DEPARTMENT OF DESIGN AND CONSTRUCTION
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JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

CDD-BS 03-0137

October 31, 2003

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
State of Hawaii
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

Subject: Final Environmental Assessment (EA)
Kalaiopua Place Improvements
Honolulu, Oahu, Hawaii
TMK: 2-5-19: 9 (portion)

The Department of Design and Construction has reviewed the comments received during the 30-day public comment period which began on March 8, 2003. The department has determined that this project will not have significant environmental effects and has issued a Finding of No Significant Impact (FONSI) determination. Please publish this determination in the next edition of *The Environmental Notice*.

Four (4) copies of the Final EA/FONSI and a complete OEQC publication form are enclosed. An electronic version of the project summary will be transmitted to you via email by our consultant, Engineering Concepts, Inc.

Should you have any questions, please call Dana Arakaki of Engineering Concepts, Inc. at 591-8820.

Very truly yours,

TIMOTHY E. STEINBERGER, P.E.
Director

AM:KL:pto

Encl.

2003-11-23-OA-FEA

NOV 23 2003

FILE COPY

FINAL ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT for KALAIOPUA PLACE IMPROVEMENTS

Honolulu, Oahu, Hawaii

TMK: 2-5-19: 9 (portion)

Proposing Agency:

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 South King Street
Honolulu, Hawaii 96813

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DEPT OF ENVIRONMENTAL QUALITY CONTROL

Prepared by:

ENGINEERING CONCEPTS, INC.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

OCTOBER 2003

FINAL ENVIRONMENTAL ASSESSMENT
AND FINDING OF NO SIGNIFICANT IMPACT
for
KALAIOPUA PLACE IMPROVEMENTS
Honolulu, Oahu, Hawaii
TMK: 2-5-19: 9 (portion)

This environmental document has been prepared pursuant to Chapter 343, Hawaii Revised Statutes

Proposing Agency:

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 South King Street
Honolulu, Hawaii 96813

Responsible Official:

Timothy E. Steinberger, P.E., Director

22 Oct 2003
Date

Prepared by:

ENGINEERING CONCEPTS, INC.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

OCTOBER 2003

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DEVELOPMENT SUMMARY

PROPOSING AGENCY:	Department of Design and Construction City and County of Honolulu 650 South King Street Honolulu, Hawaii 96813
Responsible Official:	Mr. Timothy E. Steinberger, P.E., Director
Contact: Phone: Fax:	Kenneth Lai, Project Engineer 527-5317 527-6103
PROJECT NAME:	Kalaiopua Place Improvements
PROPOSED ACTION:	Construction of roadway improvements to stabilize Kalaiopua Place, and relocation of overhead utility poles that are in danger of falling down the slope.
PROJECT LOCATION:	Honolulu, Oahu, Hawaii
TAX MAP KEY:	TMK: 2-5-19: 9 (portion)
LANDOWNER:	City and County of Honolulu (roadway only)
PROJECT AREA:	15,000 sq.ft.
STATE LAND USE DESIGNATION:	Conservation (Resource subzone)
ZONING:	P-1 Restricted Preservation
EXISTING USE:	Public roadway

CHAPTER 1
INTRODUCTION

1.1 PURPOSE OF THIS DOCUMENT

The purpose of this Final Environmental Assessment (EA) is to disclose potential environmental impacts that may occur as a result of the proposed project, and to identify measures to mitigate potential negative impacts. This document was prepared after public review of a Draft EA. Public comments and responses by the proposing agency have been incorporated in this document.

1.2 BACKGROUND

Kalaiopua Place is a public road under jurisdiction of the City and County of Honolulu. The road provides access to Round Top Drive for seven residences on the upper slopes of Tantalus. This project was initiated by resident concerns that the poor condition of the existing road did not provide safe access to their properties. The main concern expressed by residents is that further erosion of the hillside will eventually make the road impassable to vehicular traffic. Where two-way traffic was once possible at points along the road, the present 8- to 10-foot road width restricts access to one-way traffic only.

The City and County of Honolulu Department of Design and Construction (DDC) commissioned a concept study to evaluate the cause of soil erosion that currently threatens to undermine Kalaiopua Place, and to identify cost-effective improvements to stabilize the road. Engineering Concepts, Inc., prepared the study, dated August 19, 2002, which included input from residents and representatives from the DDC and the City and County of Honolulu Department of Facility Maintenance. The study evaluated alternative means to provide a 12-foot wide, stabilized roadway to accommodate passenger vehicles and single-unit trucks. The evaluation considered: condition of roadway segments; permanence of the proposed alternative considering the need for further maintenance or improvements; construction cost and expected benefit to residents; risk of failure; and impacts to residents during construction. The study recommended a combination of several alternatives, to be constructed on specific sections of the roadway. The proposed improvements include a bridge structure, mechanically stabilized earth reinforced wall system, and pavement widening, with guardrail installation for most of the improved roadway.

1.3 OBJECTIVES

There is insufficient land available to construct a road that meets the current design standards of the City and County of Honolulu. Therefore, the objectives of this project are:

- to provide a road that accommodates safe passage of vehicles;
- to minimize disruption to residents during construction;
- to reduce maintenance requirements; and

- to satisfy the City and County of Honolulu's cost-benefit criteria.

1.4 PROJECT DESCRIPTION / LOCATION

Kalaiopua Place is a narrow, 8- to 10- foot wide, asphalt-paved road that extends about 850 feet from Round Top Drive on the upper slopes of Tantalus (see **Figure 1-1**). The road is situated on a steep, northwest-facing slope, approximately 100 to 150 feet above Kanealole Stream. The initial 250 feet of the road provides access to five residences. The last two residences along Kalaiopua Place are served by the remaining 650 feet of road.

Steep slopes, ranging from approximately 0.6 horizontal to one vertical (0.6H:1V) to 1.6H:1V drop off to Kanealole Stream on the northern side of the road. Several cement rubble masonry (CRM) retaining walls, up to 10 feet in height, support the upslope terrain from station 2+50 to the end of the road.

1.5 ALTERNATIVES CONSIDERED

The Concept Study for Kalaiopua Place Improvement, Honolulu, Hawaii, presented and evaluated alternatives for the project. While this environmental assessment specifically addresses the recommended action, all of the alternatives considered and "no action" are presented in **Chapter 5**.

1.6 SUMMARY OF POTENTIAL IMPACTS AND MITIGATION MEASURES

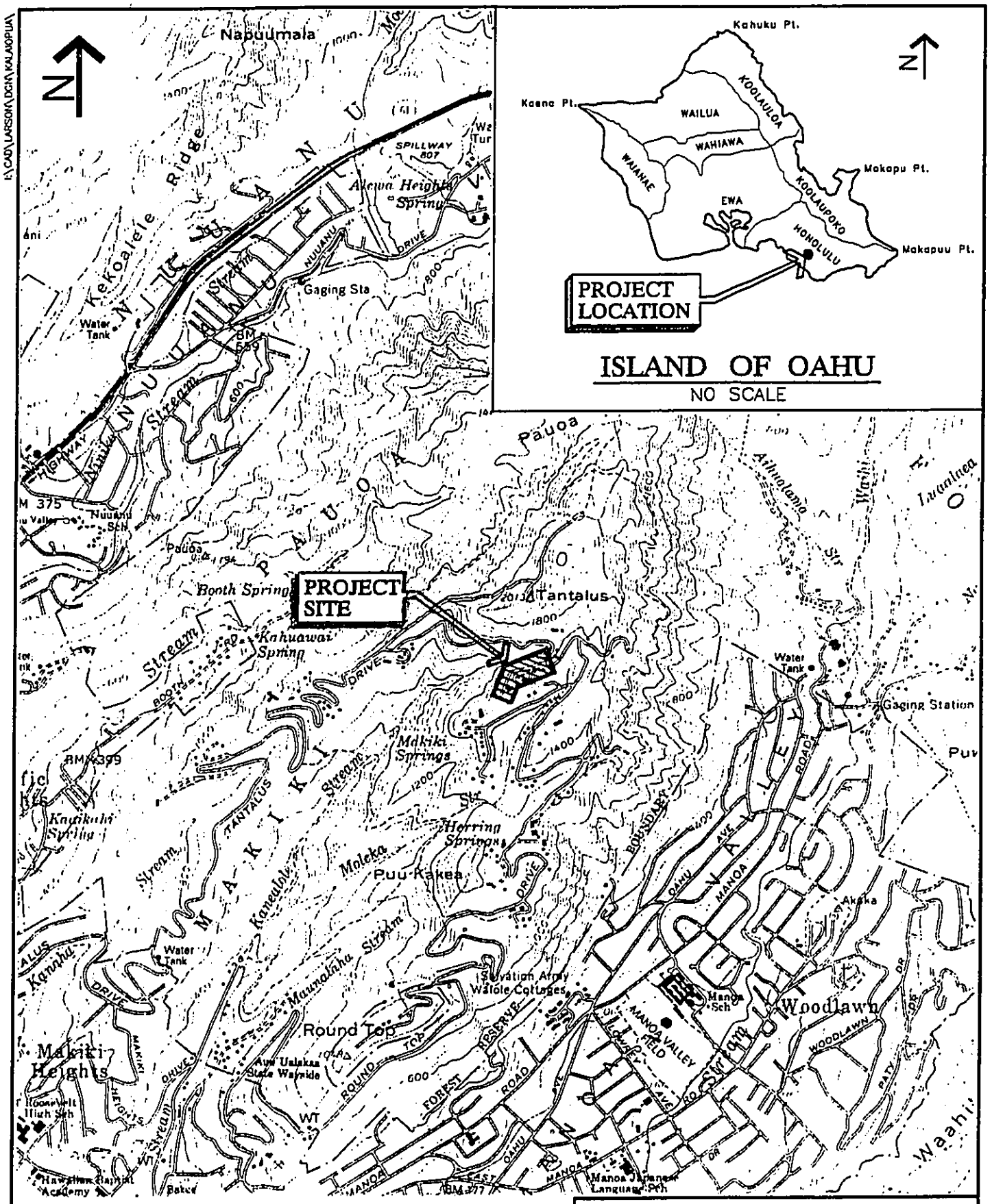
Regional Impacts
Short term regional impacts on Tantalus residents may include increased traffic, dust and noise during construction activities. These short term impacts will be mitigated by maintaining communication with affected residents, avoiding peak traffic conditions on Round Top Drive and Tantalus Drive, designation of a construction staging area, implementing an effective dust control plan, and compliance with applicable regulations.

Topography
No significant impact on site topography is expected.

Soil Erosion
The long term impact is positive due to stabilization of the slope to slow the erosion process. Negative short term impacts may occur during construction due to removal of vegetation and exposure of bare soil. Mitigation measures include conducting clearing, grubbing and grading activities in accordance with applicable regulations, implementing control measures indicated in construction documents, and revegetating areas cleared of vegetation as soon as practicable to minimize soil loss.

Drainage
Present drainage problems will be mitigated, resulting in a positive long term impact.

Biological Resources
No significant impact on botanical resources or vertebrate animal communities is expected.



KALAIOPUA PLACE IMPROVEMENTS

FIGURE 1-1

VICINITY MAP

Archaeological, Historical and Cultural Resources
No significant impact on archaeological, historical or cultural resources is expected.

Land Use and Zoning
The project will be subject to the conditions of a Conservation District Use Permit due to its location within the state Conservation District.

Neighboring Lands
The long term impact to Kalaiopua Place residents is positive. Anticipated short term impacts will be limited to the construction period and may include road closures, power outages, dust and noise. These negative impacts will be minimized by maintaining communication with residents to keep them informed of construction activities, compliance with applicable regulations to minimize noise and air quality impacts, and providing optional hotel accommodations for the duration of road closures if access to homes and properties is restricted.

Traffic
Short term traffic impacts include increased construction-related traffic on Round Top Drive and Tantalus Drive, and parking along road shoulders. Mitigation measures include avoiding peak traffic conditions and designation of a construction staging area on adjacent state-owned lands or private property to reduce daily transport traffic.

Noise
Short term construction impacts will be mitigated by compliance with applicable regulations.

Air Quality
Short term construction impacts will be mitigated by implementation of an effective dust control plan and compliance with applicable regulations.

Utilities
Short-term impacts to overhead utilities and utility customers will be mitigated by coordinating construction activities, including down time, with Hawaiian Electric Company, Inc., Verizon Hawaii, Inc., and Oceanic Time Warner Cable.

1.7 PERMITS AND APPROVALS REQUIRED

Permits and approvals that may be required for construction of the proposed project are listed in **Table 1-1**. The applicability of these environmental permits will be coordinated with the respective agencies, and permit applications will be prepared as planning and design of the project proceeds.

The project site is not located in the Special Management Area or a Special Design District. Further, the area of disturbance will not exceed one acre and is therefore not subject to a National Pollutant Discharge Elimination System (NPDES) permit for discharge of storm water associated with construction activity. The state Commission on Water Resource Management has determined that the project will not be subject to a Stream Channel Alteration Permit (refer to **Appendix A** for correspondence with the Commission on Water Resource Management).

TABLE 1-1
PERMITS AND APPROVALS

AGENCY	PERMIT / APPROVAL
State of Hawaii Dept. of Land and Natural Resources	• Conservation District Use Permit
State of Hawaii Dept. of Health	• Community Noise Permit for Construction Activities • Variance from Pollution Controls
City and County of Honolulu Dept. of Design and Construction	• Construction Plan Approval
City and County of Honolulu Dept. of Planning and Permitting	• Grubbing, Grading, and Stockpiling Permit • Sign Permit • Permit to Excavate Public Right-of-Way • Construction Plan Approval • Traffic Control Plan Approval
City and County of Honolulu Dept. of Transportation Services	• Street Usage Permit

CHAPTER 2
PROJECT DESCRIPTION

2.1 NEED FOR THE PROJECT

The need for this project was initiated by resident concerns that the poor condition of the existing road did not provide safe access to their properties. The main concern expressed by residents is that further erosion of the hillside will eventually make the road impassable to vehicular traffic. The physical condition of Kalaiopua Place has deteriorated over the years and the road width has progressively narrowed over time. Specific concerns expressed by residents are:

- The road shoulder has eroded away in spots to the extent that the steep slope of the valley below begins at the pavement edge;
- Deep ruts exist in the road pavement;
- Guardrails are in disrepair; *and*
- Emergency vehicles are reluctant to traverse the narrow road to provide services to the residents.

2.2 DESCRIPTION OF THE PROPOSED ACTION

The proposed action includes construction of roadway improvements to stabilize Kalaiopua Place, and relocation of overhead utility poles which are in danger of falling down the slope.

There is insufficient land available along the steep hillside to construct a road that meets the current design standards of the City and County of Honolulu. Fire protection will continue to be inhibited due to the limited land area precluding construction of the minimum 16-foot road width required for fire truck access, and lack of a water system. Upon completion of the project, the repaired road will enable an ambulance to access the furthest home. A vehicle pull-out area will be constructed near the midpoint of the road to accommodate opposite traffic. Repair of the road to provide safe passage of one-way traffic was deemed an acceptable goal for this project given the relatively remote location and the fact that the road services only seven residential properties.

2.2.1 Proposed Road Improvements

In order to restore the road pavement width and provide stabilization against further erosion, a combination of three design measures is proposed:

- Road re-paving and guardrail installation where the existing road shoulder is of sufficient width;
- Construction of mechanically stabilized earth reinforced wall systems and guardrail for slope stabilization where the existing road shoulder is narrow; and

- Construction of a bridge and guardrail where slope erosion has undermined the existing road pavement (additive item).

The project will be packaged as a "base bid" with three additive items. The base bid will include road stabilization from the intersection with Round Top Drive (station 0+40) to station 2+50. Additive Item 1 encompasses road stabilization from station 2+50 to station 5+50, and Additive Item 2 includes the remainder of the road from station 5+50 to station 9+21. Additive Item 3 consists of the bridge construction (station 1+70 to station 2+20). The extent of roadway improvements will depend on the contractor's bid prices for each item falling within the construction budget for the project.

A description of the existing road condition and the proposed improvements is presented in **Table 2-1**. Refer to **Figure 2-1** for a location map with station markers along the road.

Each of the proposed improvements is described in the sections that follow.

New Pavement Section and Guardrail. Where sufficient land width is available, construction of a new pavement section with a 10- or 11-foot wide travel way and guardrail is proposed. The road pavement can be restored to a width of 11 feet from the intersection with Round Top Drive to station 2+20. Thereafter, the restored road pavement width transitions to 10 feet. Installation of metal guardrails is included in the base bid and the three additive items for safety, with the exception of the last 90 feet of roadway where an existing curb wall will be maintained as a safety barrier. Construction of a new pavement section is considered a temporary fix. A more permanent remedy will be required when erosion reduces the road width, and the guardrail and pavement show signs of distress. Refer to **Figure 2-2** for a typical section of this improvement.

Mechanically Stabilized Earth Reinforced Wall (MSERW) System. Use of MSERW is proposed to support the new pavement and guardrail where minimal road shoulder currently exists. The selected MSERW design consists of 8-inch thick lifts of an engineered fill reinforced with four layers of geogrids. Metal guardrail posts will be driven to a minimum depth of 13 feet. Where insufficient shoulder width occurs, the engineered fill will be placed behind a non-corrosive structural plastic facing material restrained by the guardrail posts (see **Figure 2-3**). The soil, geotextile fabric and facing material work as a unit and function like a gravity retaining wall. The estimated construction cost is $956 per linear foot of road. The MSERW system is a low-cost temporary solution which could be undermined as the near-surface soils slough off to reach the overall angle of repose of 1.2H:1V. The extent of time that the MSERW system will be effective cannot be determined, and will be dependent on unpredictable natural conditions.

Bridge Construction. Construction of a bridge and guardrail is proposed over the eroded section of hillside instead of attempting to retain an earth wedge (Additive Item 3). The proposed bridge structure is a pre-cast, pre-stressed concrete deck supported on single, 36-inch diameter, deep-drilled piers placed approximately 26 feet on centers (see **Figure 2-4**). These large diameter drilled piers will be inserted to a depth of roughly 48 feet below the existing road surface. The estimated construction cost is $2,670 per linear foot of road for this low-risk, semi-permanent solution.

TABLE 2-1
SUMMARY OF EXISTING ROAD CONDITION AND PROPOSED IMPROVEMENTS

Road Section	Existing Condition	Proposed Improvements
Sta. 0+40 to 1+70	shoulder width > 5 ft, repaving needed	*Base Bid:* repave road 11 feet wide; install guardrail for safety
Sta. 1+70 to 2+20	narrow or non-existent shoulder; localized pavement distress indicating need for immediate remedial work to repair pavement and prevent further undermining	*Base Bid:* install MSERW system for stability; repave road 11 feet wide; install guardrail for safety *OR* *Additive Item 3:* construct bridge; install guardrail for safety
Sta. 2+20 to 2+50	shoulder width > 5 ft, repaving needed	*Base Bid:* install MSERW system for stability; repave road 10 feet wide; install guardrail for safety
Sta. 2+50 to 4+58	shoulder width <5 ft, road is narrow (8 ft) and deteriorated	*Additive Item 1:* install MSERW system for stability; repave road 10 feet wide; install guardrail for safety
Sta. 4+58 to 5+07	shoulder width > 5 ft, repaving needed	*Additive Item 1:* construct vehicle pull-out area; install MSERW system for stability; repave road10 feet wide; install guardrail for safety
Sta. 5+07 to 5+50	shoulder width <5 ft, road is narrow (8 ft) and deteriorated	*Additive Item 1:* install MSERW system for stability; repave road 10 feet wide; install guardrail for safety
Sta. 5+50 to 6+90	shoulder width <5 ft, road is narrow (8 ft) and deteriorated	*Additive Item 2:* install MSERW system for stability; repave road 10 feet wide; install guardrail for safety
Sta. 6+90 to 7+75	shoulder width > 5 ft, repaving needed	*Additive Item 2:* repave road 10 feet wide; install guardrail for safety
Sta. 7+75 to 8+30	shoulder width <5 ft, road is narrow (8 ft) and deteriorated	*Additive Item 2:* install MSERW system for stability;and repave road 10 feet wide; install guardrail for safety
Sta. 8+30 to 9+21	shoulder width > 5 ft, repaving needed	*Additive Item 2:* repave road 10 feet wide; maintain existing curb wall

MSERW = mechanically stabilized earth reinforced wall

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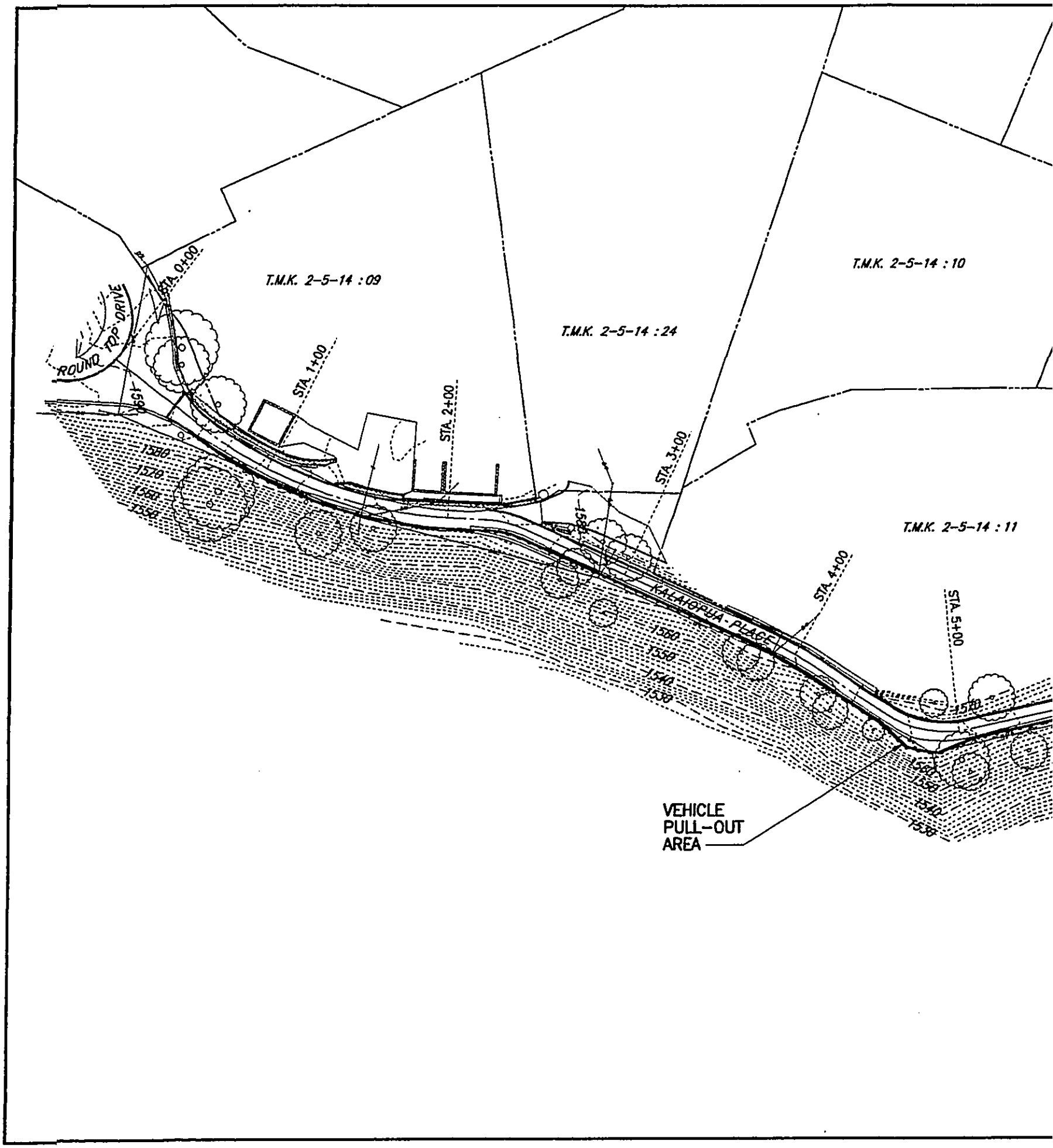

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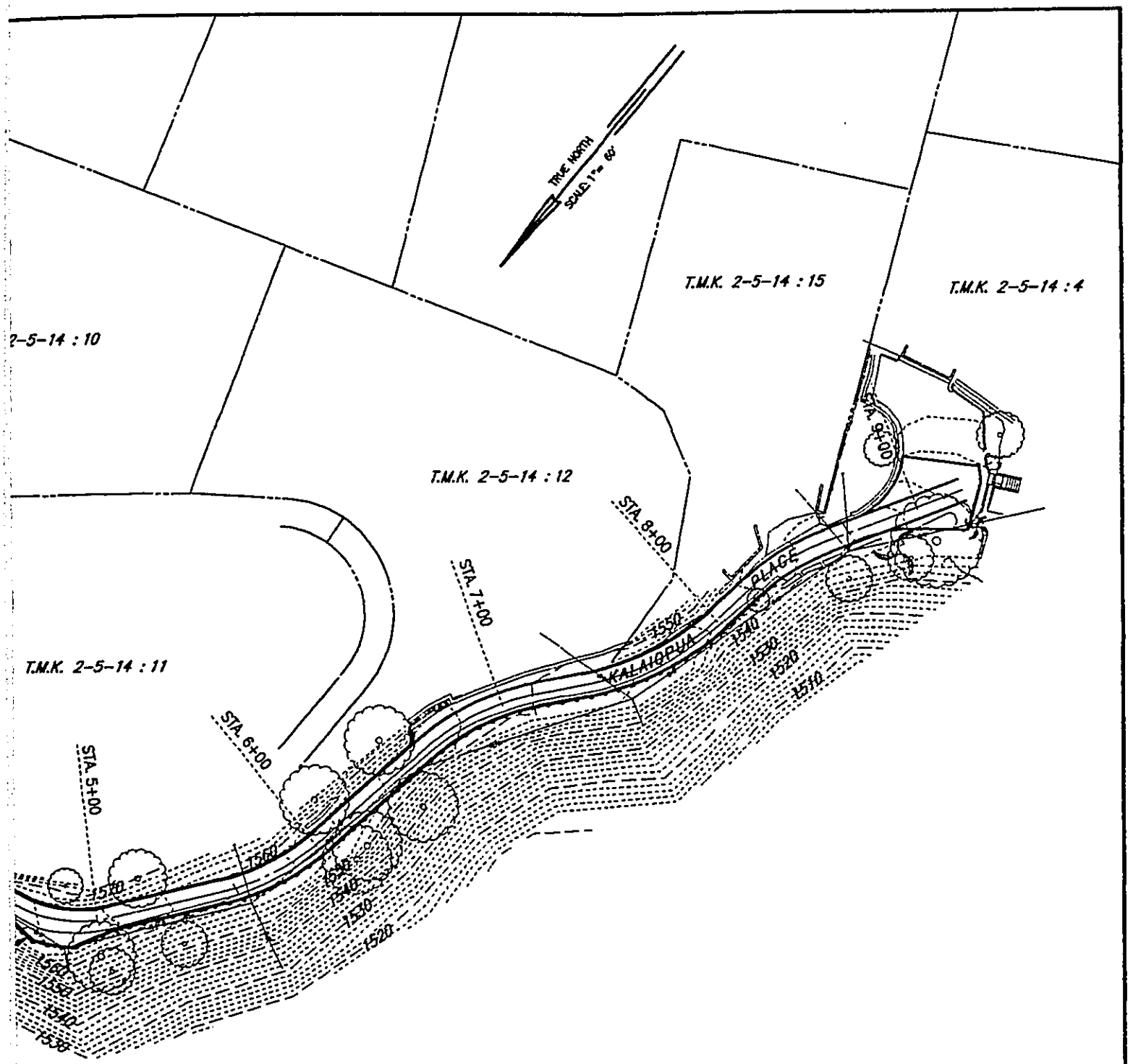

