BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

February 7, 2005

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: Finding of No Significant Impact for the Board of Water Supply's Proposed Kamehameha Highway: 16-Inch Water Main Project, Sunset Beach, Oahu, Hawaii, TMK: 5-9-002, 5-8-003

The Board of Water Supply has reviewed the comments received during the public comment period which began on May 23, 2004. We have determined that the environmental impacts of this project have been adequately addressed as discussed in the Final Environmental Assessment (EA) and therefore, are issuing a Finding of No Significant Impact. We request that the proposed project be published as a Finding of No Significant Impact in the next Office of Environmental Quality Control (OEQC) Bulletin.

We have enclosed the following:

- Completed OEQC Bulletin Publication Form;
- Four (4) copies of the Final EA;
- Project summary (for publication in the Environmental Notice) and disk.

If you have any questions, please contact Francis Fung at 748-5710.

Very truly yours,

CLIFFORD S. JAMILE
Manager and Chief Engineer

Enclosures
cc: Rand Ide, Sato & Associates
Taeyong Kim, Environmental Communications, Inc.

2005-02-23 FONSI

KAMEHAMEHA HWY 16-INCH WATERMAIN, PAUMALU & KAUNALA STREAM CROSSINGS

FINAL ENVIRONMENTAL ASSESSMENT
KAMEHAMEHA HIGHWAY 16-INCH WATERMAIN
PAUMALU AND KAUNALA STREAM CROSSINGS
SUNSET BEACH, OAHU, HAWAII

January 2005

Board of Water Supply
City and County of Honolulu

FINAL ENVIRONMENTAL ASSESSMENT
KAMEHAMEHA HIGHWAY 16-INCH WATERMAIN
PAUMALU AND KAUNALA STREAM CROSSINGS
SUNSET BEACH, OAHU, HAWAII

Proposing Agency:

City and County of Honolulu
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96843

Primary Consultant:

Sato & Associates, Inc.
2046 South King Street
Honolulu, Hawaii 96826

EIS Consultant:

Environmental Communications, Inc.
1188 Bishop Street, Suite 2210
Honolulu, Hawaii 96813

January 2005

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APPENDIX

I. PROJECT SUMMARY

AGENCY:	Board of Water Supply City and County of Honolulu 630 South Beretania Street Honolulu, Hawaii 96843
PROJECT ENGINEER:	Sato and Associates, Inc. 2046 South King Street Honolulu, Hawaii 96826
ENVIRONMENTAL CONSULTANT:	Environmental Communications, Inc. 1188 Bishop Street, Suite 2210 Honolulu, Hawaii 96813
PROJECT NAME:	Kamehameha Highway 16-Inch Water Main, Part I Paumalu and Kaunala Stream Crossings
PROJECT LOCATION:	Paumalu and Kaunala Streams Koolauloa District, Oahu, Hawaii
TAXMAPKEY/ OWNERSHIP:	Paumalu Stream Crossing 5-9-002 State of Hawaii Kamehameha Highway Right-of-Way Kaunala Stream Crossing 5-8-003 State of Hawaii Kamehameha Highway Right-of-Way
AREA:	Paumaulu Stream ≈ 200 Linear Feet Kaunala Stream Crossing ≈ 140 Linear Feet
ZONING:	Public Use
DEVELOPMENT PLAN AREA:	North Shore
STATE LAND USE:	Agricultural District
CURRENT LAND USE:	The Paumalu Stream project site is located in a dry streambed that is subject to occasional runoff and ponding during periods of heavy rain. Water collects within the streambed and occasionally breaches the beach into the ocean. The area is open with a sandy bed with some vegetation along the

bank areas. The site is located within the Kamehameha Highway right-of-way and is located within the Sunset Beach Park boundaries.

The Kaunala Stream project site is located in a residential area beneath the Kaunala Bridge. The site is covered with a heavy overgrowth of milo and kiawe trees and various weedy species. The stream is dry the majority of the year. During periods of heavy rainfall, water collects and ponds in the area makai of the bridge and project site. The stream channel is filled with boulders and debris.

PROJECT SCOPE:

The proposed action consists of the installation of a 16-inch water main under the Paumalu and Kaunala Stream beds within the Kamehameha Highway right-of-way. The water line is a replacement of an existing line that is hanging beneath the Paumalu and Kaunala Stream bridges.

The proposed improvement will be located within the makai easement of Kamehameha Highway. The existing water line, located on hangers beneath the bridges, will be abandoned. Open trenches will be excavated for the water mains and a concrete jacket will surround the new water line at an elevation of five feet below mean sea level or approximately nine feet below the existing streambed at the Paumalu site. The Kaunala Stream line will be placed approximately at mean sea level.

PROJECT COST/PHASING

The estimated construction cost for the stream crossing project is approximately $302,000. The scope of work for the stream crossings will be conducted in a single continuous construction phase. The construction period is approximately one-year in duration.

II. PROPOSED PROJECT AND STATEMENT OF OBJECTIVES

A. Project Location

The proposed action is located at two separate locations in the area of Sunset Beach, Oahu, Hawaii. Both project locations are within the State of Hawaii Kamehameha Highway right-of-way.

The first project location is within Paumaulu Stream, an intermittent waterway. The project site is located beneath the Kamehameha Highway makai easement and is also identified on Tax Map Key TMK: 5-9-002. The water main alignment parallels the existing bike and pedestrian path along the concrete bridge. The site is easily accessible from the bike path and the nearby parking area along Sunset Beach.

The areas immediately east and west of the makai portion of the Paumalu site are part of the City and County of Honolulu Sunset Beach Park. Areas on either side of the stream mauka of the highway are improved residential lots.

The second project location is located within Kaunala Stream, a dry stream that has been channelized beneath the Kaunala Bridge. Residential areas are located on either makai side of the project location. An existing single-family dwelling is located to the west and a proposed and partially improved residential subdivision is located to the east. Across Kamehameha Highway, a sewage septic system is located to the east and vacant, residentially zoned lands are located to the west.

B. Project Description

The proposed project consists of the installation of a 16-inch water main under the Paumalu and Kaunala Stream beds.

Paumalu Stream Crossing

This project location will require the excavation of an open trench approximately five-feet below mean sea level or approximately nine feet below the existing streambed. The length of the excavated area is approximately 180 feet in length and approximately six feet in width. A concrete jacket will be placed within the trench to protect the water line. The trench will then be filled back to its previous, natural condition.

The areas outside of the stream bed will be open trenched without the use of concrete jackets and will be covered with a minimum of three feet of fill material. The water line will connect with the water main located on both sides of the project area.

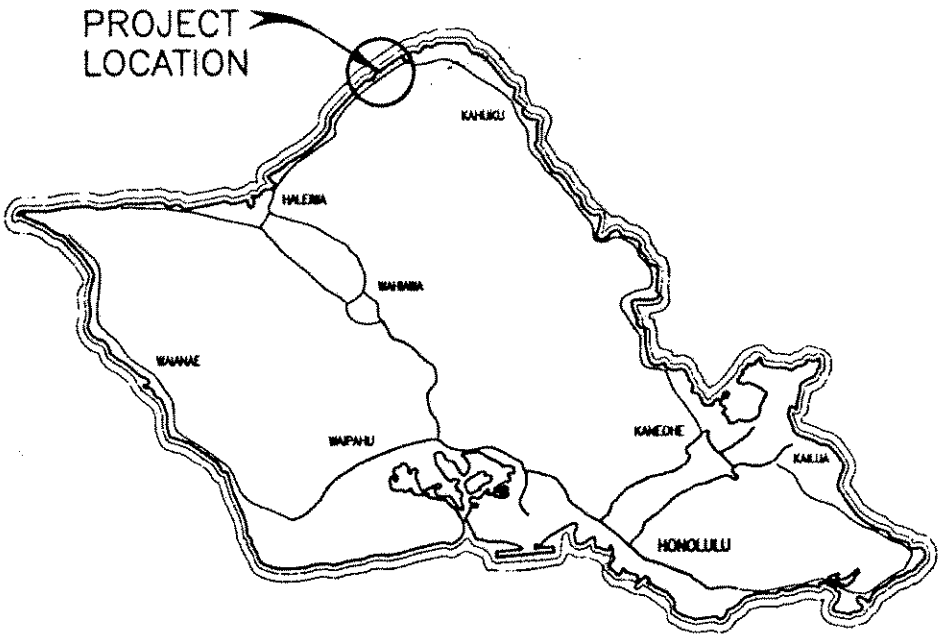
Kaunala Stream Crossing

This project location will require the excavation of an open trench approximately at mean sea level or approximately seven feet below the existing improved stream channel. The length of the excavated area is approximately 150 feet in length and approximately six feet in width. A concrete jacket will be placed within the trench to protect the water line. The trench will then be filled back to its previous, natural condition.

The areas outside of the stream bed will be open trenched without the use of concrete jackets and will be covered with a minimum of three feet of fill material. The water line will connect with the water main located on both sides of the project area.

C. Project Objective

The objective of the proposed action is to provide replacement water lines beneath the Paumalu and Kaunala Stream bridges at Sunset Beach. The existing water line, which hangs under the bridges, will be cut and plugged after the new line is installed. The existing line is under sized and is in need of replacement. The bridges were not deemed suitable to carry the replacement 16-inch water line. This line is considered essential to maintaining an efficient water supply to the north shore area and is a part of the Board of Water Supply's continuing effort to improve and maintain this critical service.



NORTH

VICINITY MAP
NOT TO SCALE

Kamehameha Highway 16-Inch Water Main
Paumalu and Kaunala Stream Crossings

Vicinity Map

Prepared by: Environmental Communications, Inc.
Source: Sato & Associates, Inc.

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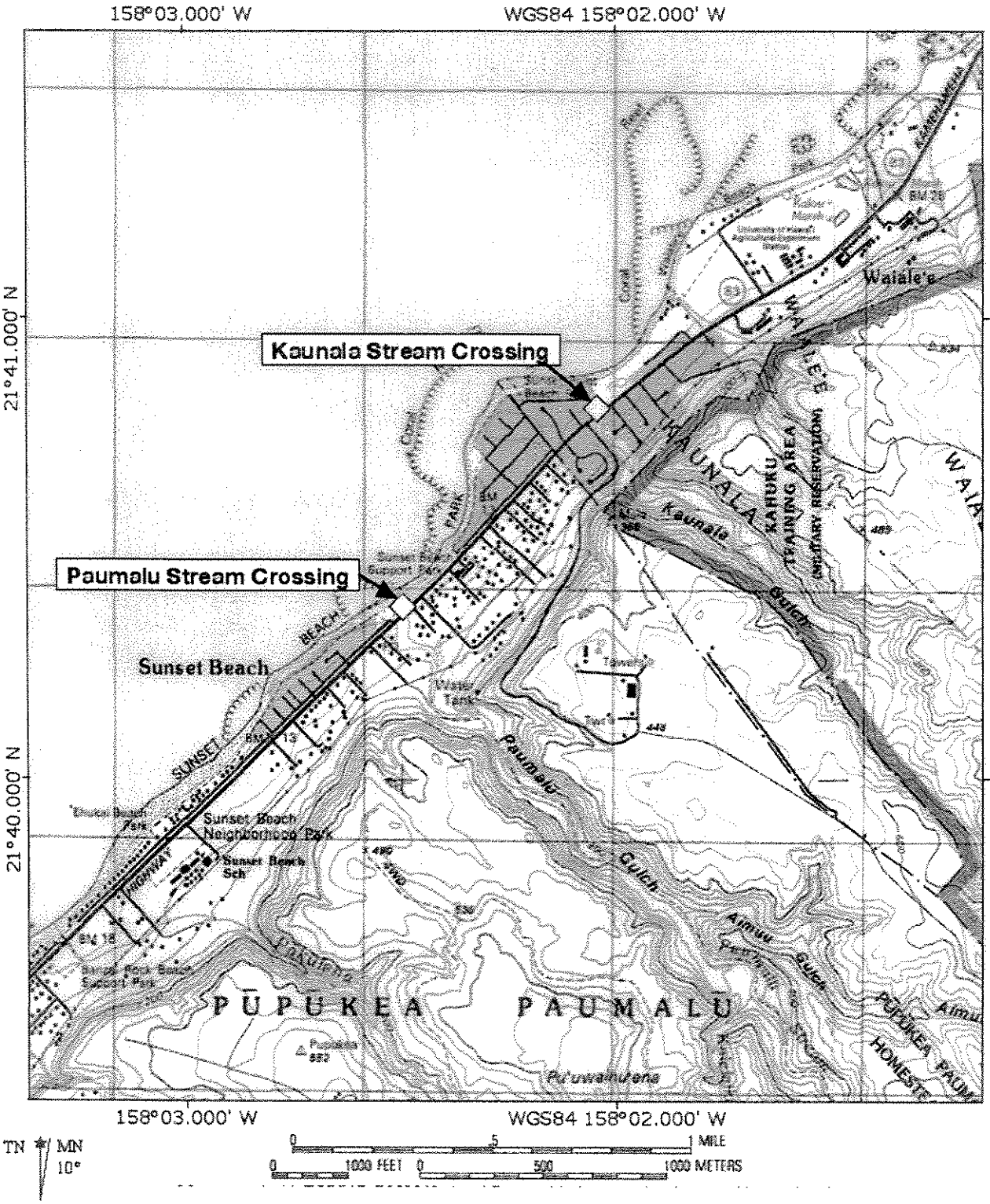

Kamehameha Highway 16-Inch Water Main
Paumalu Stream Crossing

Location Map

Prepared by: Environmental Communications, Inc.
Source: National Geographic/USGS

Figure 2
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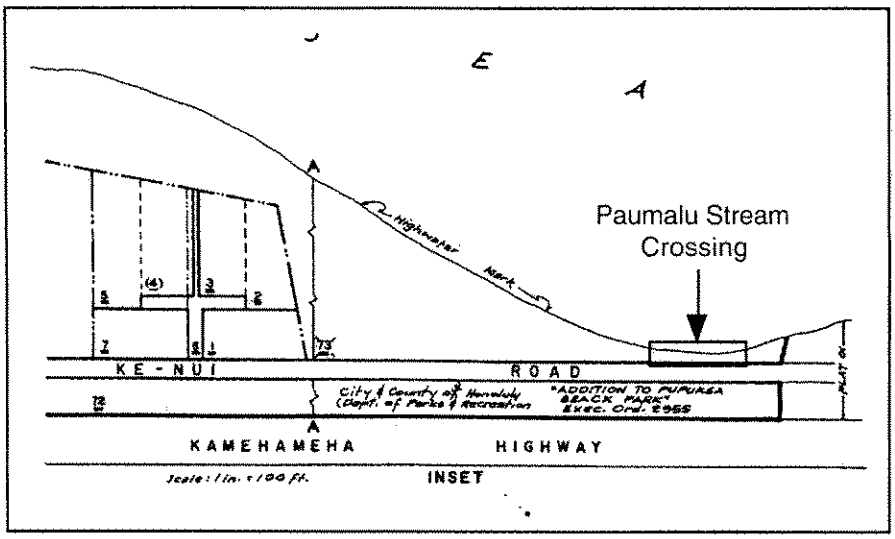
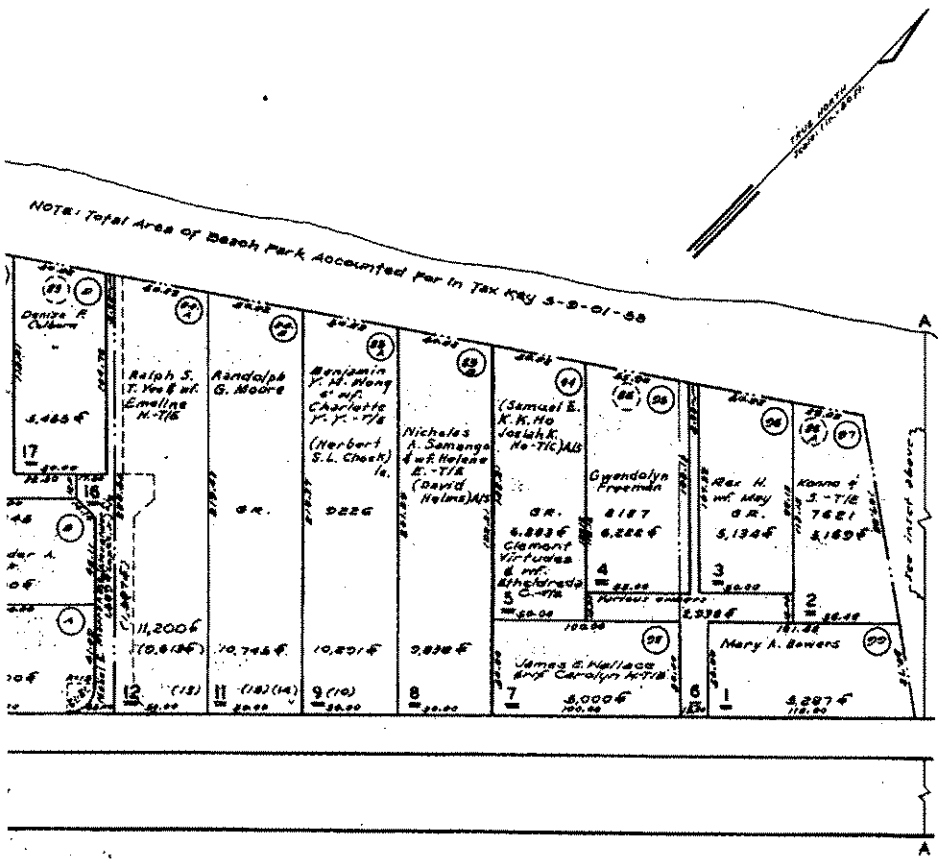




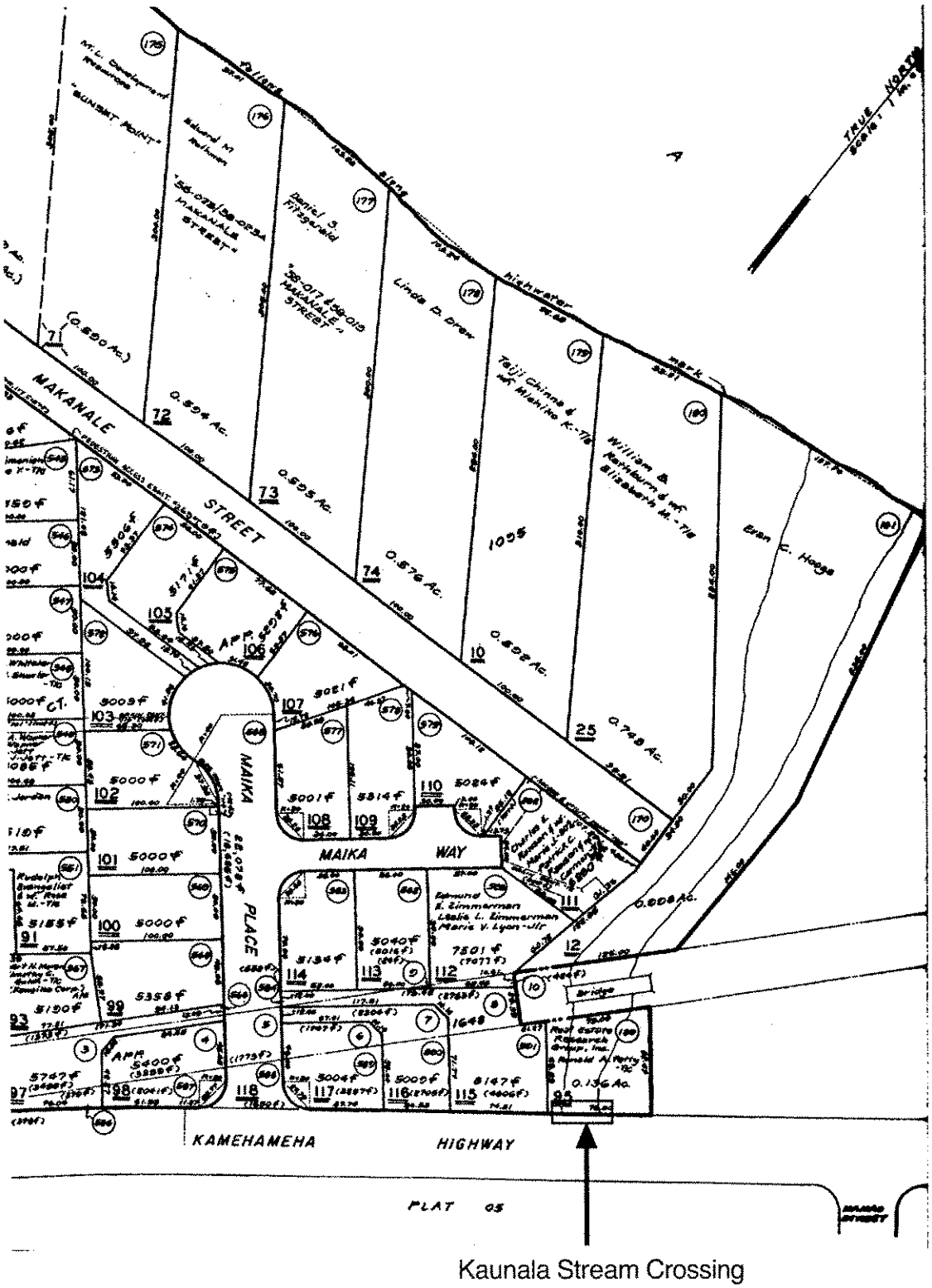
Tax Map 5-9-02

Kamehameha Highway 16-Inch Water Main
Paumalu and Kaunala Stream Crossings

Paumalu Stream Tax Map

Prepared by: Environmental Communications, Inc.
Source: City and County of Honolulu

