.
M & E Pacific, Inc.
Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawaii 96813

Dear Mr. Nishimura:

RE: Draft Environmental Assessment for the Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road, Located Within the Existing Highway Right-of-Way and Maui TMKs: 4-5-006 & 009, and 4-6-004:013 Por. & 034 Por., Lahaina, Island of Maui, Hawaii (DOT-HWY Project Number 30BC-01-04) (EAC 2006/0020)

The Maui County Planning Department (Department) has reviewed the Draft Environmental Assessment (EA) and has the following comments to offer:

1. Page I-3 of the Draft EA discusses the zoning for the affected properties should be corrected in the Final EA as follows:
   a. Mauka:
      i. Dickenson Street to Prison Street: there is no R-2 Residential
      ii. Shaw Street to 'Aholo Street: also contains A-1 Apartment
   b. Makai:
      i. Lahainaluna Road to Dickenson Street: does not include any R-1 Residential, but does include B-1 Business and A-1 Apartment
      ii. Dickenson Street to Prison Street: does not contain D-1 Duplex or A-1 Apartment; but does include H-1 Hotel and A-2 Apartment.

2. Page I-5 of the Draft EA states tree removal will be coordinated with the County. The Final EA should elaborate on how this coordination will occur.

3. Page I-6 of the Draft EA omits any reference to Kaua'ula Street. The Final EA should include such a reference.

250 SOUTH HIGH STREET, WAILUKU, MAUI, HAWAII 96793
PLANNING DIVISION (808) 270-7735; ZONING DIVISION (808) 270-7253; FACSIMILE (808) 270-7634

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4. On page I-7, the second sentence from the bottom contains a topographical error and should read "... is compatible with their plans ..."

5. On page I-8, the Draft EA states that the County Council is the approving agency for SMA major permits. The Final EA should be corrected to indicate the Planning Commission is the final reviewing agency for such permits.

6. On page 2-3, the Draft EA states that the highway construction will start just south of the 'Aholo Road intersection. Impacts to the cemetery at the southeast corner of the intersection, should be discussed in the Final EA.

7. Page 2-4 of the Draft EA states the existing Lahaina sign will be replaced. The Final EA should note that the materials and color of the new sign will be the same as the existing sign and that approval from the Cultural Resources Commission will be sought regarding the sign.

8. On page 2-6 of the Draft EA, the brightness of the lighting is discussed. The Final EA should address shielding of the lighting so as not to impact adjacent residences.

9. On page 2-6 of the Draft EA, the use of equipment for demolition is discussed. The Final EA should discuss mitigation of noise from such equipment.

10. On page 2-8 of the Draft EA, the establishment of a separate bike lane is discussed. The Final EA should note that the existing shoulders of the highway are signed as a bike route and that this will not change with the highway widening project or with the addition of the separate bike lane.

11. On page 2-15 of the Draft EA, the improvement of intersections regarding bicycle and pedestrian access is discussed. The Final EA should discuss improvements to the southeast and northeast corners of the Lahainaluna intersection that would allow for the existing bike route (shoulder) to be unimpeded along the mauka side of the highway. A curbed sidewalk impedes into the shoulder now (see Ph-2).

12. On page 2-15 of the Draft EA, the median is described as paved, while page cross-sections in Appendix A indicate the medium will be landscaped. The provision of a vegetated medium should be cleared up in the Final EA.

13. Page 3-25 of the Draft EA discusses "some periodic minor delays will happen during peak traffic hours". The highway is currently very congested during peak traffic hours. Any further delays during these times will

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exacerbate an already frustrating situation. Delays during peak traffic periods should only occur as an absolute last resort. The Final EA should reflect this and indicate how such delays will be minimized as much as possible.

Thank you for the opportunity to comment. The Department requests that a copy of the Final EA be sent for our records.

Should you require clarification, please contact Mr. Jeff Hunt, AICP, Staff Planner, of this office at jeff.hunt@co.maui.hi.us or 270-6271.

Sincerely,

MICHAEL W. FOLEY
Planning Director

MWF:JH:sec
c: Clayton I. Yoshida, Planning Program Administrator
Charlene Shibuya, DOT-Highways Maui Office
Federal Highways Administration-Honolulu Office
Project File
General File
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DEPARTMENT OF TRANSPORTATION
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BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:
HWY-M 2.023-07

February 5, 2007

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

Dear Mr. Hunt:

SUBJECT: RESPONSE TO COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for Mr. Michael W. Foley's letter dated July 10, 2006, commenting on the Draft Environmental Assessment for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following responses to his comments in the order as they appear in his letter.

1) **Page 1-3 of the Draft EA discusses the zoning for the affected properties should be corrected in the Final EA as follows:**
   a) **Mauka:**
      - **Dickenson Street to Prison Street: there is no R-2 Residential**
      - **Shaw Street to 'Aholo Street: also contains A-1 Apartment**
   b) **Makai:**
      - **Lahainaluna Road to Dickenson Street: does not include any R-1 Residential, but does include B-1 Business and A-1 Apartment**
      - **Dickenson Street to Prison Street: does not contain D-1 Duplex or A-1 Apartment; but does include H-1 Hotel and A-2 Apartment.**

   The zoning for the affected properties on page 1-3 will be corrected as noted in the final version of the Environmental Assessment.

2) **Page 1-5 of the Draft EA states tree removal will be coordinated with the County. The Final EA should elaborate on how this coordination will occur.**

   Mature monkeypod trees adjacent to but outside of the ROW will remain while shrubbery and small trees within the ROW will be removed. A landscaping plan (including trimming of some ROW-adjacent trees) will be included in the final version of the

Environmental Assessment and construction documents. The landscaping plan will be discussed with the County of Maui, Department of Planning, and Department of Parks and Recreation, and the Maui County Arborists Committee.

3) **Page 1-6 of the Draft EA omits any reference to Kaua'ula Street. The Final EA should include such a reference.**

Reference to Kaua'ula Street will be added in the final version of the Environmental Assessment.

4) **On page 1-7, the second sentence from the bottom contains a typographical error and should read ". . . is compatible with their plans . . .".**

The sentence will be revised to state ". . . is compatible *with* their plans . . ." in the final version of the Environmental Assessment.

5) **On page 1-8, the Draft EA states that the County Council is the approving agency for SMA major permits. The Final EA should be corrected to indicate the Planning Commission is the final reviewing agency for such permits.**

The sentence will be revised to indicate that the Planning Commission is the final reviewing agency for SMA major permits in the final version of the Environmental Assessment.

6) **On page 2-3, the Draft EA states that the highway construction will start just south of the 'Aholo Road intersection. Impacts to the cemetery at the southeast corner of the intersection should be discussed in the Final EA.**

The subject cemetery—Pūehuihueiki Cemetery—is located outside of the ROW and project limits/work area. This will be clarified in the final version of the Environmental Assessment.

7) **On page 2-4, the Draft EA states the existing Lahaina sign will be replaced. The Final EA should note that the materials and color of the new sign will be the same as the existing sign and that approval from the Cultural Resources Commission will be sought regarding the sign.**

Verbiage indicating that the replacement sign will be of similar materials and colors as the existing sign and approval of the sign from the Cultural Resources Commission will be included in the final version of the Environmental Assessment.