30 0 60 120

GRAPHIC SCALE IN FEET

KALAIOPUA PLACE IMPROVEMENTS

FIGURE 2-1

LOCATION MAP

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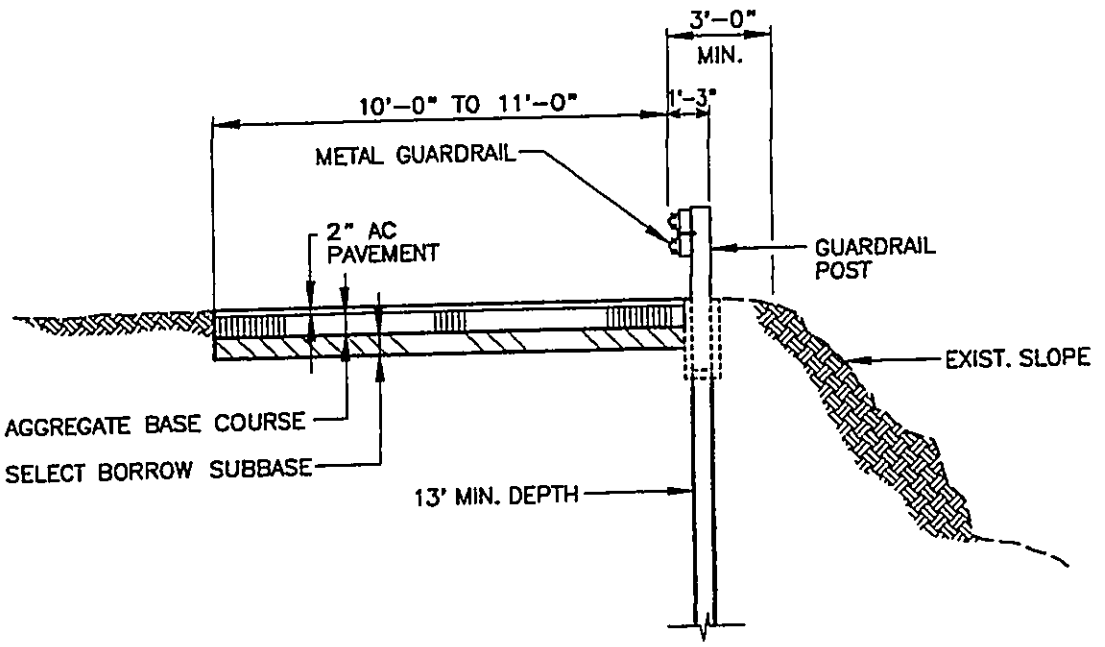

KALAIOPUA PLACE IMPROVEMENTS

FIGURE 2-2

NEW PAVEMENT AND GUARDRAIL SECTION

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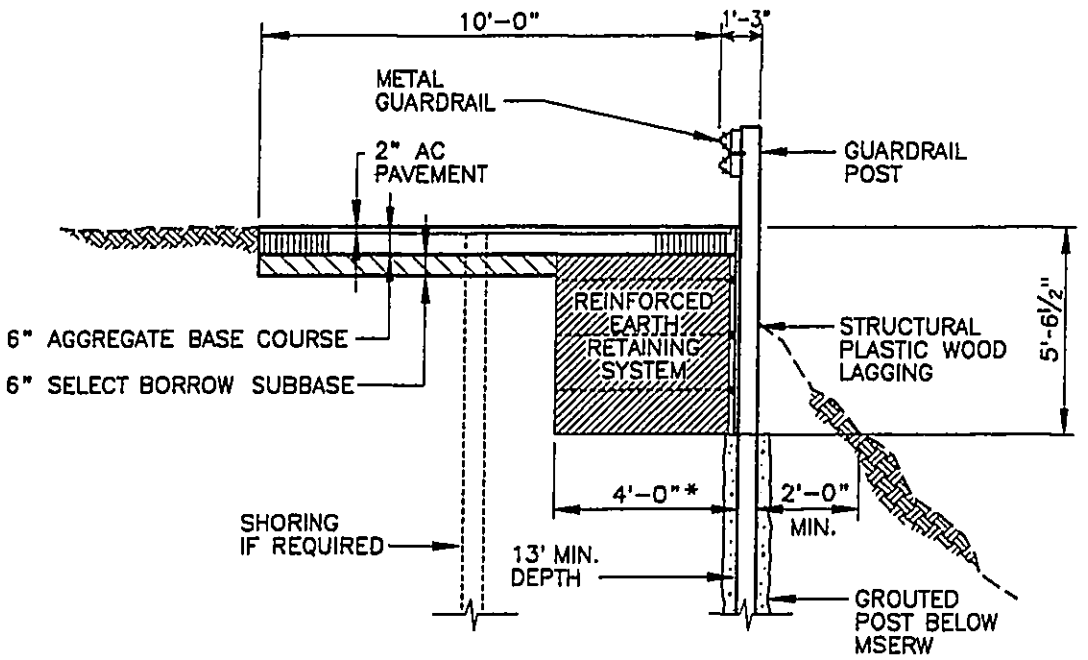


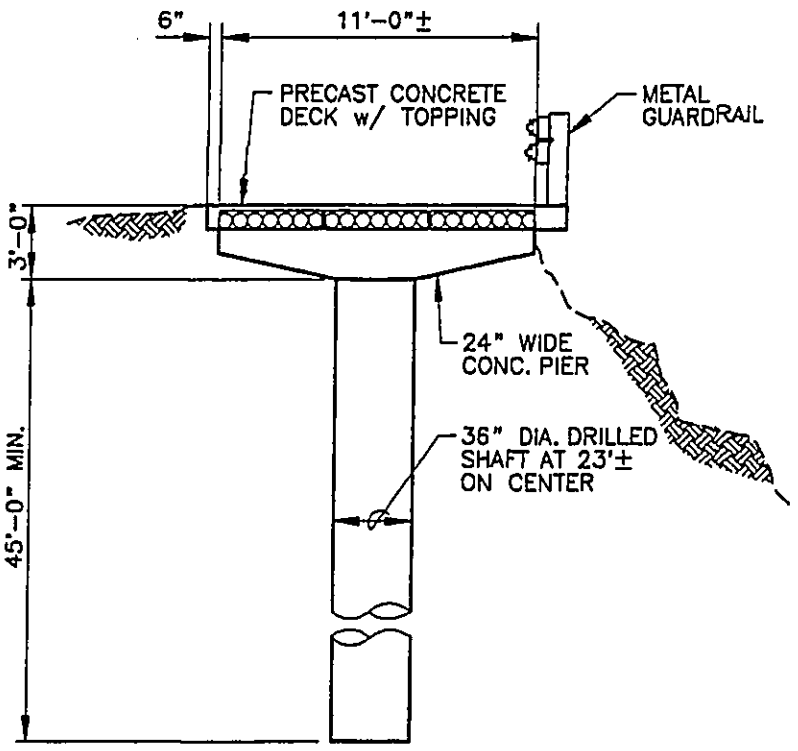
*11'-0"± WIDTH (STA. 1+70 TO 2+20)
4'-0" TO 10'-0" ± WIDTH (STA. 4+58 TO 5+07)

KALAIOPUA PLACE IMPROVEMENTS

FIGURE 2-3

MECHANICALLY STABILIZED EARTH REINFORCED WALL (MSERW) SECTION

I:\CAD\LARSON\DGN\KALAIOPUA\EA\FIG2-4.DGN



KALAIOPUA PLACE IMPROVEMENTS

FIGURE 2-4

BRIDGE SECTION
(ADDITIVE ITEM 3)

2.2.2 Utility Relocation

Pole-mounted electrical power, telephone and cable TV lines are presently located on the downslope side of the road. In conjunction with the proposed road improvements, it will be necessary to relocate some of these existing utility poles to areas with adequate road shoulder to support the poles.

2.3 PROJECT SCHEDULE AND FUNDING

Construction is anticipated to begin in May 2004, after receipt of all required permits and approvals. It is anticipated that construction will take nine months to complete. The estimated construction cost is $700,000, to be funded by the City and County of Honolulu.

CHAPTER 3
DESCRIPTION OF THE AFFECTED ENVIRONMENT

The intent of this chapter is to describe the existing physical and social environment that is affected by the proposed action. Potential impacts that may result from development of the proposed action, and mitigation measures to be employed to minimize negative impacts, are described in Chapter 4.

3.1 TOPOGRAPHY

Kalaiopua Place is located on a steep, northwest-facing slope, approximately 100 to 150 feet above Kanealole Stream. Elevations along the existing road pavement range from 1590 feet at the intersection with Round Top Drive to 1535 feet at its terminus. Steep slopes ranging from about 0.6 horizontal to 1 vertical (0.6H:1V) to 1.6H:1V are located on the northern side of the road, dropping off toward the stream. On the southern side, retaining walls support grade differences of up to 15 feet between the road and the adjacent residential parcels.

3.2 SOILS

A Preliminary Subsurface Investigation Report dated March 20, 2002, was prepared by Fewell Geotechnical Engineering, Ltd. Three test borings were drilled along the road alignment to depths of 70 to 80 feet below the existing ground surface. Approximate locations of the borings along Kalaiopua Place are:

Boring No.	Road Station
1	2+00
2	5+30
3	8+40

The borings revealed that the pavement of Kalaiopua Place is underlain by a 6- to 7- foot thick layer of weathered volcanic ash and cinders. The material is classified as loose silty sand. Interbedded layers of clayey silt occur in the silty sand layer. Conditions below this layer varied for each boring. In the vicinity of borings 1 and 2, the surface layer is underlain by a thick layer of weathered volcanic cinders, extending to a depth of 58 feet in boring 1 and 27 feet in boring 2. At boring 3, the surface layer is underlain by residual soils (soils weathered in place from the parent cinder material) extending to a depth of 75.5 feet. Intact rock or significant welded materials were not found in any of the borings; and no groundwater was observed.

3.3 DRAINAGE

Residents report that most storm water percolates into the ground and does not flow on the surface except during heavy rains. The abundance of heavy vegetation and pervious areas adjacent to the road support this statement. Kalaiopua Place roadway drainage is limited to overland flow on or along the pavement. Presently, pavement runoff concentrates at several locations instead of discharging over the entire downstream bank. This concentration of runoff is a result of the current pavement cross slope and the presence of curb walls which channelize

runoff down the length of the road until a break in the curb wall allows discharge of runoff. From station 6+90 to 9+20, runoff flows along the inside edge of the road (due to the existing road cross slope) and into the property at the end of the road.

Private drainage pipes convey storm water runoff from the upland parcels to Kalaiopua Place at several locations. Segments of vertical pipe are visible, extending down the face of tall retaining walls. Discharge from these drainage pipes is also concentrated by the present road design.

The project site is not located in a flood hazard area or tsunami inundation area due to its high elevation and mountainous terrain.

3.4 BIOLOGICAL RESOURCES

A biological resources assessment of the project site was conducted by Char & Associates. Refer to **Appendix C** for the complete report. A field study to assess flora and fauna was conducted on September 17, 2002. The purpose of the investigation was to characterize the vegetation; identify birds and mammals along the roadway; and search for threatened and endangered species, and species of concern.

3.4.1 Flora

Char reported that the majority of the vegetation was composed of introduced or alien species; although a few native plants were present. A mixed introduced forest, 25 to 50 feet tall, covers the steep slopes along the roadway. Weedy patches, one to three feet in height, consist of various grasses and herbaceous species. Young koa trees (*Acacia koa*) and large mamaki shrubs (*Pipturus albidus*) are scattered along both sides of the roadway. These species are endemic (native only to Hawaii). Three indigenous species (native to Hawaii and elsewhere) occur on the site: a small sedge (*Cyperus polystachyos*); koali awa, a member of the morning glory family (*Ipomoea indica*), and a fern with finely divided fronds (*Macrothelypteris torresiana*).

3.4.2 Fauna

Ten bird species were recorded on or around the project site. All were alien species. Mammals such as rats, mice and mongoose are expected to be present, however these too are alien species.

3.5 ARCHAEOLOGICAL, HISTORICAL AND CULTURAL RESOURCES

An archaeological assessment and cultural impact evaluation of the project site was conducted by Cultural Surveys Hawaii, Inc. The study included a field inspection on October 3, 2002 and literature review. Refer to **Appendix D** for the complete report.

3.5.1 Historic Properties

There is little historic record pertaining to traditional native Hawaiian land use in the Makiki Valley - Tantalus area. No kuleana Land Commission Awards were known of in the vicinity of

the project site. Settlement patterns indicated minimal native Hawaiian land use on the upper slopes of Tantalus.

Cultural Surveys Hawaii examined the entire slope extending below Kalaiopua Place by pedestrian transects. A wide variety of late twentieth century trash and a portion of a red brick wall (eroded down from the road) were observed, but no significant artifacts, features or sites were noted. The land was judged to be too steep to support habitation, agriculture or other enterprises.

3.5.2 Traditional Cultural Practices

A number of traditionally used plant species are present within the project area. These plants include those valued for construction material (koa, ohia ai, ohe); those gathered for food (Hoio fern, avocado, banana, guava, ohia ai); those collected for medicine (koali awa) and for their fragrance (awapuhi keokeo, awapuhi melemele). Many of these plants are known to be commonly gathered in the uplands. However, the sought after species present are also found in similar habitats throughout the islands and the steep slopes of the project area would make gathering difficult at this location.

3.6 LAND USE AND ZONING

The project site is located in the state land use Conservation District (Resource subzone), and is zoned Restricted Preservation (P-1). The project site is not located in the Special Management Area or a Special Design District.

3.7 LAND OWNERSHIP AND NEIGHBORING LANDS

The project site is located within tax map key (TMK) 2-5-19:9, a parcel of over 165 acres that is owned by the State of Hawaii. However, Kalaiopua Place was placed under the jurisdiction of the City and County of Honolulu by Hawaii Revised Statute (HRS) 264-1, which states that public highways are either state highways under the jurisdiction of the Department of Transportation, or county highways. Further, the Honolulu City Council, by Resolution No. 93-287, accepted ownership and responsibility for all public roads within the county. Therefore, the Department of Design and Construction has determined that the City and County of Honolulu is the landowner of the project site which is limited to the public roadway that is Kalaiopua Place within TMK 2-5-19:9. The proposed project will not involve subdivision of land or have an impact on land ownership.

Neighboring lands include seven residential properties on Kalaiopua Place. These properties and land owners are identified in **Table 3-1**.

3.8 UTILITIES

Electrical power, telephone, and cable TV lines serving the residences are located on the down slope side of Kalaiopua Place. The 4 kV Hawaiian Electric Company (HECO) electrical lines, Verizon Hawaii telephone lines, and Oceanic Time Warner Cable lines are strung on 20- to 30-foot high wood utility poles spaced about 120 feet apart on the road shoulder. The overhead

TABLE 3-1
NEIGHBORING LAND OWNERS

STREET ADDRESS	TAX MAP KEY NO.	LAND OWNER(S)
111 Kalaiopua Place	2-5-14:9	Peter B. Woollett Lynda D.S. Woollett
115 Kalaiopua Place	2-5-14:24	Joan P. White Trust
119 Kalaiopua Place	2-5-14:10	Paul Tremaine William C. Trotman
123 Kalaiopua Place	2-5-14:12	Charles R. Wichman Trust Jeanne R. Wichman Trust
125 Kalaiopua Place	2-5-14:11	Pamela Burns Trust
151 Kalaiopua Place	2-5-14:15	Juli M.K. Walters Trust
161 Kalaiopua Place	2-5-14:4	Maryanne T. Force Trust

lines terminate at the last residence. Most of the poles exhibit a severe down slope lean. According to HECO, the overhead distribution circuit along Kalaiopua Place also provides electrical power to a group of customers on Tantalus Drive. These HECO customers are identified by street address in **Table 3-2.**

There is no municipal water or sewer service to the area. Residents maintain their own private water catchments and sewage disposal systems. There are no gas lines in the project vicinity.

TABLE 3-2
HECO CUSTOMERS ON KALAIOPUA PLACE OVERHEAD DISTRIBUTION CIRCUIT

STREET ADDRESS	TAX MAP KEY NO.
111 Kalaiopua Place	2-5-14:9
111 Kalaiopua Place #COTT	2-5-14:9
115 Kalaiopua Place	2-5-14:24
119 Kalaiopua Place	2-5-14:10
123 Kalaiopua Place	2-5-14:12
125 Kalaiopua Place	2-5-14:11
151 Kalaiopua Place	2-5-14:15
161 Kalaiopua Place	2-5-14:4
3798 Tantalus Drive #B	2-5-12:3
3800 Tantalus Drive	--
3803 Tantalus Drive	2-5-12:10
3809 Tantalus Drive #A	2-5-12:11
3809 Tantalus Drive #C	2-5-12:2
3811 Tantalus Drive	2-5-12:12
3821 Tantalus Drive	2-5-12:15
3825 Tantalus Drive	--
3830 Tantalus Drive	2-5-12:3
4000 Tantalus Drive	--

CHAPTER 4
POTENTIAL IMPACTS AND MITIGATION MEASURES

The intent of this chapter is to describe the potential impacts to the existing physical and social environment that may result from construction and operation of the proposed project. Mitigation measures to be employed are also presented in this chapter.

Potential impacts are categorized as short-term impacts (normally of limited duration and generally associated with the construction period) or long-term impacts (lasting changes resulting from the presence or operation of the project after it is constructed).

4.1 REGIONAL IMPACTS

Regional impacts, affecting residents of Tantalus in general, will be short-term in nature, resulting from construction activities. These impacts may include increased dust, noise and traffic during the construction period. Each of these impacts and their mitigation is discussed in the sections that follow.

4.2 TOPOGRAPHY

The proposed action will have minimal impact on the site topography since the focus of the project is stabilization and repair of an existing roadway. Existing grades will be maintained as much as possible along the road and shoulder.

4.3 SOIL EROSION

The proposed action will stabilize the slope to slow down the erosion process, resulting in a positive long term impact.

However, in the short term, grading and grubbing activities will increase the potential for soil erosion due to removal of vegetation and exposure of bare soil. Particularly vulnerable areas are located along the road shoulder where the terrain slopes steeply. Implementation of mitigative measures during construction will minimize soil erosion and offsite sediment transport. The contractor will be required to implement control measures contained in the construction documents. These control measures may include:

- Installation of temporary silt fencing or erosion control berm at the downstream limits of grading to minimize offsite sediment transport.
- Installation of temporary cut-off ditch or berm to convey offsite storm runoff around the immediate portion of the roadway under construction.
- Minimizing the limits of clearing, grubbing and grading.
- Placement of erosion control blankets or matting on disturbed slopes for soil stabilization and to aid in reestablishing vegetation.

Clearing, grubbing and grading will be conducted in accordance with Chapter 14, Grading, Soil Erosion, and Sediment Control," of the Revised Ordinances of Honolulu, 1990, as amended.

Areas cleared of vegetation will be re-vegetated as soon as possible with Hilo grass to prevent soil loss. According to Char & Associates, Hilo grass is present at the site and is suitable for the re-vegetation effort.

4.4 DRAINAGE

The proposed project will have a positive long-term impact on drainage. Present drainage problems will be mitigated. The proposed pavement design will encourage sheet flow runoff across the road to the downstream bank, eliminating the present concentration of storm water discharges which have eroded the road shoulder in places and flooded private property.

4.5 BIOLOGICAL RESOURCES

According to Char & Associates, the proposed project is not expected to have a significant negative impact on either botanical resources or vertebrate animal communities. None of the plants observed at the project site is listed as a threatened and endangered species or a species of concern. Similarly, none of the animals observed during the field investigation or which are expected to utilize the area, is listed as a threatened and endangered species or a species of concern.

4.6 ARCHAEOLOGICAL, HISTORICAL AND CULTURAL RESOURCES

According to Cultural Surveys Hawaii, Inc., there are no known kuleana or commoner land claims near the project site and no permanent habitation is believed to have occurred on the steep slopes of the project area in traditional Hawaiian times. Further, the exceedingly steep slopes make present day gathering of forest resources difficult at this location. It would be reasonable to assume that gathering would typically focus on areas of easier access. Thus, it appears that forest resources and access to forest resources will not be significantly impacted by the proposed project.

4.7 LAND USE AND ZONING

The proposed project will be subject to a Conservation District Use Permit due to its location within the state Conservation District. Construction activities will need to be performed in accordance with the conditions of this permit.

4.8 NEIGHBORING LANDS

The long-term impacts of the proposed project are generally positive and the residents of Kalaiopua Place will directly benefit. However, during the construction period, these residents will endure the most impacts from construction activities, including:

- Temporary closure of portions of Kalaiopua Place (during working hours) to vehicular and possibly pedestrian traffic, restricting access to homes and properties.
- Possible road closure for two to three weeks, affecting all but one residential property (due to construction of the bridge deck under Additive Item 3).
- Increased dust and noise due to construction of roadway improvements.

Measures to mitigate these short-term impacts are:

- Notifying Kalaiopua Place residents prior to the onset of construction activities, and maintaining communication with residents throughout the construction period to provide adequate warning prior to road closures, power outages or other inconveniences related to construction activities.
- Providing residents with optional hotel accommodations for the duration of prolonged road closures associated with construction of the bridge deck. Relocation of residents in this manner would also eliminate their exposure to construction-related noise.
- Refer to the sections that follow for mitigation of traffic, noise, dust and utility impacts.

4.9 TRAFFIC

The proposed project will have a short-term impact on traffic on Kalaiopua Place, Tantalus Drive and Round Top Drive. Traffic impacts will be limited to the construction period and may include the following:

- Temporary closure of portions of Kalaiopua Place to vehicular traffic to facilitate construction of improvements and road re-pavement.
- Increased truck traffic on Round Top Drive and/or Tantalus Drive due to transport of construction vehicles and equipment to the project site.
- Equipment and vehicle parking along road shoulders and at nearby scenic overlooks.

These short-term impacts will be mitigated by implementation of the following measures:

- Notification of the Kalaiopua Place residents and the Makiki/Lower Punchbowl/Tantalus Neighborhood Board No. 10 prior to the onset of construction

activities, and maintaining communication with Kalaiopua Place residents throughout the construction period.

- Scheduling construction activities, including equipment transport to/from the project site to avoid peak traffic conditions on Round Top Drive and Tantalus Drive.

- Designation of a construction staging area, possibly at the Puu Ohia Trail parking area, located 0.1 mile from the project site along Tantalus Drive, or within private property, to facilitate construction activities while maintaining clear passage along Round Top Drive and Tantalus Drive. If the Puu Ohia Trail parking area is used, the contractor will obtain a permit from the Department of Transportation Services, and security of the parking lot will be coordinated with the Chinatown Police Substation (refer to correspondence with the Honolulu Police Department in **Appendix B**).

The proposed project will have a positive long-term impact on traffic along Kalaiopua Place. The finished pavement will be at least 10 feet wide, and guardrails or curb walls will provide added safety along the steep slope. A vehicle pull-out area will be provided near station 4+80 to allow passage of opposing traffic. Presently, the only location where cars may pull to the side is near the driveways at station 2+50.

4.10 NOISE

Noise generated by construction activities will be a short-term impact. The actual noise levels generated will be dependent on the construction methods employed by the contractor.

As with most development projects, construction noise will likely exceed the allowable limits. Consequently, a Community Noise Permit for Construction Activities will be obtained from the state Department of Health. The permit will specify the allowable conditions under which noise-producing operations can occur (i.e., restricted time periods of the day, restricted days, etc.). Construction equipment that emits exhaust gas or air and roadway transit vehicles will be equipped with mufflers to meet the noise level limits set forth by the state Department of Health.

4.11 AIR QUALITY

During construction, generation of fugitive dust may result from demolition of the existing road pavement and other existing structures, grading activities, and clearing of land. Further, exhaust emissions from construction vehicles and equipment may result in a temporary impact on air quality.

The contractor will be required to comply with the provisions of Hawaii Administrative Rules, Chapter 11-60.1, "Air Pollution Control", Section 11-60.1-33 on Fugitive Dust. To ensure compliance with state air pollution control regulations, an effective dust control plan will be implemented by the contractor. Mitigation measures include:

- Use of water or suitable chemicals for control of fugitive dust generated by construction activities.

- Application of asphalt, water, or suitable chemicals on the road, material stockpiles, and other surfaces which may result in fugitive dust.
- Covering all moving, open-bodied trucks which transport materials.
- Prompt removal of earth or other materials from paved streets which have been transported there by trucking, earth-moving equipment, erosion, or other means.

4.12 UTILITIES

Short-term impacts to existing overhead electrical power and telecommunications utilities may occur during construction of the proposed project. Existing pole-mounted utility lines along the downslope side of the road must be maintained during construction in order to continue to provide service to the residences. Construction equipment with tall booms must be protected from these lines. Some utility poles will need to be braced or relocated to facilitate the roadway improvements. As planning and design proceeds, the proposed project will be coordinated with Hawaiian Electric Company, Inc. (HECO), Verizon Hawaii, Inc., and Oceanic Time Warner Cable to minimize impacts on existing utilities. The contractor will be required to verify the location of existing utilities and will be responsible for protecting these utilities during construction. Any resulting damage to existing utilities will be repaired and paid for by the contractor.

Short-term power outages are expected to occur intermittently throughout the construction period. Refer to **Table 3-2** for the addresses of affected HECO customers. The contractor will be required to coordinate down time with HECO, and HECO customers will be notified in advance of these episodes as construction proceeds.

The long-term impact on the electrical power and telecommunication utilities is positive. Upon completion of the road construction, affected utility poles will be relocated to areas where adequate shoulder width is available to provide stability. The proposed project will not result in an increased demand for electrical power.

CHAPTER 5
ALTERNATIVES TO THE PROPOSED ACTION

This chapter presents alternatives against which the proposed action was evaluated. The alternatives were rejected for their inability to meet the project objectives or attainment of the objectives at a higher cost (financially or environmentally).

To restate, the objectives of this project are:

- to provide a road that accommodates safe passage of vehicles;
- to minimize disruption to residents during construction;
- to reduce maintenance requirements; and
- to satisfy the City and County of Honolulu's cost-benefit criteria.

In addition to "no action" and relocation of the road, several alternate design concepts were evaluated to stabilize the road along its present alignment prior to selection of the proposed action. Each rejected alternative is discussed in this chapter.