Figure 3
Page 2-5



Tax Map 5-8-03

Kamehameha Highway 16-Inch Water Main Paumalu and Kaunala Stream Crossings	Kaunala Stream Tax Map
Prepared by: Environmental Communications, Inc. Source: City and County of Honolulu	Figure 4 Page 2-6

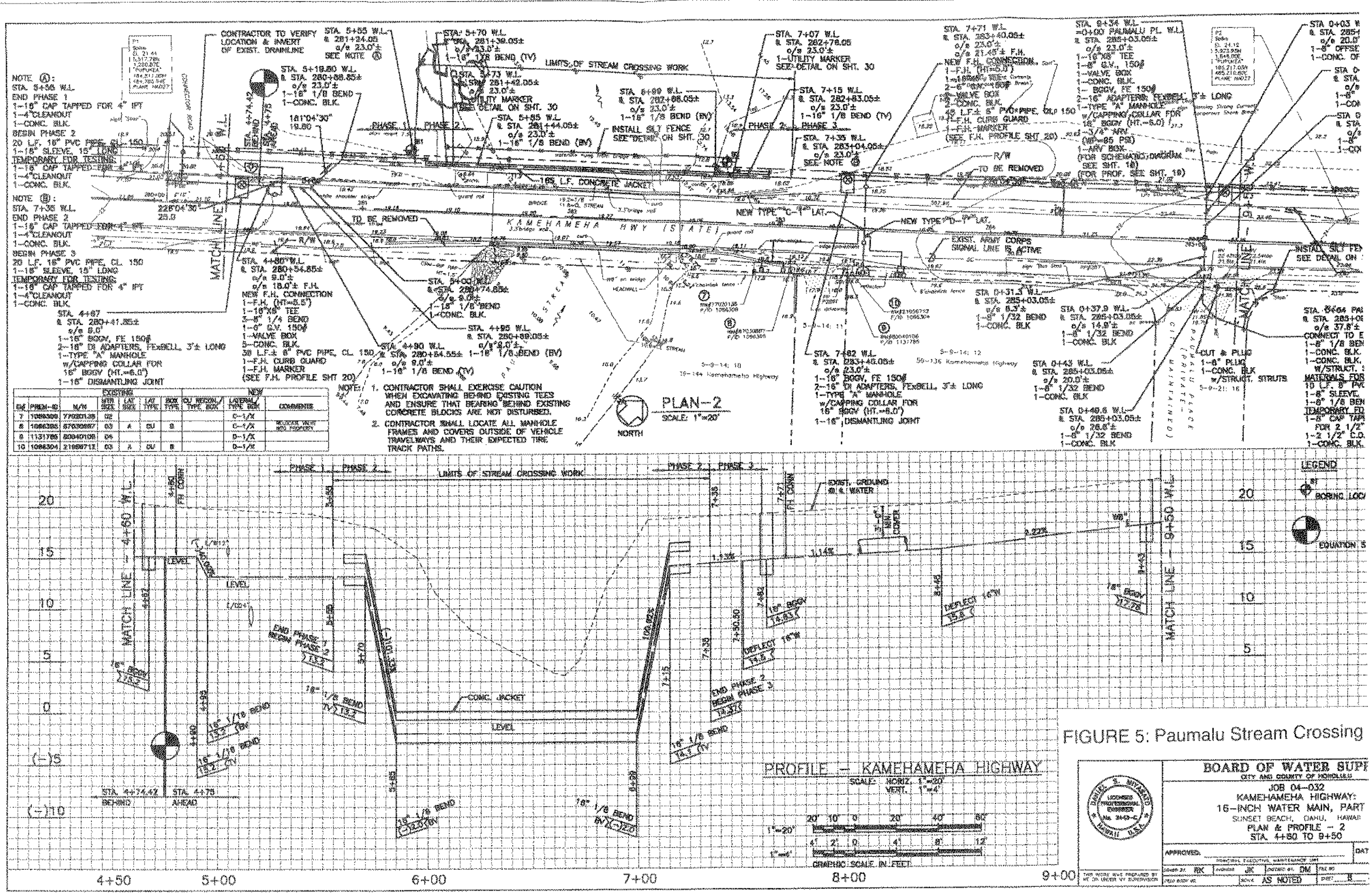


FIGURE 5: Paumalu Stream Crossing

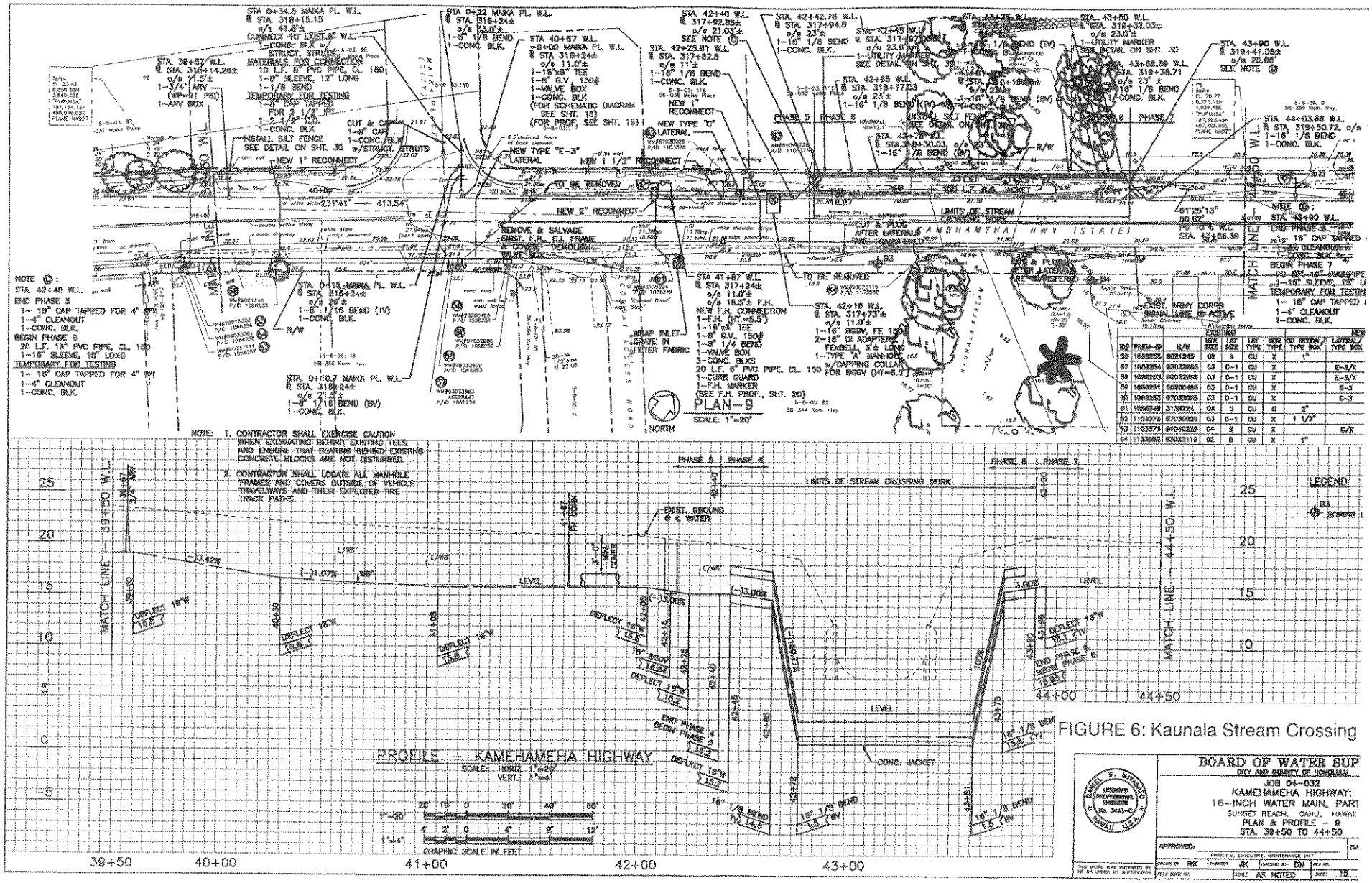


FIGURE 6: Kaunala Stream Crossing

BOARD OF WATER SUP
CITY AND COUNTY OF HONOLULU

JOB 04-032
KAMEHAMEHA HIGHWAY;
16-INCH WATER MAIN, PART
SUNSET BEACH, OAHU, HAWAII
PLAN & PROFILE – 9
STA. 39+50 TO 44+50

APPROVED: PRINCIPAL EXECUTIVE, MAINTENANCE DIVISION — DATE

DRAWN BY: RK | TRACED: JK | CHECKED BY: DM | FILE NO.
FIELD BOOK NO. | SCALE: AS NOTED | SHEET 12

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III. DECRIPTION OF ANTICIPATED IMPACTS

A. Environmental Setting

Paumalu Stream

The Paumalu Stream serves as the drainage outlet for Paumalu Gulch. The stream becomes intermittent outside of the Pupukea-Paumalu Forest Reserve. Within the project vicinity, the stream consists of a dry sand bed with Hau, Milo and other beach trees located in the area immediately mauka of Kamehameha Highway. The tops of boulders can also be seen in this area. Makai of the highway, the stream opens to a large open sand swale that transitions to the surrounding grade depending on the surf conditions and weather.

During summer periods, the surf is small and the beach area accretes sand with little evidence that the sand area is actually the mouth of the stream. During the winter months and periods of heavy rainfall, the stream ponds retaining water into the beach area. Occasionally the stream mouth breaches the beach and opens to the ocean, releasing stream waters. This breach usually occurs with concurrent heavy surf that washes away sand in the stream mouth area. A storm drain line is located near the western end of the project site. This line also contributes to the ponding occurring within the stream.

The area beneath the bridge is sandy along the eastern end while the western side of the stream beneath the bridge is reinforced with concrete and stone. During dry periods the stream can be readily crossed however the pedestrian and bike path along the bridge provides more convenient access.

The banks of the stream, where the stream crossing is proposed, are lined with koa haole, naupaka, various grasses and noxious weeds. During the construction phase, beach access will not be affected and pedestrian and bike path uses are expected to be maintained.

The Sunset Point end of the project site is used for parking and consists of paved surfaces that are covered with sand. The Haleiwa end of the site is a landscaped area that is not suitable for park user use but provides a visual amenity to users of the bike/pedestrian path.

Kaunala Stream

The Kaunala Stream site serves as the primary drainage outlet for Kaunala Gulch. The stream is intermittent and is different from the Paumaulu site in that it is heavily overgrown. No perennial stream flow is evident in the project area and beneath the bridge and it appears that the site is subject of water flow only during storm events.

The Kaunala Bridge has concrete abutments that define the stream bank boundaries. The channel is filled with boulders, rocks and debris. Along the bridge abutments, a heavy overgrowth of milo, kiawe, koa haole and various weedy species. A drainage outlet is located at the eastern footing of the bridge.

The site is not located near the shoreline and is not affected by high surf or wind erosion. The stream and embankment material primarily consists of rocks and soil that is secured by the heavy milo overgrowth. The project area is unsuitable for any recreational activity and does not serve as a scenic resource.

The proposed alignment will have some temporary impact on pedestrian and bike traffic, as the bikeway/pedestrian path is located on the makai side of Kamehameha Highway in this location. While the bridge structure will not be affected, the narrow right-of-way area outside of the bridge abutments may result in the encroachment of the construction equipment and disruptive construction activity. Access is expected to be maintained albeit with some minor adjustments to maintain pedestrian and bike traffic during the construction period.

B. Surrounding Uses

Paumalu Stream

The eastern end of the project site is the primary Sunset Beach Park area. The location is famous for its large surf, and vast sandy beach. While open and largely undeveloped, the beach is heavily used and the entire easement area along Kamehameha Highway is used for parking. The area immediately west of the project site is also part of the Sunset Beach Park property but is maintained as a landscaped visual amenity of park. The area is not intended for active use and generally not accessible to beach goers. The areas immediately east of the project area across Kamehameha Highway are in single-family residential use.

Kaunala Stream

The Kaunala Stream crossing location is in a residential area that is located approximately 600 feet inland of the shoreline. A single-family residence is located to the west of the project site on the makai side of Kamehameha Highway while an improved site planned for a residential subdivision is located to the east of the project site. The makai side of the bridge contains a dedicated pedestrian path and bikeway.

A septic tank/wastewater facility is located on the mauka side of the Kaunala Bridge in the easterly direction. Further east lies a residential subdivision. To the immediate west of the bridge lies a vacant overgrown parcel. Single-family residences line Kamehameha Highway further to the west.

C. Environmental Considerations

1. Geological Characteristics

Topography

The project improvements are located in the Sunset Beach area of the North Shore of Oahu. The area is well known for its spectacular surf and is an island landmark. Both sites are located within the Kamehameha Highway right-of-way within dry streambeds.

Paumalu Stream Crossing

A dry sand bottom that opens to the Sunset Beach shoreline characterizes the Paumalu Stream location. The project area is free of vegetation and is very flat and broad and is indistinguishable from the beach area during dry periods. During periods of heavy rain, the streambed retains water and often pools until the retained water percolates. On rare occasions of heavy rainfall, the stream will open into the ocean to release stream waters.

The banks of the Paumalu Stream slope up to the highway grade level where vegetation takes hold. No beach trees are found in the immediate project area with the exception of a single milo tree located at the project limit on the western makai end of the site. The upper stream area is fairly dense with beach trees.

Structures within the immediate Paumalu Stream Bridge area are limited to a drainage outfall located on the western stream bank and a concrete footing for a former bridge or crossing structure to the east.

Kaunala Stream Crossing

The Kaunala Stream location is significantly different in topography from the Paumalu Stream location. This stream is characterized by a dry rocky streambed that is located beneath bridge whose footings form the stream banks. Outside of the bridge channel the stream banks are fairly gentle and heavily vegetated. Plant material on the banks primarily consists of milo, keawe, koa haole and various weedy grasses.

During heavy rainfall periods the site is subject to some ponding on the makai side of the bridge. The runoff waters that constitute the stream do not appear to reach the ocean as the stream serves as a detention basin in the project vicinity.

Climate

While Hawaii is generally characterized as being temperate, the geography of the North Shore District is notable for its dry climate. Rainfall in this area is slightly

lower than other regions on Oahu. Prevailing trade winds flow along the beach in the northeasterly direction.

According to the *Atlas of Hawaii, Third Edition*, the North Shore District typically experiences 40 inches of rainfall annually. Average mean temperatures in North Shore area range from mean highs between 75 and 85 degrees to mean lows between 62 and 67 degrees Fahrenheit.

USDA Soil Survey Report

According to panel 37 of the *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii* by the US Department of Agriculture Soil Conservation Service, the Paumalu Stream project site is located on soils classified as Jaucus Sand, 0 to 15 percent slopes (JaC). These soils are characterized as sandy soils that are neutral to moderately alkaline. Permeability of this soil type is rapid and runoff is slow to very slow. Water erosion is slight, but wind erosion is a hazard where vegetation has been removed.

The Kaunala Stream site is classified as Waialua Silty Clay (WkB) which has slopes of 3 to 8 percent. On this soil runoff is slow and the erosion hazard is slight (Figure 7).

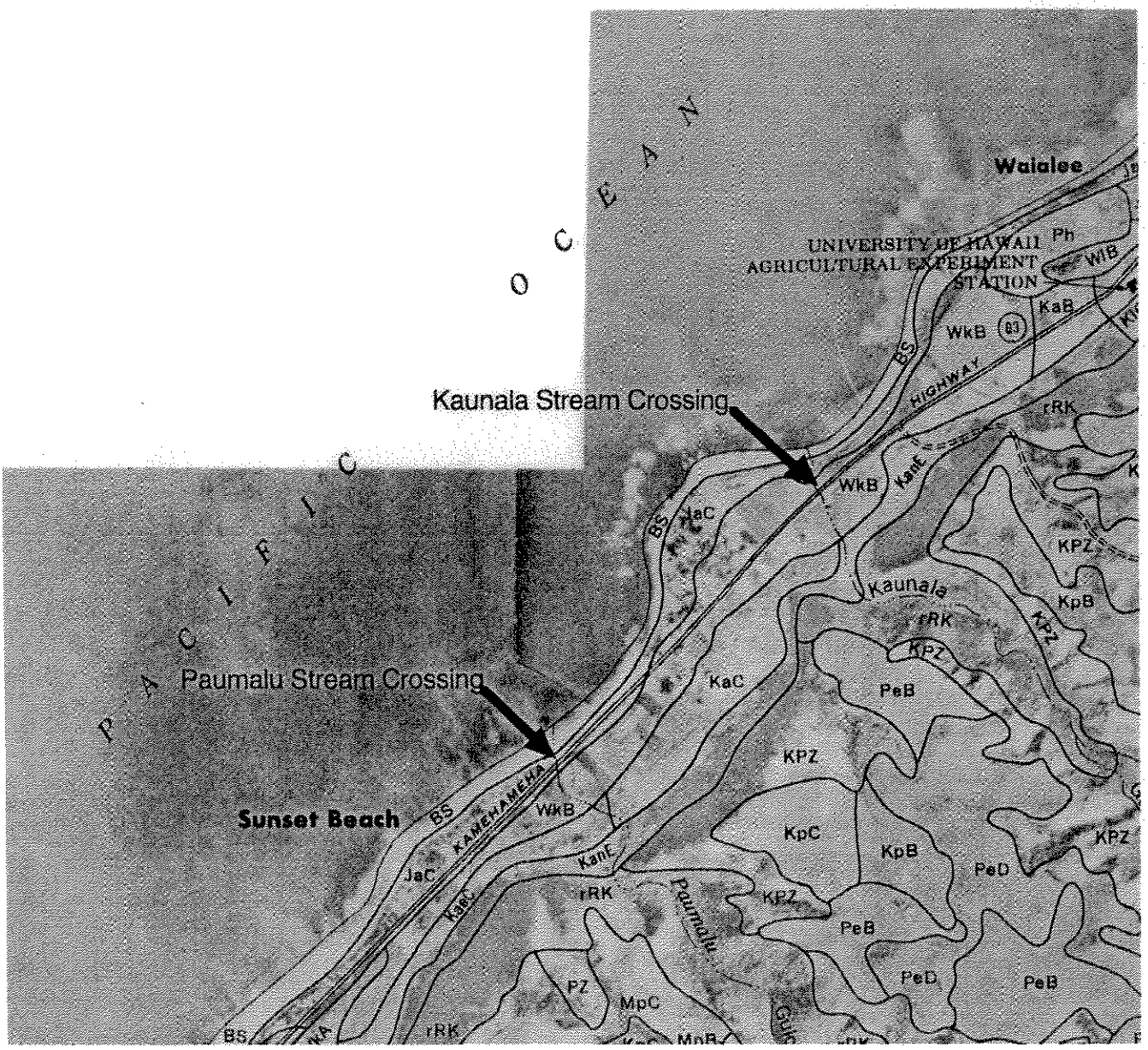
Detailed Land Classification

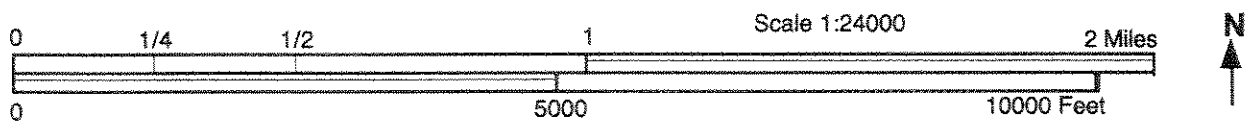
The Paumalu Stream project site is classified by the University of Hawaii Land Study Bureau as land type E31 on panel 4 of the *Detailed Land Classification-Island of Oahu* report. This land type is considered poor in productivity for all crops with its stony, non-expanding, well-drained soils. The Kaunala Stream site is classified as land type D124 . This land type is also poor in agricultural productivity. Soils in this land type are expansive and non-stony (Figure 8).

2. Water Resources

The project sites are located in the shoreline area and have an impact on coastal waters. Both project sites are located in streambeds that serve as runoff collectors for the Paumalu and Kaunala Gulches. Both streams are intermittent and are dry most of the year. Paumalu Stream, the larger of the two streams, outlets at Sunset Beach, a popular recreational area. Kaunala Stream outlets at Kaunala Beach, a surf area also known as Backyards. Both streams are existing, natural conditions that will not be redirected, impeded or otherwise affected as a result of the proposed water main installation.

As previously stated, both streams are generally dry for the majority of the year. Construction of the proposed water main lines is planned for the summer months when rainfall is minimal and the occurrence of stream flow is unlikely. In the event that stream flow commences during the construction period, work will cease





Kamehameha Highway 16-Inch Water Main
Paumalu and Kaunala Stream Crossings

Soils Map

Prepared by: Environmental Communications, Inc.
Source: US Department of Agriculture Soil Conservation Service

Figure 7
Page 3-5

0 1/4 1/2 1 2 Miles

Scale 1:24000

N

0 5000 10000 Feet

Kamehmeha Highway 16-Inch Water Main
Paumalu to Kaunala Stream Crossings

Land Classification Map

Prepared by: Environmental Communications, Inc.
Source: University of Hawaii Land Study Bureau

Figure 8
Page 3-6

or only portions of the stream crossing work will continue to allow the stream waters to flow along its natural course.