8) **On page 2-6 of the Draft EA, the brightness of the lighting is discussed. The Final EA should address shielding of the lighting so as not to impact adjacent residences.**

Discussion of shielding adjacent residences from construction lighting will be included in the final version of the Environmental Assessment.

9) **On page 2-6 of the Draft EA, the use of equipment for demolition is discussed. The Final EA should discuss mitigation of noise from such equipment.**

Discussion of mitigating demolition equipment noise will be included in the final version of the Environmental Assessment.

10) **On page 2-8 of the Draft EA, the establishment of a separate bike lane is discussed. The Final EA should note that the existing shoulders of the highway are signed as a bike route and that this will not change with the highway widening project or with the addition of the separate bike lane.**

Verbiage that the existing highway shoulders are signed as a bike route and will not change from highway widening will be included in the final version of the Environmental Assessment.

11) **On page 2-15 of the Draft EA, the improvement of intersections regarding bicycle and pedestrian access is discussed. The Final EA should discuss improvements to the southeast and northeast corners of the Lahainaluna intersection that would allow for the existing bike route (shoulder) to be unimpeded along the mauka side of the highway. A curbed sidewalk impedes into the shoulder now (see Ph-2).**

Construction plans will be revised to modify the northeast and southeast corners of the Lahainaluna Road intersection so the existing bike route in the paved shoulder is continuous.

12) **On page 2-15 of the Draft EA, the median is described as paved, while page cross-sections in Appendix A indicate the median will be landscaped. The provision of a vegetated median should be cleared up in the Final EA.**

The highway median will be landscaped. As mentioned in response 2 above, a landscaping plan will be included in the final version of the Environmental Assessment and construction documents.

13) **Page 3-25 of the Draft EA discusses "some periodic minor delays will happen during peak traffic hours." The highway is currently very congested during peak traffic hours. Any further delays during these times will exacerbate an already frustrating situation. Delays during peak traffic periods should only occur as an absolute last resort. The Final EA should reflect this and indicate how such delays will be minimized as much as possible.**

One lane in both directions will be open throughout project construction. Approaches to traffic control during construction of the project will be coordinated with agencies and the public. Mill Street is being proposed as a temporary construction detour. Also, the construction contract documents will require that the Contractor apply for a Noise Variance with the Department of Health, Noise, Radiation, and Indoor Air Quality Branch to allow night work that is subject to neighborhood receptiveness.

Again, thank you for your department's comments and participation in the Draft Environmental Assessment review and comment process.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

Very truly yours,

BRENNON T. MORIOKA, Ph.D., P.E.
Deputy Director-Highways

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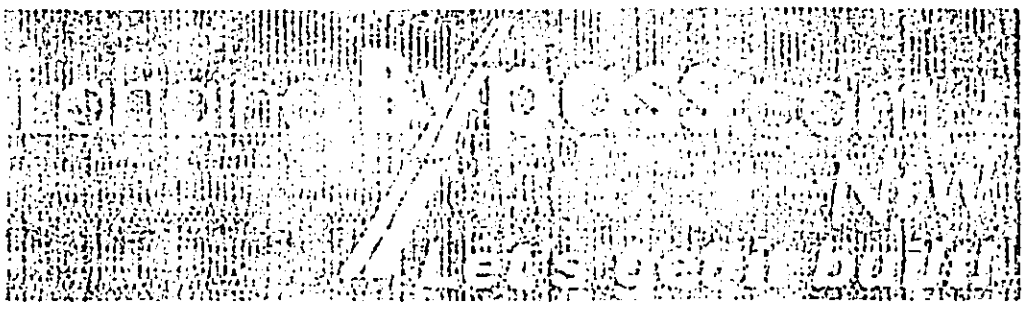
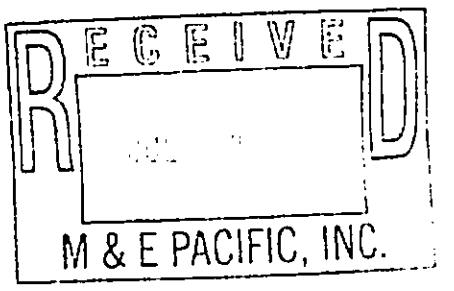


July 10, 2006



Charlene Shibuya
Department of Transportation
Highways Division
650 Palapala Dr.
Kahului, HI 96732

Re: Comments on the Draft Environmental Assessment for the proposed Honoapi'ilani Highway Widening Lahainluna to 'Aholo Road (DOT-HWY Project No. 30BC-01-04)

Dear Ms. Shibuya:

Lahaina Bypass Now (LBN) is a community based planning group intent on implementing transportation solutions for West Maui. We regard the By-pass as a vital element of the solution. However, we also understand that there are many additional ways for the community to address transportation solutions. Team #2 of LBN is charged with planning an "Alternate network of Roads" that will provide "parallel redundancy" and overall improved transportation efficiency in West Maui. This hardworking team includes two professional planners and the executive director of the Maui Coastal Land Trust. Property owners and developers have provided substantial resources and support. Maui Land and Pineapple Company, Inc. has generously arranged for the nationally known Transportation Planner, Jim Charlier to advise By-pass Now. We hope you will find the following comments and suggestions of this group and its technical advisors helpful.

The following comments on the Draft EA are intended to respectfully make suggestions that we feel will result in plan improvements. We hope to provide a solution to our short term traffic problem in a way that will be in harmony with the long range plans for West Maui. We do not oppose the project. We do not want our suggestions to "kill the project" or result in implementation delays. We believe that an improved Honoapiilani Highway through Lahaina should be part of West Maui's Transportation Plan.

1. First we request that the EA consider how the proposed widening project fits into The Long Range Transportation plan for West Maui. One key element of LBN's' vision for West Maui's is a world class ocean front park from Puamana to the Pali. The existing

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Honoapiilani Highway abuts the shoreline through prime sections of this future Coastal Park. This highway is being damaged by erosion and must be moved mauka to avoid safety issues and very high maintenance costs. The proposed widening project should anticipate the eventual need to route Honoapiilani Highway traffic mauka south of Puamana.

2. The analysis of the Alternative Solutions needs to reflect the ability to use Mill Street and other segments of the former Haul Cane Roads as complimentary improvements rather than competing ones. It is understood that at present, one of Honoapiilani Highway's main functions is to provide a through connection to resort areas of Kaanapali and Kapalua. Unfortunately, the segment through the Lahaina urban core serves double duty as a local collector as well. The LBN wants to accelerate the establishment of a local network of roadways which would improve the functioning of Honoapiilani Highway in terms of its throughput capacity. Mill Street, from Aholo Street to Keawe Street, seems to be a logical improvement that would improve the operational efficiency of Honoapiilani Highway by providing alternative roadways for local trips.

The concerns expressed in the draft EA about Mill Street's right-of-way issues and potential hazardous materials appears to be unwarranted. The Landowner, KDC, has expressed a willingness to have these roads improved as part of an overall solution. This alternative is considered very near term possibility to provide relief to the current traffic crisis as well as providing a much needed long term alternative roadway corridor within the Lahaina urban core. Lastly, opening these roads for public use could provide an alternate route during the proposed Highway Widening project.