5.1 NO ACTION

Under the "no action" scenario, erosion of the road shoulders and undermining of the pavement would continue to be a concern. This option fails to meet the project objectives of providing a road to accommodate safe passage of vehicles and reduce maintenance requirements. Should no action be taken, safety would become an increased concern along with roadway maintenance.

5.2 RELOCATE ROADWAY FURTHER AWAY FROM SLOPE

Relocation of the road five feet further away from the existing top of slope would involve cutting the embankment, demolishing existing retaining walls, and constructing new retaining walls. Relocation of the roadway was not recommended because of its high cost and the need to acquire land from abutting properties for the additional road right-of-way. The estimated cost of this alternative, excluding land acquisition expenses, is $3 million.

5.3 ALTERNATIVE DESIGN CONCEPTS TO STABILIZE THE ROAD

Initially, construction of a bridge structure for the entire length of road was considered as a permanent solution to stabilize the road. Two alternate bridge structures were evaluated. Both were rejected due to the high construction cost. Several alternative retaining wall structures were next evaluated to provide a semi-permanent solution for road stabilization along the entire length of road. These were also rejected due to high cost. Additionally, two variations of mechanically stabilized earth reinforced wall (MSERW) systems were considered as a temporary solution to retard erosion along the road. These alternative design concepts were

evaluated in the *Concept Study for Kalaiopua Place Improvement, Honolulu, Hawaii.* The proposed action (base bid and three additive items) utilizes a combination of bridge, MSERW system, and new pavement with guardrail installation. A summary of the alternatives is presented in the sections that follow.

5.3.1 Alternate Bridge Structure

The alternate to the selected bridge structure consists of a structural concrete beam and slab deck supported by 30-inch diameter drilled piers placed 20 feet on centers (see **Figure 5-1**). The drilled piers will be inserted to a depth that minimizes the potential for undermining as the slope erodes. As with the selected bridge design, this alternative bridge structure is a low-risk semi-permanent solution. However, the estimated cost per linear foot of road for this alternative is $5,027, nearly twice the unit cost of the proposed bridge structure.

5.3.2 Alternate Mechanically Stabilized Earth Reinforced Wall (MSERW)

As an alternative to the selected MSERW system with structural plastic facing restrained by guardrail posts, construction of a shallow masonry wall was considered, anchored by the geotexile fabric in the reinforced engineered fill (see **Figure 5-2**). The estimated cost per linear foot of road for this alternative is $1,095, slightly more than the recommended MSERW system. Another disadvantage of this alternative over the recommended system is ease of construction.

5.3.3 Retaining Walls

Three retaining wall designs were evaluated. A description of each design follows.

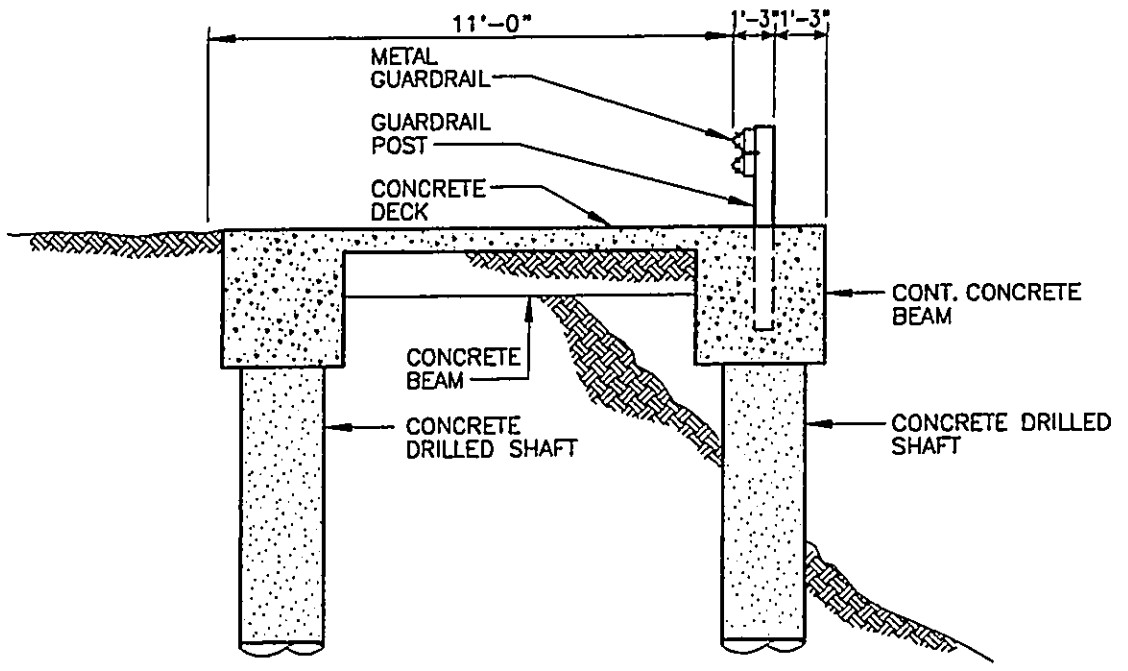
5.3.3.1 Steel Sheetpile Retaining Wall

Construction of a sheetpile retaining wall (see **Figure 5-3**) consists of a steel sheetpile wall placed in a pre-drilled hole to a depth of 30 feet below grade. Tiebacks, eight feet on centers, anchor to a sheetpile deadman or drilled caisson on the other side of the road. Pre-drilling of the sheetpile and caisson would be required to minimize vibration and disturbance to the loose granular material underlying the road. Alternately, eight-inch diameter micro-pile tiebacks spaced about 4 feet on centers and extending approximately 40 feet from the face of the sheeting were considered but not favored due to their cost, construction difficulty, and the need to acquire rights to extend the micro-piles into abutting properties. Guardrails would be embedded in a continuous concrete cap encasing the top of the steel sheetpile wall. The estimated cost for steel sheetpile anchor wall with drilled pier deadman alternative is $3,711 per linear foot.

5.3.3.2 Drilled Pier Retaining Structure

This alternative design concept consists of a cutoff wall and 36-inch diameter drilled piers, extending to a depth of roughly 35 feet below grade and spaced six feet on centers (see **Figure 5-4**). A continuous concrete cap connects the drilled piers along the downslope side of the road and serves to anchor the guardrail posts. The concrete cutoff wall is installed below the concrete cap. The estimated cost per linear foot of road for this alternative (including utility relocation) is $4,561.

I:\CAD\LARSON\DGN\KALAIOPUA\EA\FIG5-1.DGN

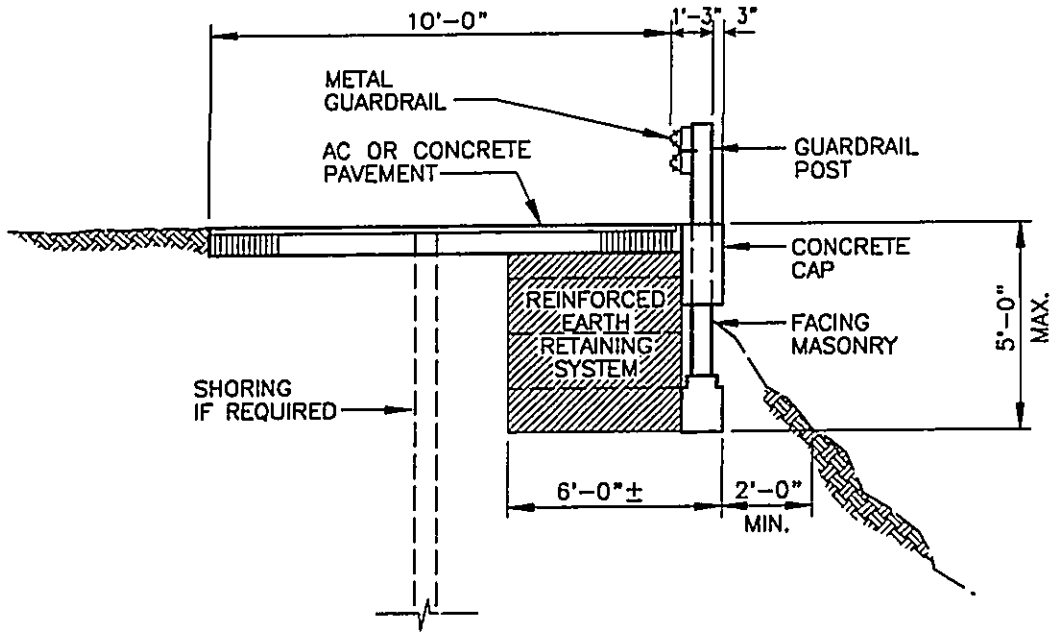


KALAIOPUA PLACE IMPROVEMENTS

FIGURE 5-1

ALTERNATE BRIDGE SECTION

I:\CAD\LARSON\DGN\KALAOPUA\EA\FIGS-2.DGN



KALAIOPUA PLACE IMPROVEMENTS

FIGURE 5-2

ALTERNATE MSERW SECTION

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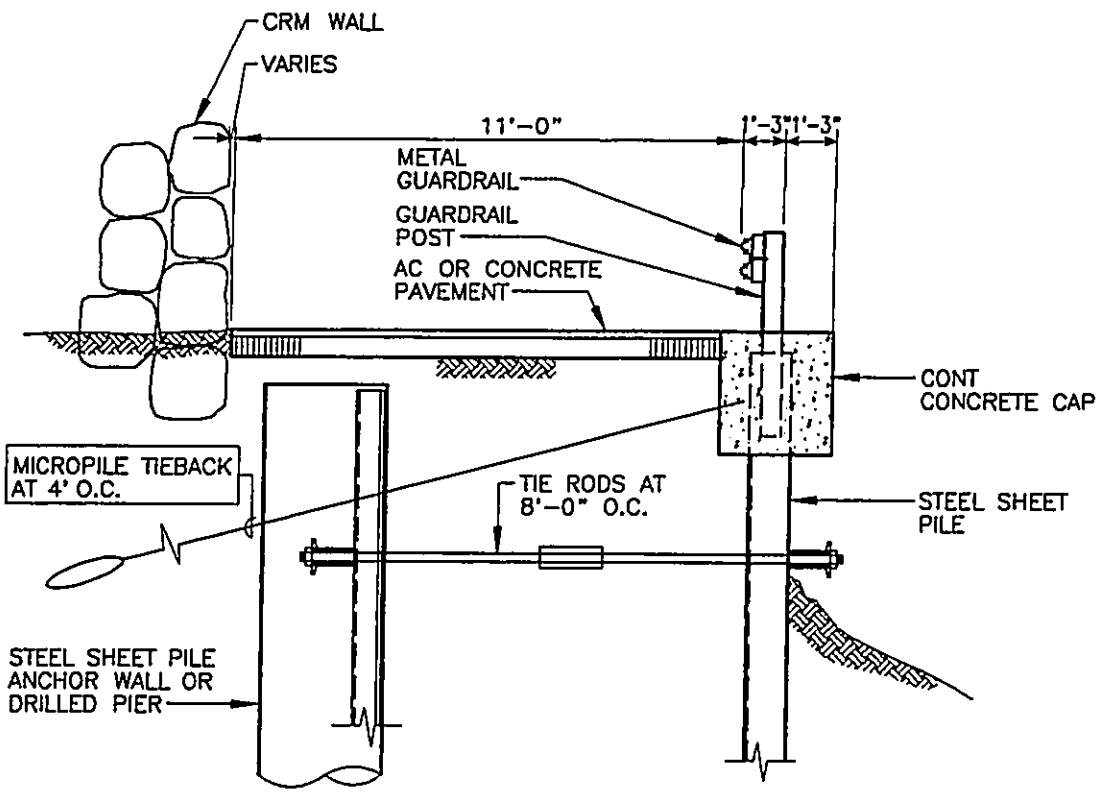
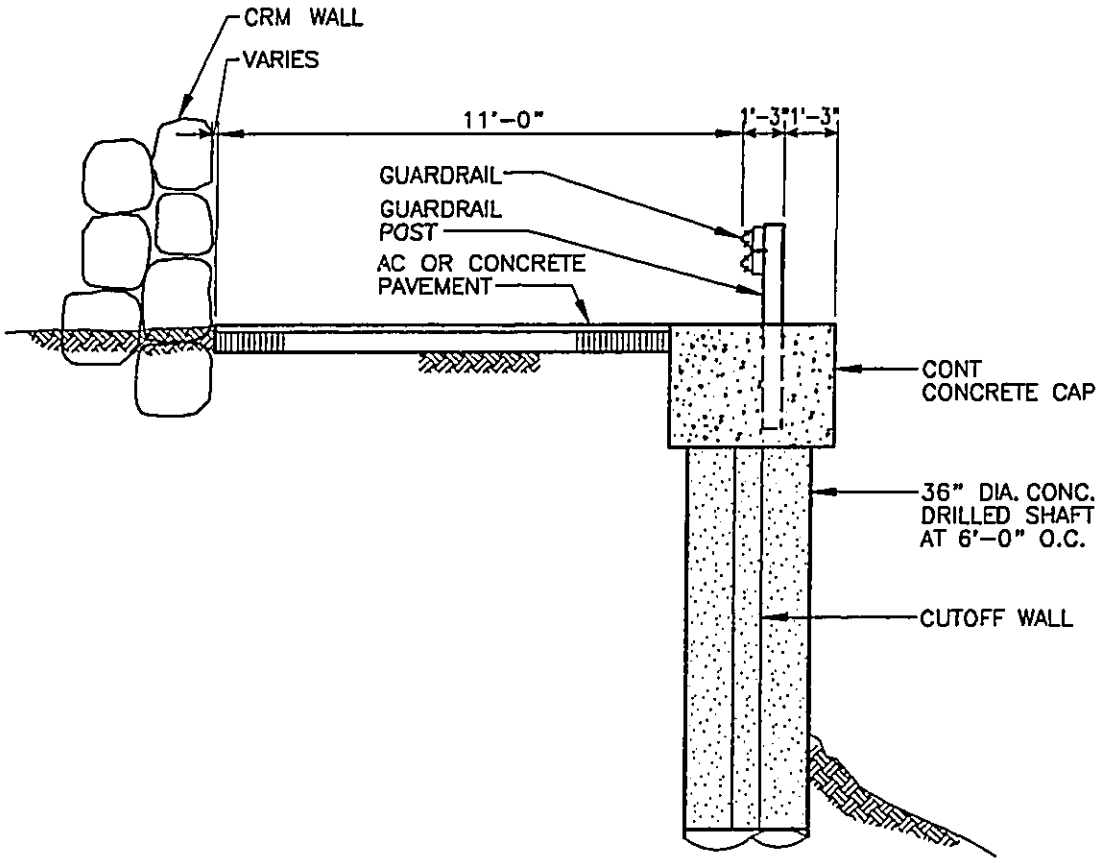


KALAIOPUA PLACE IMPROVEMENTS

FIGURE 5-3

STEEL SHEETPILE RETAINING WALL SECTION

I:\CAD\LARSON\DGN\KALAIOPUA\EA\FIG5-4.DGN



KALAIOPUA PLACE IMPROVEMENTS

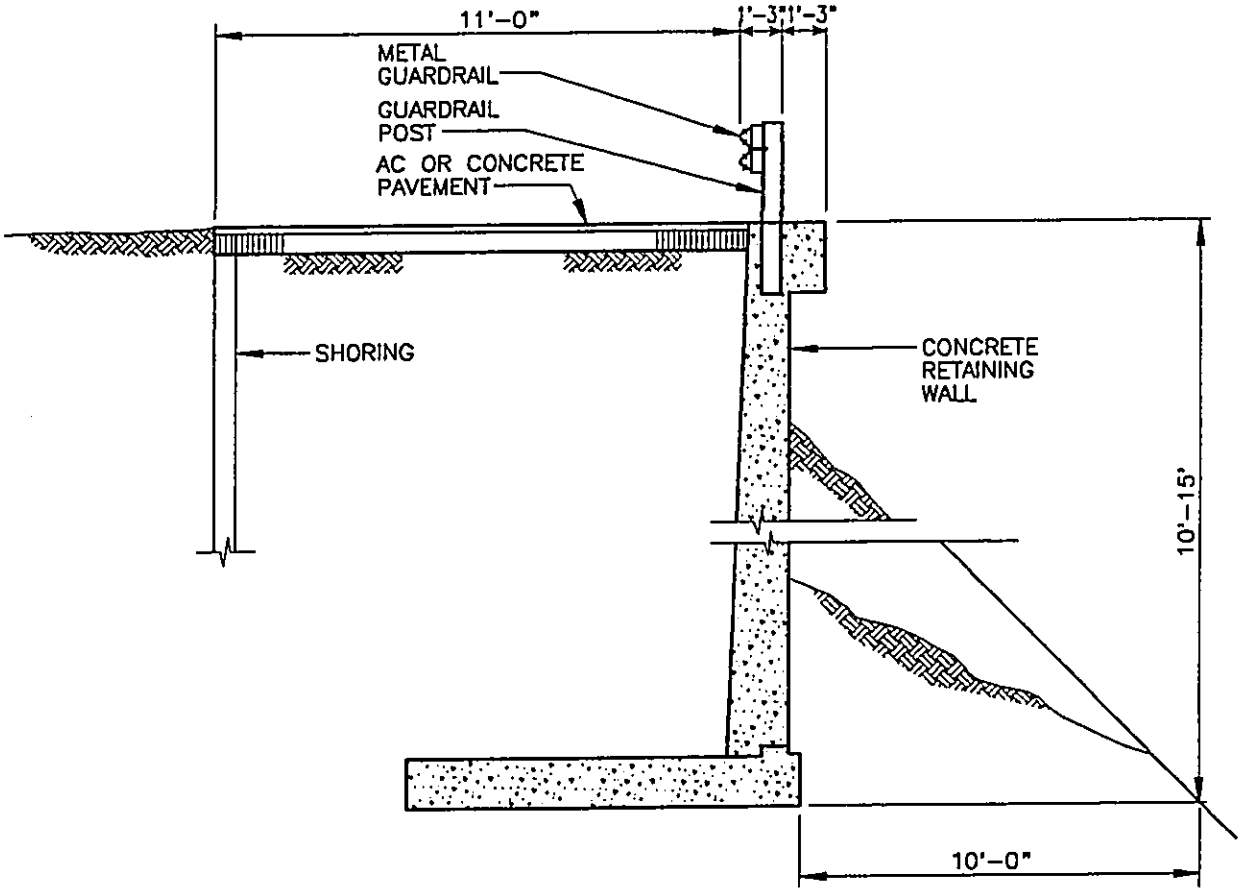
FIGURE 5-4

DRILLED PIER RETAINING STRUCTURE SECTION

5.3.3.3 Cantilevered Retaining Wall

Construction of a conventional cantilevered retaining wall was investigated (see **Figure 5-5**). The wall must be embedded deep enough to ensure that it is not undermined or that the soil at the toe of the footing is not eroded to the extent that wall stability is adversely affected. The estimated cost per linear foot of road for this alternative (including utility relocation) is $4,904. Construction of this alternative would require closing the road for extended periods of time which would cause a major disruption to residents. The alternate provides a semi-permanent solution that is more expensive than the other retaining systems.

I:\CAD\LARSON\DGN\KALAIOPUA\EA\FIG5-5.DGN



KALAIOPUA PLACE IMPROVEMENTS

FIGURE 5-5

CANTILEVERED RETAINING WALL SECTION

CHAPTER 6
FINDINGS AND DETERMINATION

6.1 DETERMINATION

The City and County of Honolulu Department of Design and Construction (DDC) has concluded that the proposed project does not have the potential to generate significant environmental impacts and the need to prepare an environmental impact statement is not evident. Therefore, this Final Environmental Assessment (EA) has been submitted with a Finding of No Significant Impact (FONSI) determination.

6.2 FINDINGS AND REASONS SUPPORTING DETERMINATION

The overall and cumulative impacts of the proposed action were evaluated with respect to Hawaii Administrative Rules (HAR) Title 11, Department of Health, Chapter 200, Environmental Impact Statement Rules, Section 11-200-12 "Significance Criteria." The following findings and conclusions support the FONSI determination.

(1) *The proposed action will not involve an irrevocable commitment to loss or destruction of any natural or cultural resource.*

The Archaeological Assessment and Cultural Impact Evaluation stated the terrain was too steep for traditional or early historic enterprise. Research indicated minimal native Hawaiian land use on the upper slopes of Tantalus and the lack of archaeological sites or studies near the project area. While traditional gathering of forest resources may occur, the steep slope along Kalaiopua Place would make such gathering difficult. Forest resources and access to forest resources will not be significantly impacted by the proposed action.

(2) *The proposed action will not curtail the range of beneficial uses of the environment.*

The proposed action involves stabilization and repair of an existing road. There are no other beneficial uses for the project site due to limited land area and steep terrain.

(3) *The proposed action will 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 limited to stabilization and repair of an existing road. No new development will occur. Short-term construction-related environmental impacts will be minimized by incorporation of mitigation measures described in Chapter 4.

(4) *The proposed action will not have a substantial negative effect on the economic or social welfare of the community or state.*

The proposed action will have a positive impact on the welfare of Kalaiopua Place residents, by providing safe access to their homes.

(5) *The proposed action will not have a substantial negative effect on public health.*

There are no long-term negative health impacts resulting from the proposed action. Instead, the project will have a positive impact on public safety for those traversing Kalaiopua Place.

(6) *The proposed action will not involve substantial secondary impacts, such as population changes or effects on public facilities.*

The proposed action will not incite population growth along Kalaiopua Place or its vicinity. The proposed project will have a positive effect on maintenance and structural stability of the public road and the overhead electrical and telecommunication facilities along the road.

(7) *The proposed action does not involve substantial degradation of environmental quality.*

Construction activities may temporarily increase dust, noise and traffic in the vicinity of the project site. However, these short-term impacts will cease upon completion of construction. Mitigation measures to minimize these construction-related impacts have been described in Chapter 4.

(8) *The proposed action will not have a considerable cumulative effect upon the environment or involve a commitment for larger actions.*

The proposed action is limited to stabilization and repair of an existing public road for safety, and relocation of overhead utility poles to areas with sufficient shoulder width.

(9) *The proposed action will not substantially affect a rare, threatened, or endangered species or its habitat.*

According to the Biological Resources Assessment, none of the plants observed at the project site is a threatened or endangered species or a species of concern. Similarly, none of the animals found during the field studies or expected to utilize the area is a threatened or endangered species or a species of concern.

(10) *The proposed action will not affect air or water quality or ambient noise levels.*

The proposed action will not have a long-term impact on air or water quality or ambient noise levels. However, short-term construction-related impacts may occur and will be minimized by mitigation measures described in Chapter 4.

(11) *The proposed action will not affect, nor is it likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal water.*

While the project site is located in an erosion-prone area which has resulted in damage to the existing road, the proposed action will stabilize the down slope side of the road to slow down the erosion process. The road is located along a steep hillside where earth slides onto the road from privately-owned uphill slopes have occurred in the past. Retaining walls built by residents has improved stability on the uphill side of the road.

(12) The proposed action will not substantially affect scenic vistas or viewplanes identified in county or state plans or studies.

The proposed road improvements are at ground level and will not have a negative effect on scenic vistas or view planes. Associated relocation of the overhead utility lines to areas with sufficient road shoulder should not impact views. It is anticipated that roadside vegetation removed to facilitate construction will readily reestablish itself after completion of construction activities.

(13) The proposed action will not require substantial energy consumption.

The proposed road improvements do not include street lighting and will not cause substantial changes in energy consumption.

CHAPTER 7
CONSULTATION

7.1 PARTICIPANTS

This environmental assessment (EA) was prepared for the City and County of Honolulu Department of Design and Construction (DDC) by Engineering Concepts, Inc. Other consultants also involved in preparation of this document are:

Consultant	Area of Expertise
Char & Associates	Biological Resources
Cultural Surveys Hawaii	Archaeological, Historical and Cultural Resources

7.2 PARTIES CONSULTED DURING PREPARATION OF THE DRAFT EA

Preliminary consultation with agencies and other interested parties was conducted during preparation of this Draft EA and earlier, during the project planning. Selected correspondence is included in **Appendix A**. Consulted parties include:

State of Hawaii
Dept. of Land and Natural Resources, Land Division
Dept. of Land and Natural Resources, Historic Preservation Division
Dept. of Land and Natural Resources, Commission on Water Resource Management

City and County of Honolulu
Dept. of Facility Maintenance
Dept. of Planning and Permitting, Site Development Division
Board of Water Supply

Others
Hawaiian Electric Company, Inc.
Verizon Hawaii, Inc.
Oceanic Time Warner Cable
Kalaiopua Place residents

7.3 PARTIES CONSULTED DURING PREPARATION OF THE FINAL EA

Forty five (45) copies of the Draft EA were distributed to agencies, organizations and other interested parties. A complete list of these consulted parties is presented in **Table 7-1.** Availability of the Draft EA was published in the March 8, 2003 edition of *The Environmental Notice* by the Office of Environmental Quality Control. A total of 15 comment letters were received as of August 29, 2003 (the public review period officially ended on April 7, 2003). Agencies, organizations and other interested parties responding to the request for comments are indicated with a "C" in **Table 7-1.** Those parties responding with "no comments" are labeled with an "NC". Hawaiian Electric Company, Inc. (HECO) submitted two comment letters.

TABLE 7-1
DRAFT EA DISTRIBUTION LIST

FEDERAL GOVERNMENT	
C	U.S. Army Engineer District, Honolulu
	U.S. Fish and Wildlife Service
NC	U.S. Natural Resources Conservation Service
STATE GOVERNMENT	
	Senator Carol Fukunaga, District 11
	Representative Brian Schatz, District 25
	Dept. of Business, Economic Development and Tourism: Director Office of Planning
	Dept. of Health, Environmental Planning Office
 C C	Dept. of Land and Natural Resources: Chairperson State Historic Preservation Division Land Division Division of Forestry and Wildlife
C	Office of Environmental Quality Control
C	Office of Hawaiian Affairs
CITY AND COUNTY OF HONOLULU	
	Councilmember Rod Tam, District 6
C	Department of Facility Maintenance
C	Department of Planning and Permitting
C	Department of Transportation Services
NC	Honolulu Fire Department
C	Honolulu Police Department
OTHER INTERESTED PARTIES	
C (2)	Hawaiian Electric Company, Inc.
	Verizon Hawaii, Inc.
C	Oceanic Time Warner Cable
	Makiki/Lower Punchbowl/Tantalus Neighborhood Board No. 10
	Peter B. Woollett and Lynda D.S. Woollett
	Joan P. White Trust
	Paul Tremaine and William Trotman
	Charles R. Wichman Trust and Jeanne R. Wichman Trust
C	Pamela Burns Trust
	Juli M.K. Walters Trust
	Maryanne Tefft Force Trust
LIBRARIES	
	State Main Library
	McCully-Moilili Public Library
	Department of Customer Services Library

7.4 COMMENTS ON THE DRAFT EA

Comment letters received as a result of public review of the Draft EA and responses prepared by the Department of Design and Construction are included in **Appendix B.**

7.5 FINAL EA DISTRIBUTION

The Final EA will be distributed to those parties that submitted comment letters on the Draft EA and neighboring landowners on Kalaiopua Place. Additionally, the Final EA will be distributed to affected HECO customers along Tantalus Drive that are serviced by the same overhead distribution circuit as Kalaiopua Place residents.