Hydrologic Hazards and Resources

According to Panel 15003C0020 E of the Federal Emergency Management Agency Flood Insurance Rate Map, the Paumalu Stream site is located in Zone AE (EL 19), an area where the base flood elevation has been determined to be 19 feet above mean sea level. The Kaunala Stream site is located in Zone AE (EL 16), an area where the base flood elevation is 16 feet above mean sea level (Figure 9).

Special Management Area

The project site is located within the Special Management Area (SMA).

3. Archaeological, Cultural, Botanical and Faunal Resources

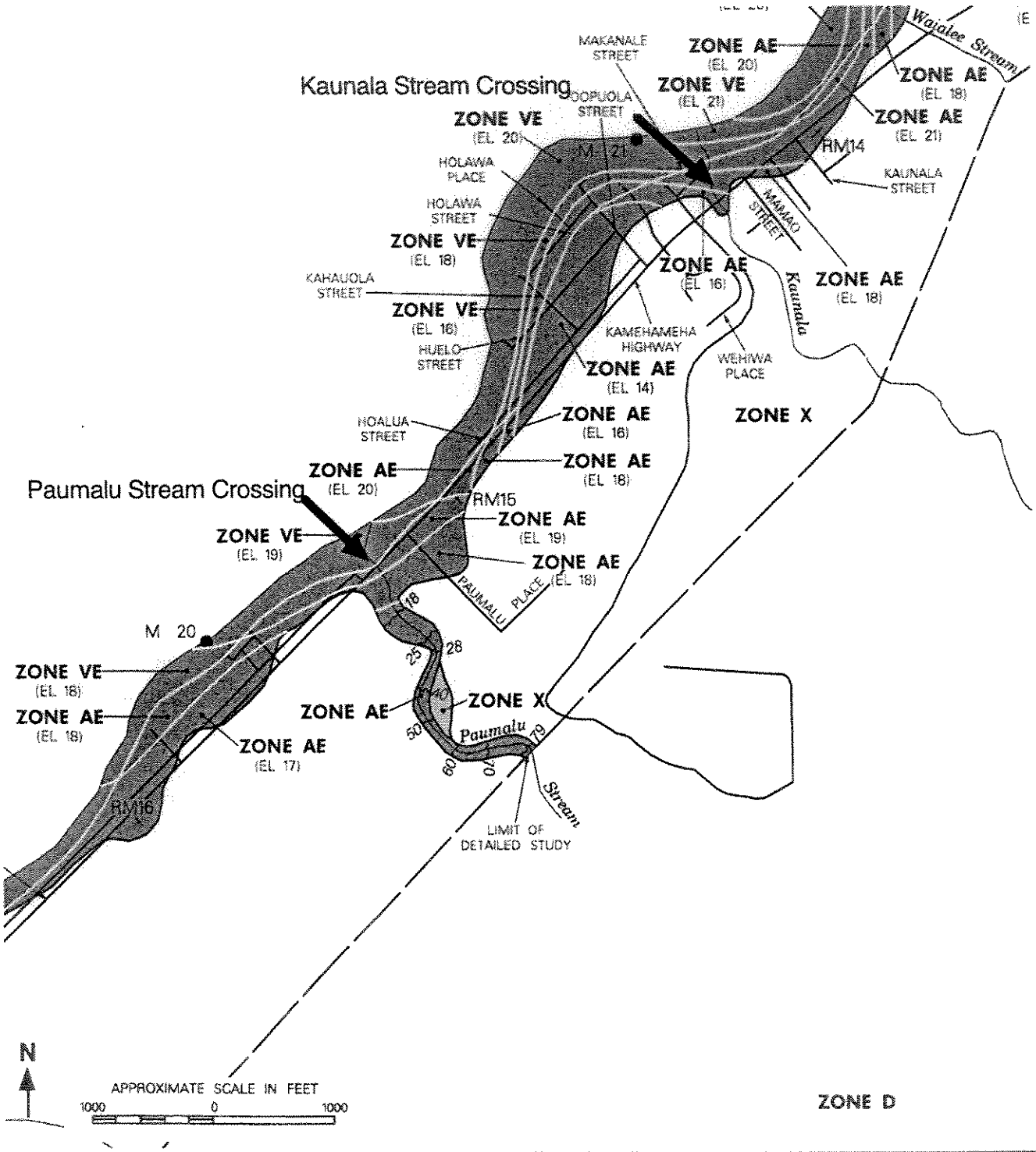
Archaeological Resources

The project sites are located within streambeds. The probability of any archaeological remains within the streambed is extremely unlikely as any artifacts within the streams would have washed away over the years during periods of heavy rain or high surf. The project alignment is subject of an archaeological monitoring plan (Bushnell & Hammatt 2000. *Archaeological Monitoring Plan for Work along Kamehameha Highway, from Pupukea to Waialee, District of Koolauloa Island of Oahu*). The Department of Land and Natural Resources Historic Preservation Division has stated that on-site archaeological monitoring should be carried out in accordance with the approved monitoring plan. If the proposed action follows this plan, the project will have "no adverse effect" on significant historic sites.

In the event that any archaeological artifacts are uncovered, all work will cease and the Department of Land and Natural Resources Historic Preservation Division will be notified for appropriate action.

Cultural Resources

The project sites consist of natural features that are in a constant state of change. While the streams are generally dry in the project areas over the course of the year, the streams have always been subject of occasional runoff. It is unlikely that the streams in the area of the project sites served as a natural resource. While the streams may have served as pathways, this use is unlikely given the highly developed state of the surrounding areas.



Kamehameha Highway 16-Inch Water Main
Paumalu and Kaunala Stream Crossings

Flood Insurance Rate Map

Prepared by: Environmental Communications, Inc.
Source: Federal Insurance Management Agency

Figure 9
Page 3-8

The projects are not expected to have any impact on cultural practices. The proposed action will consist of the installation of underground water mains. During the course of construction the streambeds will be temporarily disrupted however this action will not impede of affect the surrounding areas or resources. Upon completion of the installation, the site will be restored to its existing condition. The primary cultural resource at Paumalu site is the beach. Access to this resource will not be affected by the proposed improvements. At the Kaunala site, no significant resources were observed. The condition of the stream suggests that the stream does not serve any purpose other that as a drainage facility of the area.

Flora

The Paumalu site is essentially devoid of any flora within the project alignment. The site is covered with sand with the exception of the stream banks. The stream banks are with beach grass, milo trees, naupaka, koa haole and various weedy species.

The Kaunala site is characterized by a heavy overgrowth of milo and keawe trees, koa haole and various weedy species.

No rare or endangered species of flora were identified on the project sites, and no adverse impacts will occur to flora as a result of the installation of the proposed improvements.

Fauna

The sites do not serve as an endangered wildlife habitat although avifauna, feral cats, dogs and rodents may be found on-site. The streams beds are dry the majority of the year. During periods of water retention, the ponds are subject of mosquito breeding.

4. Infrastructure and Utilities

The proposed improvements are not expected to have a significant impact on existing infrastructure and utilities other than potable water supply.

Vehicular Access and Traffic Conditions

The project sites are located in the Kamehameha right-of-way however all work will not be occurring in the roadway. All work will occur below the Paumalu and Kaunala Bridges. The bridge areas may experience some traffic disruption when construction equipment is moved in and removed however this impact is temporary and not expected to be significant.

Water

The proposed improvements are designed to provide improved water distribution throughout the North Shore area. The existing water lines are inadequate in capacity and in age and are in need of replacement. The new 16-inch lines will ensure excellent water delivery and will minimize the need for repair of the aged, undersized water system.

Wastewater

Wastewater systems will not be affected by the proposed improvements.

Drainage

The Paumalu and Kaunala Streams serve as the major drainage collectors for storm water runoff from the Paumalu and Kaunala Gulches. The gulches collect storm water during heavy rains but the streambeds in the project vicinity remain dry the majority of the year. The proposed improvements will not permanently alter the stream alignments and profiles. During the course on the water main installation, the streambeds will be disrupted by a trench, however this disruption is planned for a dry period and should not affect the stream or stream function.

Solid Waste

Solid waste disposal systems will not be affected by the proposed improvements.

Telephone and Electrical Services

No telephone or electrical services will be affected by proposed project. Telephone and electrical lines in the project vicinity are located overhead.

5. Public Facilities

The proposed project will not have any impact on public facilities including schools, police, and fire or emergency medical services.

Sunset Beach Fire Station Number 11 provides fire protection and first response emergency and rescue service to the project area. The station is located at 59-719 Kamehameha Highway approximately two miles from the project sites. Response time to the sites is less than 5 minutes. This station is served by an engine company with a pumper truck.

Ambulance service for the project vicinity is generally served out of the Kahuku Fire Station with support from the Waialua Station. The nearest medical facilities are located at the Kahuku Hospital and the Wahiawa General Hospital.

Police service is provided by the Honolulu Police Department's Beat 272. Units patrolling the area are part of District 2 which covers the area from Central Oahu to the North Shore. The district's administrative offices are located at the Wahiawa Police Station at 330 North Cane Street.

D. Social and Economic Characteristics

The proposed improvements are considered essential to the continued long-term service of potable water delivery in the North Shore area. The infrastructure improvement is a function of the City and County Board of Water Supply and is considered a standard operation that part of the agency's responsibility and function. The proposed project is not expected to have any direct social impact to the residents of the North Shore.

The project will have beneficial economic impacts. The installation of the water main will create short-term employment, the purchase of goods and services, the generation of excise and income taxes, and other secondary and tertiary effects as a result of the project expenditures.

E. Relationship to Plans, Codes and Ordinances

The project site is located in the State of Hawaii Kamehameha Highway right-of-way. As such, the site is not directly zoned. Areas adjacent to the site are in R-5 Residential and P-2 General Preservation. The State Land Use Boundary Maps show the project locations to be in Urban use. The project area is subject to the North Shore Sustainable Communities Plan. The project is located within the Special Management Area (SMA) boundaries and is subject of a previously approved Special Management Area Permit (SMP).

The U.S. Army Engineer District, Honolulu has determined that the project is subject to Section 404 of the Clean Water Act therefore a Department of the Army permit will be required.

Along with the Section 404 permit, as State 401 Clean Water permit will be required. The State of Hawaii Commission on Water Resource Development has determined that the project site is not considered a stream therefore a Stream Channel Alteration Permit (SCAP) will not be required. A National Pollutant Discharge Permit (NPDES) will be required for the proposed improvements. This process is administrated by the State Department of Health.

The proposed improvements will require grading and building permits from the City and County of Honolulu, Department of Planning and Permitting, as well as a Discharge Permit for any pumped waters. Work on the proposed improvements

will not commence until the grading and building permits and the environmental assessment process are completed.

Permits required for the proposed action include:

- Department of the Army Section 404 Clean Water Permit
- State Department of Health Section 401 Clean Water Permit
- State Department of Health Stream Channel Alteration Permit (Kaunala Stream only).
- State Department of Health National Pollutant Discharge Permit
- City and County of Honolulu Grading Permit
- City and County of Honolulu Building Permit
- City and County of Honolulu Discharge Permit

City and County of Honolulu General Plan

The General Plan for the City and County of Honolulu consists of the primary objectives and policies used to plan for Oahu's future. This broad policy document relates to the subject project through Objective Sections B, C and D. The proposed project is consistent with and supports the following:

Objective B
To meet the needs of the people of Oahu for an adequate supply of water and for environmentally sound systems of waste disposal.

Policy 1
Develop and maintain an adequate supply of water for both residents and visitors.
Policy 2
Develop and maintain an adequate supply of water for agricultural and industrial needs.

Objective C
To maintain a high level of service for all utilities.

Policy 1
Maintain existing utility systems in order to avoid major breakdowns.
Policy 2
Provide improvements to utilities in existing neighborhoods to reduce substandard conditions.
Policy 3
Plan for the timely and orderly expansion of utility systems.

Objective D
To maintain transportation and utility systems which will help Oahu continue to be a desirable place to live and visit.

Policy 1
Give primary emphasis in the capital- improvement program to the maintenance and improvement of existing roads and utilities.
Policy 4
Evaluate the social, economic, and environmental impact of additions to the transportation and utility systems before they are constructed.

North Shore Sustainable Communities Plan

The North Shore Sustainable Communities Plan is was developed from the General Plan policies for the region as well as community input. This plan includes the policies, principles and guidelines that direct future land use decisions and natural resource management policies for the North Shore. Two chapters contain specific objectives that address the intent of the proposed project.

Section 2.2.7 specifically states:

2.2.7 Provide Adequate Public Infrastructure, Facilities, and Services
Public agencies and private developers should work together to provide adequate infrastructure and needed facilities and services for residents and workers in the area. Infrastructure should not detract from scenic amenities, recreational opportunities, open space, or other amenities. New major facilities should be centrally located. Adequate, environmentally sensitive wastewater treatment systems, with minimal impact on groundwater and ocean resources, to meet residents' and visitors' needs, should be a high priority. In addition to improving drainage controls to mitigate storm runoff and flood hazards, adequate infrastructure for drainage systems should be established and maintained to ensure continuous runoff. Fields in agricultural production should implement Best Management Practices (BMPs), including those recommended in the State Coastal Nonpoint Pollution Control Program, to minimize soil erosion.

Section 4.2 makes specific references to the Water System. The project is consistent with this section and specific reference to the proposed action is made as follows:

A proposed 16-inch main along Kamehameha Highway from Pupukea to Sunset Beach and the proposed Mokuleia and Kawaihapai Well are projects currently included in the BWS's sixyear capital improvement program (CIP) for FY1998 to FY2003. The CIP also includes plans to improve the water quality of the Haleiwa and Waialua systems with the installation of granulated activated carbon contact tanks to remove trace amounts of pesticides from the water.

The proposed action is consistent with both the General Plan and the North Shore Sustainable Communities Plan.

F. Probable Impact on the Environment

The proposed action will not result in any long-term change in the Paumalu and Kaunala project sites. As previously stated, the proposed replacement water mains will be installed underground. Installation will require the excavation of trenches to install the line however the trench areas will be filled and restored back to their respective natural condition. Disturbed streambanks will be restored to their original condition. When landscaping and re-vegetating, native and indigenous plan species will be used whenever possible. The proposed action will have some short-term construction related impacts however these will not last longer than the duration of construction.

Indirectly, the proposed improvements will provide a long-term benefit to the community and environment. The one-time installation will decrease the need for water main repairs on the existing, aged water supply system. The size of the proposed water mains is larger than the existing water mains. This additional size is required for good water delivery service in the district but precludes the installation of the water main on the bridge. The installation of the line under ground is more disruptive but not considered significantly adverse in environmental impact.

G. Adverse Impacts Which Cannot be Avoided

Adverse impacts that cannot be avoided are generally related to short-term construction activities. These impacts can be minimized by sound construction practices, adherence to applicable construction regulations as prescribed by the Department of Health, and coordination with applicable State and County agencies.

H. Alternatives to the Proposed Action

Alternatives considered for the project consisted of variations of the proposed water main installation. Alternatives considered include the installation of the replacement water main beneath the bridge structures in a similar fashion as the existing water mains, and the underground installation of the replacement water main through a micro-tunneling process.

The bridges were inspected for the possibility of locating the replacement water main on hangers as similarly done at present. It was determined that the proposed mains are too large for the existing bridge structures. If the mains were to be installed on the bridge, the cost of reinforcement of the bridge would be cost prohibitive.

A second alternative consisted of the installation of the water main underground through a tunneling process. This method would be less disruptive to the streambeds but would be significantly more costly than the open trench installation method. The streams are not perennial nor are they wild life habitats in the project area therefore it was determined that an open trench installation is warranted and cost efficient.

The no-action alternative was not considered as non-action would continue water service in the area with an aged, undersized water main system that would be in need of short-term replacement or repair.

I. Mitigation Measures

Long-term impacts resulting from the proposed improvements are expected to be minimal or non-existent based upon the subject environmental assessment. Long-term traffic, air and noise impacts are not expected to change significantly after improvements are completed. Short-term construction related noise and air quality impact mitigation measures include general good housekeeping practices and scheduled maintenance to avoid a prolonged construction period. The contractor will be directed to use best management practices (BMP) wherever applicable.

Examples of BMPs that may be implemented include silt fences, stabilized construction entrances, inlet protection, surface covering, vegetative stabilization and hydromulching, filter berms, sediment traps and sediment basins. All waste materials will be securely contained and appropriately disposed.

The project contractor will be directed to comply with the rules relating to Soil Erosion Control Standards and the Guidelines and Rules Relating to Storm Drainage Standards. The BMPs that have been specified for the project include: drainage inlet filters that will be monitored for adequate screening of debris into the storm drain system, silt fencing and dust screening, installation of temporary access points, grassing of graded areas as soon as possible, site inspection and clean up of accumulated debris.

J. Irreversible and Irretrievable Commitment of Resources

Implementation of the proposed project will result in the irreversible and irretrievable commitment of resources in the use of non-recyclable energy expenditure and labor. Materials used for new construction may have salvage value; however, it is unlikely that such efforts will be cost-effective. The expenditure of these resources is offset by gains in construction-related wages, increased tax base and tertiary spending.

IV. FINIDNGS AND REASONS SUPPORTING FINDING OF NO SIGNIFICANT IMPACT

As stated in Section 11-200-12, EIS Rules, Significance Criteria: in determining whether an action may have a significant effort on the environment, every phase of a proposed action shall be considered. The expected consequences of an action, both primary and secondary, and the cumulative as well as the short-term and long-term effects must be assessed in determining if an action shall have significant effect on the environment. Each of the significance criteria is listed below and is followed by the means of compliance or conflict (if extant).

- Involves the loss or destruction of any natural or cultural resource.

The proposed action will occur within existing streambeds. These streams are non-perennial and are not expected to be significantly impacted after the completion of construction. The water main installation is not expected to significantly impact any special natural areas or cultural resources.

- Curtails the range of beneficial uses of the environment.

The proposed installation will not curtain any beneficial uses of the environment. The project areas are not generally used by the public nor are they known to be recreational or cultural resources. Upon completion of proposed action, the project locations will be restored back to their original condition.

- Conflicts with the State's long-term goals or guidelines as expressed in Chapter 343, Hawaii Revised Statutes.

The proposed action is consistent with the goals and guidelines expressed in Chapter 343, Hawaii Revised Statutes. The proposed action is triggered by the use of State of Hawaii lands and City and County of Honolulu funds. The subject Environmental Assessment has been developed in compliance with the Chapter 343.

- Substantially affects the economic or social welfare of the community or state.

The proposed action will make a positive contribution to the welfare of the City and State by providing an improved water delivery system. This improvement is considered a long-term necessity for the North Shore community.

- Substantially affects public health.

The proposed improvements will positively benefit the residents of the North Shore with an improved water delivery system. The new water main will provide

water in a high capacity, modern water main that is not subject to insufficient capacity or leakage from antiquated pipes.

- Involves substantial or adverse secondary impacts, such as population changes or effect on public facilities.

The proposed action will not produce substantial secondary impacts resulting in population changes or significantly increase in public facilities.

- Involves substantial degradation of environmental quality.

The proposed improvements will not involve the substantial degradation of environmental quality. The improvements proposed will have short-term impact on the environment however this is temporary in nature. The streambeds that will be disrupted are not perennial and no wildlife or faunal resources will be affect by the installation.

- Cumulatively have a considerable effect upon the environment or involve a commitment for larger actions.

The proposed action is not a first phase of any larger action nor will it have a considerable effect on the environment. The proposed improvements are sized to meet existing demand in with a modern appropriately sized water main system.

- Affect rare, threatened or endangered species, or their habitats.

The proposed action will not affect any rare, threatened or endangered species of flora or fauna, nor is it known to be near or adjacent to any known wildlife sanctuaries.

- Detrimentally affect air or water quality or ambient noise levels.

The proposed action is not expected impact air or water quality. Noise levels may increase slightly due to a possible increase in utilization; however, this increase is not expected to exceed levels typically associated with park use.

Minimal impacts on air quality and noise are anticipated during construction. These impacts will be limited by normal construction practices and compliance with Department of Health construction mitigation standards.

Water quality may be impacted during the excavation process if heavy rains occur prior to the closure of the water main trenches. If pumping is required during the course of excavation, appropriate discharge permits will be obtained. During the construction period, no excavation related waters are expected to be directed to the ocean.

- Affect scenic vistas and viewplanes identified in County or State plans or studies.

The proposed action will not affect any scenic vistas or view planes identified by the County or State. The project improvements will be located underground.

- Require substantial energy consumption.

The project will not increase energy consumption. Energy utilization during the construction phase will increase through the use of fossil fuels used by construction vehicles.

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

The project is located in an environmentally sensitive area however the impacts of the project are not expected to have any significant impact on the surrounding sensitive areas. The project is not expected to have any impact on the nearby beaches nor will the improvements affect flood or tsunami zone areas adversely. The improvement areas are prone to erosion during the construction period however Best Management Practices will be implemented to minimize or prevent erosion.

Finding of No Significant Impact

Based on the above stated criteria, the Board of Water Supply (BWS) has determined that the proposed water main installation will not have any significant adverse environmental impacts and that an Environmental Impact Statement is not required for the proposed action. This Final Environmental Assessment will be published in the Environmental Notice as prescribed by Chapter 343 Hawaii Revised Statutes.

V. LIST OF PARTIES CONSULTED PRIOR TO DEVELOPMENT OF THE DRAFT ENVIRONMENTAL ASSESSMENT

Agencies with ministerial or specific interests regarding the proposed project were contacted for their early comments regarding the proposed project.