3. Impacts to traffic circulation during the construction phase of this project could be catastrophic to the general welfare of the people of West Maui. Initiation of the development of a detailed mitigation plan for the construction phase cannot be delayed. At a minimum, a detailed evaluation of potential mitigation measures during the construction phase should be included in this EA or it would be deficient. This analysis should include exploring whether portions of Mill Street or the former Haul Cane roads could be used as detour routes. Without the benefit of such study, it is safe to say that the significance of the potential impacts due to construction could be so severe that they would warrant the preparation of a full Environmental Impact Statement (EIS). Preparation of a detailed construction phasing and mitigation plan should be included in the EA and details of this plan should be discussed with the West Maui Community.

4. We would like to see more specific information on the "dedicated pedestrian access" across the proposed highway connecting the town to the Aquatic Center and the recreational facilities. Safety of our children will be a concern.

5. We understand that a noise study will be part of the EA. The results of this study should be presented to the public as early as possible.

6. Please address the impact of the Federal Lahaina Flood Control Project on plans for this project as well as how it impacts the long range planning options for this section of Lahaina. The flood control project will involve relocating the Haul Cane Road to the mauka side of the new structure as well as constructing a new bridge for Honoapi'ilani Highway over the project's ocean outlet.

7. We suggest that you clarify the "20-year los". Does this mean that the widening will, by itself, provide an acceptable level of service for the next twenty years, or are you assuming completion of the by-pass?

At a recent meeting of Lahaina Bypass Now, it was suggested that it might be appropriate for DOT, Maui County and the West Maui Community to participate in a public charrette that will help refine the detailed elements of a transportation plan for West Maui. This charrette would focus on the southern section of Lahaina. We believe that early community participation will help expedite the EA and SMA process in the long run. We do not believe that the Charette will slow the process or result in "canceling the project", rather the intent would be to improve upon the project's design as well as its implementation schedule.

We believe that our combined efforts with DOT will result in plan that will handle our community's transportation needs in a way that will enhance the beauty of our Historic Lahaina.

Respectfully submitted,

Peter McKenney
Chairman, Team No. 2
Lahaina Bypass Now

Cc: Brennon Morioka, Deputy Director, State Department of Transportation
Mayor Alan Arakawa
Milton Arakawa, Director, Department of Public Works and Waster Management
Mike Foley, Director, Department of Planning
Senator Roz Baker
Representative Kam Tanaka
M&E Pacific, Inc.
OEQC
Shan Steinmark

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BRIAN H. SEKIGUCHI

IN REPLY REFER TO:
HWY-M 2.022-07

February 5, 2007

Mr. Peter McKenney, Chairman, Team No. 2
Lahaina Bypass Now
1000 Kapalua Drive
Lahaina, Hawaii 96761

Dear Mr. McKenney:

SUBJECT: RESPONSE TO COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

Thank you for your letter dated July 10, 2006, commenting on the Draft Environmental Assessment for the Honoapiilani Highway Widening, Lahainaluna Road to Aholo Road Project on the Island of Maui. We provide the following responses to your comments in the order as they appear in your letter.

1) **First we request that the EA consider how the proposed widening project fits into The Long Range Transportation plan for West Maui. One key element of LBN's vision for West Maui is a world class ocean front park from Puamana to the Pali. The existing Honoapiilani Highway abuts the shoreline through prime sections of this future Coastal Park. This highway is being damaged by erosion and must be moved mauka to avoid safety issues and very high maintenance costs. The proposed widening project should anticipate the eventual need to route Honoapiilani Highway traffic mauka south of Puamana.**

The highway widening project will increase the vehicular capacity of the roadway, easing congestion for motorists traveling about and through Lahaina, while increasing the safety of pedestrians and bicyclists, and providing an aesthetic gateway into Lahaina town. The project serves as a continuation of the existing widened highway that has been extended southward until Lahainaluna Road. The project complements other transportation improvements planned for the region, including the Lahaina Bypass project and local road improvements, by providing increased access to and flexibility for these facilities. The project improvements are consistent with the following public documents:

- Bike Plan Hawaii, A State of Hawaii Master Plan (2003);

- County of Maui, Department of Planning and Permitting, General Plan (1980);
- County of Maui, Department of Planning and Permitting, General Plan Update (1990);
- Drainage Master Plan for the County of Maui, State of Hawaii (1971);
- Joint State/County Maui Interim Transportation Plan (2002);
- Lahaina Town Drainage Master Plan (2004);
- Lahaina Watershed Flood Control Project (2003);
- Maui County Water Use and Development Plan (1991);
- Maui Long-Range Highway Planning Study (1991);
- Maui Long-Range Land Transportation Plan (1997);
- Mayor's Transportation Action Committee, Report and Recommendations (2001);
- Task Force Report, Strategies to Link Central and West Maui (2000); and,
- West Maui Community Plan (1996).

Also, the shoreline abuts the highway approximately 3,500 feet (⅔ mile) south of the project. Therefore, the project would increase pedestrian and bicycle access between the recreational center and future coastal park.

2) **The analysis of the Alternative Solutions needs to reflect the ability to use Mill Street and other segments of the former Haul Cane Roads as *complimentary* improvements rather than competing ones. It is understood that at present, one of Honoapiilani Highway's main functions is to provide a through connection to resort areas of Kaanapali and Kapalua. Unfortunately, the segment through the Lahaina urban core serves double duty as a local collector as well. The LBN wants to accelerate the establishment of a local network of roadways which would improve the functioning of Honoapiilani Highway in terms of its throughput capacity. Mill Street, from Aholo Street to Keawe Street, seems to be a logical improvement that would improve the operational efficiency of Honoapiilani Highway by providing alternative roadways for local trips.**

The concerns expressed in the draft EA about Mill Street's right-of-way issues and potential hazardous materials appears to be unwarranted. The Landowner, KDC, has expressed a willingness to have these roads improved as part of an overall solution. This alternative is considered very near term possibility to provide relief to the current traffic crisis as well as providing a much needed long term alternative roadway corridor within the Lahaina urban core. Lastly, opening these roads for public use could provide an alternative route during the proposed Highway Widening Project.

The landowner has expressed willingness to improve Cane Haul Road as a temporary construction detour road. However, to date, right-of-way issues, funding alternatives, environmental assessment, functional reclassification for eligibility of federal funding are unresolved for the site. The County of Maui, with the participation of private developments, intends to develop this road realistically at least 5 years away. As such, the DOT is designing the road cross section to be "collapsible" or easily modified to a

reduced laneage configuration once through traffic capacity is provided by the Lahaina Bypass and Mill Street corridor.

3) **Impacts to traffic circulation during the construction phase of this project could be catastrophic to the general welfare of the people of West Maui. Initiation of the development of a detailed mitigation plan for the construction phase cannot be delayed. At a minimum, a *detailed evaluation* of potential mitigation measures during the construction phase should be included in this EA or it would be deficient. This analysis should include exploring whether portions of Mill Street or the former Haul Cane roads could be used as detour routes. Without the benefit of such study, it is safe to say that the significance of the potential impacts due to construction could be so severe that they would warrant the preparation of a full Environmental Impact Statement (EIS). Preparation of a detailed construction phasing and mitigation plan should be included in the EA and details of this plan should be discussed with the West Maui Community.**

   One lane in both directions will be open throughout project construction. Approaches to traffic control during construction of the project will be coordinated with agencies and the public. Dialogue with KDC has begun for the temporary use of Mill Street as a construction detour for northbound traffic. Paving of this detour road will be included in the project.