REFERENCES

Engineering Concepts, Inc., *Concept Study for Kalaiopua Place Improvement, Honolulu, Hawaii*, August 19, 2002.

Fewell Geotechnical Engineering, Ltd., *Preliminary Subsurface Investigation Report, Preliminary Engineering Study, Phase II, Kalaiopua Place Distresses, Honolulu, Oahu, Hawaii*, March 20, 2002.

Hawaii State, Department of Health, *Title 11, Department of Health Administrative Rules*, "Chapter 200 - Environmental Impact Statement Rules", August 31, 1996.

Hawaii State, Department of Health, *Title 11, Department of Health Administrative Rules*, "Chapter 46 - Community Noise Control", September 23, 1996.

Hawaii State, Department of Health, *Title 11, Department of Health Administrative Rules*, "Chapter 60.1 - Air Pollution Control", September 15, 2001.

APPENDIX A

CORRESPONDENCE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809
MAR - 1 2002

Ms. Dana Arakaki
Engineering Concepts, Inc.
1150 South King St., Suite 700
Honolulu, HI 96814

Dear Ms. Arakaki:

Kalaiopua Place Improvements
Road Stabilization

This is in response to your facsimile dated January 24, 2002, requesting a determination if a Stream Channel Alteration Permit (SCAP) would be required for a proposed road stabilization to Kalaiopua Place, off Tantalus Drive, Honolulu, Oahu. We apologize for the delay in responding to your inquiry.

A site visit was conducted by our staff on February 12, 2002. The proposed work does not alter the bank of the watercourse. Therefore, a Stream Channel Alteration Permit would not be required.

Thank you for consulting us in this matter. Should you have any questions, please contact David Higa of the Commission staff at 587-0249.

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

SKS:sd

G:\WORK\REGULATE\FINAL\HIGA\Dana Arakaki - Tantalus.rfd.doc

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

GILBERT S. COLOMA-AGARAN, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCES MANAGEMENT

DEPUTIES
ERIC T. HIRANO
LINNEL NISHIOKA

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

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

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

October 23, 2002

Mr. David W. Shideler, O`ahu Office Manager
Cultural Surveys Hawaii
733 N. Kalaheo Avenue
Kailua, Hawaii 96734

LOG NO: 30932 ✔
DOC NO: 0210SC10

Dear Mr. Shideler:

SUBJECT: Chapter 6E-8 Historic Preservation Review of an Archaeological Assessment Prepared in Support of Improvements to Kala`iōpua Place
Makiki, Kona, O`ahu
TMK: (1)-2-5-019

Thank you for the opportunity to comment on an archaeological assessment prepared in support of roadway improvements to be made to Kala`iōpua Place in Makiki, O`ahu (Hammatt et al. 2002. *Archaeological Assessment in Support of the Kala`iōpua Place Road Improvements Project*). We received the subject assessment on October 16, 2002, and provide the following comments.

The assessment presents previous historical and archaeological information for the Tantalus area. These data provide an adequate basis for concluding that the likelihood of encountering significant archaeological sites within the project area is low. The alluvial soils and steep slopes of the project area and its surrounding terrain further support a finding of "no effect" upon significant archaeological sites.

Our Architecture Branch requests only that if the proposed improvements will impact any adjacent residences that are over 50 years old, a historic resources inventory form with photographs of the structure should be provided to our office, prior to commencing any ground disturbance.

Should you have any questions about archaeology, please feel free to contact Sara Collins at 692-8026. Should you have any questions about architecture, please feel free to contact Carol Ogata at 692-8032.

Aloha,

Don Hibbard, Administrator
State Historic Preservation Division

SC:jk

APPENDIX B

DRAFT EA COMMENTS AND RESPONSES

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

REPLY TO
ATTENTION OF: CEPOH-EC-T

REC
APR

April 3, 2003

Civil Works Technical Branch

Mr. Kenneth Lai
Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Lai:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the Kalaiopua Place Improvements Project, Honolulu, Oahu (TMK 2-5-19: 9). The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

a. Based on the information provided, a DA permit will not be required for the project.

b. The flood hazard information provided on page 3-2 of the DEA is correct.

A copy of this letter has been furnished to Ms. Kay Muranaka, Engineering Concepts, 1150 South King Street, Suite 700, Honolulu, Hawaii 96814. Should you require additional information, please contact Ms. Jessie Dobinchick of my staff at (808) 438-8876.

Sincerely,

James Pennaz, P.E.
Chief, Civil Works
Technical Branch

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 523-4564 • FAX: (808) 523-4567
WEB SITE ADDRESS: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
ASSISTANT DIRECTOR

May 14, 2003

CDD-BS 03-0078

Mr. James Pennaz, P.E., Chief
Civil Works Technical Branch
U.S. Army Engineer District, Honolulu
CEPOH-EC-T
Fort Shafter, Hawaii 96858-5440

Attention: Ms. Jessie Dobinchick

Dear Mr. Pennaz:

Subject: Draft Environmental Assessment (EA) for
Kalaiopua Place Improvements, Honolulu, Oahu, Hawaii
TMK: 2-5-19: 9 (portion)

Thank you for your letter dated April 3, 2003 regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document and acknowledge your findings that:

(1) A Department of the Army permit will not be required; and

(2) The flood hazard information provided in the Draft EA is correct.

A copy of your correspondence and this response will be included in the Final EA. Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

Very truly yours,

TIMOTHY E. STEINBERGER, P.E.
Director

AM:KL:pto

cc: Ms. Genevieve Salmonson - Office of Environmental Quality Control
Mr. Kay Muranaka - Engineering Concepts, Inc.

NRCS
Natural Resources Conservation Service
P.O. Box 50004
Honolulu, HI 96850

United States Department of Agriculture

Our People...Our Islands...In Harmony

March 21, 2003

Mr. Timothy E. Steinberger, Acting Director
Department of Design and Construction
City and County of Honolulu
650 South King St.
Honolulu, Hawaii 96813

Attention: Mr. Kenneth Lai,

Subject: Draft Environmental Assessment (EA) for Kalaiopua Place Improvements

We have reviewed the above mentioned document and have no comment to offer at this time.

Thank you for the opportunity to review this document.

Sincerely,

LAWRENCE T. YAMAMOTO
Acting State Conservationist

cc: Ms. Genevieve Salmonson, Director
Mr. Kay Muranaka, President

The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.

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DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
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JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

GEORGE T. TAKASHIRO, P.E.
ASSISTANT DIRECTOR

May 14, 2003

CDD-BS 03-0079

Mr. Lawrence T. Yamamoto
Acting State Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
P.O. Box 50004
Honolulu, Hawaii 96850

Dear Mr. Yamamoto:

Subject: Draft Environmental Assessment (EA) for
Kalaiopua Place Improvements, Honolulu, Oahu, Hawaii
TMK: 2-5-19: 9 (portion)

Thank you for your letter dated March 21, 2003 regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document and acknowledge that you have no comments to offer at this time.

A copy of your correspondence and this response will be included in the Final EA. Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

Very truly yours,

TIMOTHY E. STEINBERGER, P.E.
Director

AM:KL:pto

cc: Ms. Genevieve Salmonson - Office of Environmental Quality Control
Mr. Kay Muranaka - Engineering Concepts, Inc.

LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

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

DEPUTY
ERNEST Y. W. LAU

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

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

RECEIVED
MAR 20 2003

March 18, 2003

Mr. Timothy E. Steinberger, Acting Director
Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813
Attention: Mr. Kenneth Lai

LOG NO: 2003.0006
DOC NO: 0303EJ07

Dear Mr. Steinberger:

SUBJECT: Chapter 6E-8 Historic Preservation Review – Draft Environmental Assessment for Kalaiopua Place Improvements, Honolulu, Hawaii
Makiki, Kona, O`ahu
TMK: (1) 2-5-019:009 por.

Thank you for the opportunity to comment on the DEA for the proposed Kalaiopua Place improvements. Appendix A of the DEA includes our earlier comments on this project (SHPD Log No. 30932/Doc. 0210SC10). We believe based on an archaeological assessment, included in the DEA, that it is unlikely that significant archaeological sites would be found within the project area and that this project will have "no effect" upon significant archaeological sites.

We also note that no historic residences appear to be affected by these roadway improvements. Our earlier comments provided guidelines in the event that historic residences are affected by these actions.

Should you have any questions about archaeology, please feel free to call Sara Collins at 692-8026 or Elaine Jourdane at 692-8027. Should you have any questions about architecture please call Tonia Moy at 692-8030.

Aloha,

P. Holly McEldowney

P. Holly McEldowney, Acting Administrator
State Historic Preservation Division

EJ:jk

c: Ms. Genevieve Salmonson, Director, OEQC, 235 S. Beretania St, Ste 702, Hon. HI 96813
Mr. Kay Muranaka, President, Engineering Concepts, Inc. 1150 South King Street, Suite 700, Honolulu, Hawaii 96814

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

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JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
ASSISTANT DIRECTOR

May 14, 2003

CDD-BS 03-0080

Ms. P. Holly McEldowney
Acting Administrator
Historic Preservation Division
State of Hawaii
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

Dear Mr. McEldowney:

Subject: Draft Environmental Assessment (EA) for
Kalaiopua Place Improvements, Honolulu, Oahu, Hawaii
TMK: 2-5-19: 9 (portion)

Thank you for your letter dated March 18, 2003 (Log No. 2003.0006/Doc. No. 0303EJ07) regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document and acknowledge your findings that:

(1) It is unlikely that significant archaeological sites would be found within the project area;

(2) This project will have "no effect" upon significant archaeological sites; and

(3) No historic residences appear to be affected by these roadway improvements.

A copy of your correspondence and this response will be included in the Final EA. Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

Very truly yours,

TIMOTHY E. STEINBERGER, P.E.
Director

AM:KL:pto

cc: Ms. Genevieve Salmonson - Office of Environmental Quality Control
Mr. Kay Muranaka - Engineering Concepts, Inc.

LINDA LINGLE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. Box 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DAN DAVIDSON
DEPUTY DIRECTOR FOR LAND

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

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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE
COMMISSION
LAND
STATE PARKS

April 11, 2003

LD-NAV

APR 15 2003

KALAIOPLACEC&CoH.RCH
L-1404/1210/1453/1428/1478/1548

Timothy E. Steinberger, Acting Director
Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Steinberger:

SUBJECT: Draft Environmental Assessment (DEA) (January 2003) for
Kalaiopua Place Replacement C&CoH DODC
Consultant: Engineering Concepts, Inc.

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division made available a copy of the DEA to the following DLNR Divisions for their review and comment:

- Division of Forestry and Wildlife
- Engineering Division
- Land-Planning and Technical Services
- Land-Oahu District Land Office

Attached herewith is a copy of the Engineering Division and Land-Planning and Technical Services comments.

Based on the attached responses, the Department of Land and Natural Resources has no other comment to offer on the subject matter.

Should you have any questions, please contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 587-0384.

Very truly yours,

Charlene E. Unoki

for DIERDRE S. MAMIYA
Administrator

C: ODLO

03 APR 11 PM 1:23

LINDA LINGLE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. Box 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

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DEPUTY DIRECTOR FOR LAND

SHARRY Y.W. LAU
DEPUTY DIRECTOR FOR
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FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE
COMMISSION
LAND
STATE PARKS

REF:PD:DH

Correspondence: OA-03-128

MAR 30

MEMORANDUM

TO: Nick Vaccaro
Land Division

FROM: Sam Lemmo
Planning Branch

SUBJECT: Draft Environmental Assessment (DEA) Kalaiopua Place Improvements
Honolulu, Oahu, TMK: (1) 2-5-019:009

The Department has reviewed the Draft Environmental Assessment (DEA) for Kalaiopua Place Improvements, Honolulu, Oahu, TMK: (1) 2-5-019:009.

The Department notes the subject parcel (TMK: (1) 2-5-019:009) is located in the resource subzone of the Conservation District, and is subject to Chapter 13-5, Conservation District Rules and Regulations. Thus, a Conservation District Use Application should be filed for the proposed project.

Should you have any questions, please contact Dawn Hegger of our Planning Branch staff at 587-0380.

DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division

COMMENTS

We confirm that the proposed project site, according to FEMA Map No. 15003C0360 E, is located in Zone X. This is an area determined to be outside the 500-year flood plain.

Should you have any questions, please call Mr. Andrew Monden of the Planning Branch at 587-0227.

Signed: Eric T. Hirano
ERIC HIRANO, CHIEF ENGINEER

Date: 3/24/03

N:\WLD\MAKAI\DENNIS\WORD\KalaiopuaPlace_Roadwayimprovements_DEA_com_012.doc

LINDA LINGLE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. Box 621
HONOLULU, HAWAII 96809

PETER Y. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ERNEST LAU
DEPUTY DIRECTOR

DEAN A. NAKANO
ACTING DEPUTY DIRECTOR FOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

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

March 12, 2003
LD/NAV
Ref.: KALAIOPUAPLACEC&COH.CMT

L-1210
Suspense Date: 4/1/03

MEMORANDUM:

TO:
- Division of Aquatic Resources
- XXX Division of Forestry & Wildlife
- Na Ala Hele Trails
- Division of State Parks
- XXX Engineering Division
- Division of Boating and Ocean Recreation
- Commission on Water Resource Management
- Land Division Branches:
- XXX Planning and Technical Services
- ✓XXX Oahu District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Draft Environmental Assessment (January 2003) for Kalaiopua Place Improvements C&CoH DODC
Consultant: Engineering Concepts, Inc. (591-8820)

Please review the attached document pertaining to the subject matter and submit your comments (if any) on Division letterhead by the suspense date.

Should you need more time to review the subject matter, please contact Nicholas A. Vaccaro at ext.: 7-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

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

Signed:
Name: Robert M. Ing
Date: 3/25/03
AC

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 523-4564 • FAX: (808) 523-4567
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JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
ASSISTANT DIRECTOR

May 14, 2003

CDD-BS 03-0081

Ms. Dierdre S. Mamiya, Administrator
Land Division
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

Attention: Mr. Nicholas A. Vaccaro
Land Division Support Services Branch

Dear Ms. Mamiya:

Subject: Draft Environmental Assessment (EA) for
Kalaiopua Place Improvements, Honolulu, Oahu, Hawaii
TMK: 2-5-19: 9 (portion)

Thank you for your letter dated April 11, 2003 (reference: LD-NAV) regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document and provide the following response to the comments transmitted:

1. We acknowledge the comment made by Land-Planning and Technical Services that the project site is located in the resource subzone of the Conservation District. A Conservation District Use Application will be filed for the proposed project.

2. We acknowledge the comment made by the Engineering Division that the project site is located in Zone X (an area determined to be outside the 500-year flood plain) according to FEMA Map No. 15003C0360 E.

A copy of your correspondence and this response will be included in the Final EA. Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

Very truly yours,

TIMOTHY E. STEINBERGER, P.E.
Director

AM:KL:pto
cc: Ms. Genevieve Salmonson - Office of Environmental Quality Control
Mr. Kay Muranaka - Engineering Concepts, Inc.

LINDA LINGLE
GOVERNOR OF HAWAII

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

March 3, 2003

George Tamashiro, Director
Department of Design & Construction
650 South King Street
Honolulu, Hawaii 96813

Attention: Kenneth Lai

Dear Mr. Tamashiro:

Subject: Draft Environmental Assessment (EA) for **Kalaiopua Place Improvements**

In order to reduce bulk and save on paper, please print on both sides of the pages in the final document. We have no other comments to offer at this time.

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

Sincerely,

Genevieve Salmonson

GENEVIEVE SALMONSON
Director

c: ✓Dana Arakaki

JEREMY HARRIS
MAYOR

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 523-4564 • FAX: (808) 523-4587
WEB SITE ADDRESS: www.co.honolulu.hi.us

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
ASSISTANT DIRECTOR

May 14, 2003

CDD-BS 03-0082

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
State of Hawaii
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Attention: Ms. Nancy Heinrich

Dear Ms. Salmonson:

Subject: Draft Environmental Assessment (EA) for
Kalaiopua Place Improvements, Honolulu, Oahu, Hawaii
TMK: 2-5-19: 9 (portion)

Thank you for your letter dated March 3, 2003 regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document. In response to your comment, the Final EA will be printed on both sides of the pages to reduce bulk and conserve paper.

A copy of your correspondence and this response will be included in the Final EA. Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

Very truly yours,

TIMOTHY E. STEINBERGER, P.E.
Director

AM:KL:pto

cc: Mr. Kay Muranaka - Engineering Concepts, Inc.

PHONE (808) 594-1888
[illegible]
C & C OF HONOLULU

03 MAR 19 PM 1:16

If 03-00491 Comm CD #1

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DOC-CIVIL DIVISION
C&C OF HONOLULU

'03 MAR 20 P12:29

FAX (808) 594-1865

MAR 21 2003

CDD

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPIOLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

January 23, 2003

Mr. Timothy E. Steinberger
Acting Director of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawai'i 96813

Re: Review of Draft Environmental Assessment

Project: Kalaiopua Place Improvements
TMK: 2-5-19-9 (portion)

Dear Mr. Steinberger:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment prepared by Engineering Concepts, Inc., on behalf of the City and County of Honolulu. We find no reason to disagree with the anticipated Finding of No Significant Impact for this project.

We base this response upon the October 23, 2002, letter from the Department of Land and Natural Resources, Historic Preservation Division, which indicates that the proposed land use "will have 'no effect' on significant archaeological sites". We also considered the Biological Resources Assessment prepared by Char & Associates and the Archaeological Assessment and Cultural Impact Evaluation prepared by Cultural Surveys Hawai'i, Inc.

Should you have any questions regarding this matter, please do not hesitate to contact me at 594-1831.

Aloha,

Peter L. Yee
Director, Nationhood & Native Rights Division

JEREMY HARRIS
MAYOR

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 523-4564 • FAX: (808) 523-4567
WEB SITE ADDRESS: www.co.honolulu.hi.us

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MAY 16 2003
ENGINEERING CONCEPTS

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

GEORGE T. YAMASHIRO, P.E.
ASSISTANT DIRECTOR

May 14, 2003

CDD-BS 03-0088

Mr. Peter L. Yee, Director
Nationhood & Native Rights Division
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

Dear Mr. Yee:

Subject: Draft Environmental Assessment (EA) for
Kalaiopua Place Improvements, Honolulu, Oahu, Hawaii
TMK: 2-5-19: 9 (portion)

Thank you for your letter dated January 23, 2003 regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document and acknowledge that you find no reason to disagree with the anticipated Finding of No Significant Impact for the project.

A copy of your correspondence and this response will be included in the Final EA. Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

Very truly yours,

TIMOTHY E. STEINBERGER, P.E.
Director

AM:KL:pto

cc: Ms. Genevieve Salmonson - Office of Environmental Quality Control
Mr. Kay Muranaka - Engineering Concepts, Inc.

CD

DEPARTMENT OF FACILITY MAINTENANCE
CITY AND COUNTY OF HONOLULU
DDC-CIVIL DIVISION
C & C OF HONOLULU
ALUOHA STREET, SUITE 215 · KAPOLEI, HAWAII 96707
Phone: (808) 692-5054 · Fax: (808) 692-5857

RECEIVED
03 MAR 20 PM 2:04
CITY CLERK'S OFFICE
C & C OF HONOLULU

'03 MAR 21 P1:56

JEREMY HARRIS
MAYOR

LARRY J. LEOPARDI
DIRECTOR AND CHIEF ENGINEER

ALVIN K.C. AU
DEPUTY DIRECTOR

IN REPLY REFER TO:

PRO 03-018

DDC
Received

MAR 21 2003

EDED

03400001

March 13, 2003

MEMORANDUM

TO: TIMOTHY E. STEINBERGER, ACTING DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

FROM: LARRY J. LEOPARDI, P.E.
DIRECTOR AND CHIEF ENGINEER

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR
KALAIOPUA PLACE IMPROVEMENTS
HONOLULU, OAHU, HAWAII, TMK: 2-5-19:9

The Department of Facility Maintenance prefers the road be upgraded to City standards, however due to extenuating circumstances described in the EA, we support the proposed project.

If you have any questions, please call Laverne Higa at 692-5111.

LJL:lh
cc: OEQC (fax no. 586-4186)
Engineering Concepts (fax no. 591-9010)

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
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WEB SITE ADDRESS: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
ASSISTANT DIRECTOR

May 14, 2003

CDD-BS 03-0084

MEMORANDUM

TO: MR. LARRY J. LEOPARDI, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF FACILITY MAINTENANCE

FROM: TIMOTHY E. STEINBERGER, P.E., DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR
KALAIOPUA PLACE IMPROVEMENTS
HONOLULU, OAHU, HAWAII
TMK: 2-5-19: 9 (POR.)

Thank you for your memorandum dated March 13, 2003 (reference: PRO 03-018) regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document and acknowledge your support of the proposed project.

A copy of your correspondence and this response will be included in the Final EA. Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

AM:KL:pto

cc: Ms. Genevieve Salmonson - Office of Environmental Quality Control
Mr. Kay Muranaka - Engineering Concepts, Inc.

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 523-4414 • Fax: (808) 527-6743
Web site: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

ERIC G. CRISPIN, AIA
DIRECTOR

BARBARA KIM STANTON
DEPUTY DIRECTOR

2003/ELOG-825 (df)

April 21, 2003

MEMORANDUM

TO: TIMOTHY E. STEINBERGER, P.E., ACTING DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

ATTN: KENNETH LAI

FROM: ERIC G. CRISPIN, AIA, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR KALAIOPUA PLACE IMPROVEMENTS, HONOLULU, TMK: 2-5-019: POR. 009

In response to Engineering Concepts, Inc. March 7, 2003 letter, we have the following comments to offer:

1. Please submit a drainage report along with your grading and construction plans to our department for review and approval.

2. The property owners will need to obtain a drainage connection license if the existing private drainage systems are located within the proposed City's right-of-way.

3. Include "Subdivision Application approval" to create road right-of-way from DPP under Table 1-1, "Permits and Approvals".

4. According to Section 2.1, one of the specific concerns expressed by the residents is that "...earth slides from uphill slopes have blocked the road;". However, in Section 6.2(11), there is no statement to address whether the proposed action is likely to "*...suffer damage by being located in an environmentally sensitive area such as...geologically hazardous land...*". Please address this issue.

If there are any questions, please have your staff contact Mr. Don Fujii of the Site Development Division at Extension 7320.

EGC:ky
cc: Office of Environmental Quality Control
✓ Engineering Concepts, Inc.

Doc No. 210604 rev 1

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
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JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

CDD-BS 03-0092

May 28, 2003

MEMORANDUM

TO: MR. ERIC G. CRISPIN, AIA, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

ATTN: MR. DON FUJII
SITE DEVELOPMENT DIVISION

FROM: for TIMOTHY E. STEINBERGER, P.E., DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR
KALAIOPUA PLACE IMPROVEMENTS
HONOLULU, OAHU, HAWAII
TMK: 2-5-19: 9 (POR.)

Thank you for your memorandum dated April 21, 2003 (reference: 2003/ELOG-825 df) regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document and provide the following response to your comments:

1. A drainage report will be submitted with the grading and construction plans for review and approval.

2. The neighboring property owners will be notified that drainage connection license(s) will be needed if private drainage systems are located within the proposed City right-of-way.

3. All references to subdivision creation for transfer of the road right-of-way to the City and County of Honolulu will be deleted in the Final EA. Kalaiopua Place was placed under the jurisdiction of the City and County of Honolulu by HRS 264-1. The Honolulu City Council by Resolution No. 93-287 accepted ownership and responsibility with the stipulation that subdivision is not required unless ownership of the road is transferred to another party.

4. The Final EA will include a statement in Sec. 6.2(11) regarding the potential for damage to the road from uphill earth slides.

A copy of your correspondence and this response will be included in the Final EA. Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

AM:KL:pto

cc: Ms. Genevieve Salmonson - Office of Environmental Quality Control
Mr. Kay Muranaka - Engineering Concepts, Inc.

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 3RD FLOOR • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4529 • FAX: (808) 523-4730 • INTERNET: www.co.honolulu.hi.us

APR 9 2003

JEREMY HARRIS
MAYOR

CHERYL D. SOON
DIRECTOR

GEORGE "KEOKI" MIYAMOTO
DEPUTY DIRECTOR

April 7, 2003

TP3/03-22905R

MEMORANDUM

TO: TIMOTHY E. STEINBERGER, ACTING DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

ATTN: KENNETH LAI

FROM: CHERYL D. SOON, DIRECTOR

SUBJECT: KALAIOPUA PLACE IMPROVEMENTS

In response to the March 7, 2003 letter from Engineering Concepts, Inc., we reviewed the draft environmental assessment (EA) for the subject project. The following comments are the result of this review:

1. The description of the proposed improvements in Table 2-1 should clearly indicate the locations where guardrails or other safety barriers will be installed. The information provided in Table 2-1 is not consistent with the text in Section 2.2.1 Proposed Road Improvements, which seems to indicate that guardrails or safety barriers will be installed or maintained along the entire length of the road. The evaluation performed to determine where guardrails or other safety barriers are required should be discussed in the EA.

2. The proposed 10' to 11' road width is too narrow to accommodate two-way traffic. Since Kalaiopua Place is a fairly long road, the justification for constructing a one-lane, dead-end road should be included in the EA.

3. Emergency vehicle access needs should be evaluated and addressed in the EA.

Should you have any questions regarding these comments, please contact Faith Miyamoto of the Transportation Planning Division at Local 6976.

Cheryl D. Soon
CHERYL D. SOON

cc: Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control

✓ Mr. Kay Muranaka, President
Engineering Concepts, Inc.

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 523-4564 • FAX: (808) 523-4567
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JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
ASSISTANT DIRECTOR

May 15, 2003

CDD-BS 03-0090

MEMORANDUM

TO: MS. CHERYL D. SOON, DIRECTOR
DEPARTMENT OF TRANSPORTATION SERVICES

ATTN: MS. FAITH MIYAMOTO
TRANSPORTATION PLANNING DIVISION

FROM: TIMOTHY E. STEINBERGER, P.E., DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR
KALAIOPUA PLACE IMPROVEMENTS
HONOLULU, OAHU, HAWAII
TMK: 2-5-19: 9 (POR.)

Thank you for your memorandum dated April 7, 2003 (reference: TP3/03-22905R) regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document and provide the following response to your comments:

1. *The description of the proposed improvements in Table 2-1 should clearly indicate the locations where guardrails or other safety barriers will be installed. The information provided in Table 2-1 is not consistent with the text in Section 2.2.1 Proposed Road Improvements, which seems to indicate that the guardrails or safety barriers will be installed or maintained along the entire length of the road. The evaluation performed to determine where guardrails or other safety barriers are required should be discussed in the EA.*

   In the Final EA, Table 2-1 will be revised for consistency with Section 2.2.1 to indicate installation of guardrails along the entire length of road, except the last 90 feet, where an existing curb wall will be maintained for safety. Guardrails are also depicted on Figure 2-3 (Bridge Section) and Figure 2-4 (Mechanically Stabilized Earth Reinforced Wall Section).