Department of the Army
U.S. Army Engineer District, Honolulu

Department of Land and Natural Resources
Commission on Water Resource Management
State of Hawaii

Department of Land and Natural Resources
Historic Preservation Division
State of Hawaii

Department of Parks and Recreation
City and County of Honolulu

Department of Planning and Permitting
City and County of Honolulu

Honolulu Fire Department
City and County of Honolulu

Honolulu Police Department
City and County of Honolulu

VI. LIST OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONSULTED DURING THE DRAFT ENVIRONMENTAL ASSESSMENT REVIEW PROCESS

State of Hawaii Agencies	Date of Comment
1. Dept of Business, Economic Development and Tourism, Office of Planning	
2. Dept of Health, Environmental Planning Office	6/30/04
3. Dept of Health, Clean Air Branch	
4. Dept of Health, Clean Water Branch	6/30/04
5. Dept of Health, Noise, Radiation and Indoor Noise Branch	
6. Dept of Land and Natural Resources Historic Preservation Division	6/22/04
7. Dept of Land and Natural Resources Oahu District Land Office	6/16/04
8. Office of Environmental Quality Control	6/22/04
9. Office of Hawaiian Affairs	

City and County of Honolulu Agencies

1. Board of Water Supply	
2. Dept of Design and Construction	8/10/04
3. Dept of Facilities Maintenance	
4. Dept of Parks and Recreation	6/1/04
5. Dept of Planning and Permitting	6/24/04
6. Honolulu Emergency Services Department	
7. Honolulu Fire Department	6/10/04
8. Honolulu Police Department	6/15/04

Community Organizations and Private Agencies

Neighborhood Board No. 27, North Shore

Libraries

Kahuku Public & School Library
Kaneohe Regional Library
Pearl City Regional Library
Municipal Reference and Records Center

LINDA LINGLE
GOVERNOR OF HAWAII

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

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

In reply, please refer to:
EPO-04-116

June 30, 2004

Mr. Ryan Nakata
Board of Water Supply
650 South Beretania Street
Honolulu, Hawaii 96813

Dear Mr. Nakata:

SUBJECT: Draft Environmental Assessment
Kamehameha Highway 16-inch Watermain

Thank you for allowing us to review and comment on the subject document. We have the following comments to offer:

Clean Water Branch Standard Comments Dated 3/2/04

1. The Army Corps of Engineers should be contacted at (808) 438-9258 to identify whether a Federal license or permit (including a Department of Army permit) is required for this project. Pursuant to Section 401(a)(1) of the Federal Water Pollution Act (commonly known as the "Clean Water Act"), a Section 401 Water Quality Certification is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters...."

2. A National Pollutant Discharge Elimination System (NPDES) general permit coverage is required for the following activities:

   a. Storm water associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi).

   b. Construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. **An NPDES permit is required before the commencement of the construction activities.**

   c. Discharges of treated effluent from leaking underground storage tank remedial activities.

   d. Discharges of once through cooling water less than one (1) million gallons per day.

   e. Discharges of hydrotesting water.

   f. Discharges of construction dewatering effluent.

   g. Discharges of treated effluent from petroleum bulk stations and terminals.

   h. Discharges of treated effluent from well drilling activities.

   i. Discharges of treated effluent from recycled water distribution systems.

   j. Discharges of storm water from a small municipal separate storm sewer system.

   k. Discharges of circulation water from decorative ponds or tanks.

   The CWB requires that a Notice of Intent (NOI) to be covered by a NPDES general permit for any of the above activities be submitted at least 30 days before the commencement of the respective activities. The NOI forms may be picked up at our office or downloaded from our website at http://www.state.hi.us/health/eh/cwb/forms/genl-index.html.

3. The applicant may be required to apply for an individual NPDES permit if there is any type of activity in which wastewater is discharged from the project into State waters and/or coverage of the discharge(s) under the NPDES general permit(s) is not permissible (i.e. NPDES general permits do not cover discharges into Class 1 or Class AA receiving waters). An application for the NPDES permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at http://www.state.hi.us/health/eh/cwb/forms/indiv-index.html.

4. Hawaii Administrative Rules, Section 11-55-38, also requires the owner to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD. Please submit a copy of the request for review by SHPD or SHPD's determination letter for the project.

If you have any questions, please contact the CWB at 586-4309.

Environmental Planning Office

The Environmental Planning Office (EPO) is responsible for several surface water quality management programs mandated by the federal Clean Water Act or dictated by State policy . (http://www.state.hi.us/doh/eh/epo/wqm/wqm.htm). Among these responsibilities, EPO:

- maintains the *List of Impaired Waters in Hawaii Prepared under Clean Water Act §303(d)* (http://www.state.hi.us/doh/eh/epo/wqm/303dpcfinal.pdf);
- develops and establishes Total Maximum Daily Loads (TMDLs) for listed waters (suggesting how much existing pollutant loads should be reduced in order to attain water quality standards, please see http://www.epa.gov/owow/tmdl/intro.html);
- writes TMDL Implementation Plans describing how suggested pollutant load reductions can be achieved; and
- conducts assessments of stream habitat quality and biological integrity.

To facilitate TMDL development and implementation, and to assist with our assessment of the potential impact of proposed actions upon water quality, pollutant loading, and biological resources in receiving waters, we suggest that environmental review documents, permit applications, and related submittals include the following standard information and analyses:

Waterbody type and class

1. Identify the waterbody type and class, as defined in Hawaii Administrative Rules Chapter 11-54 (http://www.state.hi.us/doh/rules/11-54.pdf), of all potentially affected water bodies[1].

Existing water quality management actions

2. Identify any existing National Pollutant Discharge Elimination System (NPDES) permits and related connection permits (issued by permittees) that will govern the management of water that runs off or is discharged from the proposed project site or facility. Please include NPDES and other permit numbers; names of permittees, permitted facilities, and receiving waters (including waterbody type and class as in 1. above); diagrams showing drainage/discharge pathways and outfall locations; and note any permit conditions that may specifically apply to the proposed project.

3. Identify any planning documents, groups, and projects that include specific prescriptions for water quality management at the proposed project site and in the potentially affected waterbodies. Please note those prescriptions that may specifically apply to the proposed project.

Pending water quality management actions

4. Identify all potentially affected water bodies that appear on the current *List of Impaired Waters in Hawaii Prepared under Clean Water Act §303(d)* including the listed waterbody, geographic scope of listing, and pollutant(s) (See Table 7 at http://www.state.hi.us/doh/eh/epo/wqm/303dpcfinal.pdf).

5. If the proposed project involves potentially affected water bodies that appear on the current *List of Impaired Waters in Hawaii Prepared under Clean Water Act §303(d)*, identify and quantify expected changes in the following site and watershed conditions and characteristics:
   - surface permeability
   - hydrologic response of surface (timing, magnitude, and pathways)
   - receiving water hydrology
   - runoff and discharge constituents
   - pollutant concentrations and loads in receiving waters
   - aquatic habitat quality and the integrity of aquatic biota

Where TMDLs are already established they include pollutant load allocations for the surrounding lands and point source discharges. In these cases, we suggest that the submittal specify how the proposed project would contribute to achieving the applicable load reductions.

Where TMDLs are yet to be established and implemented, a first step in achieving TMDL objectives is to prevent any project-related increases in pollutant loads. This is generally accomplished through the proper application of suitable best management practices in all phases of the project and adherence to any applicable ordinances, standards, and permit conditions. In these cases we suggest that the submittal specify how the proposed project would contribute to reducing the polluted discharge and runoff entering the receiving waters, including plans for additional pollutant load reduction practices in future management of the surrounding lands and drainage/discharge systems.

Proposed Action and Alternatives Considered

We suggest that each submittal identify and analyze potential project impacts at a watershed scale by considering the potential contribution of the proposed project to cumulative, multi-project watershed effects on hydrology, water quality, and aquatic and riparian ecosystems.

We also suggest that each submittal broadly evaluate project alternatives by identifying more than one engineering solution for proposed projects. In particular, we suggest the consideration of "alternative," "soft," and "green" engineering solutions for channel modifications that would provide a more environmentally friendly and aesthetically pleasing channel environment and minimize the destruction of natural landscapes.

If you have any questions about these comments or EPO programs, please contact Ryan Davenport at 586-4346.

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[1] "Potentially affected waterbodies" means those in which proposed project activity would take place and any others that could receive water discharged by the proposed project activity or water flowing down from the proposed project site. These waterbodies can be presented as a chain of receiving waters whose top link is at the project site upslope and whose bottom link is in Pacific Ocean "oceanic waters," with all receiving waters named according to conventions

established by Chapter 11-54 and the *List of Impaired Waters in Hawaii Prepared under Clean Water Act §303(d)*. For example, a recent project proposed for Nuhelewai Stream, Oahu (a tributary of Kapalama Canal) might potentially affect Nuhelewai Stream, Kapalama Canal, Honolulu Harbor and Shore Areas, and the Pacific Ocean.

Sincerely,

June F. Harrigan-Lum

JUNE F. HARRIGAN-LUM, MANAGER
Environmental Planning Office

c: CWB
EPO
Environmental Communications, Inc.

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

August 10, 2004

Ms. June F. Harrigan-Lum, Manager
Environmental Planning Office
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Dear Ms. Harrigan-Lum:

Subject: Your Letter (EPO-04-116) Dated June 30, 2004, Regarding the Draft Environmental Assessment for the Proposed Kamehameha Highway: 16-Inch Water Main, Paumalu and Kaunala Stream Crossings, Sunset Beach, Oahu, Hawaii

Thank you for reviewing the Draft Environmental Assessment (EA) for the proposed water main stream crossings. We have the following response to your comments:

Clean Water Branch

1. The Army Corps of Engineers (COE) has been contacted regarding the proposed project. The COE has determined that the project improvements are subject to Department of the Army permit.

2. We understand that a National Pollutant Discharge Elimination System (NPDES) permit will be required for the proposed action. The NPDES permit application has been prepared and will be submitted at the appropriate time to ensure that the NPDES permit is obtained prior to the commencement of construction.

3. It is not anticipated that individual permits will be required for the project; however, in the event it is determined that an individual permit is required due to discharge into Class AA receiving waters, an individual NPDES permit application with be filed with your department.

4. We understand that a copy of the Notice of Intent (NOI) or NPDES permit application must be filed with the Department of Land and Natural Resources State Historic Preservation Division. This will be done at the appropriate stage in the permit processing.

Environmental Planning Office

Thank you for your comments regarding water quality standards mandated by the Clean Water Act and state policies. It is the Board of Water Supply's intent to meet all legal requirements regarding water quality. We stand advised regarding the standard information and analyses data requirements and will comply to the best of our ability with your recommendations.

Thank you again for your review and comments. The comments and this response will be included in the Final Environmental Assessment.

If you have any questions, please contact Francis Fung at 748-5710.

Very truly yours,

For CLIFFORD S. JAMILE
Manager and Chief Engineer

cc: Mr. Rand Ide, Sato & Associates, Inc.
/Mr. Taeyong Kim, Environmental Communications, Inc.

LINDA LINGLE
GOVERNOR OF HAWAII

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 16, 2004

KAMHWYDRAIN16BWS>RCM

LD-NAV

Environmental Communications, Inc.
Mr. Taeyong M. Kim
1188 Bishop Street, Suite 2210
Honolulu, Hawaii 96813

Dear Mr. Kim:

SUBJECT: Draft Environmental Assessment for Kamehameha Highway
16-Inch Watermain Paumalu and Kaunala Stream Crossing
Sunset Beach, Island of Oahu, Hawaii
Board of Water Supply City and County of Honolulu

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

A copy of the Draft Environmental Assessment pertaining to the subject matter was distributed or made available to the following Department of Land and Natural Resources' Divisions for their review and comment.

- Division of Aquatic Resources
- Division of Forestry & Wildlife
- Division of State Parks
- Engineering Division
- Commission on Water Resource Management
- Office of Conservation and Coastal Lands
- Land-Oahu District Land Office

Enclosed please find a copy of the Engineering Division and Commission on Water Resource Management comment.

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

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

Very truly yours,

DIERDRE S. MAMIYA
Administrator

C: ODLO

LINDA LINGLE
GOVERNOR OF HAWAII

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

DAN DAVIDSON
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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 3, 2004
KAMHWYDRAIN16BWS.CMT

LD/NAV
Suspense Date: 6/13/04

MEMORANDUM:

TO: *XXX Division of Forestry & Wildlife
*XXX Division of Aquatic Resources
*XXX Division of State Parks
*XXX Engineering Division
*XXX Commission on Water Resource Management
*XXX Office of Conservation and Costal Lands
*XXX Oahu District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Draft Environmental Assessment
Kamehameha Highway 16-Inch Watermain
Paumalu and Kaunala Stream Crossing
Sunset Beach, Island of Oahu, Hawaii
Board of Water Supply City and County of Honolulu

Please review the document pertaining to the subject matter and submit your comments (if any) on Division letterhead within the time requested above.

Note: One copy of the document is available for review in the Land Division Office, Room 220.

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

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

(X) We have no comments.

( ) Comments attached.

Name: MICHAEL G. BUCK, ADMINISTRATOR
Signed: DIVISION OF FORESTRY AND WILDLIFE

Date: JUN 7 2004

LINDA LINGLE
GOVERNOR OF HAWAII

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

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AQUATIC RESOURCES
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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 3, 2004 LD/NAV
KAMHWYDRAIN16BWS.CMT Suspense Date: 6/13/04
05

MEMORANDUM:

TO: *XXX Division of Forestry & Wildlife
*XXX Division of Aquatic Resources
*XXX Division of State Parks
*XXX Engineering Division
*XXX Commission on Water Resource Management
*XXX Office of Conservation and Costal Lands
*XXX Oahu District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

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LAND DIVISION
2004 JUN 14 P 4:30
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

SUBJECT: Draft Environmental Assessment
Kamehameha Highway 16-Inch Watermain
Paumalu and Kaunala Stream Crossing
Sunset Beach, Island of Oahu, Hawaii
Board of Water Supply City and County of Honolulu

Please review the document pertaining to the subject matter and submit your comments (if any) on Division letterhead within the time requested above.

Note: One copy of the document is available for review in the Land Division Office, Room 220.

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

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

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

Name: _____

Signed: _____

Date: _____

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LA/NAV

Ref.: KAMHWYDRAIN16BWS.CMT

COMMENTS

(X) **We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone AE.**

( ) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone ___.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

(X) **Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.**

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

(X) **Mr. Robert Sumimoto at (808) 523-4254 or Mr. Mario Siu Li at (808) 523-4247 of the City and County of Honolulu, Department of Planning and Permitting.**

( ) Mr. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emler at (808) 327-3530 (Kona) of the County of Hawaii, Department of Public Works.

( ) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.

( ) Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

( ) Additional Comments: _____

_____

( ) Other: _____

_____

Should you have any questions, please call Mr. Andrew Monden of the Planning Branch at 587-0229.

Signed: Andrew M. Monden
for ERIC T. HIRANO, CHIEF ENGINEER

Date: 6/10/04

LINDA LINGLE
GOVERNOR OF HAWAII

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 3, 2004 LD/NAV
KAMHWYDRAIN16BWS.CMT Suspense Date: 6/13/04

RECEIVED
2004 JUN 4 P3:21
DEPT OF LAND & NATURAL RESOURCES
STATE OF HAWAII

RECEIVED
2004 JUN 14 P 4:21
WETLAND DIVISION

MEMORANDUM:

TO: *XXX Division of Forestry & Wildlife
*XXX Division of Aquatic Resources
*XXX Division of State Parks
*XXX Engineering Division
*XXX Commission on Water Resource Management
*XXX Office of Conservation and Costal Lands
*XXX Oahu District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Draft Environmental Assessment
Kamehameha Highway 16-Inch Watermain
Paumalu and Kaunala Stream Crossing
Sunset Beach, Island of Oahu, Hawaii
Board of Water Supply City and County of Honolulu

Please review the document pertaining to the subject matter and submit your comments (if any) on Division letterhead within the time requested above.

Note: One copy of the document is available for review in the Land Division Office, Room 220.

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

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

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

Name: Edwin T. Sakoda

Signed: Edwin T. Sakoda

Date: 6/14/04

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON

MEREDITH J. CHING
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JAMES A. FRAZIER
CHIYOME L. FUKINO, M.D.
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YVONNE Y. IZU
DEPUTY DIRECTOR

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

June 14, 2004

TO: Ms. Dede Mamiya, Administrator
Land Division

FROM: Yvonne Y. Izu, Deputy Director
Commission on Water Resource Management (CWRM)

SUBJECT: Draft Environmental Assessment, Kamehameha Highway 16-Inch Watermain, Paumalu and Kaunala Stream Crossing, Sunset Beach, Oahu.

FILE NO.: KAMHWYDRAIN16BWS.CMT

Thank you for the opportunity to review the subject document. Our comments related to water resources are marked below.

In general, the CWRM strongly promotes the efficient use of our water resources through conservation measures and use of alternative non-potable water resources whenever available, feasible, and there are no harmful effects to the ecosystem. Also, the CWRM encourages the protection of water recharge areas, which are important for the maintenance of streams and the replenishment of aquifers.

[ ] We recommend coordination with the county government to incorporate this project into the county's Water Use and Development Plan.

[ ] We recommend coordination with the Land Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.

[ ] We are concerned about the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

[ ] A Well Construction Permit and/or a Pump Installation Permit from the Commission would be required before ground water is developed as a source of supply for the project.

[ ] The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit from the Commission would be required prior to use of this source.

[ ] Groundwater withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.

[ ] We are concerned about the potential for degradation of instream uses from development on highly erodible slopes adjacent to streams within or near the project. We recommend that approvals for this project be conditioned upon a review by the corresponding county's Building Department and the developer's acceptance of any resulting requirements related to erosion control.

[ ] If the proposed project includes construction of a stream diversion, the project may require a stream diversion works permit and amend the instream flow standard for the affected stream(s).

[ ] If the proposed project alters the bed and banks of a stream channel, the project may require a stream channel alteration permit.

[X] OTHER: The installation of the waterline under Kaunala Stream will require a stream channel alteration permit. The Paumalu watercourse is not considered a stream under the Hawaii Water Code definition. Therefore the Paumalu crossing will not require a stream channel alteration permit.

If there are any questions, please contact David Higa 587-0249.

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

August 10, 2004

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

Dear Ms. Mamiya:

Subject: Your Letter Dated June 16, 2004, Regarding the Draft Environmental Assessment for the Proposed Kamehameha Highway: 16-Inch Water Main, Paumalu and Kaunala Stream Crossings, Sunset Beach, Oahu, Hawaii

Thank you for reviewing the Draft Environmental Assessment (EA) for the proposed water main stream crossings. We understand that the following Department of Land and Natural Resources (DLNR) Divisions were requested to review the EA:

- Division of Aquatic Resources
- Division of Forestry & Wildlife
- Division of State Parks
- Engineering Division
- Commission on Water Resource Management
- Office of Conservation and Coastal Lands
- Land-Oahu District Land Office

We have the following response to comments made by the Divisions:

Division of Forestry and Wildlife
We understand this Division does not have any comments.

Engineering Division
We appreciate your confirmation that the project site is located in Flood Insurance Rate Map (FIRM) Zone AE. We also understand that the project action must comply with the National Flood Insurance Rate Program (NFIP). The project will be undertaken in compliance with this regulation. Furthermore, we understand that the project is also subject to local standards which may be more restrictive. Coordination with your designated contacts will be established as the project progresses towards implementation.

Commission on Water Resource Management
We understand that the installation of the waterline under Kaunala Stream will require a stream channel alternation permit. An application for this permit will be filed at the appropriate time prior to the commencement of construction. We also understand that the Paumalu watercourse is not considered a stream under the Hawaii Water Code. A stream channel alteration permit will not be required for this crossing.

Thank you and the respective Divisions for your review and comments. The comments and this response will be included in the Final Environmental Assessment.

If you have any questions, please contact Francis Fung at 748-5710.

Very truly yours,

for CLIFFORD S. JAMILE
Manager and Chief Engineer

cc: Mr. Rand Ide, Sato & Associates, Inc.
Mr. Taeyong Kim, Environmental Communications, Inc.

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
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AQUATIC RESOURCES
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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

June 22, 2004

Ryan Nakata
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96843

LOG NO: 2004.1918
DOC NO: 0406EJ28

Dear Mr. Nakata:

SUBJECT: Chapter 6E-8 Historic Preservation Review – Draft Environmental Assessment Board of Water Supply Kamehameha Highway 16-inch Water Main Paumalu Stream Crossing
Paumalu, Ko`olauloa, O`ahu
TMK: (1) 5-9

Thank you for the opportunity to provide comment on the DEA for the Kamehameha Highway 16-inch Water Mains, Part I, Kaunala and Paumalu Stream Crossing. The DEA in Section II.C.3 accurately reflects our comments that we believe that on-site archaeological monitoring should be carried out in accordance with an approved archaeological monitoring plan. An archaeological monitoring plan was previously submitted and approved for on-call and on-site archaeological monitoring for the BWS waterline work (Bushnell & Hammatt 2000. *Archaeological Monitoring Plan for Work along Kamehameha Highway, from Pūpūkea to Waiale`e, District of Ko`olauloa Island of O`ahu (TMK: 5-8-01, 5-8-03-06, 5-9-01, 5-9-07,-16)* [SHPD Log.25633, June 23, 2000]. Therefore, we believe that if on-site archaeological monitoring is carried out in accordance with the approved archaeological monitoring plan, then any effect the subject project may have on significant historic sites will be mitigated through a program of precautionary monitoring.