4) **We would like to see more specific information on the "dedicated pedestrian access" across the proposed highway connecting the town to the Aquatic Center and the recreational facilities. Safety of our children will be a concern.**

   There is insufficient room within the roadway right-of-way to fit an ADA-compliant dedicated pedestrian access—such as an overpass—across Honoapi'ilani Highway near the Lahaina Aquatic Center and Park. Pedestrian and children safety will be provided via safe and adequate pedestrian crossing times at the signalized intersection. Pedestrians will cross Honoapi'ilani Highway similarly to the signalized crossings at Lahainaluna Road, Papalaua Street, Hinau Street, Keawe Street/Lahaina Cannery, and Kapunakea Street. Pedestrian crossing enhancements will be 16'-wide marked crosswalks versus the existing 10'-wide markings, and provision for a landscape median.

5) **We understand that a noise study will be part of the EA. The results of this study should be presented to the public as early as possible.**

   The Noise Impact Assessment report (September 2006) noted that noise receptors located 50 feet from the centerline of the roadway currently experiences traffic noise levels that exceed FHWA and HDOT Noise Limits. A summary of the results was presented to the public at a Lahaina Transportation Design Workshop on January 19, 2007. Furthermore, HDOT's Noise Abatement procedures require a neighborhood meeting to specifically notify affected residents to acquire a consensus on the desired noise abatement method.

6) **Please address the impact of the Federal Lahaina Flood Control Project on plans for this project as well as how it impacts the long range planning options for this section of Lahaina. The flood control project will involve relocating the Haul Cane Road to the mauka side of the new structure as well as constructing a new bridge for Honoapi'ilani Highway over the project's ocean outlet.**

   The Lahaina Flood Control Project corridor does not overlap the highway widening project and will occur considerably outside of the project limits. The widening project includes 16 drywells to capture and retain pavement drainage to minimize *mauka-makai* flows downstream of the highway until the Flood Control Project is built.

7) **We suggest that you clarify the "20-year los." Does this mean that the widening will, by itself, provide an acceptable level of service for the next twenty years, or are you assuming completion of the by-pass?**

   At a recent meeting of Lahaina Bypass Now, it was suggested that it might be appropriate for DOT, Maui County and the West Maui Community to participate in a public charrette that will help refine the detailed elements of a transportation plan for West Maui. This charrette would focus on the southern section of Lahaina. We believe that early community participation will help expedite the EA and SMA process in the long run. We do not believe that the Charette will slow the process or result in "canceling the project," rather the intent would be to improve upon the project's design as well as its implementation schedule.

   Clarification of the 20-year LOS will be made in the project's Traffic Study that will be included in the final version of the Environmental Assesssment. Neither the widened Honoapi'ilani Highway nor the Lahaina Bypass alone will achieve the acceptable 20-year LOS. Both of these projects would need to be constructed in order to meet the 20-year LOS.

   The DOT participated in a public charrette from Tuesday, January 9, 2007, through Friday, January 12, 2007. As a result of the charrette, key revisions to be incorporated into the final designs are:

   1) Retaining the landscaped median proposed with substitutions on two plantings of the native 'a'ali'i tree and 'aloe plant in lieu of the Loulu palm and bromeliad plant.

   2) Revising the highway section to be more "collapsible" for a future 2-lane street with wider medians and pedestrian/bike/greenway corridors.

   3) For the Shaw Street signalized intersection, provide wider marked crosswalks (16' versus 10' wide) for enhanced advanced visibility and accommodating larger groups of children crossing, and safe and adequate signal crossing times will be provided.

Again, thank you for your comments and participation in the Draft Environmental Assessment review and comment process.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

Very truly yours,

BRENNON T. MORIOKA, Ph.D., P.E.
Deputy Director-Highways

Draft EA Distribution Database

Organization	Title	First Name	Last Name	Mailing Address Line 1	Mailing Address Line 2	Mailing Address Line 3	Mailing Address Line 4	City	State	Zip	Telephone	Date Mailed Out	Postal Service	Parcel Tracking / Delivery Confirmation Number	Date Received
Hawai'i State Legislature	Ms.	Rosalyn H	Baker, *State Senator*	5th Senatorial District	Hawai'i State Capitol	Room 220	415 South Beretania Street	Honolulu	Hawai'i	96813	(808) 586-6070	6/2/2006	USPS Priority Mail	7004 0550 0001 0835 1832 / Wayne Dang	6/5/2006
Hawai'i State Legislature	Mr.	Kameo	Tanaka, *State Representative*	10th Representative District	Hawai'i State Capitol	Room 319	415 South Beretania Street	Honolulu	Hawai'i	96813	(808) 586-6160	6/2/2006	USPS Priority Mail	7004 0550 0001 0835 1849 / Wayne Dang	6/5/2006
County of Maui	Ms.	Jo Anne	Johnson, *County of Maui Council Member*	Legislative Branch—County Council	Katana O Maui Building	Room 813	200 South High Street	Wailuku	Hawai'i	96793	(808) 270-5504	6/2/2006	USPS Priority Mail	7004 0550 0001 0683 1600 / Ed Foo Sunn	6/5/2006
State of Hawai'i	Ms.	Melissa A.	Kirkendall, *Maui Island Archaeologist / Mr. Hina*	Department of Land and Natural Resources	State Historic Preservation Division	Maui Office	150 Mahalani Street	Wailuku	Hawai'i	96793	(808) 243-1285	6/2/2006	USPS Priority Mail	7004 0550 0001 0683 1617 / Hinano Rodrogue	6/5/2006
US Department of Transportation	Mr.	Pat V.	Phung, *Transportation Engineer*	Federal Highway Administration	Hawai'i Division—Box 50206	Room 3-306	300 Ala Moana Boulevard	Honolulu	Hawai'i	96850	(808) 541-2700	6/2/2006	USPS Priority Mail	7004 0550 0001 0683 1624 / BJ Silva	6/5/2006
State of Hawai'i	Ms.	Martha E	Yent, *LWCF Interpretive Program Supervisor/An*	Department of Land and Natural Resources	Division of State Parks	Kalanimoku Building, Room 310	1151 Punchbowl Street	Honolulu	Hawai'i	96813	(808) 243-5169	6/2/2006	USPS Priority Mail	7004 0550 0001 0683 1631 / Wayne Dang	6/5/2006
State of Hawai'i	Ms.	Thelma M.	Shimaoka, *Maui Island Community Resource Co*	Office of Hawaiian Affairs	140 Hoohana Street	Suite 206		Kahului	Hawai'i	96732	(808) 243-5016	6/2/2006	USPS Priority Mail	7004 0550 0001 0683 1648 / R. A. Newton	6/5/2006
State of Hawai'i	Mr.	Charles K	Maxwell, Sr., *Chair / Ms. Dana Naone Hall, Vice*	Department of Land and Natural Resources	Historic Preservation Division, Burials F	MAUI / LĀNA'I ISLANDS BURIAL	150 Mahalani Street	Wailuku	Hawai'i	96793	(808) 244-9017	6/2/2006	USPS Priority Mail	7004 0550 0001 0683 1655 / Hinano Rodrogue	6/5/2006
State of Hawai'i	Mr	Micah A.	Kane, *Chairman Hawaiian Homes Commission*	Department of Hawaiian Home Lands	Office of the Chairman	Alii Place, Suite 2000	1099 Alakea Street	Honolulu	Hawai'i	96813	(808) 586-3836	6/2/2006	USPS Priority Mail	7004 0550 0001 0683 1662 / Ivan H K. Lee	6/5/2006
Bishop Museum	Dr.	Bill	Brown, *Director / Ms. Betty Lou Kern, Cultural R*	1525 Bernice Street				Honolulu	Hawai'i	96817	(808) 847-3511	6/2/2006	USPS Priority Mail	7004 0550 0001 0835 1856 / J. Yamashita	6/5/2006
County of Maui	Mr	David	Sakoda, *County of Maui Arborist*	Department of Parks and Recreation / Arborist A	Office of the Director	700 Hali'a Nakoa Street	Unit 2	Wailuku	Hawai'i	96793	(808) 270-7383	6/2/2006	USPS Priority Mail	7004 0550 0001 0683 1532 / Allen Shishido	6/5/2006
State of Hawai'i	Mr.	David	Shimokawa, *State Transportation Planner*	Department of Transportation, Highways Division	Statewide Transportation Planning (STI	AlliTemoku Building, Room 434	869 Punchbowl Street	Honolulu	Hawai'i	96813	(808) 587-1845	6/2/2006	USPS Priority Mail	7004 0550 0001 0683 1549 / Marcy Reynolds	6/5/2006
State of Hawai'i	Mr	Ronald	Tsuzaki, *Head Planning Engineer*	Department of Transportation, Highways Division	Planning Branch	AlliTemoku Building, Room 301	869 Punchbowl Street	Honolulu	Hawai'i	96813	(808) 587-1830	6/2/2006	USPS Priority Mail	7004 0550 0001 0683 1556 / Marcy Reynolds	6/5/2006
County of Maui	Mr	Cary	Yamashita, *Chief Engineer*	Department of Public Works and Environmental	Engineering Division	Katana O Maui Building, 3rd Floor	200 South High Street	Wailuku	Hawai'i	96793	(808) 270-7845	6/2/2006	USPS Priority Mail	7004 0550 0001 0683 1563 / Ed Foo Sunn	6/5/2006
State of Hawai'i	Mr.	Chris	Decus, *Landscape Architect*	Department of Transportation, Highways Division	Landscape Services (c/o Design Branch	Kakuhihewa Building, Room 668A	601 Kamokila Boulevard	Kapolei	Hawai'i	96707	(808) 692-7600	6/2/2006	USPS Priority Mail	7004 0550 0001 0683 1570 / Chris Decus	6/6/2006
Munekiyo & Hiraga, Inc	Mr	Mich	Hirano, AICP, *Principal*	305 High Street	Suite 104			Wailuku	Hawai'i	96793	(808) 244-2015	6/5/2006	USPS Priority Mail	7004 0550 0001 0683 1587 / Tracy Nakamoto	6/6/2006
M & E Pacific, Inc	Mr	Lloyd	Lee, *Sr. Project Manager*											DHL#5196557242 / Michele Yamamoto	6/6/2006