2. *The proposed 10' to 11' road width is too narrow to accommodate two-way traffic. Since Kalaiopua Place is a fairly long road, the justification for constructing a one-lane, dead-end road should be included in the EA.*

   The Draft EA clearly states that there is insufficient land available to construct a road that meets the current City and County design standards. Section 2.2 of the Final EA will include a statement to justify construction of the proposed project. Upon completion of the proposed project, there will be two locations along the road where a car will be able to pull to the side to accommodate opposing traffic.

3. *Emergency vehicle access needs should be evaluated and addressed in the EA.*

   Section 2.2 of the Final EA will address emergency vehicle access. Upon completion of the proposed project, the 10-foot wide road pavement will be adequate for ambulance access. However, fire trucks will not be able to traverse Kalaiopua Place even after construction of the proposed improvements since a minimum width of 16 feet is required for their access.

A copy of your correspondence and this response will be included in the Final EA. Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

AM:KL:pto

cc: Ms. Genevieve Salmonson - Office of Environmental Quality Control
Mr. Kay Muranaka - Engineering Concepts, Inc.

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
3375 KOAPAKA STREET, SUITE H425 • HONOLULU, HAWAII 96819-1869
TELEPHONE: (808) 831-7761 • FAX: (808) 831-7750 • INTERNET: www.honolulufire.org

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MAR 25 2003
ENGINEERING

JEREMY HARRIS
MAYOR

ATTILIO K. LEONARDI
FIRE CHIEF

JOHN CLARK
DEPUTY FIRE CHIEF

March 20, 2003

TO: TIMOTHY E. STEINBERGER, ACTING DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

ATTN: KENNETH LAI, STRUCTURAL ENGINEER
CIVIL DIVISION

FROM: ATTILIO K. LEONARDI, FIRE CHIEF

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
KALAIOPUA PLACE IMPROVEMENTS
HONOLULU, OAHU, HAWAII
TAX MAP KEY: 2-5-019: PORTION 009

We received a letter from Kay Muranaka, President of Engineering Concepts, Inc., dated March 7, 2003, requesting our review and comments of the Draft Environmental Assessement for the above-mentioned project. We have reviewed the documents provided and have no objections to the project.

Should you have any questions, please call Battalion Chief Lloyd Rogers of our Fire Prevention Bureau at 831-7778.

Attilio K. Leonardi
ATTILIO K. LEONARDI
Fire Chief

AKL/SK:bh

cc: Genevieve Salmonson, Director, Office of Environmental Quality Control
Kay Muranaka, President, Engineering Concepts, Inc.

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
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JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

GEORGE Y. TAMASHIRO, P.E.
ASSISTANT DIRECTOR

May 15, 2003

CDD-BS 03-0087

MEMORANDUM

TO: MR. ATTILIO K. LEONARDI, FIRE CHIEF
FIRE DEPARTMENT

ATTN: MR. LLOYD ROGERS, BATTALION CHIEF
FIRE PREVENTION BUREAU

FROM: TIMOTHY E. STEINBERGER, P.E., DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR
KALAIOPUA PLACE IMPROVEMENTS
HONOLULU, OAHU, HAWAII
TMK: 2-5-19: 9 (POR.)

Thank you for your memorandum dated March 20, 2003 regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document and acknowledge that you have no objections to the project.

A copy of your correspondence and this response will be included in the Final EA. Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

AM:KL:pto

cc: Ms. Genevieve Salmonson - Office of Environmental Quality Control
Mr. Kay Muranaka - Engineering Concepts, Inc.

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813 - AREA CODE (808) 529-3111
http://www.honolulupd.org
www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

LEE D. DONOHUE
CHIEF

GLEN E. KAJIYAMA
PAUL D. PUTZULU
DEPUTY CHIEFS

RECEIVED
APR 4 2003

OUR REFERENCE MT-DK

April 1, 2003

TO: TIMOTHY E. STEINBERGER, ACTING DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

ATTENTION: KENNETH LAI

FROM: LEE D. DONOHUE, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR KALAIOPUA PLACE IMPROVEMENTS, HONOLULU, OAHU, HAWAII, TMK: 2-5-19-9 (PORTION)

Thank you for the opportunity to review and comment on the subject project.

Pursuant to chapter 4, section 4.10, on page 4.4, please be aware that the parking area identified (which is opposite of the Puu Ohia Trail) falls under the jurisdiction of the city Department of Transportation Services. Permits to store vehicles must be obtained from that agency.

There are restrictions that prohibit parking between the hours of 10 p.m. and 4 a.m. Vehicles found in the lot during the restricted hours will be cited. Please note that Honolulu police officers secure this parking area daily via a locked chain. There may be specific days when the parking area is neither locked nor unlocked due to the unavailability of police officers who must attend other law enforcement duties. For those instances when the lot must be secured or unlocked, we request that the construction staff call the Chinatown Police Substation at 529-3932 so that an officer can be dispatched to assist.

If there are any questions, please call Major Michael Tucker of District 1 (Honolulu) at 529-3386.

LEE D. DONOHUE
Chief of Police

By
KARL GODSEY
Assistant Chief of Police
Support Services Bureau

cc: Ms. Genevieve Salmonson
Office of Environmental Quality Control

Mr. Kay Muranaka
Engineering Concepts, Inc.

Serving and Protecting with Aloha

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
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JEREMY HARRIS
MAYOR

RECEIVED
MAY 19 2003
ENGINEERING CONCEPTS

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
ASSISTANT DIRECTOR

CDD-BS 03-0085

May 15, 2003

MEMORANDUM

TO: MR. LEE D. DONOHUE, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

ATTN: MAJOR MICHAEL TUCKER, DISTRICT 1

FROM: TIMOTHY E. STEINBERGER, P.E., DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR
KALAIOPUA PLACE IMPROVEMENTS
HONOLULU, OAHU, HAWAII
TMK: 2-5-19: 9 (POR.)

Thank you for your memorandum dated April 1, 2003 (reference: MT-DK) regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document and acknowledge your comments regarding the parking area along Tantalus Drive opposite the Puu Ohia trail head. Should the contractor desire to use the parking area for storage of construction vehicles, a permit will be obtained from the Department of Transportation Services and security of the parking lot will be coordinated with the Chinatown Police Substation.

A copy of your correspondence and this response will be included in the Final EA. Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

AM:KL:pto

cc: Ms. Genevieve Salmonson - Office of Environmental Quality Control
Mr. Kay Muranaka - Engineering Concepts, Inc.

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-0001

GEN-5 (EIS)

APR 4 2003

ENGINEERING CONCEPTS

April 16, 2003

Mr. Kenneth Lai
Department of Design & Construction
City & County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Lai:

Re: Kalaiopua Place Improvements
Honolulu, Oahu, Hawaii
TMK: 2-5-19-9 (portion)

Thank you for the opportunity to comment on the January 2003 DEA of the Kalaiopua Place Improvements. We have reviewed the subject document and have enclosed comments from our Customer Installations and Engineering Departments.

Our point of contact for this project, and the originator of these comments, is Francis Hirakami (543-7536), Principal Engineer, Transmission & Distribution Division, Engineering Department. I suggest your staff and consultant deal directly with Francis to coordinate HECO's continuing input in this project.

Sincerely,

Kirk Tomita
Senior Environmental Scientist

Enc.
cc (w/o enc): OEQC
K. Muranaka (Engineering Concepts)

COMMENTS TO KALAIOPUA PLACE IMPROVEMENTS – DRAFT ENVIRONMENTAL ASSESSMENT:

1. HECO has aerial facilities within the proposed project area. Following are some concerns:
   - The overhead line is probably covered by an easement document. We will need to conduct further research to determine whether we do indeed have easement coverage, and what are the terms and conditions of the easement regarding relocations.
   - Attached are HECO's Notes that will apply to construction work in areas containing HECO's facilities. These should be noted on the road construction plans.
   - The Draft EA states that "Upon completion of the road construction, affected utility poles will be relocated to areas where adequate shoulder width is available to provide stability." However, this will probably be on the upslope side of the road since the downslope side is unstable and in some areas, there will be retaining walls built along the downslope side. On the other hand, there is existing heavy vegetation on the upslope side of the road which is undesirable from an vegetation management standpoint. Heavy tree-trimming may be required to maintain adequate clearance to the energized conductors. The draft EA needs to address the types of trees along the upslope side of the road and the environmental impact of trimming or cutting down these trees especially since the area is within the conservation district.
2. HECO will require review of the road design plans and proposed relocation of the poles and conductors. Any subsequent work requiring temporary or permanent relocation of HECO's facilities will need to be coordinated and HECO will need to be properly reimbursed for its costs.
3. The City should considering an underground alternative that will alleviate the concerns mentioned above. HECO's new guidelines on contributing towards the cost of converting existing distribution overhead lines to underground may be applicable to this project.

F. K. Hirakami – 4/7/2003

HECO NOTES

1. LOCATION OF HECO FACILITIES

THE LOCATION OF HECO'S OVERHEAD AND UNDERGROUND FACILITIES SHOWN ON THE PLANS ARE FROM EXISTING RECORDS WITH VARYING DEGREES OF ACCURACY AND ARE NOT GUARANTEED AS SHOWN. THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATIONS OF THE FACILITIES AND SHALL EXERCISE PROPER CARE IN EXCAVATING AND WORKING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES AND UTILITY CROSSINGS ARE SHOWN, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS AND CROSSINGS TO VERIFY THE DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HECO'S FACILITIES WHETHER SHOWN OR NOT SHOWN ON THE PLANS.

2. COMPLIANCE WITH HAWAII OCCUPATIONAL SAFETY AND HEALTH LAWS

THE CONTRACTOR SHALL COMPLY WITH THE STATE OF HAWAII'S OCCUPATIONAL SAFETY AND HEALTH LAWS AND REGULATIONS, INCLUDING WITHOUT LIMITATION, THOSE RELATED TO WORKING ON OR NEAR EXPOSED OR ENERGIZED ELECTRICAL LINES AND EQUIPMENT.

3. EXCAVATION PERMIT

THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM HECO'S TECHNICAL DIVISION (543-5654) LOCATED AT 820 WARD AVENUE, 4TH FLOOR, TWO WEEKS PRIOR TO STARTING CONSTRUCTION. PLEASE REFER TO OUR REQUEST NUMBER AT THAT TIME.

4. CAUTION!!! ELECTRICAL HAZARD!!!

EXISTING HECO OVERHEAD AND UNDERGROUND LINES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION UNLESS PRIOR SPECIAL ARRANGEMENTS HAVE BEEN MADE WITH HECO. ONLY HECO PERSONNEL ARE TO HANDLE THESE ENERGIZED LINES AND ERECT TEMPORARY GUARDS TO PROTECT THESE LINES FROM DAMAGE. THE CONTRACTOR SHALL WORK CAUTIOUSLY AT ALL TIMES TO AVOID ACCIDENTS AND DAMAGE TO EXISTING HECO FACILITIES, WHICH CAN RESULT IN ELECTROCUTION.

5. OVERHEAD LINES

STATE LAW REQUIRES THAT A WORKER AND THE LONGEST OBJECT HE OR SHE MAY CONTACT CANNOT COME CLOSER THAN A MINIMUM *RADIAL* CLEARANCE OF 10 FEET WHEN WORKING CLOSE TO OR UNDER ANY OVERHEAD LINES RATED 50KV AND BELOW. FOR EACH ADDITIONAL 1KV ABOVE 50KV, AN ADDITIONAL 0.4 INCH SHALL BE ADDED TO THE 10-FOOT CLEARANCE REQUIREMENT. THE PRECEDING INFORMATION ON LINE CLEARANCE REQUIREMENTS IS PROVIDED AS A CONVENIENCE AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE INFORMED OF AND COMPLY WITH ANY REVISIONS OR AMENDMENTS TO THE LAW.

SHOULD THE CONTRACTOR ANTICIPATE THAT HIS WORK WILL RESULT IN THE NEED TO ENCROACH WITHIN THE MINIMUM REQUIRED CLEARANCE AT ANY TIME, THE CONTRACTOR SHALL NOTIFY HECO AT LEAST FOUR (4) WEEKS PRIOR TO THE PLANNED ENCROACHMENT SO THAT, IF FEASIBLE, THE NECESSARY PROTECTIONS (E.G. RELOCATE, DE-ENERGIZE, OR BLANKET HECO LINES) CAN BE PUT IN PLACE. HECO'S COST OF SAFEGUARDING ITS LINES WILL BE CHARGED TO THE CONTRACTOR.

CONTACT HECO'S CUSTOMER INSTALLATIONS DEPARTMENT AT 543-7846 FOR ASSISTANCE IN IDENTIFYING AND SAFEGUARDING OVERHEAD POWER LINES.

REFER TO SECTION X OF HECO'S ELECTRIC SERVICE INSTALLATION MANUAL FOR ADDITIONAL GUIDELINES WHEN WORKING AROUND HECO'S FACILITIES. A COPY MAY BE OBTAINED FROM HECO'S CUSTOMER INSTALLATIONS DEPARTMENT.

6. POLE BRACING

A MINIMUM CLEARANCE OF 10 FEET MUST BE MAINTAINED WHEN EXCAVATING AROUND UTILITY POLES AND/OR THEIR ANCHOR SYSTEM TO PREVENT WEAKENING OR POLE SUPPORT FAILURE. SHOULD WORK REQUIRE EXCAVATING WITHIN 10 FEET OF A POLE AND/OR ITS ANCHOR SYSTEM, THE CONTRACTOR SHALL PROTECT, SUPPORT, SECURE, AND TAKE ALL OTHER PRECAUTIONS TO PREVENT DAMAGE TO OR LEANING OF THESE POLES. THE CONTRACTOR IS RESPONSIBLE FOR ALL ASSOCIATED COSTS TO BRACE, REPAIR, OR STRAIGHTEN POLES. ALL MEANS OF STRUCTURAL SUPPORT FOR THE POLE PROPOSED BY THE CONTRACTOR SHALL FIRST BE REVIEWED BY HECO BEFORE IMPLEMENTATION. FOR POLE BRACING INSTRUCTIONS, THE CONTRACTOR SHALL CALL THE HECO CONSTRUCTION AND MAINTENANCE DEPT., CUSTOMER & SYSTEM SUPERINTENDENT AT 543-4223 A MINIMUM OF TWO (2) WEEKS IN ADVANCE.

7. UNDERGROUND LINES

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF UNDERGROUND LINES. HECO'S EXISTING ELECTRICAL CABLES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION. ONLY HECO PERSONNEL ARE TO BREAK INTO EXISTING HECO FACILITIES, HANDLE THESE CABLES, AND ERECT TEMPORARY GUARDS TO PROTECT THESE CABLES FROM DAMAGE. THE COST OF HECO'S ASSISTANCE IN PROVIDING PROPER SUPPORT AND PROTECTION OF ITS UNDERGROUND LINES WILL BE CHARGED TO THE CONTRACTOR. SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HECO'S 138KV UNDERGROUND LINES (SEE HECO INSTRUCTIONS TO CONSULTANTS/CONTRACTORS ON "EXCAVATION NEAR HECO'S UNDERGROUND 138KV LINES" FOR DETAILED REQUIREMENTS).

FOR VERIFICATION OF UNDERGROUND LINES, THE CONTRACTOR SHALL CALL HECO'S UNDERGROUND DIVISION AT 543-7049 A MINIMUM OF 72 HOURS IN ADVANCE.

FOR ASSISTANCE IN PROVIDING PROPER SUPPORT AND PROTECTION OF THESE LINES, THE CONTRACTOR SHALL CALL HECO'S CONSTRUCTION & MAINTENANCE DEPT., CUSTOMER & SYSTEM SUPERINTENDENT, AT 543-4223, A MINIMUM OF TWO (2) WEEKS IN ADVANCE.

8. UNDERGROUND FUEL PIPELINES

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF HECO'S UNDERGROUND FUEL OIL PIPELINES. SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HECO'S UNDERGROUND FUEL OIL PIPELINES (SEE HECO INSTRUCTIONS TO CONSULTANTS/CONTRACTORS ON "EXCAVATION NEAR HECO'S UNDERGROUND FUEL PIPELINES" FOR DETAILED REQUIREMENTS).

9. EXCAVATIONS

WHEN TRENCH EXCAVATION IS ADJACENT TO OR BENEATH HECO'S EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR IS RESPONSIBLE FOR:

a) SHEETING AND BRACING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE AND TO PREVENT POSSIBLE SLIDES, CAVE-INS, AND SETTLEMENTS.
b) PROPERLY SUPPORTING EXISTING STRUCTURES OR FACILITIES WITH BEAMS, STRUTS, OR UNDER-PINNINGS TO FULLY PROTECT IT FROM DAMAGE.

c) BACKFILLING WITH PROPER BACKFILL MATERIAL INCLUDING SPECIAL THERMAL BACKFILL WHERE EXISTING (REFER TO ENGINEERING DEPARTMENT FOR THERMAL BACKFILL SPECIFICATIONS).

10. RELOCATION OF HECO FACILITIES

ANY WORK REQUIRED TO RELOCATE OR MODIFY HECO FACILITIES SHALL BE DONE BY HECO, OR BY THE CONTRACTOR UNDER HECO'S SUPERVISION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, AND SHALL PROVIDE NECESSARY SUPPORT FOR HECO'S WORK, WHICH MAY INCLUDE, BUT NOT BE LIMITED TO, EXCAVATION AND BACKFILL, PERMITS AND TRAFFIC CONTROL, BARRICADING, AND RESTORATION OF PAVEMENT, SIDEWALKS, AND OTHER FACILITIES.

ALL COSTS ASSOCIATED WITH ANY RELOCATION OR MODIFICATION (EITHER TEMPORARY OR PERMANENT) FOR THE CONVENIENCE OF THE CONTRACTOR, OR TO ENABLE THE CONTRACTOR TO PERFORM HIS WORK IN A SAFE AND EXPEDITIOUS MANNER IN FULFILLING HIS CONTRACT OBLIGATIONS SHALL BE BORNE BY THE CONTRACTOR.

11. CONFLICTS

ANY REDESIGN OR RELOCATION OF HECO'S FACILITIES NOT SHOWN ON THE PLANS MAY BE CAUSE FOR LENGTHY DELAYS. THE CONTRACTOR ACKNOWLEDGES THAT HECO IS NOT RESPONSIBLE FOR ANY DELAY OR DAMAGE THAT MAY ARISE AS A RESULT OF ANY CONFLICTS DISCOVERED OR IDENTIFIED WITH RESPECT TO THE LOCATION OR CONSTRUCTION OF HECO'S ELECTRICAL FACILITIES IN THE FIELD, REGARDLESS OF WHETHER THE CONTRACTOR HAS MET THE REQUESTED MINIMUM ADVANCE NOTICES. IN ORDER TO MINIMIZE ANY DELAY OR IMPACT ARISING FROM SUCH CONFLICTS, HECO SHOULD BE NOTIFIED IMMEDIATELY UPON DISCOVERY OR IDENTIFICATION OF SUCH CONFLICT.

12. DAMAGE TO HECO FACILITIES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL HECO SURFACE AND SUBSURFACE UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HECO'S FACILITIES AS A RESULT OF HIS OPERATIONS. THE CONTRACTOR SHALL IMMEDIATELY REPORT SUCH DAMAGES TO HECO'S TROUBLE DISPATCHER AT 548-7961. REPAIR WORK SHALL BE DONE BY HECO OR BY THE CONTRACTOR UNDER HECO'S SUPERVISION. COSTS FOR DAMAGES TO HECO'S FACILITIES SHALL BE BORNE BY THE CONTRACTOR.

IN CASE OF DAMAGE OR SUSPECTED DAMAGE TO HECO'S FUEL PIPELINE, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY HECO'S HONOLULU POWER PLANT SHIFT SUPERVISOR AT 533-2102 (A 24-HOUR NUMBER) SO HECO PERSONNEL CAN SECURE THE DAMAGED SECTION AND REPORT ANY OIL SPILLS TO THE PROPER AUTHORITIES. ALL COSTS ASSOCIATED WITH THE DAMAGE, REPAIR, AND OIL SPILL CLEANUP SHALL BE BORNE BY THE CONTRACTOR.

13. HECO STAND-BY PERSONNEL

THE CONTRACTOR MAY REQUEST HECO TO PROVIDE AN INSPECTOR TO STAND-BY DURING CONSTRUCTION NEAR HECO'S FACILITIES. THE COST OF SUCH INSPECTION WILL BE CHARGED TO THE CONTRACTOR.

THE CONTRACTOR SHALL CALL THE HECO CONSTRUCTION AND MAINTENANCE DEPT., CUSTOMER & SYSTEM SUPERINTENDENT AT 543-4223 A MINIMUM OF 5 WORKING DAYS IN ADVANCE TO ARRANGE FOR HECO STAND-BY PERSONNEL.

15. CLEARANCES

THE FOLLOWING CLEARANCES SHALL BE MAINTAINED BETWEEN HECO'S DUCTLINE AND ALL ADJACENT STRUCTURES (CHARTED AND UNCHARTED) IN THE TRENCH:

STRUCTURE TYPE	MINIMUM CLEARANCE (INCHES)
WATER LINES, PARALLEL	36
WATER LINES, CROSSING	12 (A)
SEWER LINES, PARALLEL	36 (B)
SEWER LINES, CROSSING	24 (C)
DRAIN LINES, PARALLEL	12
DRAIN LINES, CROSSING	6 (D)
ELECTRICAL AND GAS LINES, PARALLEL	12
ELECTRICAL AND GAS LINES, CROSSING	12
TELEPHONE LINES, PARALLEL	6 (D)
TELEPHONE LINES, CROSSING	6 (D)
CHEVRON OIL LINES, PARALLEL	36
CHEVRON OIL LINES, CROSSING	48 BELOW OIL LINE (E)

A. THE MINIMUM VERTICAL CLEARANCES TO WATER LINES CROSSING ELECTRICAL DUCTLINES CAN BE REDUCED TO 6 INCHES IF THE ELECTRICAL DUCTLINE STRUCTURE IS SMALLER THAN 16 INCHES, IS CONCRETE ENCASED, AND IS BELOW THE WATER LINE.
B. A MINIMUM HORIZONTAL CLERANCE OF 36 INCHES IS REQUIRED BETWEEN NEW HANDHOLES AND EXISTING SEWER LATERALS.
C. THE MINIMUM VERTICAL CLEARANCES TO SEWER PIPES CROSSING ELECTRICAL DUCTLINES CAN BE REDUCED TO 12 INCHES IF THE SEWER PIPE IS JACKETED IN CONCRETE.
D. THE MINIMUM CLEARANCES SHALL BE INCREASED TO 12 INCHES IF THE ELECTRICAL DUCTLINE IS DIRECT BURIED.
E. THE MINIMUM VERTICAL CLEARANCES TO OIL LINES CROSSING ELECTRICAL DUCTLINES CAN BE REDUCED TO 24 INCHES BELOW OIL LINES IF THE CROSSINGS ARE ENCASED IN 6 INCHES OF CONCRETE.
F. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER & HECO OF ANY HEAT SOURCES (POWER CABLE DUCT BANK, STEAMLINE, ETC.) ENCOUNTERED THAT ARE NOT PROPERLY IDENTIFIED ON THE DRAWING.

14. INDEMNITY

THE CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS HECO FROM AND AGAINST ALL LOSSES, DAMAGES, CLAIMS, AND ACTIONS, INCLUDING BUT NOT LIMITED TO REASONABLE ATTORNEY'S FEES AND COSTS BASED UPON OR ARISING OUT OF DAMAGE TO PROPERTY OR INJURIES TO PERSONS, OR OTHER TORTIOUS ACTS CAUSED OR CONTRIBUTED TO BY CONTRACTOR OR ANYONE ACTING UNDER ITS DIRECTION OR CONTROL OR ON ITS BEHALF; PROVIDED CONTRACTOR'S INDEMNITY SHALL NOT BE APPLICABLE TO ANY LIABILITY BASED UPON THE SOLE NEGLIGENCE OF HECO.

ADDITIONAL NOTES WHEN WORK INVOLVES CONSTR. OF HECO FACILTIES

15. SCHEDULE

CONTRACTOR SHALL FURNISH HIS CONSTRUCTION SCHEDULE __ WORKING DAYS PRIOR TO STARTING WORK ON HECO FACILITIES. CONTRACTOR SHALL GIVE HECO, IN WRITING, __ WORKING DAYS NOTICE TO PROCEED WITH HECO'S PORTION OF WORK.

16. AUTHORITY

ALL CONSTRUCTION, RESTORATION WORK, AND INSPECTION SHALL BE SUBJECT TO WHICHEVER GOVERNMENTAL AGENCY HAS AUTHORITY OVER THE WORK.

17. SPECIFICATIONS

CONSTRUCTION OF HECO'S UNDERGROUND FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REVISIONS OF HECO SPECIFICATIONS CS7001, CS7003, CS7202, CS9301, AND CS9401 AND APPLICABLE HECO STANDARDS.

18. CONSTRUCTION

CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES TO PROPERLY PERFORM AND FULLY COMPLETE ALL WORK SHOWN ON THE CONTRACT, DRAWINGS, AND SPECIFICATIONS. ALL MATERIALS SHALL BE NEW AND MANUFACTURED IN THE UNITED STATES OF AMERICA. ALL MANHOLE, HANDHOLE, AND DUCTLINE INSTALLATIONS SHALL BE INSPECTED AND APPROVED BY HECO PRIOR TO EXCAVATION AND PRIOR TO PLACING CONCRETE. CONTRACTOR SHALL NOTIFY HECO'S INSPECTION DIVISION AT 543-4356 AT LEAST 48 HOURS PRIOR TO PLACING CONCRETE.

19. STAKEOUT

THE CONTRACTOR SHALL STAKEOUT ALL PROPOSED HECO FACILITIES WITHIN THE PROJECT AREA SO AS TO NOT CONFLICT WITH ANY UTILITY (EXISTING OR PROPOSED) AND ANY PROPOSED CONSTRUCTION OR IMPROVEMENT WORK FOR VERIFICATION BY HECO BEFORE PROCEEDING WITH HECO WORK.

20. DUCTLINES

ALL DUCTLINE INSTALLATIONS SHALL BE PVC SCHEDULE 40 ENCASED IN CONCRETE, UNLESS OTHERWISE NOTED. ALL COMPLETED DUCTLINES SHALL BE MANDREL TESTED BY THE CONTRACTOR IN THE PRESENCE OF HECO'S INSPECTOR USING HECO'S STANDARD PRACTICE. THE CONTRACTOR SHALL INSTALL A 1/8" POLYOLEFIN PULL LINE IN ALL COMPLETED DUCTLINES AFTER MANDREL TESTING IS COMPLETE.

21. JOINT POLE REMOVAL

THE LAST JOINT POLE OCCUPANT OFF THE POLES SHALL REMOVE THE POLES.