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 burial matters, please feel free to contact Kai Markell at 587-0008

Aloha,

P. Holly McEldowney

P. Holly McEldowney, Administrator
State Historic Preservation Division

EJ:jen

c: Taeyong Kim, Environmental Communications, 1188 Bishop St, Ste 221, Hon, HI 96813
Kai Markell, Burials Sites Program
Van H. Diamond, Chair, OIBC

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

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CLIFFORD S. JAMILE
Manager and Chief Engineer

DONNA FAY K. KIYOSAKI
Deputy Manager and Chief Engineer

July 12, 2004

Ms. P. Holly McEldowney, Administrator
Department of Land and Natural Resources
State of Hawaii
601 Kamokila Boulevard
Kapolei, Hawaii 96707

Dear Ms. McEldowney:

Subject: Your Letter Dated June 22, 2004 (Log No. 2004.1918, Doc. No. 0406EJ28) Regarding the Draft Environmental Assessment for the Proposed Kamehameha Highway 16-Inch Water Main, Paumalu and Kaunala Stream Crossings, Sunset Beach, Oahu, Hawaii

Thank you for reviewing the Draft Environmental Assessment (EA) for the proposed water main stream crossings.

We have the following response to your comments:

> On-site and on-call construction monitoring for the Paumalu and Kaunala stream crossings will be carried out in accordance with the approved archaeological monitoring plan. Any impact to significant historical sites will be mitigated through provisions described in the archaeological monitoring plan.

If you have any questions, please contact Francis Fung at 748-5710.

Very truly yours,

Clifford S. Jamile

CLIFFORD S. JAMILE
Manager and Chief Engineer

cc: Mr. Rand Ide, Sato & Associates, Inc.
Mr. Taeyong Kim, Environmental Communications, Inc.

LINDA LINGLE
GOVERNOR OF HAWAII

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186
E-mail: oeqc@health.state.hi.us

June 22, 2004

Mr. Ryan Nakata
Board of Water Supply - City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843

Mr. Taeyong Kim
Environmental Communications Inc.
1188 Bishop Street, Suite 2210
Honolulu, Hawaii 96813

Dear Messrs. Nakata and Kim:

The Office of Environmental Quality Control has reviewed your draft environmental assessment for the Kamehameha Highway 16-Inch Watermain at Paumalu and Kaunala Stream Crossings, Tax Map Key 5-8-003 and 5-9-002, situated in the judicial district of Ko'olauloa and offers the following comments for your consideration and response.

1. ***Native Landscaping***: To the extent that streambanks are disturbed, we recommend revegetation with native and indigenous species. Please refer to "How to Plant a Native Hawaiian Garden " found online at http://www.state.hi.us/health/oeqc/index.html.

Thank you for the opportunity to comment. If there are any questions, please call Mr. Leslie Segundo, Environmental Health Specialist, at (808) 586-4185.

Sincerely,

GENEVIEVE SALMONSON
Director

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

JEREMY HARRIS, Mayor

EDDIE FLORES, JR., Chairman
CHARLES A. STED, Vice-Chairman
HERBERT S. K. KAOPUA, SR.
DAROLYN H. LENDIO

RODNEY K. HARAGA, Ex-Officio
LARRY J. LEOPARDI, Ex-Officio

CLIFFORD S. JAMILE
Manager and Chief Engineer

DONNA FAY K. KIYOSAKI
Deputy Manager and Chief Engineer

July 12, 2004

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

Dear Ms. Salmonson:

Subject: Your Letter Dated June 22, 2004 (Log No. 2004.1918, Doc. No. 0406EJ28) Regarding the Draft Environmental Assessment for the Proposed Kamehameha Highway 16-Inch Water Main, Paumalu and Kaunala Stream Crossings, Sunset Beach, Oahu, Hawaii

Thank you for reviewing the Draft Environmental Assessment (EA) for the proposed water main stream crossings.

We have the following response to your comments:

Disturbed stream banks will be restored to their original condition. When landscaping and re-vegetating, we will comply with your request to use native and indigenous plant species. This requirement will be added to the Final EA and the project contract specifications.

If you have any questions, please contact Francis Fung at 748-5710.

Very truly yours,

For CLIFFORD S. JAMILE
Manager and Chief Engineer

cc: Mr. Rand Ide, Sato & Associates, Inc.
Mr. Taeyong Kim, Environmental Communications, 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
WEB SITE ADDRESS: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

CDP 04-0115

August 10, 2004

MEMORANDUM

TO: CLIFFORD S. JAMILE, MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

ATTN: MR. RYAN NAKATA

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

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
KAMEHAMEHA HIGHWAY 16-INCH WATERMAIN
PAUMALU AND KAUNALA STREAM CROSSINGS
SUNSET BEACH, OAH, HAWAII

We have reviewed the above Draft EA and have no comments.

If there are any questions, please contact Gregory Sue at extension 6304.

GS:dk

cc: Environmental Communications, Inc.

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

August 19, 2004

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

FROM: for CLIFFORD S. JAMILE

SUBJECT: YOUR MEMORANDUM DATED AUGUST 10, 2004, REGARDING THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED KAMEHAMEHA HIGHWAY: 16-INCH WATER MAIN, PAUMALU AND KAUNALA STREAM CROSSINGS, SUNSET BEACH, OAHU, HAWAII

Thank you for reviewing the Draft Environmental Assessment (EA) for the proposed water main stream crossings. We note that your Department has no comments to offer.

If you have any questions, please contact Francis Fung at 748-5710.

cc: Mr. Rand Ide, Sato & Associates, Inc.
Mr. Taeyong Kim, Environmental Communications, Inc.

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4414 • FAX: (808) 527-6743 • INTERNET: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

ERIC G. CRISPIN, AIA
DIRECTOR

BARBARA KIM STANTON
DEPUTY DIRECTOR

KATHY SOKUGAWA
ACTING DEPUTY DIRECTOR

2004/ELOG-1120 (MH)

June 24, 2004

TO: CLIFFORD S. JAMILE, MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

ATTN: RYAN NAKATA
BOARD OF WATER SUPPLY

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

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE KAMEHAMEHA HIGHWAY 16-INCH WATERMAIN PAUMALU AND KAUNALA STREAM CROSSINGS, SUNSET BEACH, OAHU, HAWAII

In response to your request for comments of May 23, 2004, we have reviewed the subject Draft Environmental Assessment and have the following comments to offer:

1. Regarding E. Relationship to Plans, Codes and Ordinances, page 3-11, the Final Environmental Assessment (FEA) should include a discussion on how the proposed project is consistent with the objectives and policies of the General Plan.

2. The FEA should also include a discussion on how the proposed project is consistent with the North Shore *Sustainable* Communities Plan (SCP) instead of stating that the project area is subject to the plan. The North Shore SCP mentions replacement of the water lines in providing reliable water service to the community. Please refer to Chapter 2 (The Vision for North Shore's Future) and Chapter 4 (Public Facilities and Infrastructure Policies and Principles) of the North Shore *Sustainable* Communities Plan.

3. The proposed 16-inch watermain is not a type of facility that requires a Public Infrastructure Map (PIM) revision. Therefore, a revision to the North Shore PIM is not required.

4. The FEA should include more details about the construction phase such as how long will this project take to complete, and the hours of construction during the day/evening.

5. With regard to the potential impact to near shore waters, what measures are being taken to mitigate problems associated with heavy rains/flooding during construction or when a flood occurs prior to completion?

6. The FEA should provide a listing of other permits and/or approvals required.

Should you have any questions, please contact Matt Higashida of our staff at 527-6056.

EGC:js

cc: Mr. Taeyong Kim, Environmental Communications, Inc.

P:\Planning\DivFunction\Ea-eis\2004\Kamehameha Highway 16-Inch Watermain.doc

the story of a woman renowned for her ability to catch octopus, who went fishing in the waters of Paumalū and did not heed the warnings of the old man on the beach. She fished for more than her share and was attacked by the guardian shark of Paumalū, thus the name Paumalū or "taken by surprise" (in Sterling and Summers, 1978:145). The second myth recounts the story of the making of Kahikilani, now referred to as Washington Stone for its likeness to President Washington and his triangular hat. Kahikilani was a surfer who braved the surf of Paumalū and was lured to his love by her messenger birds with *lehua lei*. He was turned to stone when he betrayed his love by kissing an admirer who offered him an *ilima lei* (Raphaelson, 1929).

Kaunala is little referred to in the literature. Handy describes Kaunala as not having "sufficient flatlands for taro cultivation under the old system" (Handy and Handy, 1972: 462). In contrast, neighboring Waiale`e *Ahupua`a* was able to support some agriculture. In referring to the early mid-1800's John Papa `Ī`ī revealed that "Waiale`e was a delightful land, well provisioned. There was a pond (Kalou) there, surrounded by taro patches and there were good fishing places inside the reef" (`Ī`ī, 1959:24). In the early to mid 1900's Waiale`e *Ahupua`a* and surrounding *ahupua`a* were briefly described:

> The other was in Waiale`e, next before Kaunala, where there were another small group of terraces anciently named Kaneali`i. In `Opana the legend is told that the gods Kane and Kanaloa struck spring water from a rock known as Wai-kana, to give life to this hitherto waterless region around Kawela Bay (Handy and Handy 1972:462-463).

A second version refers to the fishpond as Kalouwai and names two demigods, Malae Kahana and Laleikawai as its creators (Apple and Kikuchi, 1975). A pond was formed when these two demigods dug a fishhook out of the ground. The richness of myths, historical accounts and the Land Commission Awards surrounding the fishpond attest to its continued significance through time.

Aside from the mythological reference to the *ahupua`a* situated between Waimea and Kahuku, there is little information about the pre-history or early contact period of these areas. The following information is gleaned off of what is known to have happened at Waimea. In the early 1800s, Waimea became a principal harbor for the sandalwood trade (Takemoto, 1974). An account by Kamakau describes the stripping of sandalwood from *mauka* areas above Waialua and Waimea (Kamakau, 1961: 278-279).

> After Kahala-i`a's death all repaired to the uplands of Waialua adjoining Waimea, to upper Kolokini, Wao`ala, `Aikanaka, Kaloka in upper Makeleha, and to upper Mokule`ia, to cut sandalwood...Such a huge amount of sandalwood was cut that they could not load it all onto their own ships and had to put part on a Portuguese three-masted to carry to Honolulu.

There is a good chance that the uplands of adjoining Pūpūkea, Paumalū, Kaunala and Waiale`e *Ahupua`a* were also clear-cut of this profitable tree.

In 1832, a mission station was established in Waialua to service the Ko`olau and Waialua districts (Takemoto, 1974). It is uncertain the effect the mission would have had on the outreaches of Pūpūkea, Paumalū, Kaunala and Waiale`e. One clear benefit of the Waialua

Mission though, was the records maintained by the missionaries. In the 1832 census, the population of the island of O`ahu was recorded as 29,755 with the population of the Ko'olauloa district at 2,891 (Schmitt 1977:12-13). By 1853, the population of Ko`olauloa was 1, 345, less than half of what it was twenty years before. The missionary stationed at Waialua, Emerson, reported 298 deaths in October 1848 at Ko`olau and Waimea as a result of influenza, measles and whooping cough (Waialua Station Reports, 1863). This information suggests that, like most of the Hawaiians, the inhabitants of Ko`olauloa were suffering terribly from disease.

B. Māhele and Land Commission Award Documentation

The Organic Acts of 1845 and 1846 initiated the process of the *Māhele* - the division of Hawaiian lands - which introduced private property into Hawaiian society. In 1848 the crown and the *ali`i* (royalty) received their land titles. *Kuleana* awards for individual parcels within the *ahupua`a* were subsequently granted in 1850. One hundred nineteen Land Commission Awards (LCAs) for individual parcels were recorded in Waiale`e, Kaunala, Paumalū and Pūpūkea *Ahupua`a* of which 69 were awarded. Twenty four *kuleana* or portions thereof are adjacent to or within the present project area (Figure 4). These consist of LCAs 5767, 2905, 7420, 4322, 3950, 8051, 10238, 7421, 10984, 9976, 10284, 11010, 3944, 4323, 8039, 4723, 2736, and 2904 in Pūpūkea, LCAs 2777, 4013, 3950, and 4011 in Paumalū and LCAs 2921 and 2877 in Waiale`e.

Though no specific population numbers are available for Pūpūkea, Paumalū, Kaunala, and Waiale`e, based on mid 1800's *kuleana* data, this part of the Ko`olauloa district was fairly populous, particularly Waiale`e. A significant number of the claimants claimed lands in multiple *ahupua`a* within the district. Notably, two patterns emerged: residents of Pūpūkea claimed *lo`i* in the adjoining *ahupua`a* of Waimea and residents of Paumalū and Kaunala claimed *lo`i* in neighboring Waiale`e. There are no claims for taro *lo`i* in Kaunala and Paumalū *Ahupua`a* and very few for Pūpūkea. This suggests that the lack of water resources in Kaunala, Paumalū and Pūpūkea led to considerable mobility of the inhabitants who traveled between multiple *ahupua`a* in order to gain the maximum access to a variety of resources.

Records indicate the *ahupua`a* between Waiale`e and Waimea focused on sweet potato production, cultivating upland *kula* gardens with *wauke*, *noni*, bananas, breadfruit, and sugar cane. Other claimed plant resources mentioned include *`ōhia*, *hala*, *`alani* (orange), gourds, *ti*, *pili* grass, and tobacco. Several claims for fisheries and salt pans were made along the coast implying an abundance of marine resources in this area. In addition, several claims for *koa* canoe trees suggest *koa* canoes were a valuable resource in the Pūpūkea, Paumalū and Kaunala area and one which the area was noted for.

The location and information of the LCAs reflect primarily a coastal settlement where the emphasis was on the procuration of marine resources supplemented by sweet potato cultivation and upland *kula* areas with a variety of resources. The exception to this pattern was Waiale`e *Ahupua`a*, which had its own supply of water and along with Waimea *Ahupua`a*, located southwest of Pūpūkea, supplied the drier intermediary *ahupua`a* with *lo`i* lands for taro production. The large numbers of LCAs in Waiale`e and Waimea attest to their importance as taro production areas.

The distribution of LCAs in Pūpūkea is unique. Unlike the typical traditional assignment of land boundaries based on the location of *lo`i*, *kula* lands, *`auwai*, house sites, rock walls, known landmarks and other geographical or human made features, the nineteen awards have all been consolidated into one large piece of land, each LCA a narrow strip of land extending from the sea cliffs to just *makai* of the Kamehameha Highway (Figure 4). This seems to be a non-traditional approach to land claim awards and the reason for this arrangement of LCAs in Pūpūkea is unknown. It is probable that these LCAs do not contain the same historic/pre-historic occupation features that most LCAs have.

C. 1850-1900

An eighteenth-century government document on land matters (on file at the Hawai`i State Archives) to Jonah Pi`ikoi, (1804-1859) who was a Kaua`i chief, lists the "lands of the King entitled to prohibited fish on the Island of Oahu, pali Ko`olau-poko and Loa." The document, in the English translation, notes: "Waielee Ahupuaa pali koolauloa, the fish is squid." However, other records in the archives make it clear that actually the octopus (*he`e*) was made *kapu* by the king. The document, though undated, was likely written in the mid-1800s. and suggests that octopus was abundant and a treasured resource of Waiale`e. The list also included other *ahupua`a's kapu* resources, such as Paumalū with the *`alalauā* (young *`aweoweo, Priacanthus sp.*), and Pūpūkea's *kapu* fish was the *uhu* (parrot fish).

The Oahu Railway & Land (O.R.&L.) Company, organized by Benjamin Dillingham in 1889, was designed to connect outlying areas of O`ahu to Honolulu. During the last decade of the 19th century, the railroad would reach from Honolulu to Pearl City in 1890, to Wai`anae in 1895, to Waialua Plantation in 1898, and to Kahuku in 1899 (Kuykendall 1967:100) thus the portion of the (O.R.&L.) through the project area was one of the last to be constructed.

In 1890, James Castle and Alexander Young started the Kahuku Sugar Company. In 1892 the first crop was harvested producing 4,356 tons of sugar annually. The mill camp became Kahuku's first 'modern' community, also at this time thirty miles of plantation railroad construction began (Dorrance 1998:120). The O.R. & L. and the Kahuku Plantation became the dominant economic impetus' in this portion of Ko`olauloa.

D. 1900 to Present

According to the government census of 1900 there were 2,372 persons living in the Ko`olauloa District with the increase related to plantation-organized immigration (Schmitt 1977: 12-13). The district population continued to increase dramatically in subsequent years due to the influx of immigrant plantation workers. By 1970, there were 10,562 persons in the Ko`olauloa District. The immigrant population was probably concentrated mostly in the Kahuku area and adjoining *ahupua`a*, although the cane fields extended into Waiale`e.

The Railroad was also a focus of economic activity. In the early 1900s, avocados grown in the Pūpūkea highlands were hauled down to the Railroad to be transported to central markets (Clark, 1977). The land was later used to grow pineapples, which were also transported by rail to be sold. Further north in Waiale`e, the major entity of change was the Waiale`e Training School For Boys. Started in 1903, this school was used to train boys

in agriculture and animal husbandry. The school was in use until the 1950s (Schmitt 1977:255). Presently, Crawford Convalescent Home uses a portion of the old School grounds. The University of Hawai`i Experimental Station also utilizes the former school grounds as pasture land and some of the buildings as farm buildings.

In 1928, contracts were awarded to complete work on the construction of Kamehameha Highway including sections of the Waimea Bridge and 5 miles north and from this point one mile more to Waiale`e Boys School (Report to the Governor by the Superintendent of Public Works, 1931: 30-31). According to these records, this road work was completed in 1931.

This area of the Ko`olauloa District was also used for defense reasons during World War II. Kahuku was designated by the army to house four eight-inch cannons between the mill and the shore. The army also constructed a landing strip for fighter planes which was abandoned in 1950 (Dorrance 1998:121). In addition, several defense structures were constructed along the sea cliffs and in the uplands of Pūpūkea, Paumalū and Kaunala.

On April 1, 1946 the Hawaiian Islands experienced one of the worst *tsunamis* in its history. The *tsunami* caused much property damage and loss of life. Paumalū was devastated by the natural disaster. Records indicate that at Paumalū, the water rose 23 feet above sea level and threw sections of the railroad track inland across the adjacent highway (Shepard 1959:421). About one mile northeast of Waiale`e, Kawela Bay was also devastated.

The O`ahu Railway & Land Company went out of business on December 31, 1947 and the railway line through the Ko`olauloa District was discontinued (Condé & Best 1972:299). One cause of the railways closure was the damage to the rail line from the 1946 tsunami. Beachfront property along Sunset Beach became popular as country houses for Honolulu city dwellers (Clark, 1977: 125). In the sixties and seventies, the surf along these shores became known as some of the best in the world and since then, has attracted surfers and tourists.