FINAL

LINGLE
GOVERNOR

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

RODNEY K. HARAGA
DIRECTOR

Deputy Directors
BARRY FUKUNAGA
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO
HWY-2.238-06

May 26, 2006

TO: GENEVIEVE SALMONSON, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
DEPARTMENT OF HEALTH

FROM: BRENNON T. MORIOKA
DEPUTY DIRECTOR-HIGHWAYS

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR HONOAPIILANI HIGHWAY WIDENING, LAHAINALUNA ROAD TO AHOLO ROAD, ISLAND OF MAUI

The State of Hawaii, Department of Transportation, Highways Division, has reviewed the draft environmental assessment for the subject project. We believe that there will be no significant impacts as a result of the proposed action, therefore, we are filing a Finding of No Significant Impact (FONSI) determination. We respectfully request that the notice of availability for this project be published in the next edition of the OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form, four (4) copies of the draft EA, and the project summary on disk.

If you have any questions, please call Ms. Charlene Shibuya, Maui District Construction Engineer, at (808) 873-3535.

Enclosures

M&E Pacific, Inc.
METCALF & EDDY | AECOM

Transmittal

TO: State of Hawai'i
Department of Health
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawai'i 96813
(808) 586-4185

FROM: Mike Nishimura
Honolulu Office

ATTN: Ms. Genevieve Salmonson, Director

DATE: May 26, 2006

RE: State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04
DRAFT ENVIRONMENTAL ASSESSMENT FOR REVIEW AND OEQC ENVIRONMENTAL NOTICE PUBLICATION

PROJECT NUMBER: 36802576.00370

WE ARE SENDING YOU:

☒ ATTACHED ☐ UNDER SEPARATE COVER VIA

☐ SHOP DRAWINGS ☒ DOCUMENTS ☐ TRACINGS

☐ PRINTS ☐ SPECIFICATIONS ☐ CATALOGS

☐ COPY OF LETTER ☒ OTHER: Compact Disc of Electronic Documents

QUANTITY	DESCRIPTION
1 Copy	Original Transmittal Cover Letter Signed by DOT-HWY
4 Copies	Draft Environmental Assessment
1 Copy	Completed OEQC Publication Form
1 Copy	Project Summary
1 Copy	CD of Completed OEQC Publication Form and Project Summary in Electronic Format

IF THE MATERIALS RECEIVED ARE NOT AS LISTED ABOVE, PLEASE NOTIFY US AT ONCE.

REMARKS:

Hi Ms. Salmonson,

Please find attached the submittal package for the Draft Environmenal Assessment of the subject project. We would like to request its notice to be included in the Thursday, June 8, 2006, edition of your OEQC *Environmental Notice* publication.

Should any questions or problems develop, please call either Ms. Diane Kodama or myself at the telephone number below. Thanks.

COPY TO: Project File

Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawai'i 96813

Voice: (808) 521-3051, Extension 228
Fax: (808) 524-0246

transOEQC01.doc

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

Ms. Bobbie Best, *Branch Manager*
Hawai'i State Public Library System
LAHAINA PUBLIC LIBRARY
680 Wharf Street
Lahaina, Hawai'i 96761

(808) 662-3950

May 30, 2006

Dear Ms. Best,

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Waine'e, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

The State of Hawai'i, Department of Transportation, Highways Division has reviewed the Draft Environmental Assessment (DEA) for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Notice of the project and its DEA will be published in the Thursday, June 8, 2006, edition of the State DLNR Office of Environmental Quality Control's (OEQC) *Environmental Notice* bulletin. The 30-day public review and comment period begins on the OEQC publication date and lasts until Monday, July 10, 2006. Please keep the attached DEA document on file at your institution for public review.