22. AS-BUILT PLANS

THE CONTRACTOR SHALL PROVIDE HECO WITH TWO SETS OF AS-BUILT REPRODUCIBLE TRACINGS SHOWING THE OFFSETS, STATIONING, AND VERTICAL ELEVATION OF THE DUCT LINE(S) CONSTRUCTED.

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
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JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

CDD-BS 03-0127

September 22, 2003

Mr. Kirk Tomita
Senior Environmental Specialist
Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, Hawaii 97840-0001

Attention: Mr. Francis Hirakami, Principal Engineer
Transmission & Distribution Division
Engineering Department

Dear Mr. Tomita:

Subject: Draft Environmental Assessment (EA)
Kalaiopua Place Improvements, Honolulu, Oahu, Hawaii
TMK: 2-5-19: 9 (portion)

Thank you for your letter dated April 16, 2003, regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document and acknowledge receipt of your comments.

Based on the meeting with HECO personnel, City and County personnel, and the project consultants, it is our understanding that the comments contained in your letter have been superseded by the letter dated August 22, 2003, from Mr. Francis Hirakami to Ms. Doraine Young of Engineering Concepts, Inc. The comments in Mr. Hirakami's letter will be addressed in the Final EA.

Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

Very truly yours,

TIMOTHY E. STEINBERGER, P.E.
Director

AM:KL:pto

cc: Ms. Genevieve Salmonson, Office of Environmental Quality Control
Mr. Kay Muranaka, Engineering Concepts, Inc.

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-0001

August 22, 2003

Ms. Doraine Young
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, HI 96814

Dear Ms. Young:

Re: **Kalaiopua Place Improvements**

Here are our comments to the Kalaiopua Place Improvements - Draft Environmental Assessment:

1. HECO has aerial facilities within the proposed project area. Following are some concerns:
   - After reviewing the proposed guardrail location, HECO will need to relocate four poles on the down slope. Three of the poles will be installed five feet deeper than normal to provide a stronger foundation. The fourth pole will be eliminated.
   - The right of way on the down slope side is not defined. Currently, our facilities are not covered by an easement. Moving poles further down the slope may require HECO to obtain an easement.
   - Attached are HECO's Notes that will apply to construction work in the areas containing HECO's facilities. These should be noted on the road construction plans.
   - Customers will need to be notified of planned electrical outages that may occur during construction.
   - A pole-bracing detail is attached as an example of one method that the contractor can use to temporarily support the existing pole during excavation within 10 feet of the pole (see HECO Notes #9 on "Excavation").
2. HECO will need to be properly reimbursed for costs to relocate its facilities.

Michael Lum is the Engineering Department Engineer assigned to this project. Please correspond directly with him on all matters relating to this project. If you have any questions, please contact him at 543-7030.

Sincerely,

Francis Hirakami
Principal Engineer

Enclosures

HECO NOTES

1. LOCATION OF HECO FACILITIES

THE LOCATION OF HECO'S OVERHEAD AND UNDERGROUND FACILITIES SHOWN ON THE PLANS ARE FROM EXISTING RECORDS WITH VARYING DEGREES OF ACCURACY AND ARE NOT GUARANTEED AS SHOWN. THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATIONS OF THE FACILITIES AND SHALL EXERCISE PROPER CARE IN EXCAVATING AND WORKING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES AND UTILITY CROSSINGS ARE SHOWN, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS AND CROSSINGS TO VERIFY THE DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HECO'S FACILITIES WHETHER SHOWN OR NOT SHOWN ON THE PLANS.

2. COMPLIANCE WITH HAWAII OCCUPATIONAL SAFETY AND HEALTH LAWS

THE CONTRACTOR SHALL COMPLY WITH THE STATE OF HAWAII'S OCCUPATIONAL SAFETY AND HEALTH LAWS AND REGULATIONS, INCLUDING WITHOUT LIMITATION, THOSE RELATED TO WORKING ON OR NEAR EXPOSED OR ENERGIZED ELECTRICAL LINES AND EQUIPMENT.

3. EXCAVATION PERMIT

THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM HECO'S TECHNICAL DIVISION (543-5654) LOCATED AT 820 WARD AVENUE, 4TH FLOOR, TWO WEEKS PRIOR TO STARTING CONSTRUCTION. PLEASE REFER TO OUR REQUEST NUMBER AT THAT TIME.

4. CAUTION!!! ELECTRICAL HAZARD!!!

EXISTING HECO OVERHEAD AND UNDERGROUND LINES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION UNLESS PRIOR SPECIAL ARRANGEMENTS HAVE BEEN MADE WITH HECO. ONLY HECO PERSONNEL ARE TO HANDLE THESE ENERGIZED LINES AND ERECT TEMPORARY GUARDS TO PROTECT THESE LINES FROM DAMAGE. THE CONTRACTOR SHALL WORK CAUTIOUSLY AT ALL TIMES TO AVOID ACCIDENTS AND DAMAGE TO EXISTING HECO FACILITIES, WHICH CAN RESULT IN ELECTROCUTION.

5. OVERHEAD LINES

STATE LAW REQUIRES THAT A WORKER AND THE LONGEST OBJECT HE OR SHE MAY CONTACT CANNOT COME CLOSER THAN A MINIMUM *RADIAL* CLEARANCE OF 10 FEET WHEN WORKING CLOSE TO OR UNDER ANY OVERHEAD LINES RATED 50KV AND BELOW. FOR EACH ADDITIONAL 1KV ABOVE 50KV, AN ADDITIONAL 0.4 INCH SHALL BE ADDED TO THE 10-FOOT CLEARANCE REQUIREMENT. THE PRECEDING INFORMATION ON LINE CLEARANCE REQUIREMENTS IS PROVIDED AS A CONVENIENCE AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE INFORMED OF AND COMPLY WITH ANY REVISIONS OR AMENDMENTS TO THE LAW.

SHOULD THE CONTRACTOR ANTICIPATE THAT HIS WORK WILL RESULT IN THE NEED TO ENCROACH WITHIN THE MINIMUM REQUIRED CLEARANCE AT ANY TIME, THE CONTRACTOR SHALL NOTIFY HECO AT LEAST FOUR (4) WEEKS PRIOR TO THE PLANNED ENCROACHMENT SO THAT, IF FEASIBLE, THE NECESSARY PROTECTIONS (E.G. RELOCATE, DE-ENERGIZE, OR BLANKET HECO LINES) CAN BE PUT IN PLACE. HECO'S COST OF SAFEGUARDING ITS LINES WILL BE CHARGED TO THE CONTRACTOR.

CONTACT HECO'S CUSTOMER INSTALLATIONS DEPARTMENT AT 543-7846 FOR ASSISTANCE IN IDENTIFYING AND SAFEGUARDING OVERHEAD POWER LINES.

REFER TO SECTION X OF HECO'S ELECTRIC SERVICE INSTALLATION MANUAL FOR ADDITIONAL GUIDELINES WHEN WORKING AROUND HECO'S FACILITIES. A COPY MAY BE OBTAINED FROM HECO'S CUSTOMER INSTALLATIONS DEPARTMENT.

6. POLE BRACING

A MINIMUM CLEARANCE OF 10 FEET MUST BE MAINTAINED WHEN EXCAVATING AROUND UTILITY POLES AND/OR THEIR ANCHOR SYSTEM TO PREVENT WEAKENING OR POLE SUPPORT FAILURE. SHOULD WORK REQUIRE EXCAVATING WITHIN 10 FEET OF A POLE AND/OR ITS ANCHOR SYSTEM, THE CONTRACTOR SHALL PROTECT, SUPPORT, SECURE, AND TAKE ALL OTHER PRECAUTIONS TO PREVENT DAMAGE TO OR LEANING OF THESE POLES. THE CONTRACTOR IS RESPONSIBLE FOR ALL ASSOCIATED COSTS TO BRACE, REPAIR, OR STRAIGHTEN POLES. ALL MEANS OF STRUCTURAL SUPPORT FOR THE POLE PROPOSED BY THE CONTRACTOR SHALL FIRST BE REVIEWED BY HECO BEFORE IMPLEMENTATION. FOR POLE BRACING INSTRUCTIONS, THE CONTRACTOR SHALL CALL THE HECO CONSTRUCTION AND MAINTENANCE DEPT., CUSTOMER & SYSTEM SUPERINTENDENT AT 543-4223 A MINIMUM OF TWO (2) WEEKS IN ADVANCE.

7. UNDERGROUND LINES

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF UNDERGROUND LINES. HECO'S EXISTING ELECTRICAL CABLES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION. ONLY HECO PERSONNEL ARE TO BREAK INTO EXISTING HECO FACILITIES, HANDLE THESE CABLES, AND ERECT TEMPORARY GUARDS TO PROTECT THESE CABLES FROM DAMAGE. THE COST OF HECO'S ASSISTANCE IN PROVIDING PROPER SUPPORT AND PROTECTION OF ITS UNDERGROUND LINES WILL BE CHARGED TO THE CONTRACTOR. SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HECO'S 138KV UNDERGROUND LINES (SEE HECO INSTRUCTIONS TO CONSULTANTS/CONTRACTORS ON "EXCAVATION NEAR HECO'S UNDERGROUND 138KV LINES" FOR DETAILED REQUIREMENTS).

FOR VERIFICATION OF UNDERGROUND LINES, THE CONTRACTOR SHALL CALL HECO'S UNDERGROUND DIVISION AT 543-7049 A MINIMUM OF 72 HOURS IN ADVANCE.

FOR ASSISTANCE IN PROVIDING PROPER SUPPORT AND PROTECTION OF THESE LINES, THE CONTRACTOR SHALL CALL HECO'S CONSTRUCTION & MAINTENANCE DEPT., CUSTOMER & SYSTEM SUPERINTENDENT, AT 543-4223, A MINIMUM OF TWO (2) WEEKS IN ADVANCE.

8. UNDERGROUND FUEL PIPELINES

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF HECO'S UNDERGROUND FUEL OIL PIPELINES. SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HECO'S UNDERGROUND FUEL OIL PIPELINES (SEE HECO INSTRUCTIONS TO CONSULTANTS/CONTRACTORS ON "EXCAVATION NEAR HECO'S UNDERGROUND FUEL PIPELINES" FOR DETAILED REQUIREMENTS).

9. EXCAVATIONS

WHEN TRENCH EXCAVATION IS ADJACENT TO OR BENEATH HECO'S EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR IS RESPONSIBLE FOR:

a) SHEETING AND BRACING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE AND TO PREVENT POSSIBLE SLIDES, CAVE-INS, AND SETTLEMENTS.
b) PROPERLY SUPPORTING EXISTING STRUCTURES OR FACILITIES WITH BEAMS, STRUTS, OR UNDER-PINNINGS TO FULLY PROTECT IT FROM DAMAGE.

c) BACKFILLING WITH PROPER BACKFILL MATERIAL INCLUDING SPECIAL THERMAL BACKFILL WHERE EXISTING (REFER TO ENGINEERING DEPARTMENT FOR THERMAL BACKFILL SPECIFICATIONS).

10. RELOCATION OF HECO FACILITIES

ANY WORK REQUIRED TO RELOCATE OR MODIFY HECO FACILITIES SHALL BE DONE BY HECO, OR BY THE CONTRACTOR UNDER HECO'S SUPERVISION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, AND SHALL PROVIDE NECESSARY SUPPORT FOR HECO'S WORK, WHICH MAY INCLUDE, BUT NOT BE LIMITED TO, EXCAVATION AND BACKFILL, PERMITS AND TRAFFIC CONTROL, BARRICADING, AND RESTORATION OF PAVEMENT, SIDEWALKS, AND OTHER FACILITIES.

ALL COSTS ASSOCIATED WITH ANY RELOCATION OR MODIFICATION (EITHER TEMPORARY OR PERMANENT) FOR THE CONVENIENCE OF THE CONTRACTOR, OR TO ENABLE THE CONTRACTOR TO PERFORM HIS WORK IN A SAFE AND EXPEDITIOUS MANNER IN FULFILLING HIS CONTRACT OBLIGATIONS SHALL BE BORNE BY THE CONTRACTOR.

11. CONFLICTS

ANY REDESIGN OR RELOCATION OF HECO'S FACILITIES NOT SHOWN ON THE PLANS MAY BE CAUSE FOR LENGTHY DELAYS. THE CONTRACTOR ACKNOWLEDGES THAT HECO IS NOT RESPONSIBLE FOR ANY DELAY OR DAMAGE THAT MAY ARISE AS A RESULT OF ANY CONFLICTS DISCOVERED OR IDENTIFIED WITH RESPECT TO THE LOCATION OR CONSTRUCTION OF HECO'S ELECTRICAL FACILITIES IN THE FIELD, REGARDLESS OF WHETHER THE CONTRACTOR HAS MET THE REQUESTED MINIMUM ADVANCE NOTICES. IN ORDER TO MINIMIZE ANY DELAY OR IMPACT ARISING FROM SUCH CONFLICTS, HECO SHOULD BE NOTIFIED IMMEDIATELY UPON DISCOVERY OR IDENTIFICATION OF SUCH CONFLICT.

12. DAMAGE TO HECO FACILITIES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL HECO SURFACE AND SUBSURFACE UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HECO'S FACILITIES AS A RESULT OF HIS OPERATIONS. THE CONTRACTOR SHALL IMMEDIATELY REPORT SUCH DAMAGES TO HECO'S TROUBLE DISPATCHER AT 548-7961. REPAIR WORK SHALL BE DONE BY HECO OR BY THE CONTRACTOR UNDER HECO'S SUPERVISION. COSTS FOR DAMAGES TO HECO'S FACILITIES SHALL BE BORNE BY THE CONTRACTOR.

IN CASE OF DAMAGE OR SUSPECTED DAMAGE TO HECO'S FUEL PIPELINE, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY HECO'S HONOLULU POWER PLANT SHIFT SUPERVISOR AT 533-2102 (A 24-HOUR NUMBER) SO HECO PERSONNEL CAN SECURE THE DAMAGED SECTION AND REPORT ANY OIL SPILLS TO THE PROPER AUTHORITIES. ALL COSTS ASSOCIATED WITH THE DAMAGE, REPAIR, AND OIL SPILL CLEANUP SHALL BE BORNE BY THE CONTRACTOR.

13. HECO STAND-BY PERSONNEL

THE CONTRACTOR MAY REQUEST HECO TO PROVIDE AN INSPECTOR TO STAND-BY DURING CONSTRUCTION NEAR HECO'S FACILITIES. THE COST OF SUCH INSPECTION WILL BE CHARGED TO THE CONTRACTOR.

THE CONTRACTOR SHALL CALL THE HECO CONSTRUCTION AND MAINTENANCE DEPT., CUSTOMER & SYSTEM SUPERINTENDENT AT 543-4223 A MINIMUM OF 5 WORKING DAYS IN ADVANCE TO ARRANGE FOR HECO STAND-BY PERSONNEL.

14. CLEARANCES

THE FOLLOWING CLEARANCES SHALL BE MAINTAINED BETWEEN HECO'S DUCTLINE AND ALL ADJACENT STRUCTURES (CHARTED AND UNCHARTED) IN THE TRENCH:

STRUCTURE TYPE	MINIMUM CLEARANCE (INCHES)
WATER LINES, PARALLEL	36
WATER LINES, CROSSING	12 (A)
SEWER LINES, PARALLEL	36 (B)
SEWER LINES, CROSSING	24 (C)
DRAIN LINES, PARALLEL	12
DRAIN LINES, CROSSING	6 (D)
ELECTRICAL AND GAS LINES, PARALLEL	12
ELECTRICAL AND GAS LINES, CROSSING	12
TELEPHONE LINES, PARALLEL	6 (D)
TELEPHONE LINES, CROSSING	6 (D)
CHEVRON OIL LINES, PARALLEL	36
CHEVRON OIL LINES, CROSSING	48 BELOW OIL LINE (E)

A. THE MINIMUM VERTICAL CLEARANCES TO WATER LINES CROSSING ELECTRICAL DUCTLINES CAN BE REDUCED TO 6 INCHES IF THE ELECTRICAL DUCTLINE STRUCTURE IS SMALLER THAN 16 INCHES, IS CONCRETE ENCASED, AND IS BELOW THE WATER LINE.
B. A MINIMUM HORIZONTAL CLERANCE OF 36 INCHES IS REQUIRED BETWEEN NEW HANDHOLES AND EXISTING SEWER LATERALS.
C. THE MINIMUM VERTICAL CLEARANCES TO SEWER PIPES CROSSING ELECTRICAL DUCTLINES CAN BE REDUCED TO 12 INCHES IF THE SEWER PIPE IS JACKETED IN CONCRETE.
D. THE MINIMUM CLEARANCES SHALL BE INCREASED TO 12 INCHES IF THE ELECTRICAL DUCTLINE IS DIRECT BURIED.
E. THE MINIMUM VERTICAL CLEARANCES TO OIL LINES CROSSING ELECTRICAL DUCTLINES CAN BE REDUCED TO 24 INCHES BELOW OIL LINES IF THE CROSSINGS ARE ENCASED IN 6 INCHES OF CONCRETE.
F. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER & HECO OF ANY HEAT SOURCES (POWER CABLE DUCT BANK, STEAMLINE, ETC.) ENCOUNTERED THAT ARE NOT PROPERLY IDENTIFIED ON THE DRAWING.

THE FOLLOWING CLEARANCE SHALL BE MAINTAINED BETWEEN HECO'S FUEL OIL PIPELINES AND ALL ADJACENT STRUCTURES: 24-INCHES, PARALLEL OR CROSSING. THE MINIMUM CLEARANCE CAN BE REDUCED TO 12 INCHES (PARALLEL AND BELOW ONLY) IFTHE STRUCTURE IS JACKETED IN CONCRETE.

15. INDEMNITY

THE CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS HECO FROM AND AGAINST ALL LOSSES, DAMAGES, CLAIMS, AND ACTIONS, INCLUDING BUT NOT LIMITED TO REASONABLE ATTORNEY'S FEES AND COSTS BASED UPON OR ARISING OUT OF DAMAGE TO PROPERTY OR INJURIES TO PERSONS, OR OTHER TORTIOUS ACTS CAUSED OR CONTRIBUTED TO BY CONTRACTOR OR ANYONE ACTING UNDER ITS DIRECTION OR CONTROL OR ON ITS BEHALF; PROVIDED CONTRACTOR'S INDEMNITY SHALL NOT BE APPLICABLE TO ANY LIABILITY BASED UPON THE SOLE NEGLIGENCE OF HECO.

ADDITIONAL NOTES WHEN WORK INVOLVES CONSTR. OF HECO FACILITIES

16. SCHEDULE

CONTRACTOR SHALL FURNISH HIS CONSTRUCTION SCHEDULE __ WORKING DAYS PRIOR TO STARTING WORK ON HECO FACILITIES. CONTRACTOR SHALL GIVE HECO, IN WRITING, __ WORKING DAYS NOTICE TO PROCEED WITH HECO'S PORTION OF WORK.

17. AUTHORITY

ALL CONSTRUCTION, RESTORATION WORK, AND INSPECTION SHALL BE SUBJECT TO WHICHEVER GOVERNMENTAL AGENCY HAS AUTHORITY OVER THE WORK.

18. SPECIFICATIONS

CONSTRUCTION OF HECO'S UNDERGROUND FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REVISIONS OF HECO SPECIFICATIONS CS7001, CS7003, CS7202, CS9301, AND CS9401 AND APPLICABLE HECO STANDARDS.

19. CONSTRUCTION

CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES TO PROPERLY PERFORM AND FULLY COMPLETE ALL WORK SHOWN ON THE CONTRACT, DRAWINGS, AND SPECIFICATIONS. ALL MATERIALS SHALL BE NEW AND MANUFACTURED IN THE UNITED STATES OF AMERICA. ALL MANHOLE, HANDHOLE, AND DUCTLINE INSTALLATIONS SHALL BE INSPECTED AND APPROVED BY HECO PRIOR TO EXCAVATION AND PRIOR TO PLACING CONCRETE. CONTRACTOR SHALL NOTIFY HECO'S INSPECTION DIVISION AT 543-4356 AT LEAST 48 HOURS PRIOR TO PLACING CONCRETE.

20. STAKEOUT

THE CONTRACTOR SHALL STAKEOUT ALL PROPOSED HECO FACILITIES WITHIN THE PROJECT AREA SO AS TO NOT CONFLICT WITH ANY UTILITY (EXISTING OR PROPOSED) AND ANY PROPOSED CONSTRUCTION OR IMPROVEMENT WORK FOR VERIFICATION BY HECO BEFORE PROCEEDING WITH HECO WORK.

21. DUCTLINES

ALL DUCTLINE INSTALLATIONS SHALL BE PVC SCHEDULE 40 ENCASED IN CONCRETE, UNLESS OTHERWISE NOTED. ALL COMPLETED DUCTLINES SHALL BE MANDREL TESTED BY THE CONTRACTOR IN THE PRESENCE OF HECO'S INSPECTOR USING HECO'S STANDARD PRACTICE. THE CONTRACTOR SHALL INSTALL A 1/8" POLYOLEFIN PULL LINE IN ALL COMPLETED DUCTLINES AFTER MANDREL TESTING IS COMPLETE.

22. JOINT POLE REMOVAL

THE LAST JOINT POLE OCCUPANT OFF THE POLES SHALL REMOVE THE POLES.

23. AS-BUILT PLANS

THE CONTRACTOR SHALL PROVIDE HECO WITH TWO SETS OF AS-BUILT REPRODUCIBLE TRACINGS SHOWING THE OFFSETS, STATIONING, AND VERTICAL ELEVATION OF THE DUCT LINE(S) CONSTRUCTED.

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
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JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

CDD-BS 03-0128

October 9, 2003

Mr. Francis Hirakami, Principal Engineer
Transmission & Distribution Division
Engineering Department
Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, Hawaii 96840-0001

Attention: Mr. Michael Lum

Dear Mr. Hirakami:

Subject: Draft Environmental Assessment (EA)
Kalaiopua Place Improvements, Honolulu, Oahu, Hawaii
TMK: 2-5-19: 9 (portion)

Thank you for your letter dated August 22, 2003, addressed to Ms. Doraine Young of Engineering Concepts, Inc. regarding the Draft EA for the subject project. It is our understanding that your letter supercedes previous comments on the Draft EA dated April 16, 2003, from Mr. Kirk Tomita.

We appreciate your effort in reviewing the document and offer the following response to your comments:

1. *After reviewing the proposed guardrail location, HECO will need to relocate four poles on the downslope. Three of the poles will be installed five feet deeper than normal to provide a stronger foundation. The fourth pole will be eliminated.*

   Relocation of three poles and removal of the fourth will be addressed in the construction documents.

2. *The right of way on the slope side is not defined. Currently, our facilities are not covered by an easement. Moving poles further down the slope may require HECO to obtain an easement.*

We concur that there is no right-of-way on the down slope side of the road.

3. *Attached are HECO's Notes that will apply to construction work in the areas containing HECO facilities. These should be noted on the road reconstruction plans.*

   The HECO notes will be incorporated in the construction documents.

4. *Customers will need to be notified of planned electrical outages that may occur during construction.*

   The Final EA will address the impacts of planned electrical outages and mitigative measures. Affected HECO customers will be identified in the Final EA and provided a copy of the document for their information.

5. *A pole-bracing detail is attached as an example of one method that the contractor can use to temporary support the existing pole during excavation within 10 feet of the pole (see HECO Notes #9 on "Excavation").*

   It is our understanding that pole bracing will be constructed by HECO and charged to the City and County of Honolulu.

6. *HECO will need to be properly reimbursed for costs to relocate its facilities.*

   This matter has been referred to our Corporation Counsel for resolution.

A copy of your correspondence and this response will be included in the Final EA.

Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

Very truly yours,

TIMOTHY E. STEINBERGER, P.E.
Director

AM:KL:pto

cc: Ms. Genevieve Salmonson, Office of Environmental Quality Control
Mr. Kay Muranaka, Engineering Concepts, Inc.
Mr. Kirk Tomita, Hawaiian Electric Company, Inc.

200 Akamainui Street
Mililani, Hawaii 96789-3999
T: (808) 625-2100
Fax: (808) 625-3555

OCEANIC TIME WARNER CABLE

March 24, 2003

Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Attn: Mr. Kenneth Lai

Subject: Kalaiopua Place Improvements

Dear Mr. Lai,

Thank you for giving us the opportunity to comment on the Kalaiopua Place Improvements. I have no further comments in addition to my original response to the Electrical Engineers at Ronald N.S. Ho, Inc. Should you have any questions, please contact me at #625-8346.

Sincerely,

Randy Makizuru
OSP Engineer

Cc: Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control

Mr. Kay Muranaka, President
Engineering Concepts, Inc.

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
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JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
ASSISTANT DIRECTOR

May 15, 2003

CDD-BS 03-0086

Mr. Randy Makizuru, OSP Engineer
Oceanic Time Warner Cable
200 Akamainui Street
Mililani, Hawaii 96789-3999

Dear Mr. Makizuru:

Subject: Draft Environmental Assessment (EA) for
Kalaiopua Place Improvements, Honolulu, Oahu, Hawaii
TMK: 2-5-19: 9 (portion)

Thank you for your letter dated March 24, 2003 regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document and acknowledge that you have no further comments, other than your letter of December 23, 2002 to Ms. Corynne Akitake-Telles of Ronald N. S. Ho & Associates, Inc. (copy attached). Your comments will be addressed by the City and the electrical engineers as the project proceeds in the design phase.

A copy of your correspondence and this response will be included in the Final EA. Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

Very truly yours,

TIMOTHY E. STEINBERGER, P.E.
Director

AM:KL:pto

Attach.

cc: Ms. Genevieve Salmonson - Office of Environmental Quality Control
Mr. Kay Muranaka - Engineering Concepts, Inc.

Oceanic
200 Akamainui Street • Mililani, Hawaii 96789-3999 • Telephone: (808) 625-2100

December 23, 2002

COPY
RECEIVED
DEC 26 2002
RONALD N.S. HO & ASSOC., INC.

Ronald N.S. Ho & Associates, Inc.
2138 Algaroba Street
Honolulu, Hawaii 96826-2714

Attn: Ms. Corynne Akitake-Telles

Subject: Kalaiopua Place Improvements

Dear Corynne,

Thank you for the drawings. The cost estimate to relocate our existing aerial facilities along Kalaiopua Place is $3500.00. This estimate is based on the poles moving anywhere between 3-6' from its original location. I will need to know ahead of time if the replacement poles will be the typical wood type or if they will be using fiberglass poles. I would need to order the necessary hardware to attach to fiberglass poles. 5 days advance notice will be required for the relocation work. The Developer will also be responsible for all riser conduits to the new poles. Should you have any questions, please contact me at #625-8346.

Sincerely,

Randy Makizuru
OSP Engineer

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Pamela Burns
125 Kalaiopua Place
Honolulu, Hawaii 96826

April 3, 2003

Mr. Timothy E. Steinberger
Acting Director
Department of Design and Construction
City and County of Honolulu
650 South King St.
Honolulu, Hawaii 96813

RE: Kalaiopua Place

Dear Mr. Steinberger:

As a resident of Kalaiopua Place, I appreciate the opportunity to ask questions and offer comments regarding the proposed project on my street.