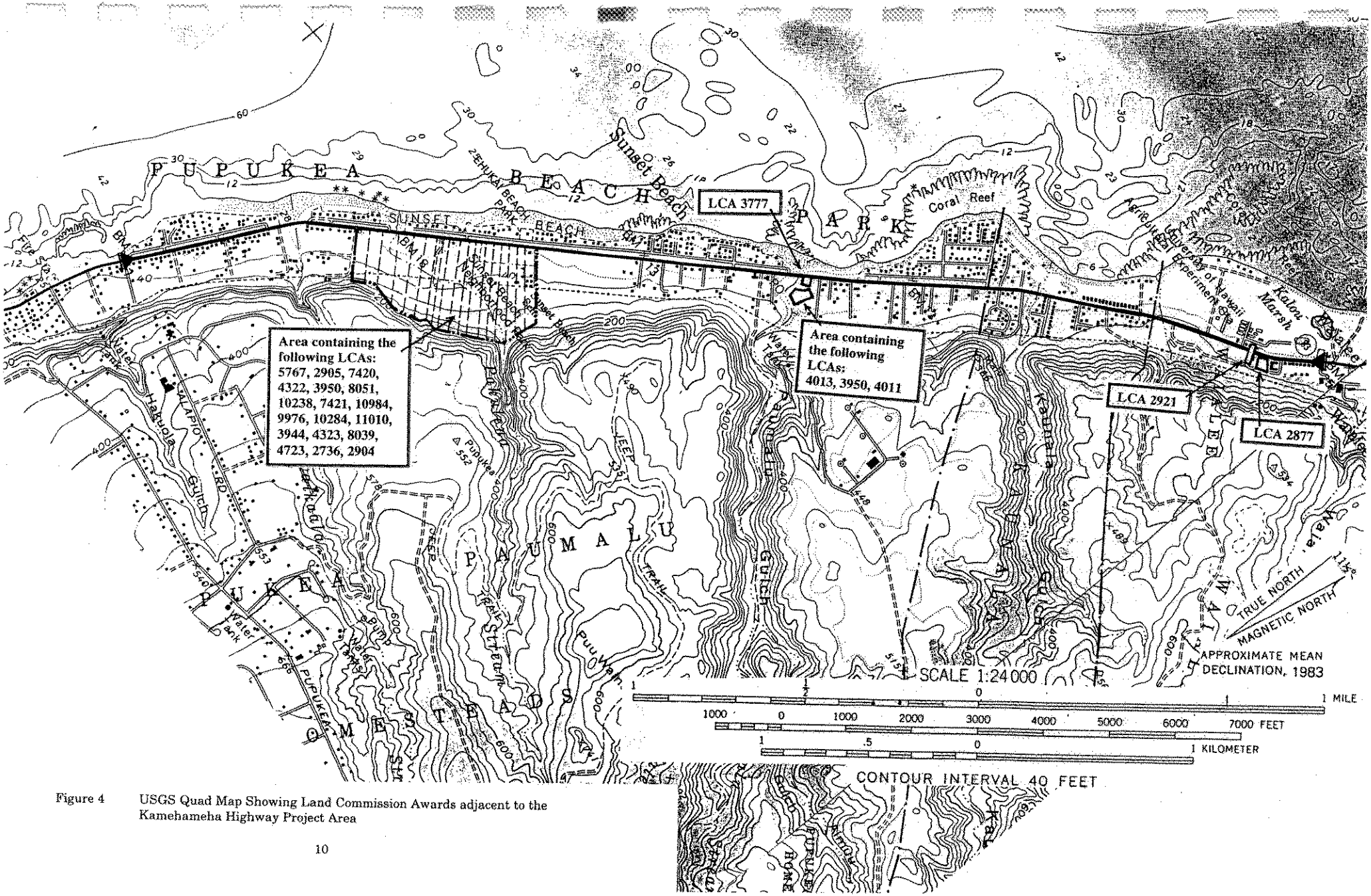

Figure 4 USGS Quad Map Showing Land Commission Awards adjacent to the Kamehameha Highway Project Area

Table 1. Archaeological Sites near Project Area

State Site No.	Source	Site Name	Site Type
50-80-01-0255	McAllister, 1933: 151	Pele Follower Stones	Natural Basalt Outcrop with Legendary Significance
[redacted]	SHPD Burial Files	Ke-Iki Rd Burial	Human Burial
[redacted]	Kawachi, 1989	Monet Burial and Hearth	Human Burial and Fire Hearth
[redacted]	Kawachi, 1988	Ke-Iki Rd Burial	Human Burial
50-80-01-3364	Denison, 1979		Historic Enclosure
50-80-01-2353	Cox and Stasack, 1988	Sunset Beach Petroglyphs	Petroglyphs carved in Sandstone Reef
50-80-01-3822	Mayberry and Haun, 1988: 23	Sunset Beach Modified Outcrop	Modified Basalt Outcrop
[redacted]	Griffin, 1991	`Ehukai Burial	Human Burial and Cultural Layer
50-80-01-3821	Mayberry and Haun, 1988: 22	Sunset Beach Agricultural Site	Alignment and Basalt Scatter
50-80-01-3827	Mayberry and Haun, 1988: 28	Sunset Beach Modern Well	Partially stone-lined well dug into limestone bedrock
[redacted]	Colin/CSH (pers. comm, June, 2000)	Ke-Nui Rd Burial	Human Burial
50-80-01-3830	Mayberry and Haun, 1988: 29	Sunset Beach Irrigation Ditch	Irrigation Ditch, may be associated with sugarcane activities
50-80-01-3828	Mayberry and Haun, 1988: 28	Pākūlena Irrigation Ditch	Irrigation Ditch associated with sugarcane industry

50-80-01-3823	Mayberry and Haun, 1988: 23	Pūpūkea U-Shaped Earthen Berm	Earthen Berm associated with sugar industry
50-80-01-5585	Athens and Magnuson, 1998: 33	Paumalū Cultural Layer	Cultural Layer; Historic and Prehistoric artifacts collected
50-80-01-5586	Athens and Magnuson, 1998: 33	Paumalū Cultural Layer	Cultural Layer; prehistoric
[redacted]	Yent, 1979	Sunset Beach Burial	Human Burial
[redacted]	Komori, 1992	Sunset Beach Burial	Human Burial
[redacted]	Collins, 1997	Sunset Point Burial	Human Burial
50-80-01-0256	McAllister, 1930: 151	Washington Stone, Kahikilani	Natural basalt outcrop with legendary significance
50-80-01-5790	Souza *et al.*, 2000: 26	Waiale`e Cultural Layer	Cultural Layer; mixed modern, historic and prehistoric
50-80-01-0257	McAllister, 1930: 152	Kalou Fishpond	Fishpond
[redacted]			

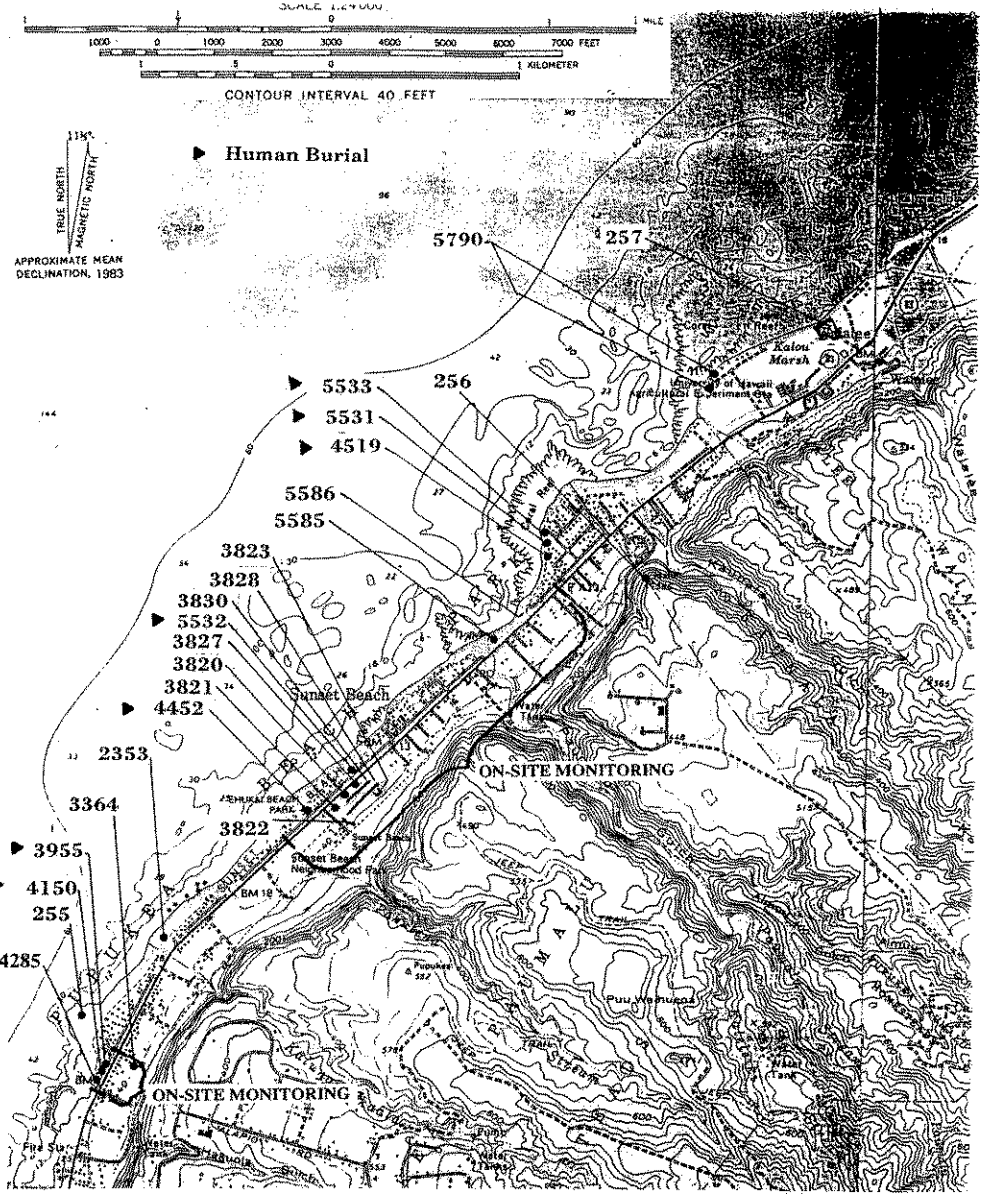

Figure 5 USGS Quad Map Showing State Site Numbers for Archaeological Sites and Recorded Burials Near the Project Area and Sections of Proposed On-Site Monitoring Within Project Area.

V. Reasons for and Extent of Monitoring

The Chapter 6E-8 Historic Preservation Review-Kamehameha Highway 16-inch Water Main, Parts II and III and IV (Sunset Beach) Pūpūkea, Paumalū, Kaunala, O`ahu, TMK: 5-9-5 thru 5-9-16) conducted by the State Historic Preservation Office has found the proposed project area to contain human burials and cultural layers, particularly in association with Jaucas soils (Log No: 25448, Doc No: 0005EJ16; see Appendix A). They conclude that portions of the project area underlain by Jaucas soils are more likely to contain significant subsurface historic sites and recommend a combination of on-site and on-call archaeological monitoring in part on consideration of soil types. In our review of archaeological work of the proposed project area, human burials found in the vicinity of the project area were exposed in sediments from Jaucas soils (JaC) series and from the Waialua silty clay series (WkB). Inadvertent burials have been recorded in three concentrations near the proposed Kamehameha Highway subsurface construction activities. From northeast to southwest (See Figure 5), these concentrations are:

(1) Paumalū *Ahupua`a,* three separate burials (-5533, -5531, and -4519) were exposed along the banks of beachfront property due to erosion. These burials are located at Sunset Beach TMK: 5-9-01: 38, 57 and 80. These burials were interred in Jaucas sands and were more than 500 m. from Kamehameha Highway.

(2) Paumalū *Ahupua`a,* two burials (-5532 and -4452) were inadvertently disturbed, one at `Ehukai Beach Park and one along Ke-Nui Road, TMK: 5-9-20: 22 & 23, 5-9-19:60. These burials were found in Jaucas sands and were less than 100 m. from Kamehameha Highway.

(3) Pūpūkea *Ahupua`a*, three burials (-3955, -4150 and -4285) were inadvertently disturbed, all of them on land adjacent to Ke-Iki Road, TMK:5-9-03:12, 29, and 46. These burials were located in Waialua silty clays and were less than 100 m. from Kamehameha Highway.

Based on considerations of soils likely to contain burials and cultural layers and the actual locations of previously recorded inadvertent burial finds, we make the following recommendations (Figure 5):

A. On-site monitoring for a section of Kamehameha Highway from the southwestern point of Pu`ula Road to the northeastern point of Kumupali Road in Pūpūkea. Although, this area does not contain Jaucas sands, the concentration of burials exposed on Ke-Iki Street, not more than 100 m. west of Kamehameha Highway, warrants monitoring.

B. On-site monitoring for a section of Kamehameha Highway from the southwestern point of Sunset Beach Neighborhood Park to a point 150 m. northeast of the turn off onto Hoalua Road (turns *makai).* This area is known to contain Jaucus sands and previously recorded burials.

C. On-call monitoring for the remaining sections of the project area.

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

August 10, 2004

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

FROM: for CLIFFORD S. JAMILE

SUBJECT: YOUR MEMORANDUM DATED JUNE 24, 2004, REGARDING THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED KAMEHAMEHA HIGHWAY: 16-INCH WATER MAIN, PAUMALU AND KAUNALA STREAM CROSSINGS, SUNSET BEACH, OAHU, HAWAII

Thank you for reviewing the Draft Environmental Assessment (EA) for the proposed water main stream crossings. We have the following response to your comments:

1. The Final Environmental Assessment (FEA) will be revised to include a discussion on how the proposed project is consistent with the objectives and policies of the City and County of Honolulu General Plan.

2. The FEA discussion regarding the Sustainable Communities Plan will be expanded and will cite the specific sections regarding the replacement of water lines.

3. We understand that the proposed improvements will not require a Public Infrastructure Map (PIM) revision. This will be stated in the FEA.

4. The FEA will include more details regarding the phasing of the proposed improvements and the hours of construction.

5. Normal construction period events are mitigated by Best Management Practices that will be required of the contractor. We understand that near shore waters can be impacted by heavy rains and flooding. While extraordinary events cannot be prevented, every construction mitigation effort is made to prevent any impacts during typical construction period events. National Pollutant Discharge Elimination System permits are required for the proposed action and specific mitigation measures will be provided in these documents.

6. A list of other permits and approvals required for the proposed project will be included in the FEA.

Thank you again for your review and comments. The comments and this response will be included in the Final Environmental Assessment.

If you have any questions, please contact Francis Fung at 748-5710.

cc: Mr. Rand Ide, Sato & Associates, Inc.
Mr. Taeyong Kim, Environmental Communications, Inc.

June 1, 2004

Mr. Ryan Nakata
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96843

Dear Mr. Nakata:

Subject: Draft Environmental Assessment Kamehameha Highway 16-Inch Watermain Paumalu and Kaunala Stream Crossing Sunset Beach, Oahu, Hawaii

Thank you for the opportunity to review and comment on the Draft Environmental Assessment relating to the 16-inch Watermain at Paumalu and Kaunala Steam Crossings project.

The Department of Parks and Recreation has no comment on this proposed project and as this project wills not impact any facilities or programs of this department, you can delete us a consulted party to the balance of the EIS process.

Should you have any questions, please contact Mr. John Reid, Planner, at 692-5454.

Sincerely,

W. D. Balfour, Jr.

WILLIAM D. BALFOUR, JR.
Director

WDB:mk
(63121)

cc: Mr. Taeyong Kim, Environmental Communications, Inc.

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

July 12, 2004

TO: MR. WILLIAM D. BALFOUR, JR., DIRECTOR
DEPARTMENT OF PARKS AND RECREATION

FROM: CLIFFORD S. JAMILE

SUBJECT: YOUR MEMORANDUM DATED JUNE 1, 2004 REGARDING THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED KAMEHAMEHA HIGHWAY 16-INCH WATER MAIN, PAUMALU AND KAUNALA STREAM CROSSINGS, SUNSET BEACH, OAHU, HAWAII

Thank you for reviewing the Draft Environmental Assessment (EA) for the proposed water main stream crossings.

We note that our project will not impact any facilities or programs of the Department of Parks and Recreation.

If you have any questions, please contact Francis Fung at 748-5710.

cc: Mr. Rand Ide, Sato & Associates, Inc.
Mr. Taeyong Kim, Environmental Communications, 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

JEREMY HARRIS
MAYOR

ATTILIO K. LEONARDI
FIRE CHIEF

JOHN CLARK
DEPUTY FIRE CHIEF

June 10, 2004

TO: CLIFFORD S. JAMILE, MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

ATTENTION: RYAN NAKATA, ENGINEER
DESIGN SECTION

FROM: ATTILIO K. LEONARDI, FIRE CHIEF

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)
KAMEHAMEHA HIGHWAY 16-INCH WATERMAIN
PAUMALU AND KAUNALA STREAM CROSSINGS
SUNSET BEACH, OAHU, HAWAII

We received a letter from Mr. Taeyong M. Kim dated May 23, 2004, requesting our comments on the above-mentioned DEA.

The Honolulu Fire Department requires that the following be complied with for the duration of the project:

1. Maintain fire apparatus access throughout the construction site.
2. Notify the Fire Communication Center at 523-4411 regarding any interruption of the existing fire hydrant system.

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: Mr. Taeyong M. Kim, Environmental Communications, Inc.

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

JEREMY HARRIS, Mayor

EDDIE FLORES, JR., Chairman
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DAROLYN H. LENDIO

RODNEY K. HARAGA, Ex-Officio
LARRY J. LEOPARDI, Ex-Officio

CLIFFORD S. JAMILE
Manager and Chief Engineer

DONNA FAY K. KIYOSAKI
Deputy Manager and Chief Engineer

July 12, 2004

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

FROM: for CLIFFORD S. JAMILE

SUBJECT: YOUR MEMORANDUM DATED JUNE 10, 2004 REGARDING THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED KAMEHAMEHA HIGHWAY 16-INCH WATER MAIN, PAUMALU AND KAUNALA STREAM CROSSINGS, SUNSET BEACH, OAHU, HAWAII

Thank you for reviewing the Draft Environmental Assessment (EA) for the proposed water main stream crossings.

We have the following response to your comments:

1. We will maintain clear and unobstructed access to all fire apparatus within the project limits throughout construction.
2. Should there be a need to interrupt any existing fire hydrant service, we will notify and coordinate our work with the Fire Communication Center at 523-4411.

If you have any questions, please contact Francis Fung at 748-5710.

cc: Mr. Rand Ide, Sato & Associates, Inc.
Mr. Taeyong Kim, Environmental Communications, 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 R. KAJIYAMA
PAUL D. PUTZULU
DEPUTY CHIEFS

OUR REFERENCE CS-KP

June 15, 2004

TO: RYAN NAKATA, CIVIL ENGINEER IV
BOARD OF WATER SUPPLY

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

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT - KAMEHAMEHA HIGHWAY, 16-INCH WATER MAIN, PAUMALU AND KAUNALA STREAM CROSSINGS, SUNSET BEACH, OAHU, HAWAII

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

This project should have minimal impact on the services provided by the Honolulu Police Department.

If there are any questions, please call Lieutenant Brian Chang of District 2 at 621-8442 or Ms. Carol Sodetani of the Support Services Bureau at 529-3658.

LEE D. DONOHUE
Chief of Police

By
KARL GODSEY
Assistant Chief of Police
Support Services Bureau

cc: Mr. Taeyong Kim
Environmental Communications, Inc.

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

JEREMY HARRIS, Mayor

EDDIE FLORES, JR., Chairman
CHARLES A. STED, Vice-Chairman
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DAROLYN H. LENDIO

RODNEY K. HARAGA, Ex-Officio
LARRY J. LEOPARDI, Ex-Officio

CLIFFORD S. JAMILE
Manager and Chief Engineer

DONNA FAY K. KIYOSAKI
Deputy Manager and Chief Engineer

July 12, 2004

TO: MR. GLEN R. KAJIYAMA, ACTING CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

FROM: for CLIFFORD S. JAMILE

SUBJECT: YOUR MEMORANDUM DATED JUNE 15, 2004 REGARDING THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED KAMEHAMEHA HIGHWAY 16-INCH WATER MAIN, PAUMALU AND KAUNALA STREAM CROSSINGS, SUNSET BEACH, OAHU, HAWAII

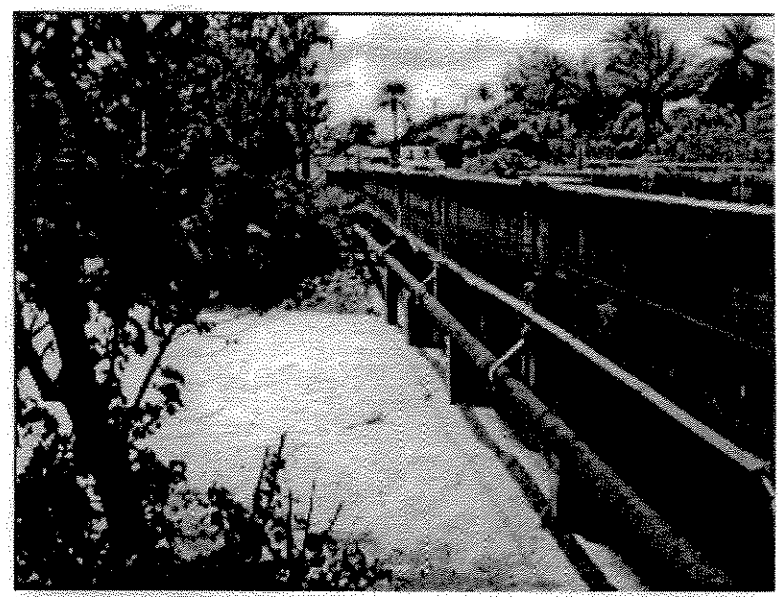
Thank you for reviewing the Draft Environmental Assessment (EA) for the proposed water main stream crossings.

We note that our project should have minimal impact on the services provided by the Honolulu Police Department. Lieutenant Brian Chang of District 2 will be contacted should further coordination with the Police Department be required for this project.

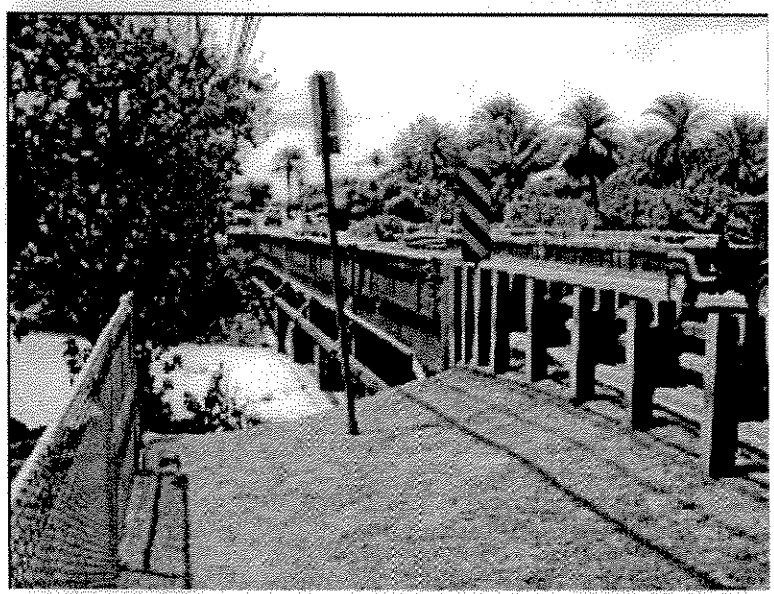
If you have any questions, please contact Francis Fung at 748-5710.

cc: Mr. Rand Ide, Sato & Associates, Inc.
Mr. Taeyong Kim, Environmental Communications, Inc.