Please direct all comments and concerns to: Ms. Charlene Shibuya, DOT HWY Maui District Construction Engineer, (808) 873-3535.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*

Enclosures

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

Ms. Robyn Loudermilk / Ms. Kivette Caigoy
County of Maui, Department of Planning
Current Planning Division
Kalana Pāku'i Building
250 South High Street, 2nd Floor
Wailuku, Hawai'i 96793

(808) 270-7735

May 30, 2006

Dear Ms. Loudermilk / Ms. Caigoy,

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Waine'e, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

The State of Hawai'i, Department of Transportation, Highways Division has reviewed the Draft Environmental Assessment (DEA) for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Notice of the project and its DEA will be published in the Thursday, June 8, 2006, edition of the State DLNR Office of Environmental Quality Control's (OEQC) *Environmental Notice* bulletin. A copy of the Draft EA has also been sent to the Lahaina Public Library for public review and comment, as well as, District members of legislature, consulting agencies and Section 106 responders. The 30-day public review and comment period begins on the OEQC publication date and lasts until Monday, July 10, 2006. Please find attached the aforementioned DEA document for your review and comment.

Should you have any questions or concerns please contact either Ms. Charlene Shibuya, DOT-HWY Maui District Construction Engineer, at (808) 873-3535, or myself at (808) 521-3051.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*

Enclosures

M&E Pacific, Inc.

METCALF&EDDY | AECOM

Transmittal

TO: State of Hawai'i
Department of Transportation
Highways Division
Maui District
650 Palapala Drive
Kahului, Hawai'i 96732
(808) 873-3535

FROM: Mike Nishimura
Honolulu Office

ATTN: Ms. Charlene Shibuya

DATE: May 30, 2006

RE: State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Waine'e, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04
DRAFT ENVIRONMENTAL ASSESSMENT

PROJECT NUMBER: 36802576.00370

WE ARE SENDING YOU:

- ☒ ATTACHED
- ☐ UNDER SEPARATE COVER VIA
- ☐ SHOP DRAWINGS
- ☒ DOCUMENTS
- ☐ TRACINGS
- ☐ PRINTS
- ☐ SPECIFICATIONS
- ☐ CATALOGS
- ☐ COPY OF LETTER
- ☐ OTHER:

QUANTITY	DESCRIPTION
2 Copies	Draft Environmental Assessment Submitted to OEQC

IF THE MATERIALS RECEIVED ARE NOT AS LISTED ABOVE, PLEASE NOTIFY US AT ONCE.

REMARKS:

Hi Charlene,

We are pleased to submit the official Draft Environmental Assessment (EA) for the subject project that was delivered to OEQC last Friday (May 26, 2006).

Should any questions or problems develop, please call either Ms. Diane Kodama or myself at the telephone number below. Thanks.

COPY TO: Project File

Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawai'i 96813

Voice: (808) 521-3051, Extension 228
Fax: (808) 524-0246

transDOT12.doc

METCALF&EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

Hawai'i State Legislature
5th Senatorial District
Hawai'i State Capitol
Room 220
415 South Beretania Street
Honolulu, Hawai'i 96813

(808) 586-6070

June 1, 2006

Dear Ms. Rosalyn H. Baker, State Senator:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Waine'e, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

The State of Hawai'i, Department of Transportation, Highways Division has reviewed the Draft Environmental Assessment (DEA) for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Notice of the project and its DEA will be published in the Thursday, June 8, 2006, edition of the State DLNR Office of Environmental Quality Control's (OEQC) *Environmental Notice* bulletin. A copy of the Draft EA has also been sent to the Lahaina Public Library for public review and comment, as well as, District members of legislature, consulting agencies and Section 106 responders. The 30-day public review and comment period begins on the OEQC publication date and lasts until Monday, July 10, 2006. Please find attached the aforementioned DEA document for your review and comment.

Should you have any questions or concerns please contact either Ms. Charlene Shibuya, DOT-HWY Maui District Construction Engineer, at (808) 873-3535, or myself at (808) 521-3051.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

Hawai'i State Legislature
10th Representative District
Hawai'i State Capitol
Room 319
415 South Beretania Street
Honolulu, Hawai'i 96813

(808) 586-6160

June 1, 2006

Dear Mr. Kameo Tanaka, State Representative:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Waine'e, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

The State of Hawai'i, Department of Transportation, Highways Division has reviewed the Draft Environmental Assessment (DEA) for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Notice of the project and its DEA will be published in the Thursday, June 8, 2006, edition of the State DLNR Office of Environmental Quality Control's (OEQC) *Environmental Notice* bulletin. A copy of the Draft EA has also been sent to the Lahaina Public Library for public review and comment, as well as, District members of legislature, consulting agencies and Section 106 responders. The 30-day public review and comment period begins on the OEQC publication date and lasts until Monday, July 10, 2006. Please find attached the aforementioned DEA document for your review and comment.

Should you have any questions or concerns please contact either Ms. Charlene Shibuya, DOT-HWY Maui District Construction Engineer, at (808) 873-3535, or myself at (808) 521-3051.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

County of Maui
Legislative Branch—County Council
Kalana O Maui Building
Room 813
200 South High Street
Wailuku, Hawai'i 96793

(808) 270-5504

June 1, 2006

Dear Ms. Jo Anne Johnson, County of Maui Council Member:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Waine'e, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

The State of Hawai'i, Department of Transportation, Highways Division has reviewed the Draft Environmental Assessment (DEA) for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Notice of the project and its DEA will be published in the Thursday, June 8, 2006, edition of the State DLNR Office of Environmental Quality Control's (OEQC) *Environmental Notice* bulletin. A copy of the Draft EA has also been sent to the Lahaina Public Library for public review and comment, as well as, District members of legislature, consulting agencies and Section 106 responders. The 30-day public review and comment period begins on the OEQC publication date and lasts until Monday, July 10, 2006. Please find attached the aforementioned DEA document for your review and comment.

Should you have any questions or concerns please contact either Ms. Charlene Shibuya, DOT-HWY Maui District Construction Engineer, at (808) 873-3535, or myself at (808) 521-3051.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
Maui Office
150 Mahalani Street
Wailuku, Hawai'i 96793

(808) 243-1285

June 1, 2006

Dear Ms. Melissa A. Kirkendall, Maui Island Archaeologist / Mr. Hinano Rodrigues, Cultural Specialist:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Wainee, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

The State of Hawai'i, Department of Transportation, Highways Division has reviewed the Draft Environmental Assessment (DEA) for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Notice of the project and its DEA will be published in the Thursday, June 8, 2006, edition of the State DLNR Office of Environmental Quality Control's (OEQC) *Environmental Notice* bulletin. A copy of the Draft EA has also been sent to the Lahaina Public Library for public review and comment, as well as, District members of legislature, consulting agencies and Section 106 responders. The 30-day public review and comment period begins on the OEQC publication date and lasts until Monday, July 10, 2006. Please find attached the aforementioned DEA document for your review and comment.

Should you have any questions or concerns please contact either Ms. Charlene Shibuya, DOT-HWY Maui District Construction Engineer, at (808) 873-3535, or myself at (808) 521-3051.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

US Department of Transportation
Federal Highway Administration
Hawai'i Division—Box 50206
Room 3-306
300 Ala Moana Boulevard
Honolulu, Hawai'i 96850

(808) 541-2700

June 1, 2006

Dear Mr. Pat V. Phung, Transportation Engineer:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Wainee, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

The State of Hawai'i, Department of Transportation, Highways Division has reviewed the Draft Environmental Assessment (DEA) for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Notice of the project and its DEA will be published in the Thursday, June 8, 2006, edition of the State DLNR Office of Environmental Quality Control's (OEQC) *Environmental Notice* bulletin. A copy of the Draft EA has also been sent to the Lahaina Public Library for public review and comment, as well as, District members of legislature, consulting agencies and Section 106 responders. The 30-day public review and comment period begins on the OEQC publication date and lasts until Monday, July 10, 2006. Please find attached the aforementioned DEA document for your review and comment.