- There was substantial repair on Kalaiopua Place last summer which restricted our access for several weeks. This repair seemed to have addressed immediate concerns about the road condition. Wouldn't periodic repairs be less expensive than the proposed roadway improvements? Because the volcanic tuft of this area is constantly eroding, won't periodic repairs still need to be done even after this proposed extensive upgrade? Because the number of beneficiaries of this project are so small, it would seem like periodic repairs would be more cost-effective than a capital improvement.

- The Draft Environmental Assessment Report I received stated that residents may need to be moved out of their homes and stay in a hotel for 2-3 weeks; this is extremely concerning to me. Will the City be assuming all liability for the security of our homes if we have to be relocated? Will we be sufficiently indemnified by the city against theft, burglary, vandalism and fire during our absence? In fact, if there is a fire because access is restricted, how will the fire trucks reach any of the homes?

- I have 1 dog and 3 cats as well as gardens, and would insist that accommodations for me and my animals to stay together be provided. Garden maintenance is also a concern.

- Since you are proposing to replace the electrical poles and the pavement, why aren't all utilities being placed underground since high wind at this elevation cause frequent power outages throughout the year?

- If the road is reconstructed to current standards with guardrails, it will certainly invite more non-resident traffic into the area and at the end of the road there is no upgraded turn-around in the current design. Please provide alternatives for rural design of the guardrails and other roadway features which will maintain the current visual character of the road.

- What landscaping measures are proposed after construction?

- Please be aware that there are several pig trails crossing the proposed construction area that are creating erosion potential. This project should include protection from pig damage during and after construction.

- I own steeply sloping property that abuts the road, and am concerned that construction activities will compromise the stability of the slopes, potentially causing erosion and slumping of my property, affecting the integrity of structures at the top of the slope. What measures will be taken to stabilize my cut slopes, how will slope stability be monitored, and what procedures would be followed if the proposed stabilization techniques are not effective?

- Given the significant budgetary constraints which the City and County is under now, why is this project proceeding at this time given other, higher priority demands on county funds?

I would appreciate your response to the above questions.

Sincerely yours,

Pamela Burns

cc: Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control

Mr. Kay Muranaka, President ✓
Engineering Concepts, Inc.

Councilmember Rod Tam

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
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JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
ASSISTANT DIRECTOR

MAY 22 2003

May 15, 2003

CDD-BS 03-0089

Ms. Pamela Burns
125 Kalaiopua Place
Honolulu, Hawaii 96826

Dear Ms. Burns:

Subject: Draft Environmental Assessment (EA) for
Kalaiopua Place Improvements, Honolulu, Oahu, Hawaii
TMK: 2-5-19: 9 (portion)

Thank you for your letter dated April 3, 2003 regarding the Draft EA for the subject project. We appreciate your effort in reviewing the document and provide the following response to your comments:

1. *There was substantial repair on Kalaiopua Place last summer which restricted our access for several weeks. This repair seemed to have addressed immediate concerns about the road condition. Wouldn't periodic repairs be less expensive than the proposed roadway improvements? Because the volcanic tuft of this area is constantly eroding, won't periodic repairs still need to be done even after this proposed extensive upgrade? Because the number of beneficiaries of this project are so small, it would seem like periodic repairs would be more cost-effective than a capital improvement.*

   The purpose of this project is to provide greater relief from slope erosion so that periodic repairs can be minimized. Of primary concern is that relatively rapid erosion is occurring at certain points along the road, and if allowed to continue, will result in a road that is impasssable to vehicular traffic. While the expense of the proposed project is high considering the limited number of beneficiaries, it can be justified by the public safety issue. The hillside will continue to erode with or without the project, but the project will slow the erosion rate and improve traffic safety for you and your neighbors.

2. *The Draft Environmental Assessment Report I received stated that residents may need to be moved out of their homes and stay in a hotel for 2-3 weeks; this is extremely concerning to me. Will the City be assuming all liability for the security of our homes if we have to be relocated? Will we be sufficiently indemnified by the city against burglary, vandalism and fire during our absence? In fact, if there is a fire because access is restricted, how will the fire trucks reach any of the homes?*

   The City and County will not assume liability for security of your property during construction. The temporary accommodations for residents will be an option presented to each family for consideration due to the inconveniences expected over a 2-3 week period during construction of the bridge deck

which will prevent vehicular traffic on the road. However, residents may elect to remain in their homes and park their cars on Tantalus Drive, Round Top Drive or at neighboring properties since pedestrian traffic will be possible. With regard to fire protection, please note that fire trucks require a 16-foot minimum road width and are presently unable to access to Kalaiopua Place. Further, there is no water system for fire protection. Construction of the proposed project will not improve this situation.

3. *I have 1 dog and 3 cats as well as gardens, and would insist that accommodations for me and my animals to stay together be provided. Garden maintenance is also a concern.*

   The City and County will not be able to provide garden maintenance in your absence. Shared accommodations with your pets would be considered, but cannot be guaranteed.

4. *Since you are proposing to replace the electrical poles and the pavement, why aren't all utilities being placed underground since high wind at this elevation cause frequent power outages throughout the year?*

   Relocation of overhead utilities to an underground alignment was considered but ultimately eliminated from the project scope due to budgetary constraints. Utility poles will be relocated as needed, if impacted by the road construction.

5. *If the road is reconstructed to current standards with guardrails, it will certainly invite more non-resident traffic into the area and at the end of the road there is no upgraded turn-around in the current design. Please provide alternatives for rural design of the guardrails and other roadway features which will maintain the current rural character of the road.*

   Please note that the road will not be reconstructed to current City and County standards due to the limited land area. While guardrails will be installed for safety, the road width will remain substandard and allow only one-way traffic. The existing curb walls will remain in place (rather than be replaced by a guard rail) where space allows.

6. *What landscaping measures are proposed after construction?*

   There is no formal landscaping proposed due to the limited planting area along the shoulders. However, all disturbed slopes and unpaved areas will be grassed or stabilized with mulch upon establishment of finish grades to minimize soil erosion. It is anticipated that existing vegetation will reestablish itself rather quickly along the road.

7. *Please be aware that there are several pig trails crossing the proposed construction area that are creating erosion potential. This project should include protection from pig damage during and after construction.*

   The proposed guardrails will provide a barrier that should discourage pigs from damaging the proposed improvements.

8. *I own steeply sloping property that abuts the road, and am concerned that construction activities will compromise the stability of the slopes, potentially causing erosion and slumping of my property, affecting the integrity of structures at the top of the slope. What measures will be taken to stabilize my cut slopes, how will slope stability be monitored, and what procedures would be followed if the proposed stabilization techniques are not effective?*

   Design of the project includes the expertise of geotechnical engineers, a discipline which specializes in soil properties and slope stability. The proposed improvements should also have a positive impact on the properties mauka of the road.

9. *Given the significant budgetary constraints which the City and County is under now, why is this project proceeding at this time given other, higher priority demands on county funds?*

   The need for this project was brought to the attention of the City and County by your neighbors, who are directly affected by the road condition, and is justified due to the public safety issue.

A copy of your correspondence and this response will be included in the Final EA. Should you have any questions, please call Kenneth Lai of the Civil Division at 527-5317.

Very truly yours,

TIMOTHY E. STEINBERGER, P.E.
Director

AM:KL:pto

cc: Ms. Genevieve Salmonson - Office of Environmental Quality Control
Mr. Kay Muranaka - Engineering Concepts, Inc.

APPENDIX C

BIOLOGICAL RESOURCES ASSESSMENT
by Char & Associates

BIOLOGICAL RESOURCES ASSESSMENT
FLORA AND FAUNA STUDIES
KALA'I'OPUA PLACE IMPROVEMENTS
MAKIKI, O'AHU

by

Winona P. Char

CHAR & ASSOCIATES
Botanical/Environmental Consultants
Honolulu, Hawai'i

Prepared for: ENGINEERING CONCEPTS, INC.

October 2002

BIOLOGICAL RESOURCES ASSESSMENT
FLORA AND FAUNA STUDIES
KALA'I'OPUA PLACE IMPROVEMENTS
MAKIKI, O'AHU

INTRODUCTION

Kala'i'opua Place is a narrow, single lane, asphalt paved road located on the upper slopes of Tantalus near the juncture of Tantalus and Roundtop Drives. It originates at Tantalus Drive and terminates at two residential driveways at its western end. Steep slopes drop off to Kanealole Stream on the north side of the road. Large, massive retaining walls are found along the upslope or southern side of the road alignment. Electrical power line and telephone lines are located on the northern side of the road.

Slope erosion is undermining the road. In some places, the shoulder is no longer present and the ground surface drops off abruptly from the pavement.

Field studies to assess the biological resources, flora/botanical and fauna, along the roadway were made on 17 September 2002. The primary objectives of the field studies were to prepare a general description of the vegetation and the vertebrate animal communities (birds and mammals) along the roadway, and to search for threatened and endangered species as well as species of concern.

A walk-through survey method was used. For the flora studies, notes were made on plant associations and distribution, topography, disturbances, etc. For the vertebrate fauna, field observations were made with the aid of binoculars and by listening for vocalizations. No attempts were made to trap animals in order to obtain data on abundance and distribution along the roadway.

FLORA RESOURCES

The plant names used in the following discussion follow Wagner et al. (1990) and Wagner and Herbst (1999). The more recent plant names are those reported in the Hawaii Biological Survey series (Evenhuis and Eldredge, editors, 1999-2002).

Mixed introduced forest, 25 to 50 ft. tall, covers the steep slopes along the roadway. Avocado trees (Persea americana) are common. Other woody components occurring in small stands or as scattered individuals include kukui (Aleurites moluccana), bamboo (Bambusa sp.), octopus tree (Schefflera actinophylla), guava (Psidium guajava), koa haole (Leucaena leucocephala), Mexican elder (Sambucus mexicanus), and night cestrum (Cestrum nocturnum). The cover between the taller woody components is a mix of ornamental plantings and weedy patches. Some of the more commonly observed plantings include yellow (Hedychium flavescens) and white (H. coronarium) gingers, wedelia (Spagneticola trilobata), odontonema (Odontonema cuspidatum), taro vine (Epipremnum pinnatum), spider lily (Crinum asiaticum), panax (Polyscias guilfoylei), and cup of gold (Solandra hartwegi).

The weedy patches, 1 to 3 ft. tall, consist of various grasses such as Hilo grass (Paspalum conjugatum), California grass (Brachiaria mutica), palmgrass (Setaria palmifolia), and Guinea grass (Panicum maximum), and herbaceous species which include honohono (Commelina diffusa), maile hohono (Ageratum conyzoides), impatiens (Impatiens wallerana), Spanish needle (Bidens pilosa), etc. A somewhat partially maintained, narrow, grassy strip is found along the beginning of the roadway; it contains primarily Hilo grass and a number of weedy herbaceous species.

Young koa trees (Acacia koa) and rather large shrubs of mamaki (Pipturus albidus) are found scattered along both sides of the roadway; these species are endemic, that is, they are native only to Hawai'i. A few of the koa may have been planted. Three indigenous species (native to Hawai'i and elsewhere)

occur on the site; these are Cyperus polystachyos -- a small sedge, koali 'awa (Ipomoea indica) -- a member of the morning glory family, and Macrothelypteris torresiana -- a fern with finely divided fronds.

Besides the kukui, other Polynesian introduced plants found on the site are ti (Cordyline fruticosa), 'ape (Alocasia macrorrhiza), and 'ohi'a 'ai or mountain apple (Syzygium malaccense). Between station 7+75 and 8+00 is a patch of ho'i'o fern (Diplazium esculentum). There are a few patches of banana scattered along the slopes, but these look like apple banana (Musa X paradisiaca cultivar) or some other commercial variety.

FAUNA RESOURCES

The nomenclature for the birds (avifauna) follow Hawaii Audubon Society (1997), while the mammals are in accordane with van Riper and van Riper (1982).

Ten bird species were recorded during the field studies and are presented in Table 1. The red-vented bulbul (Pycnonotus cafer), Japanese white-eye (Zosterops japonicus), and house finch (Carpodacus mexicanus) were the most frequently heard and observed birds along the roadway and on the adjacent residences and in the forested areas. A pair of red-billed leiothrix (Leiothrix lutea) and a white-rumped shama (Copsychus malabaricus) were heard and observed in the more densely forested areas.

A small flock of common waxbill (Estrilda astrid) was observed feeding on seeds of palmgrass and Guinea grass in the open, sunnier, weedy patches along the road. Both spotted dove (Streptopelia chinensis) and zebra dove (Geopelia striata) were observed flying from the lawn areas of the adjacent residences. Common myna (Acridotheres tristis) and Java sparrow (Padda oryzivora) were seen along Tantalus Drive, but probably also visit the project area.

Although not observed during this day-time survey, the roof rat (Rattus rattus),

TABLE 1
SUMMARY OF AVIFAUNA RECORDED FROM THIS STUDY

Scientific name	Common name	[1] Status
Copsychus malabaricus	White-rumped Shama	A
Leiothrix lutea	Red-billed Leiothrix	A
Zosterops japonicus	Japanese White-eye	A
Streptopelia chinensis	Spotted Dove	A
Geopelia striata	Zebra Dove	A
Pycnonotus cafer	Red-vented Bulbul	A
Acridotheres tristis	Common myna	A
Carpodacus mexicanus	House Finch	A
Estrilda astrid	Common waxbill	A
Padda oryzivora	Java Sparrow	A

[1]Status (follows Audubon Society 1997),
A = alien; species introduced to and established in Hawai'i by humans.

Pacific rat (Rattus exulans), and house mouse (Mus musculus). The small Indian mongoose (Herpestes auropunctatus) is also expected to utilize the site.

DISCUSSION AND RECOMMENDATIONS

Flora Resources: Although there are a few native plants such as koa and mamaki on the site, the majority of the vegetation is composed of introduced or alien species. Introduced species are all those plants which were brought to the Hawaiian Islands by humans, intentionally or accidentally, after Western contact, that is, Cook's arrival in the islands in 1778. The native species which occur on the site can be found in similar habitats throughout the islands. None of the plants observed on the Kala'i'opua Place improvements project site is a threatened and endangered species or a species of concern (U.S. Fish and Wildlife Service 1999a, 1999b; Wagner et al. 1999).

The proposed road improvements are not expected to have a significant negative impact on the botanical resources. However, areas cleared of vegetation should be revegetated as soon as possible to prevent soil erosion and discharge of sediments into the stream below. Hilo grass or wedelia, both of which already occur on the site, could be used for the revegetation efforts.

Fauna Resources: Ten bird species were recorded on and around the roadway improvement area. All are alien species. Mammals such as rats, mice, and mongoose are expected to occur here; none of these are native species.

None of the animals which were found during the field studies or which are expected to utilize the area is a threatened and endangered species or a species of concern (U.S. Fish and Wildlife Service 1996, 1999b). Given the limited nature of the proposed project, it is not expected to have a significant negative impact on the vertebrate animal communities.

LITERATURE CITED

Evenhuis, N.L. and L.G. Eldredge, editors. 1999-2002. Records of the Hawaii Biological Survey. Bishop Museum Occasional Papers 58-70.

Hawaii Audubon Society. 1997. Hawaii's Birds. Fifth Edition. Hawaii Audubon Society, Honolulu.

U.S. Fish and Wildlife Service. 1996. Hawaiian Islands Animals: Updated March 1, 1996. Listed and candidate species, as designated under the Endangered Species Act. Pacific Islands Office, Honolulu, HI.

U.S. Fish and Wildlife Service. 1999a. U.S. Fish and Wildlife Service species list, plants. March 23, 1999. Pacific Islands Office, Honolulu, HI.

U.S. Fish and Wildlife Service. 1999b. Endangered and threatened wildlife ann plants. 50 CFR 17.11 and 17.12. December 31, 1999.

van Riper, S.C. and C. van Riper, III. 1982. A field guide to the mammals in Hawaii. Oriental Publishing Co., Honolulu.

Wagner, W.L., M.M. Bruegmann, D.R. Herbst, and J. Q.C. Lau. 1999. Hawaiian vascular plants at risk: 1999. Bishop Museum Occasional Papers 60.

Wagner, W.L., D.R. Herbst, and S.H. Sohmer. 1990. Manual of the flowering plants of Hawai'i. 2 vols. University of Hawai'i Press and Bishop Museum Press, Honolulu. Bishop Museum Special Publication 83.

Wagner, W.L. and D.R. Herbst. 1999. Supplement to the Manual of the flowering plants of Hawai'i, pp. 1855-1918. In: Wagner, W.L., D.R. Herbst, and S.H. Sohmer, Manual of the flowering plants of Hawai'i. Revised edition. 2 vols. University of Hawai'i Press and Bishop Museum Press, Honolulu.

APPENDIX D

ARCHAEOLOGICAL ASSESSMENT AND
CULTURAL IMPACT EVALUATION
by Cultural Surveys Hawaii

Archaeological Assessment
and
Cultural Impact Evaluation
in Support of the
Kala`i`ōpua Place Road Improvements Project

By

Hallett H. Hammatt, Ph.D.,
David W. Shideler, M.A.,
And
Todd Tulchin, B.A.

For

Engineering Concepts, Inc.

By

Cultural Surveys Hawai`i, Inc.

November 2002

Project Background

At the request of Engineering Concepts, Inc., Cultural Surveys Hawai`i, Inc. conducted an archaeological assessment and Cultural Impact Evaluation in support of the Kala`i`ōpua Place Road Improvements Project. Kala`i`ōpua Place is located on the upper slopes of Tantalus (Pu`u `Ōhi`a), Makiki *Ahupua`a*, Kona District, Island of O`ahu (Figures 1 and 2). Kala`i`ōpua Place has suffered erosional damage over the past 30 years and requires improvements in order to stabilize the road.

Project Area Description

Kala`i`ōpua Place is located on an upper, north-facing slope near the junction of Tantalus Drive and Round Top Drive (Figures 1 and 2) at an elevation of approximately 1500 ft. (460 m) a.m.s.l.. The road is approximately 8-10 ft. (2.5-3 m) wide and 860 ft. (262 m) long. Steep slopes drop down to Kānealole Stream, approximately 100-150 ft. (30-45 m) below the level of the road. The land around the project area is heavily vegetated and is located in the State Department of Land and Natural Resources' Honolulu Watershed Forest Reserve.

The Makiki Heights-Tantalus project area is located in the wet, Ko`olau Mountain Range and receives an average annual rainfall of approximately 3000 mm (120 in.). Soils in the project area are listed as Tantalus Silt Loam, 40 to 70% Slopes (Foote *et al.* 1972). A representative profile of these soils is reported as: "[surface layer] is very dark brown silt loam...[subsoil] is dark reddish brown, massive very sandy loam...[substratum] is black, unweathered, gravel-size cinders" (Foote *et al.* 1972: 121). Tantalus Silt Loam is also characterized as having moderately rapid permeability, medium to rapid runoff, and severe erosion hazard (Foote *et al.* 1972). Vegetation is almost entirely exotic with bamboo and gingers dominant.

Historical Overview

There is little in the historical record pertaining to traditional native Hawaiian land use in the Makiki Valley-Tantalus area. Nearby Pu`u `Ualaka`a (Round Top) was "famous in the annals of Hawaiian agriculture because here Kamehameha I established his own plantation [of sweet potatoes] on the steep slopes above Mānoa" (Handy 1940). Dr. F. J. F. Meyen, a German botanist, visited the Makiki Valley area in 1831 and described habitation and agricultural features in the valleys along streams. He also noted the slopes of the mountains being covered with low grasses and an abundance of grazing horses and cattle (Pultz 1981). Remnant terraces also indicate the valley was used for irrigated agriculture purposes.

Land Commission Award (LCA) documentation for the Makiki area indicated a concentration of awarded lands in the lower valley areas primarily along Kānealole and Moleka Streams (Figure 3). No *kuleana* LCAs were known to be in the vicinity of the current project area.

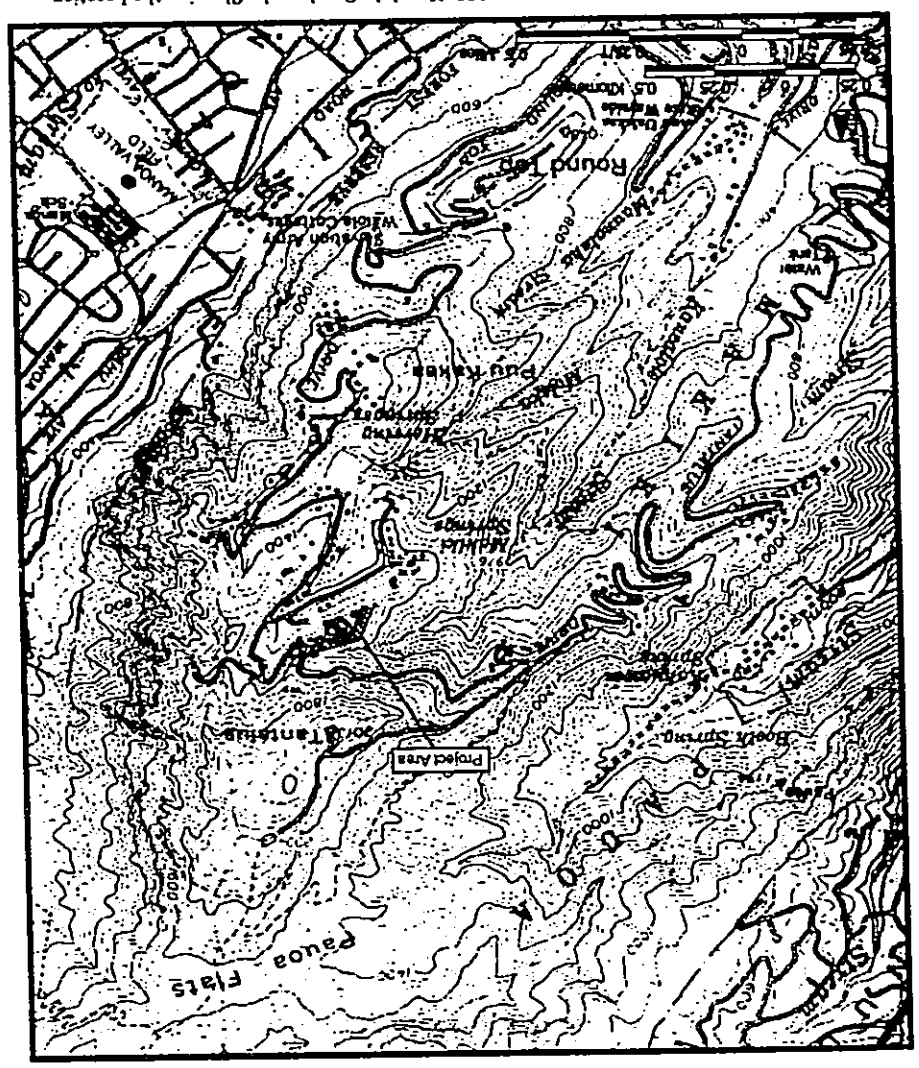

Figure 1 USGS Topographic Map, 1983, Honolulu Quadrangle, Showing the Location of the Project Area.

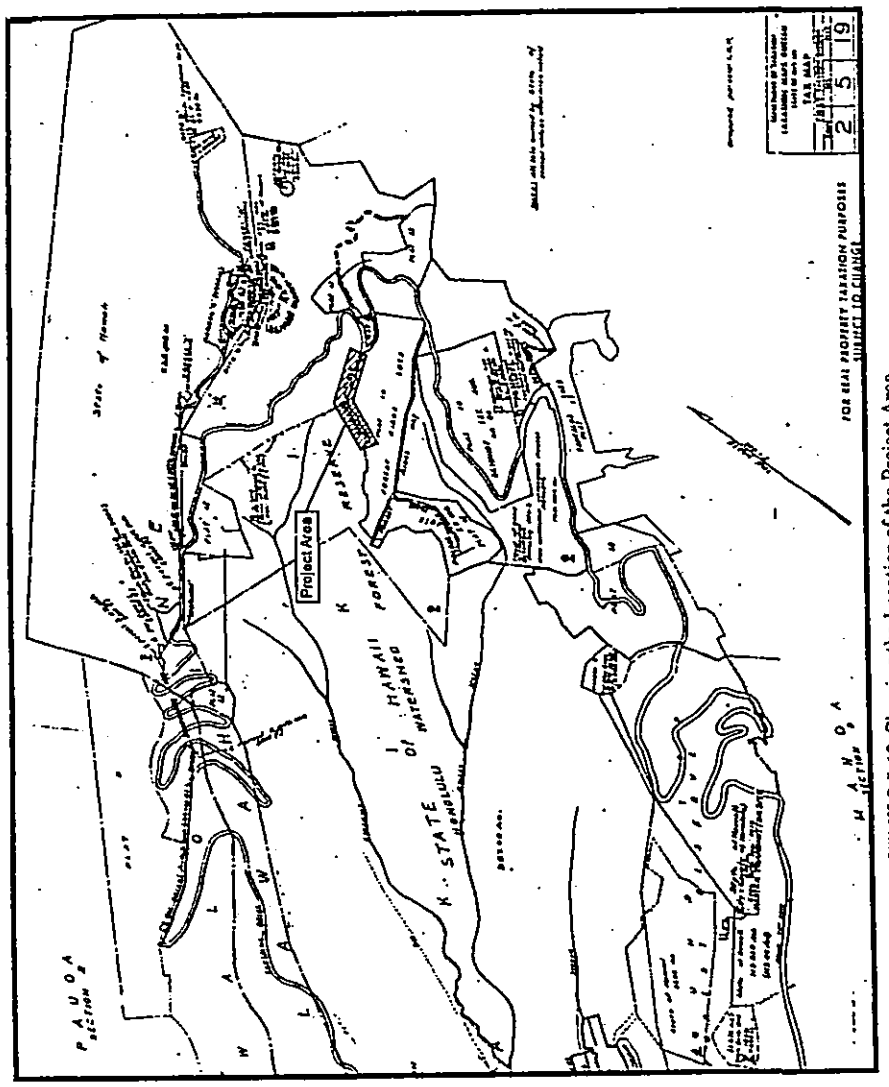

Figure 2 Portion of TMK 2-6-19, Showing the Location of the Project Area.