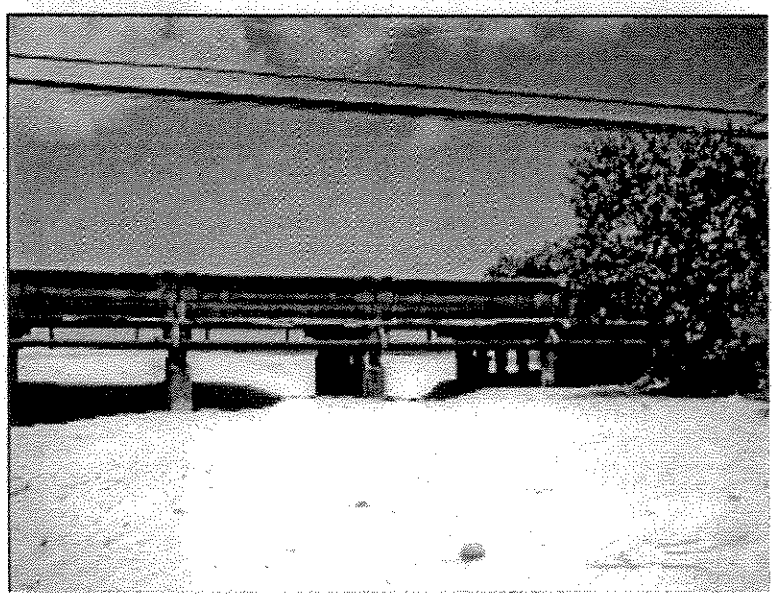
APPENDIX A



Mauka Alignment

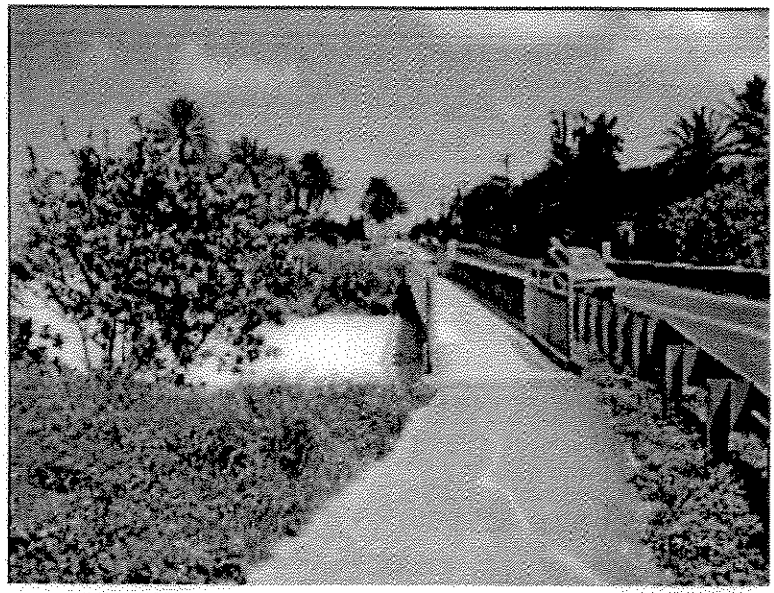


View Mauka of Bridge



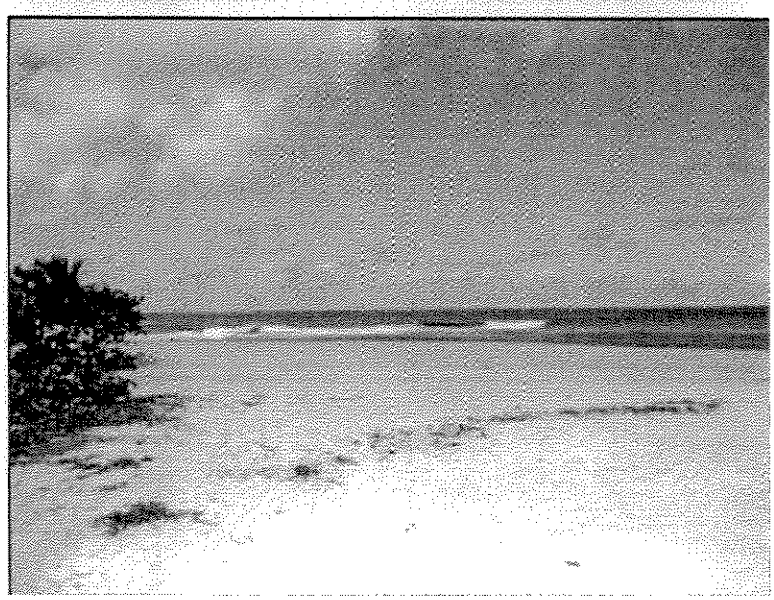
View Towards Ocean

Paumalu Stream Normal Dry Condition



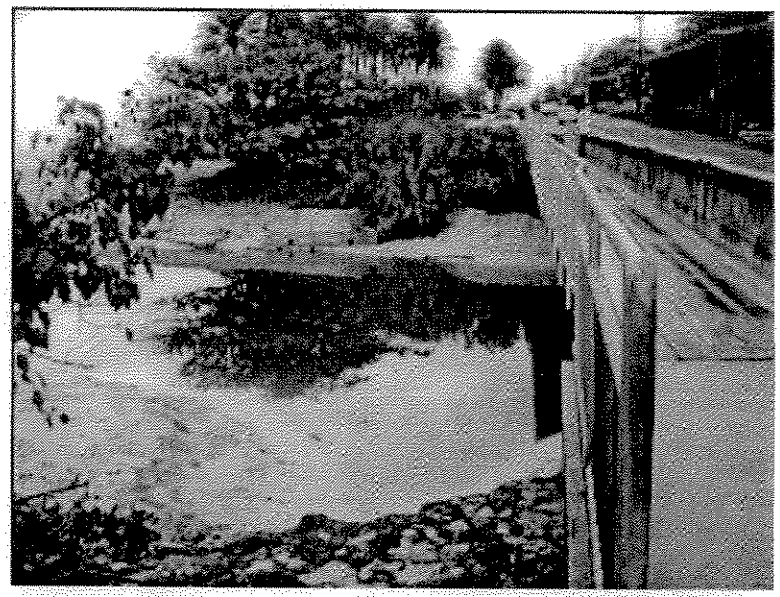
View East (Makai)

View West (Makai)

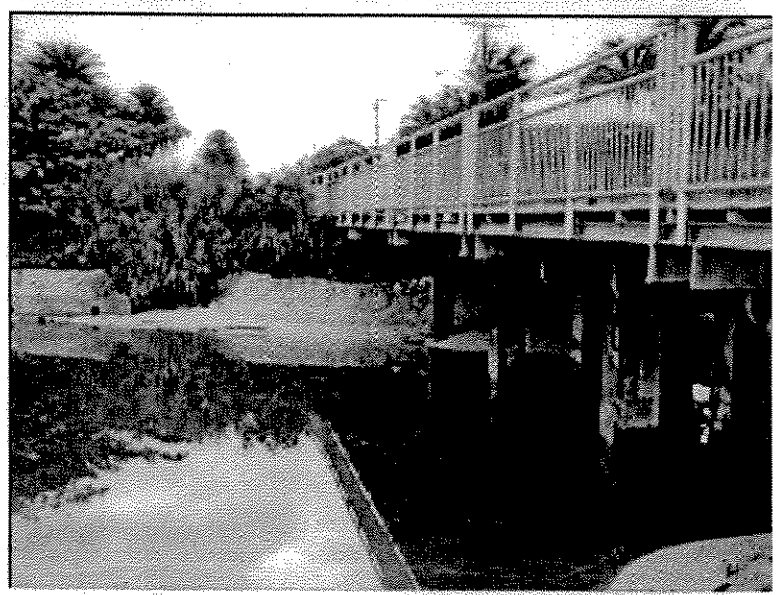


View Towards Ocean

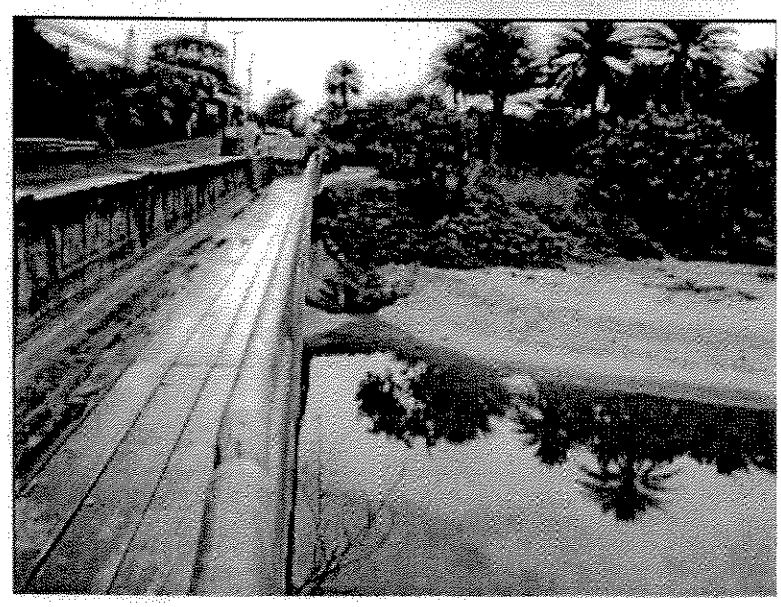
Paumalu Stream Normal Dry Condition



View Looking East
(Makai)

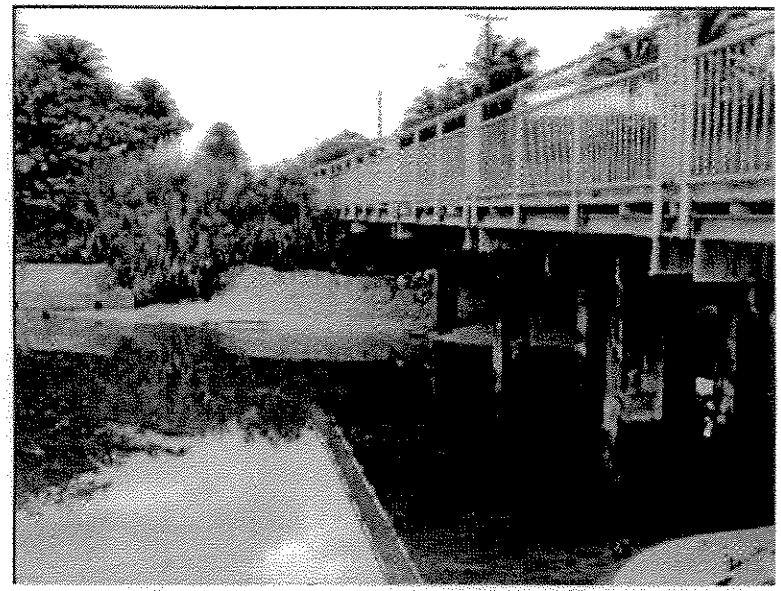


View of Project Alignment
Beneath Bridge (Makai)

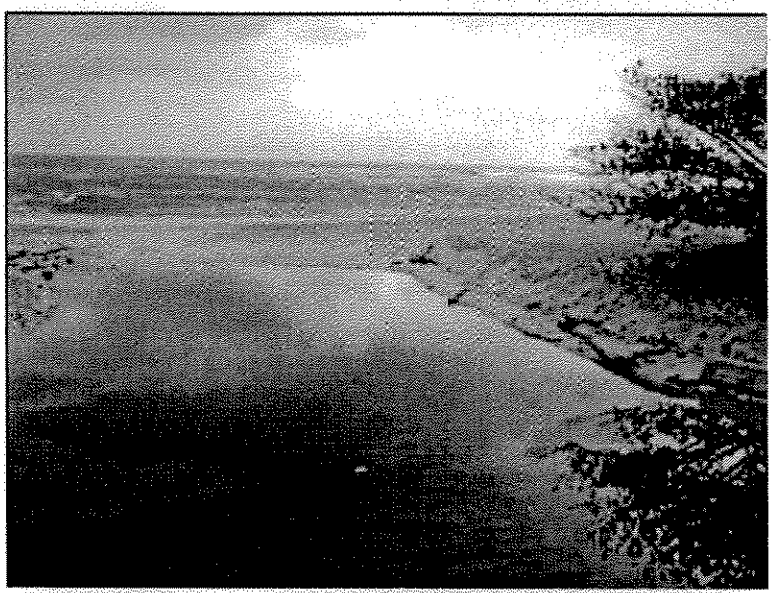


View of Makai Drainage Outlet

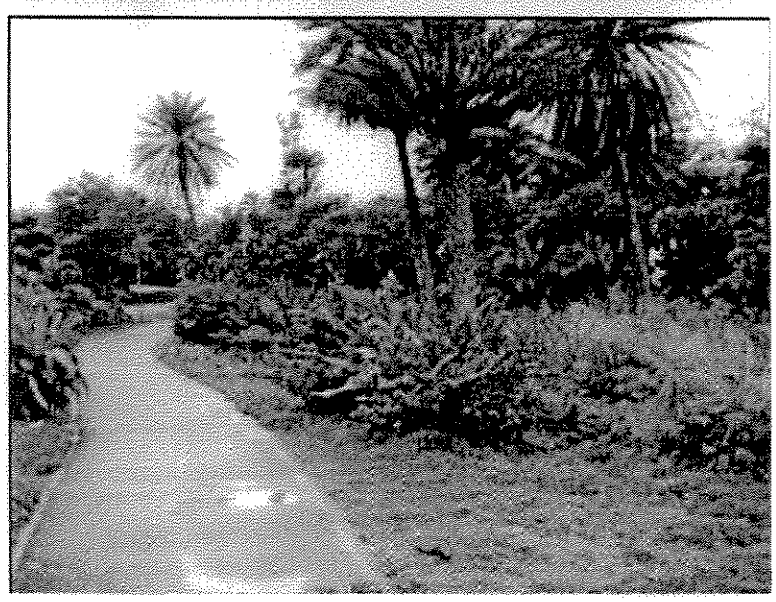
Paumalu Stream Post Storm Conditions



Post Storm Ponding
of Project Alignment
(Makai side)



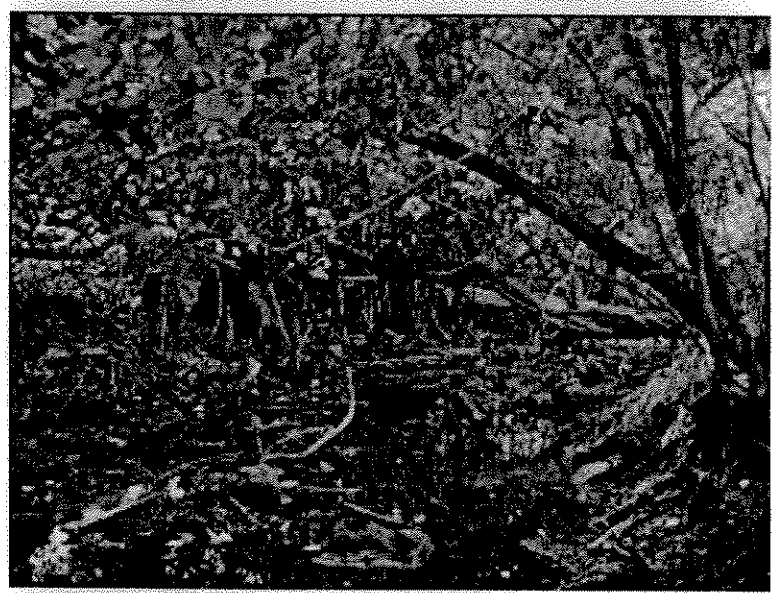
Ponding Retained
by Beach



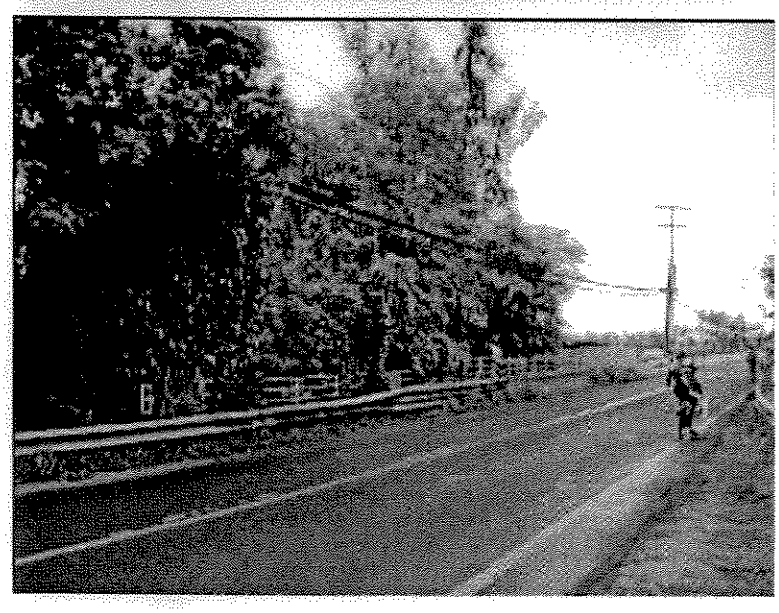
Bicycle and Pedestrian
Pathway

Paumalu Stream Post Storm Conditions

Makai Drainage Outlet

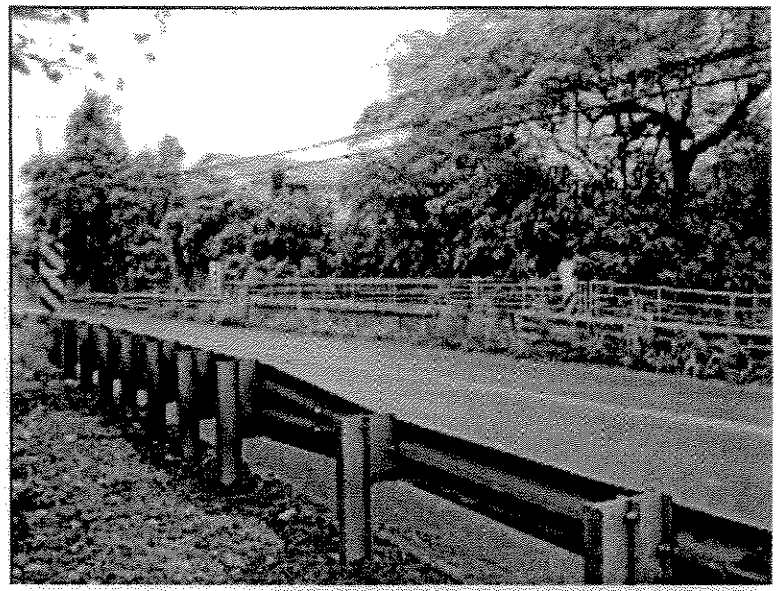


Downstream Ponding

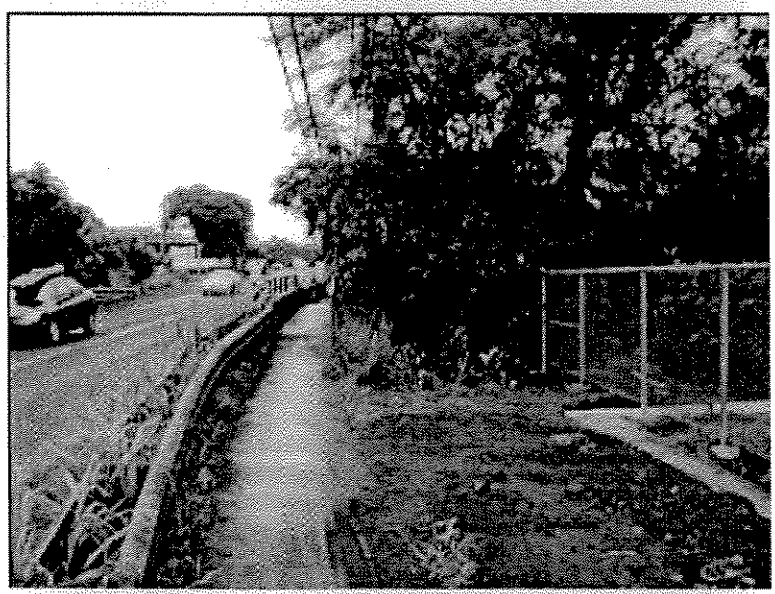


View in Makai Direction

Kaunala Stream Post Storm Conditions



View Looking Makai



View of Project Right-of-Way (Makai)

View Beneath Bridge Looking Mauka

Kaunala Stream Post Storm Conditions

APPENDIX B

Archaeological Monitoring Plan for
Work along Kamehameha Highway, from Pūpūkea to Waiale`e, District of Ko`olauloa
Island of O`ahu
(TMK: 5-8-01, 5-8-03--06, 5-9-01--04, 5-9-07--16)

by

K. W. Bushnell
and
Hallett H. Hammatt, Ph.D.

Prepared for

Board of Water Supply

CULTURAL SURVEYS HAWAII
June 2000

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I. Introduction

The proposed installation of a 16" water main along Kamehameha Highway between Kupaoa Place in Pūpūkea and the Crawford Convalescent Home in Waiale`e, Ko`olauloa District, O`ahu. (Figures 1-3) may inadvertently impact previously unknown historic sites, including human burials. Based on this possibility, the State Historic Preservation Division (SHPD/DLNR) requires an archaeological monitoring program (Log 25448, Doc. 0005EJ16). The monitoring program includes a monitoring plan, on-site monitoring and a follow-up monitoring report. At the request of the Board of Water Supply, a Burial Mitigation Plan is being developed as part of the monitoring program. The present document is the monitoring plan which provides the rationale for monitoring, anticipated finds and guidelines for conducting the monitoring work.