Should you have any questions or concerns please contact either Ms. Charlene Shibuya, DOT-HWY Maui District Construction Engineer, at (808) 873-3535, or myself at (808) 521-3051.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

State of Hawai'i
Department of Land and Natural Resources
Division of State Parks
Kalanimoku Building, Room 310
1151 Punchbowl Street
Honolulu, Hawai'i 96813

(808) 243-5169

June 1, 2006

Dear Ms. Martha E. Yent, LWCF Interpretive Program Supervisor/Archaeologist:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Wainee, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

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Should you have any questions or concerns please contact either Ms. Charlene Shibuya, DOT-HWY Maui District Construction Engineer, at (808) 873-3535, or myself at (808) 521-3051.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

State of Hawai'i
Office of Hawaiian Affairs
140 Ho'ohana Street
Suite 206
Kahului, Hawai'i 96732

(808) 243-5016

June 1, 2006

Dear Ms. Thelma M. Shimaoka, Maui Island Community Resource Coordinator:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Wainee, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

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Should you have any questions or concerns please contact either Ms. Charlene Shibuya, DOT-HWY Maui District Construction Engineer, at (808) 873-3535, or myself at (808) 521-3051.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

METCALF & EDDY | AECOM

State of Hawai'i
Department of Land and Natural Resources
Historic Preservation Division, Burials Program (Maui / Lāna'i Island)
MAUI / LĀNA'I ISLANDS BURIAL COUNCIL
150 Mahalani Street
Wailuku, Hawai'i 96793

(808) 244-9017

June 1, 2006

Dear Mr. Charles K. Maxwell, Sr., Chair / Ms. Dana Naone Hall, Vice-Chair:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Ahole Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Waine'e, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

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Should you have any questions or concerns please contact either Ms. Charlene Shibuya, DOT-HWY Maui District Construction Engineer, at (808) 873-3535, or myself at (808) 521-3051.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

METCALF & EDDY | AECOM

State of Hawai'i
Department of Hawaiian Home Lands
Office of the Chairman
Ali'i Place, Suite 2000
1099 Alakea Street
Honolulu, Hawai'i 96813

(808) 586-3836

June 1, 2006

Dear Mr. Micah A. Kane, Chairman Hawaiian Homes Commission:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Ahole Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Waine'e, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

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Should you have any questions or concerns please contact either Ms. Charlene Shibuya, DOT-HWY Maui District Construction Engineer, at (808) 873-3535, or myself at (808) 521-3051.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

Bishop Museum
1525 Bernice Street
Honolulu, Hawai'i 96817

(808) 847-3511

June 1, 2006

Dear Dr. Bill Brown, Director / Ms. Betty Lou Kam, Cultural Resources:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Waine'e, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

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Should you have any questions or concerns please contact either Ms. Charlene Shibuya, DOT-HWY Maui District Construction Engineer, at (808) 873-3535, or myself at (808) 521-3051.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

County of Maui
Department of Parks and Recreation / Arborist Advisory Committee
Office of the Director
700 Hali'a Nakoa Street
Unit 2
Wailuku, Hawai'i 96793

(808) 270-7383

June 1, 2006

Dear Mr. David Sakoda, County of Maui Arborist:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Waine'e, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

The State of Hawai'i, Department of Transportation, Highways Division has reviewed the Draft Environmental Assessment (DEA) for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Notice of the project and its DEA will be published in the Thursday, June 8, 2006, edition of the State DLNR Office of Environmental Quality Control's (OEQC) *Environmental Notice* bulletin. A copy of the Draft EA has also been sent to the Lahaina Public Library for public review and comment, as well as, District members of legislature, consulting agencies and Section 106 responders. The 30-day public review and comment period begins on the OEQC publication date and lasts until Monday, July 10, 2006. Please find attached the aforementioned DEA document for your review and comment.

Should you have any questions or concerns please contact either Ms. Charlene Shibuya, DOT-HWY Maui District Construction Engineer, at (808) 873-3535, or myself at (808) 521-3051.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

State of Hawai'i
Department of Transportation, Highways Division
Statewide Transportation Planning (STP) Office
Ali'i'aimoku Building, Room 404
869 Punchbowl Street
Honolulu, Hawai'i 96813

(808) 587-1845

June 1, 2006

Dear Mr. David Shimokawa, State Transportation Planner:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Waine'e, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

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Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

State of Hawai'i
Department of Transportation, Highways Division
Planning Branch
Ali'i'aimoku Building, Room 301
869 Punchbowl Street
Honolulu, Hawai'i 96813

(808) 587-1830

June 1, 2006

Dear Mr. Ronald Tsuzaki, Head Planning Engineer:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Waine'e, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

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Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

County of Maui
Department of Public Works and Environmental Management
Engineering Division
Kalani O Maui Building, 3rd Floor
200 South High Street
Wailuku, Hawai'i 96793

(808) 270-7845

June 1, 2006

Dear Mr. Cary Yamashita, Chief Engineer:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Wainee, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

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Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

METCALF & EDDY | AECOM

M & E Pacific, Inc.
Davies Pacific Center, Suite 1900, Honolulu, Hawai'i 96813
T 808.521.3051 F 808.524.0246 www.m-e.com

State of Hawai'i
Department of Transportation, Highways Division
Landscape Services (c/o Design Branch)
Kakuhihewa Building, Room 688A
601 Kamokila Boulevard
Kapolei, Hawai'i 96707

(808) 692-7600

June 1, 2006

Dear Mr. Chris Dacus, Landscape Architect:

Draft Environmental Assessment (DEA) for
State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
TMK (2)4-5-006 & 009 and (2)4-6-004–013 & 034 [portion of each]
Wainee, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04

The State of Hawai'i, Department of Transportation, Highways Division has reviewed the Draft Environmental Assessment (DEA) for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Notice of the project and its DEA will be published in the Thursday, June 8, 2006, edition of the State DLNR Office of Environmental Quality Control's (OEQC) *Environmental Notice* bulletin. A copy of the Draft EA has also been sent to the Lahaina Public Library for public review and comment, as well as, District members of legislature, consulting agencies and Section 106 responders. The 30-day public review and comment period begins on the OEQC publication date and lasts until Monday, July 10, 2006. Please find attached the aforementioned DEA document for your review and comment.

Should you have any questions or concerns please contact either Ms. Charlene Shibuya, DOT-HWY Maui District Construction Engineer, at (808) 873-3535, or myself at (808) 521-3051.

Sincerely,
M & E PACIFIC, INC.

Michael S. Nishimura, *Project Engineer*
Enclosures

M&E Pacific, Inc.