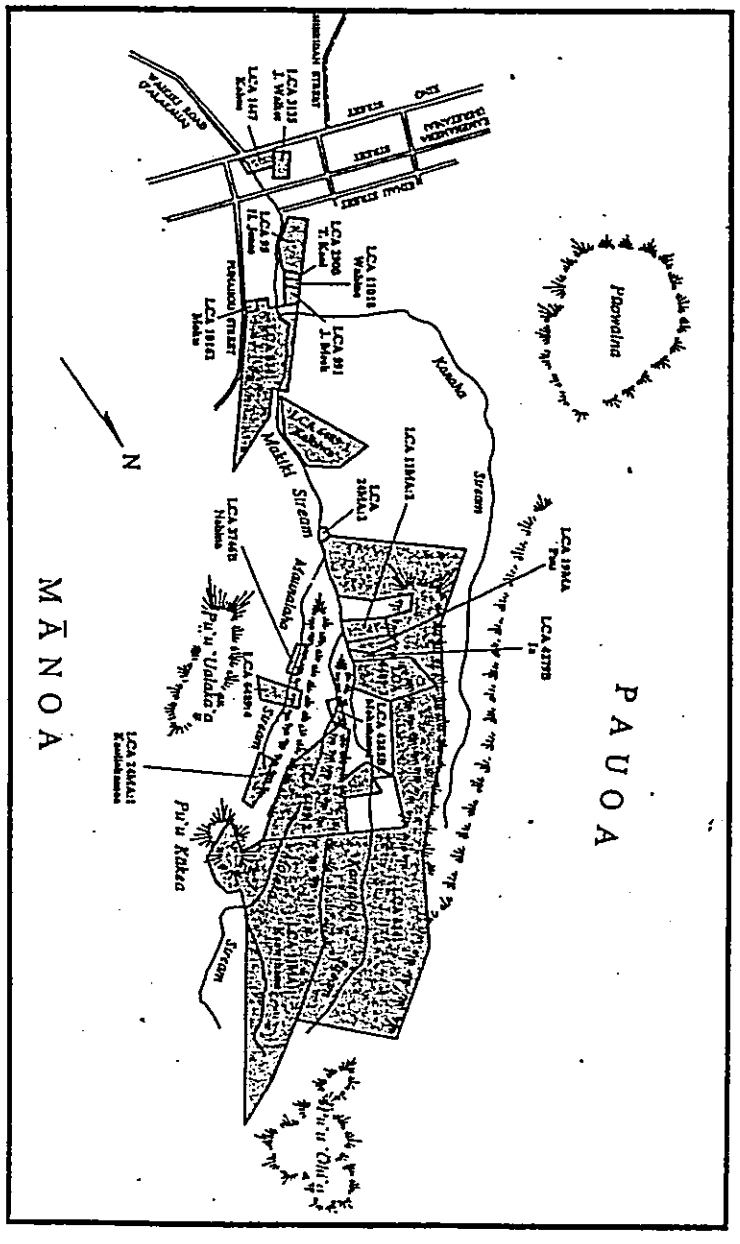

Figure 3 Location and Approximate Boundaries of Known Land Commission Awards in Makiki. Adapted from Reg. Map No. 813 by W.D. Alexander (1874) (From Carpenter and Yent 1994).

Historic maps of the Makiki-Tantalus area (Figures 4-6) indicate the presence of Kala'i'ōpua Place as early as 1919.

Previous Archaeological Research

Previous archaeological research in the Makiki Valley-Tantalus area (Table 1) has been concentrated in the valley areas along Kānealole and Moleka Streams. The only systematic archaeological survey in the Makiki Valley area was conducted by Martha Yent and Jason Ota (1980). Five areas along Kānealole and Moleka Streams were surveyed, identifying a variety of pre-contact and historic sites including agricultural terraces, rock walls, rock shelters, a walled enclosure, a historic house site and carriage road, and retaining walls. Sites nearest to the current project area included agricultural features (*'auwai* and terraces) extending up to approximately the 1000 ft. elevation along the west side of Kānealole Stream.

Martha Yent (1982) carried out an archaeological inspection of a short nature trail along Kānealole Stream for the Makiki Environmental Education Center noting an old carriage road associated retaining wall and a c. 1950s pig pen, and a historic series of terraces and planting holes associated with a former residence.

Carol Kawachi (1988) investigated terrace facings/retaining walls in a hair pin turn of Round Top Drive, concluding they were primarily modern modifications.

Alan Carpenter (1993) carried out an informal survey including mapping and testing of a rock shelter site (50-80-14-4668) situated above an agricultural field system near Moleka Stream.

Martha Yent and Alan Carpenter (1994) carried out an archaeological survey of approximately 90 acres of Pu'u Ualaka'a State Wayside and a discrete 3,000 foot long strip of Makiki Valley State Recreation Area. The only sites observed in the Pu'u 'Ualaka'a State Wayside transects were an old carriage road and remnants of a flume used to transport harvested macadamia nuts.

Ralston Nagata (1999) conducted a field investigation of a cart road remnant in the Forest Reserve near the Makiki Valley State Recreation Area down near Kānealole Stream. The cart road and associated features were related to J. M. Heering who purchased several parcels in the vicinity between 1864 and 1876 and established a coffee plantation.

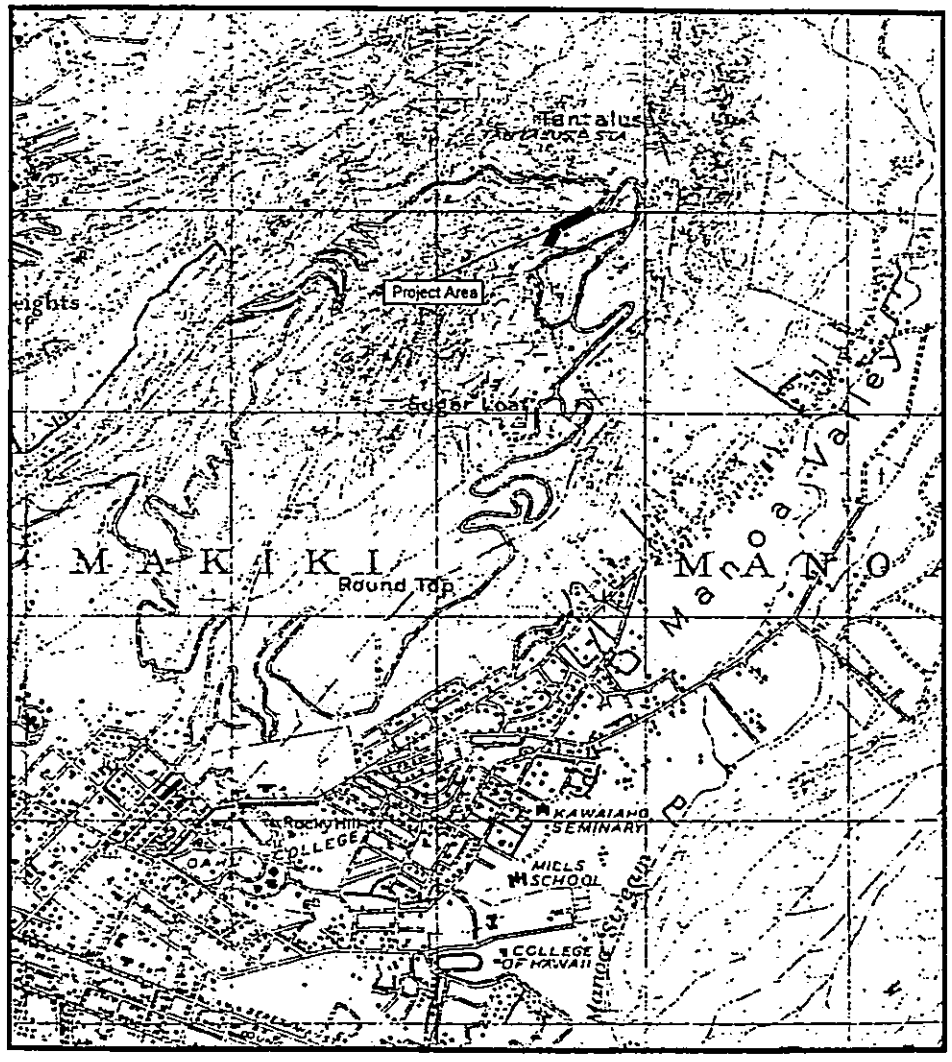

Figure 4 1919 War Department Map, Honolulu Quad., Showing the Location of the Project Area

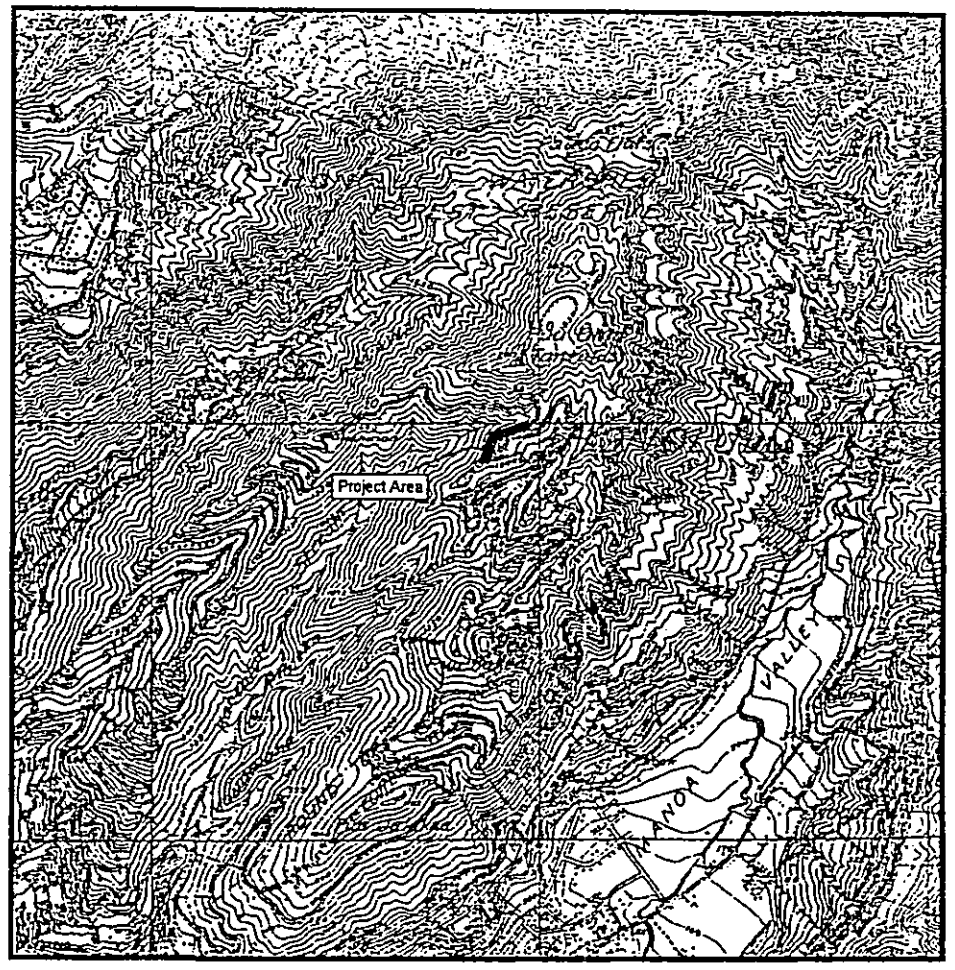

Figure 5 USGS Topographic Map. 1928. Honolulu Quad.. Showing the Location of the Project Area.

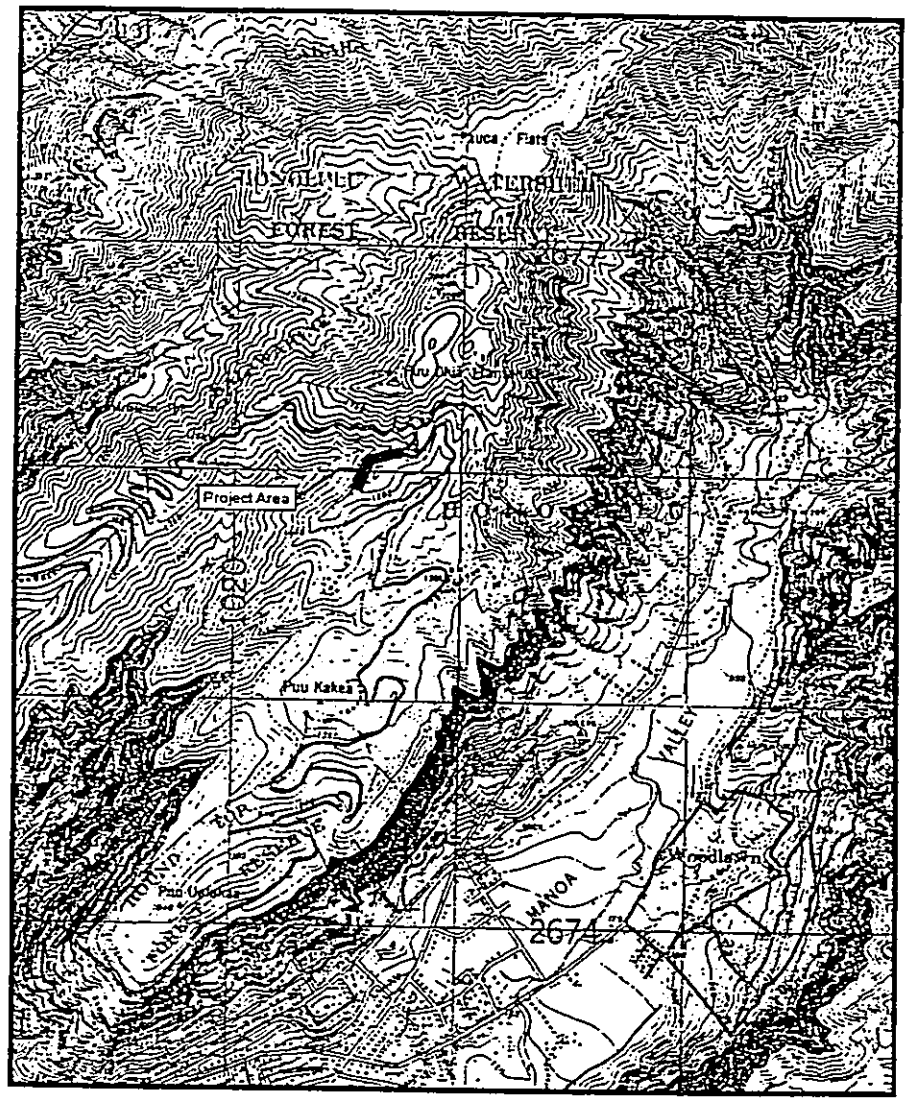

Figure 6 1943 War Department Map. Diamond Head Quad. Showing the Location of the Project Area.

Table 1 Summary of Archaeological Studies in the Vicinity of the Project Area

Archaeological Study	Nature of Report	Location
McCoy, Patrick C., 1971	Memo	Makiki Valley Burial Shelter
Yent, Martha and Jason Ota 1980	Archaeological Field Survey	Makiki Valley, the Kānealole Stream and Moleka Stream Systems
Yent, Martha, 1982	Archaeological Inspection	Short Nature Trail for the Makiki Environmental Education Center, Makiki-Tantalus State Park
Bath, Joyce and Marc, Smith, 1988	Burial Removal Report	2034 Round Top Terrace
Bath, Joyce, 1989	Burial Call Report	2030a Makiki St.
Kawachi, Carol, 1992	Memo:Unmarked Burial Under House	2123 Round Top Drive
Kawachi, Carol, 1992	Burial Report	Judd Hillside Burial
Kawachi, Carol 1992	Burial Report	ʻĀina Lani Place, Makiki
Pietrusewsky, Michael, 1992	Report on Human Skeletal Remains	Round Top Ridge
Pietrusewsky, Michael, 1992	Report on Human Skeletal Remains	1908 Judd Hillside Road
Pietrusewsky, Michael 1992	Report on Human Skeletal Remains	Human Skeleton from 2316 Maunalaha Road,
Carpenter, Alan 1993	Revised Scope of Work: Archaeological Testing	Makiki State Recreation Area
Dagher, Cathleen, 1993	Inadvertent Discovery of Human Skeletal Remains	2048B Ualakaʻa Street
Carpenter, Alan and Martha Yent, 1994	Archaeological Survey	Proposed State Parks Areas in Makiki Valley and PuʻuʻUalakaʻa, Makiki
Jourdane, Muffet 1997	Inadvertent Discovery of Skeletal Remains Report	Wo/Sullivan House Construction Judd-Hillside
Nagata, Ralston 1999	Evaluation of Carriage Road Remnant	within Honolulu Watershed Forest Reserve, Makiki

Results of Field Work

Two archaeologists from Cultural Surveys Hawai'i. Tony Bush B. Ed. And David W. Shideler. M.A. under the overall direction of Hallett H. Hammatt. Ph. D. carried out a field inspection on October 3. 2002. The entire slope extending below Kala'i'ōpua Place was examined by pedestrian transects. The vegetation was found to be quite thick and the terrain quite steep (Figures 7-10). A low wall or high curb on concrete lies along portions of the downslope side of the road. Inscribed dates of 1950 and 1953 attest to prior episodes of road improvement. Retaining walls of cemented basalt boulders lie along portions of the upslope side (Figure 8). Cement posts attend the downslope side at the major curve (Figure 9). While a variety of late twentieth century trash and a portion of a former red brick wall (eroded down from the road) were observed in the course transects but no significant artifacts, features or sites were observed. The land was judged to be too steep to have ever supported habitation, agriculture or any other enterprise.

Review of Biological Resources for Implications on Cultural Impacts

A study of biological resources including flora and fauna was prepared by Char & Associates (Char 2002). Plant species identified with known cultural uses are summarized below:

Plant Species within the Project Area with Known Cultural Use

Family	Species	Common Name	Use
Ferns	*Diplazium esculentum*	*Hō'i'o* Fern	Indigenous, young fronds are eaten raw
CONVOLVULACEAE (Morning glory Family)	*Ipomea indica*	*Koali 'awa, Koali Hī'au*	Indigenous, roots & leaves used in plasters and poultices for wounds, sores, & treating broken bones, a cathartic
EUPHORBIACEAE (Spurge Family)	*Aleurites moluccana*	*Kukui*, candlenut, Indian walnut	Polynesian introduction, light, dye, medicine, condiment, lei, etc.
FABACEAE (Pea Family)	*Acacia koa*	*Koa*	Endemic, wood used for a variety of purposes, for canoes & wood working generally
FABACEAE (Pea Family)	*Leucaena leucocephala*	*Koa haole, ekoa, haole koa*	Exotic, cattle feed
LAURACEAE (Laurel Family)	*Persea americana*	Avocado, alligator pear	Exotic, edible fruit
MYRTACEAE (Myrtle Family)	*Psidium guajava*	Common guava, *kuava*	Exotic, edible fruit, a medicinal tea is made from leaf buds
MYRTACEAE (Myrtle Family)	*Syzygium malaccense*	*'Ōhi'a 'ai*, Mountain apple	Polynesian introduction, edible fruit, infusion of the bark used for sore throats, wood used for posts, rafter & images

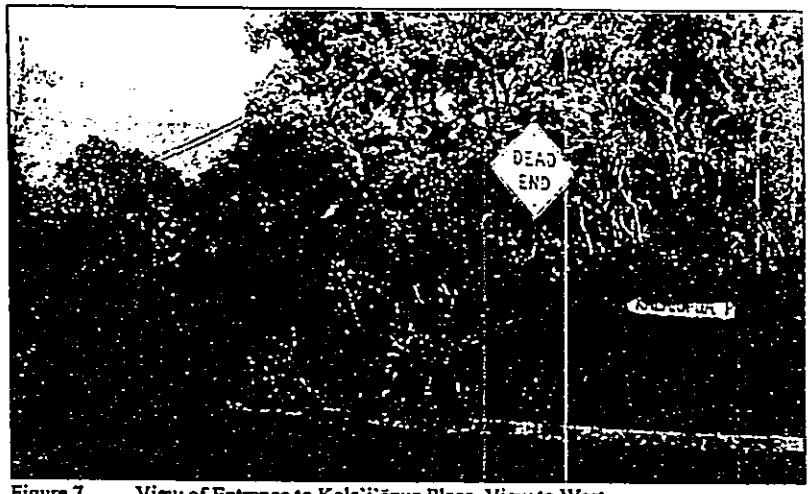

Figure 7 View of Entrance to Kala'i'ōpua Place, View to West.

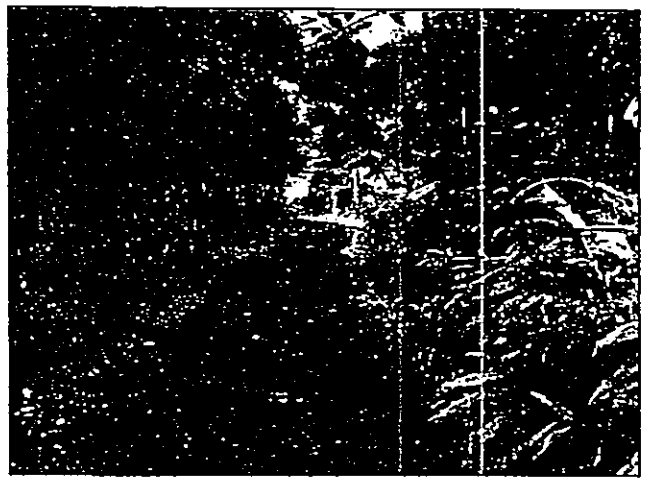

Figure 8 Basalt Boulder and Cement. *Mauka* Retaining Wall, View to West.

Figure 9 Cement Posts at Road Curve, View to Southwest.

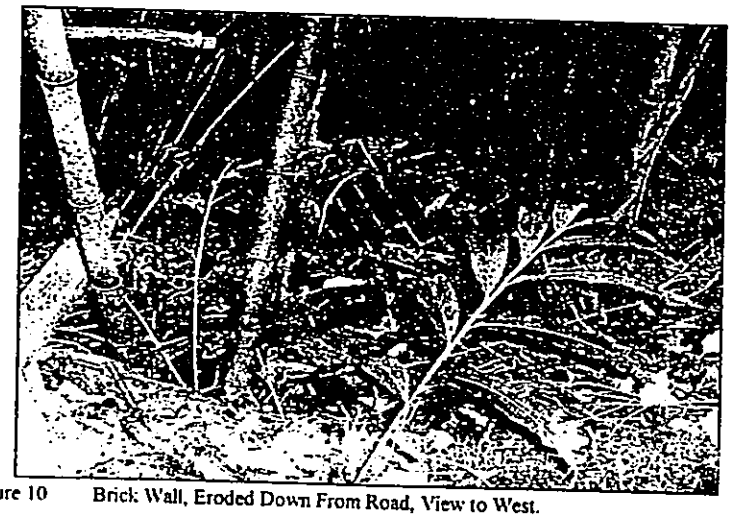

Figure 10 Brick Wall, Eroded Down From Road, View to West.

URTACACEAE (Nettle family)	*Pipturus albidus*	*Māmoki, Māmake*	Fibers used for cordage & *kapa*, bark, fruit & young leaves used medicinally
AGAVACEAE (Agave Family)	Cordyline fruticosa	Ti, *Kī*	Polynesian introduction. Thatch for houses, food wrappers, hula skirts, sandals, roots for food & alcohol
ARACEAE (Philodendron Family)	*Alocasia macrorrhiza*	*'Ape*	Polynesian introduction. famine food
MUSACEAE (Banana Family)	*Musa paradisiaca*	Banana, *Maia*	Polynesian introduction, edible fruit, offerings, lining *imu*, poultice for sprains & broken bones, sap as a dye, fibers for lei, etc.
POACEAE (Grass Family)	*Panicum maximum*	Guinea grass	Exotic, cultivated as an important forage grass
POACEAE (Grass Family)	*Bambusa sp.*	Bamboo, *'Ohe*	Polynesian introduction, bamboo used for a variety of purposes: musical instruments, poles, etc.
ZINGIBERACEAE (Ginger Family)	*Hedychium coronarium*	White ginger, *'Awapuhi ke'oke'o*	Exotic, Flowers and roots used for "foetid nostrils", lei plant
ZINGIBERACEAE (Ginger Family)	*Hedychium flavescens*	Yellow ginger, *'Awapuhi melemele*	Exotic, Flowers and roots used for "foetid nostrils", lei plant

Thus quite a number of traditionally used plant species are to be found within the project area including plants valued for construction material (*Koa, 'Ōhi'a 'ai,'Ohe*), for food (*Hō'i'o* fern, avocado, banana, guava, *'Ōhi'a 'ai*), for medicine (*Koali 'awa*), and for their fragrance (*'Awapuhi ke'oke'o, 'Awapuhi melemele*). Many of these *(Kukui, Koa, Kī, 'Ōhi'a 'ai, Māmaki, Maia, 'Ohe)* are known to be plants that were quite commonly gathered in the uplands.

However, as Char (2002:5) notes the majority of the vegetation is composed of introduced or alien species and the native species which occur in the project area can be found in similar habitats throughout the islands. Two additional points seem particularly germane to point out regarding likely patterns of traditional gathering. The project area is exceedingly steep, effectively at an angle of repose, and it would seem likely that gathering would typically focus on areas less potentially hazardous and more accessible. The developed trail system in the area allows much easier access to similar or identical resources. Furthermore, access to these steep slopes will continue to be possible from a paved pull-off area and informal trail network off the south side of Tantalus Drive just to the north

Signs of pigs (rootings, trails, spoor) were quite common within the project area. Doubtlessly the pigs take advantage of the relatively good forage, including avocados, guavas, bananas and mountain apples in the vicinity at the head of Kānealole Stream. It is understood however that pig hunting in the area is prohibited by existing state fish and game laws.

Summary and Conclusions Regarding Historic Properties

Yent and Ota (1980) concluded that "the sites [in the Makiki Valley area] appear to reflect the traditional settlement and subsistence pattern recorded by Meyen in 1831 with agricultural fields along the streams and some habitation in the rockshelters." This settlement pattern is also evidenced by the distribution of land court awards being concentrated in the lower valley portions of the Makiki Valley-Tantalus area along Kānealole and Moleka Streams. With this settlement pattern indicating minimal native Hawaiian land use in the upper slopes of Tantalus and the lack of archaeological sites or studies near the current project area, it was predicted that there would not be significant archaeological findings or disturbance associated with the proposed Kala`i`ōpua Place road improvements project. The field survey corroborated this, finding the slope too steep for traditional or early historic enterprise.

The 1919 Fire Control Map (Figure 4) indicates Kala`i`ōpua Place had been developed by that date. The road itself is nothing special and has clearly undergone repeated episodes of road improvement. The roadway does have a certain historic flavor with its entrance sign (Figure 7), basalt boulder retaining walls (Figure 8), and cement posts (Figure 9) and it would be hoped that any road widening efforts would try to retain these appurtenances as far as feasible.

Summary and Conclusions Regarding Traditional Cultural Practices

There are no known *kuleana* or commoner land claims near the project area and no permanent habitation is believed to have occurred on the steep slopes of the project area in traditional Hawaiian times. It seems probable that there was traditionally gathering of a wide variety of forest resources in the greater Pu`u `Ōhi`a (Tantalus) area and that these included plants, such as *Kukui, Koc, KI, `Ōhi`a `ai, Māmaki, Maia, `Ohe,* etc. as may be found within the project area. However the sought after species present are found in similar habitats in the greater Pu`u `Ōhi`a area and throughout the islands. The exceedingly steep slopes of the project area would make any gathering difficult and it would seem likely that gathering would typically focus on areas of easier access. Access to these steep slopes will continue to be possible from a paved pull-off area and informal trail network off the south side of Tantalus Drive just to the north. It appears that forest resources and access to forest resources will not be significantly impacted by the proposed project.

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