METCALF & EDDY | AECOM

Transmittal

TO: Munekiyo & Hiraga, Inc.
305 South High Street
Suite 104
Wailuku, Hawai'i 96793
(808) 244-2015

FROM: Mike Nishimura
Honolulu Office

ATTN: Mr. Mich Hirano

DATE: June 5, 2006

RE: State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Wainee, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04
DRAFT ENVIRONMENTAL ASSESSMENT—FINAL OEQC-SUBMITTED VERSION

PROJECT NUMBER: 36802576.00370

WE ARE SENDING YOU:

- ☒ ATTACHED
- ☐ UNDER SEPARATE COVER VIA
- ☐ SHOP DRAWINGS
- ☒ DOCUMENTS
- ☐ TRACINGS
- ☐ PRINTS
- ☐ SPECIFICATIONS
- ☐ CATALOGS
- ☒ COPY OF LETTER
- ☐ OTHER:

QUANTITY	DESCRIPTION
1 Copy	Draft Environmental Assessment
1 Set	Copies of Cover Letters for Draft EA Recipients

IF THE MATERIALS RECEIVED ARE NOT AS LISTED ABOVE, PLEASE NOTIFY US AT ONCE.

REMARKS:

Aloha Mich,

Please find attached your copy of the final version of the Draft EA for the subject project. Also attached are copies of the cover letters for the Draft EA recipients. This recipient list was coordinated with and confirmed by Charlene.

Please note that the Cultural Impact Assessment interviews are still being completed; thus, we summarized the main general concerns of all interviewed informant parties in the Draft EA and indicated how each concern was to be addressed.

Should any questions or problems develop, please call either Ms. Diane Kodama or myself at the telephone number below. Thanks.

COPY TO: Project File

Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawai'i 96813

Voice: (808) 521-3051, Extension 228
Fax: (808) 524-0246

trans-DEA-M&H02.doc

M&E Pacific, Inc.

METCALF & EDDY | AECOM

Transmittal

TO: M&E Pacific, Inc.
Hilo Office
100 Pauahi Street
Suite 207
Hilo, Hawai'i 96720
(808) 961-2776

FROM: Mike Nishimura
Honolulu Office

ATTN: Mr. Lloyd Lee

DATE: June 5, 2006

RE: State of Hawai'i, Department of Transportation, Highways Division, Maui District
Honoapi'ilani Highway Widening, Lahainaluna Road to 'Aholo Road
Wainee, Lahaina, Maui, Hawai'i
DOT Job Number 30BC-01-04
DRAFT ENVIRONMENTAL ASSESSMENT—FINAL OEQC-SUBMITTED VERSION

PROJECT NUMBER: 36802576.00370

WE ARE SENDING YOU:

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QUANTITY	DESCRIPTION
1 Copy	Draft Environmental Assessment
1 Set	Copies of Cover Letters for Draft EA Recipients

IF THE MATERIALS RECEIVED ARE NOT AS LISTED ABOVE, PLEASE NOTIFY US AT ONCE.

REMARKS:

Aloha Lloyd,

Please find attached a copy of the final version of the Draft EA for the subject project for your perusal and files. Also attached are copies of the cover letters for the Draft EA recipients. This recipient list was coordinated with and confirmed by Charlene.

Should any questions or problems develop, please call either Ms. Diane Kodama or myself at the telephone number below. Thanks.

COPY TO: Project File

Davies Pacific Center
841 Bishop Street, Suite 1900
Honolulu, Hawai'i 96813

Voice: (808) 521-3051, Extension 228
Fax: (808) 524-0246

trans-DEA-M&E01.doc

APPENDIX Q

Lahaina Bypass Now Correspondence Regarding the January 2007 Public Charrette

JAN 2 4 2007

Lahaina By pass.com

January 22, 2007

M. Hirano
305 High St. Suite 104
Wailuku, HI 96793

Aloha,

Thank you for attending the Transportation Design Workshop in Lahaina earlier this month. Many individuals were willing to share their time, experience and views during the Workshop. The community's input was valuable and appreciated, and helped to make this gathering a success.

Over the course of the four-day Workshop, state and county planners, engineers, landowners, and interested citizens studied currently proposed road projects to ascertain how they can work together and improve the transportation network in West Maui.

The four projects included the connectors to the Lahaina Bypass; the Honoapi'ilani Highway widening project between Aholo St. and Lahainaluna Rd; the Lahaina Flood Control Project; and the Mill Street Extension. All of these projects had been proceeding separately, and Lahaina Bypass Now firmly believed they should and could be coordinated to more effectively respond to community concerns and move the process forward.

Collaboration is truly the heart of a thriving community, and thanks to the support and participation of many businesses and individuals, a consensus plan was reached by the Workshop participants. The resulting recommendations are summarized on the enclosed page, and more details on the Transportation Design Workshop (including photos!) can be found on the website link at www.lahainabypassnow.com.

The workshop resulted in a plan that is a TRADE UP over existing plans and provides an improved quality of life for residents, a better commute for workers, and a more memorable experience for visitors.

This Workshop has demonstrated that we are indeed more powerful when we come together to speak as one. Thank you again for taking the time to participate.

Sincerely,

Theo

Theo Morrison
Executive Director

1000 Kapalua Drive
Lahaina, Hawai'i 96761

Telephone: (808) 870-0117
Facsimile: (808) 661-2058

www.lahainabypassnow.com
info@lahainabypassnow.com

RECOMMENDATIONS
TRANSPORTATION DESIGN WORKSHOP
Jan. 9 – 12, 2007

Below is the overall consensus which was reached at the end of the four day workshop. The most contentious project was the widening of Honoapi'ilani Hwy, but consensus was reached when all agreed (including the DOT engineer) to design it so it could be reduced back to two lanes at a later date when either the bypass or Mill St. could accommodate the extra traffic.

The workshop resulted in a plan that is a TRADE UP over existing plans and provides an improved quality of life for residents, a better commute for workers, and a more memorable experience for visitors.

Overall Recommendations

- No delays
- Seek other funds to accelerate projects where feasible
- Address HRS 7-1 (pertains to access for Native Hawaiians) with every project.
- All new projects should be "Great Streets"
- Maintain mauka-makai traditional access
- *Protect stream flows for native species*

Widening of Honoapi'ilani Highway

- In support
- Include a landscaped median. Use native plants
- Preserve and protect existing trees and vegetation outside right of way
- Further enhance bike and pedestrian components
- Enhance pedestrian crossings
- Design for "collapsibility" (collapse street back to 2 lanes when Lahaina Bypass or Mill Street can accommodate the traffic)

Mill Street

- Fully support expediting this project
- Keep as a two lane local street
- Design it to go mauka of (not through) the Lahaina Recreation Field
- Extend to Aholo St. if flood project can be modified.

Flood Control Project

- Fully support need for this project
- Suggest modify/relocate Kauaula stream outlet
- Consider eliminating 4000' channel extension south of Kauaula stream
- Consider making the ditch a walking, biking path and greenway

Lahaina Bypass

- Move forward NOW
- Add underpass in Phase 1B to accommodate mauka-makai access into Kauaula Valley
- Include landscaped median at the start of project
- Lahaina Bypass should serve as mauka urban boundary – with no buildings to be built above it.
- Do not add any more connections (with one exception) to Phase 1B of the bypass
- Create a gateway feature to designate historic Lahaina town.

Keawe Street Extension

- Fully support
- Meander route to minimize grade
- Add landscaped median, sidewalks, bike paths.