II. Project Area Description

The project area is located in northern O`ahu on the northwest flank of the Ko`olau Range and consists of an approximately 20,000 linear foot (5.46 km) strip along the Kamehameha Highway (Figures 1-3). Located in the Ko`olauloa District, the project area traverses four *ahupua`a* including Pūpūkea, Paumalū, Kaunala, and Waiale`e. The terrain along this stretch of the Kamehameha Highway is considered coastal flats and consists mainly of ancient beach deposits, low-lying sand dunes, marshy coastal flats, and raised limestone terraces 10-30 feet above mean sea level. Rainfall is moderate, averaging 58 cm. (23 inches) per year (Foote et al. 1972).

Installation of the 16-inch water main and appurtenances will begin at Crawford's Convalescent Home in Waiale`e (TMK: 5-8-001) and continue along Kamehameha Highway to fire hydrant C-6 near Kupaoa Place in Pūpūkea (TMK: 5-9-05) [Figures 1-3]. The subsurface trenching will traverse several residential areas, two beach parks, a school and several stretches of small businesses.

Vegetation along these portions of the Kamehameha Highway consists of mostly introduced species such as Casuarina equisetifolia (ironwood), Leucaena glauca (*koa haole*), Ficus benghalensis (banyan), Prosopis pallida (*kiawe*), Terminalia catappa (false *kamani*), Brassaia actinophylla (umbrella tree), Pennisetum purpureum (elephant grass) and other introduced grasses. Some indigenous plant species are visible along the highway as well. These include Cocos nucifera (coconut), Scaevola sericea (*naupaka*), Hibiscus tiliaceous (*hau*).

The project area extends through several different soil types including Waialua silty clay (WKB), Mokuleia loam (Ms), Jaucas soils (JaC), and Kaena Clay (KaB) (Foote *et al.*, 1972). The Waialua silty clay is a soil developed in alluvium from basic igneous rock, a result of erosion from the Pūpūkea highlands. The Mokuleia loam consists of about 8" of alluvium overlying coral sand. This soil type is often used in marginal agriculture or pasturage. Jaucas soils develop in coral or basaltic sand and are found extensively along coastlines. Kaena clay is a deep, poorly drained soil found on alluvial fans, like those which line the sea cliffs adjacent to Kamehameha Highway.

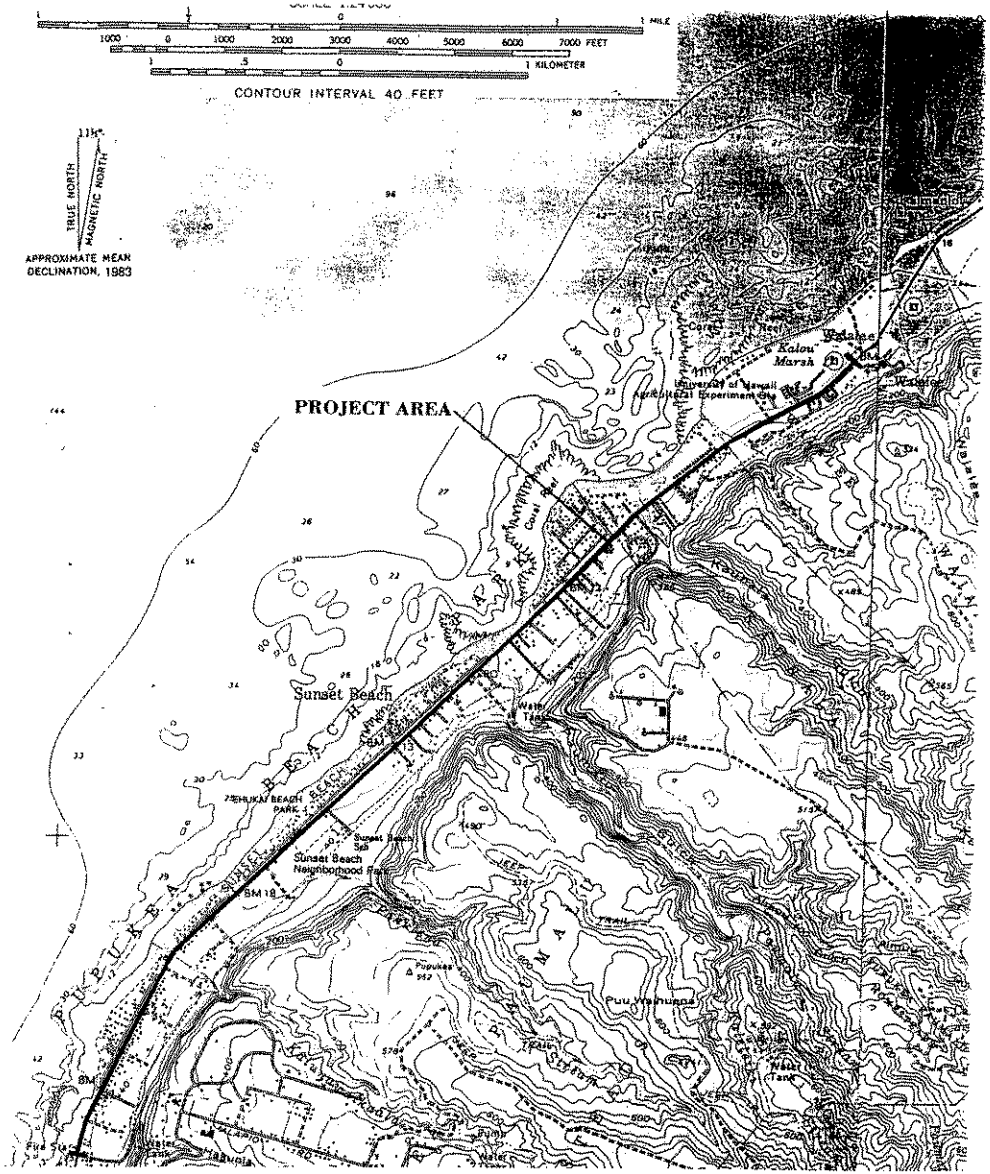

Figure 1 Portion of USGS Topographic 7.5 Minute Series Showing Kamehameha Highway Project Area

III. Historical Background

A. Pre-Contact to early 1800s

The project area crosses four adjoining *ahupua`a* within the Ko`olauloa District: Pūpūkea, Paumalū, Kaunala and Waiale`e. Historically, these *ahupua`a* lay in the shadow of Waimea *Ahupua`a,* a focal point of religious activity in the 18th century and a population center on the north shore. Waimea had access to a resource relatively scarce on this part of the north shore, water. Two *heiau* located on either side of the valley overlooking the bay, Pu`u o Mahuka and Kupopolo, were large *heiau* formerly dedicated to priestly, or *kahuna* acts. Because of its proximity, Pūpūkea *Ahupua`a* may have been affiliated with the *kahuna* class as well. There is reference to Pūpūkea being part of the lands allotted to *kahuna*.

> When Oahu came under the rule of Kama-pua`a, he gave the land containing the word *wai* to the kahuna Lono-a-wohi; but later the land was redistributed by Kahiki`ula and the older brothers of Kama-pua`a because the kahunas had a monopoly of the well-watered lands, and the kahuna class were given the lands of Waimea, Pupukea, Waiahole, and Hakipu`u in perpetuity, and these were held by them until the days of Ka-hahana, Ka-hekili and Ka-lani-ku-pule confirmed this gift to the kahunas, and so did Kamehameha (Kamakau, 1992: 230-231).

Pūpūkea is also referred to as part of the "homelands" of the famed Ka`opulupulu, *kahunanui* of O`ahu's High Chief, Kahahana during the eighteenth century (Kamakau, 1992). Ka`opulupulu was known as an "astute prime minister and prophet" (Fornander, II, 1969: 220) and officiated over ceremonies at the Waimea *Heiau*. The role of Pūpūkea in the activities of the *kahuna* is unknown, however, due to its proximity to Waimea and its pre-contact association with the *kahuna* class, Pūpūkea may have had a more colorful prehistory than what has been recorded.

Pūpūkea is also associated with Pele and Hi`iaka. An archaeological site, Site -252, described by McAllister (1933: 150) as the Pili`a`ama Stone, contains the footprint of a man and of a crab. McAllister relates the story of a handsome, low-ranking man who is chased after by an *ali`i* woman and who vanishes leaving behind his footprint and that of a crab at the boundary of Waimea and Pūpūkea. A different version refers to Pili`a`ama as a fisherman fishing in the waters of Pūpūkea while Hi`iaka and Wahine`ōma`o spy on him and Hi`iaka taunts him asking him what kind of fish he is catching:

> O Piliaama fisherman of the cliffs
> Who surfs to the mouth of the stream of Ihukoko
> Who catches aku fish at Kaipahu
> What fish are you catching now? (in Sterling and Summers, 1978: 144)

In addition, several basalt rocks along the ocean at Pūpūkea (Site -255) are thought to be Pele followers turned to stone and immortalized by Pele herself (Mc Allister, 1933: 151).

The beaches of Paumalū and Kaunala are popular today for surfing and fishing and according to myth, they have always been so. The origin of the name Paumalū comes from

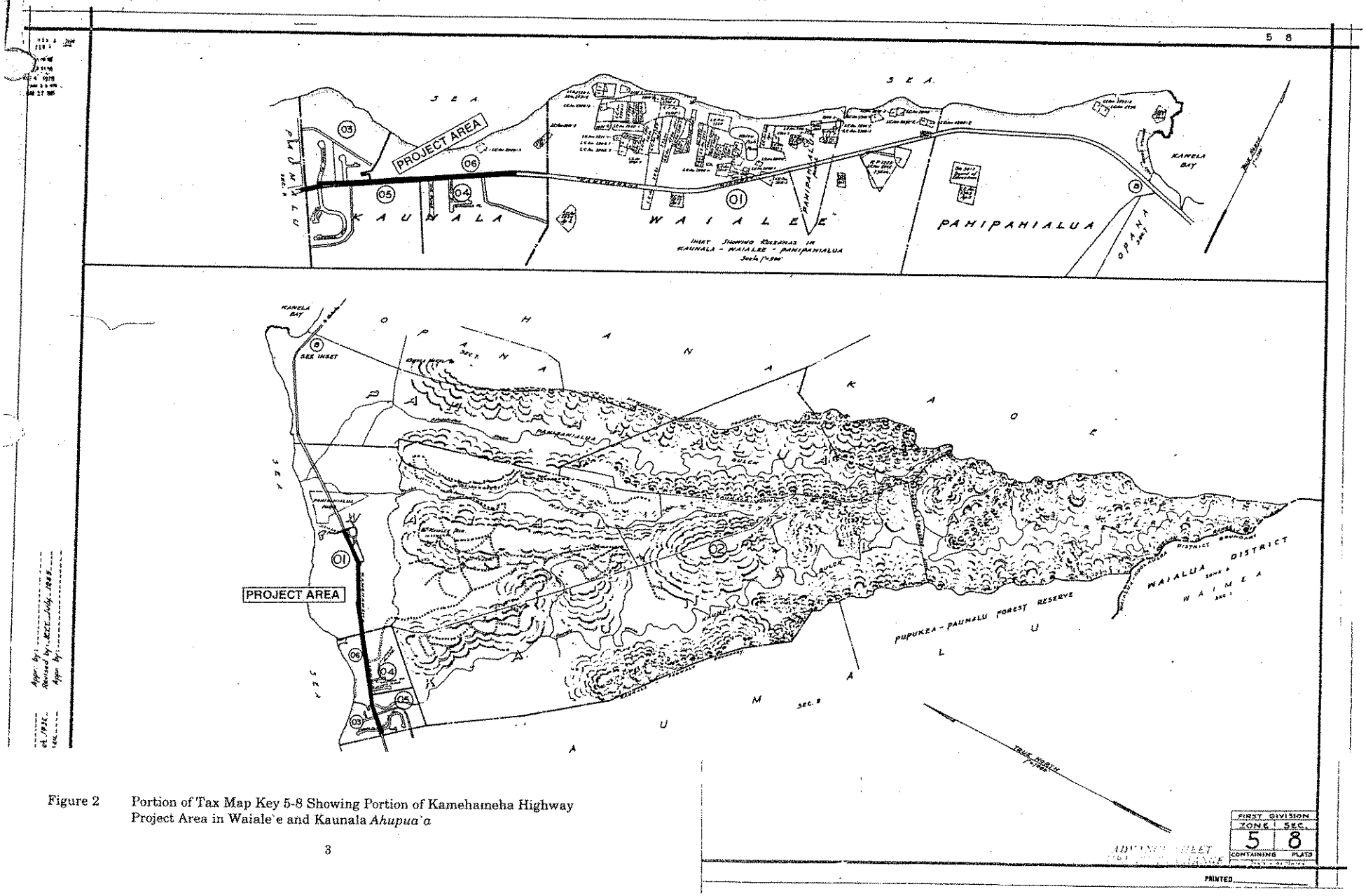

Figure 2 Portion of Tax Map Key 5-8 Showing Portion of Kamehameha Highway Project Area in Waiale`e and Kaunala *Ahupua`a*

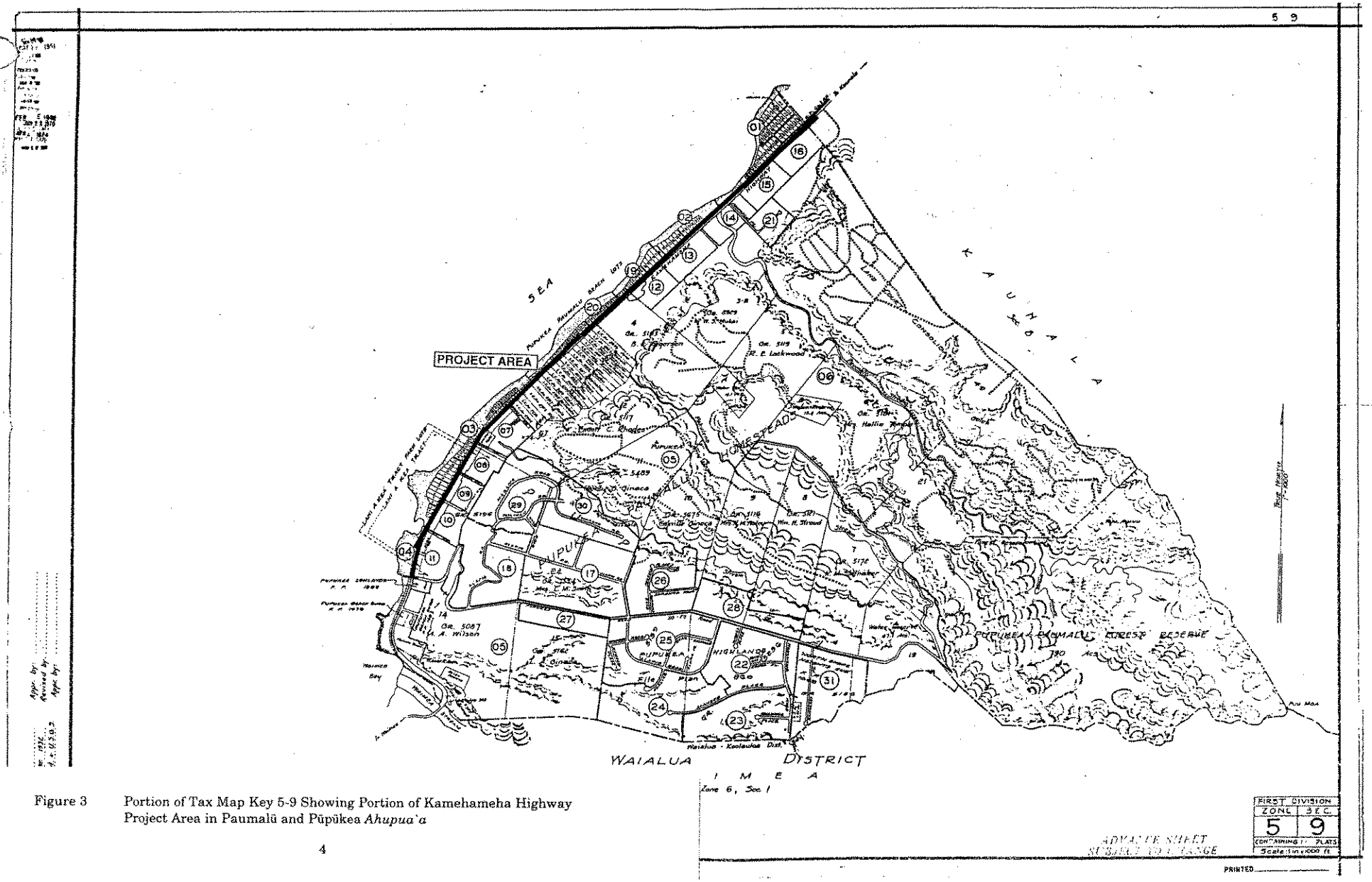

Figure 3 Portion of Tax Map Key 5-9 Showing Portion of Kamehameha Highway Project Area in Paumalū and Pūpūkea *Ahupua`a*

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VIII. Appendix A

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

TIMOTHY E. JOHNS, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
JANET E. KAWELO

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
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

May 25, 2000

Scot Muraoka
Planning and Engineering Division
Board of Water Supply
City and County of Honolulu
650 South Beretania Street
Honolulu, Hawaii 96843

LOG NO: 25448
DOC NO: 0005EJ16

Dear Mr. Muraoka:

SUBJECT: **Chapter 6E-8 Historic Preservation Review – Kamehameha Highway 16-inch Water Main, Parts II and III and III (Sunset Beach)**
Pupukea, Paumalu, Kaunala, O`ahu
TMK: 5-9-5 thru 5-9-16

Thank you for the opportunity to provide comment during your planning process for the 16-inch water main construction project along Kamehameha Highway (Parts II, III, and IV). Our review is based on historic reports, maps, and aerial photographs maintained at the State Historic Preservation Division; no field inspection was made of the project areas. We received notification of this undertaking through a fax transmission from your office on April 26, 2000.

A review of our records shows that historic sites, including human burials have been found in several locations along this coast. One human burial was found in 1997 during waterline improvements for the Board of Water Supply in the vicinity of Ke-nui Road. We understand that the archaeological monitoring report for that project is currently being produced and will be submitted to SHPD for review and acceptance soon.

Based on our review, portions of the project area appear to be underlain by Jaucas sands (deposits known to contain subsurface cultural layers and human burials) while other sections of the water main corridor may cross through alluvial soils, which are unlikely to contain significant historic sites. As such, this project has the potential to have an adverse effect on subsurface historic sites. Therefore we believe that a combination of on-call and on-site archaeological monitoring may be most appropriate.

An acceptable archaeological monitoring plan should be prepared and submitted to this office for review and acceptance prior to beginning any ground disturbance. If an acceptable archaeological monitoring plan is prepared, and if the plan is implemented, then we believe that the proposed undertaking will have "no adverse effect" on significant historic sites.

Should you have any questions, please feel free to call Sara Collins at 692-8026 or Elaine Jourdane at 692-8027.

Aloha,

Don Hibbard, Administrator
State Historic Preservation Division

EJ:jk

c: David Shideler, Cultural Surveys Hawaii

APPENDIX C

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

REPLY TO
ATTENTION OF

September 5, 2003

Regulatory Branch

Mr. Taeyong Kim
Environmental Communications, Inc.
1188 Bishop Street, Suite 2210
Honolulu, Hawaii 96813

Dear Mr. Kim:

This responds to your query regarding your client's proposed activity to install a 16-inch waterline across, and under Paumalu Stream, Oahu Island. Based on the information submitted, it appears that the activity will result in the placement of the crossing below the ordinary high water mark of that tributary and would constitute the discharge of fill material into waters of the U.S. This activity is regulated under Section 404 of the Clean Water Act and therefore, the Corps will exercise its jurisdiction and require an application for a Department of the Army permit be submitted before the activity begins.

Thank you for your diligence in ensuring the protection and conservation of Hawaii's water resources. If you require additional information or have further questions, you may call Mr. Farley Watanabe at (808)438-7701 or by fax at (808)438-4060. Please refer to File Number 200300555 in any future correspondence with us.

Sincerely,

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

APPENDIX D

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

August 29, 2003

Mr. Taeyong Kim
Environmental Communications, Inc.
1188 Bishop Street, Suite 2210
Honolulu, HI 96813

Dear Mr. Kim:

Request for Determination of Stream Channel Alteration
Permit (SCAP) Applicability
Paumalu Stream, Sunset Beach, Oahu

This is in response to your facsimile dated August 14, 2003, requesting an assessment to determine if a Stream Channel Alteration Permit (SCAP) is required for a proposed waterline crossing at Paumalu Gulch on the North Shore.

Previous site visits to the watercourse in Paumalu Gulch confirm that there are insufficient flows of water to support instream uses such as perennial pools, aquatic life, etc. Therefore, the watercourse in Paumalu Gulch is not considered to be "stream" as defined in the Hawaii Revised Statutes, §174C-3, and in keeping with Declaratory Ruling MO94-S3, a SCAP would not be required.

Thank you for consulting with us on our permit requirements. If you have any questions, please contact David Higa of the Commission staff at 587-0249.

Sincerely,

ERNEST Y.W. LAU
Deputy Director

SKS:ss

APPENDIX E

LINDA LINGLE
GOVERNOR OF HAWAII

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

August 22, 2003

Taeyong Kim
Environmental Communications
1188 Bishop Street, Suite 221
Honolulu, Hawaii 96813

LOG NO: 2003.1586
DOC NO: 0308EJ37

Dear Mr. Kim:

SUBJECT: **Chapter 6E-8 Historic Preservation Review – Board of Water Supply Kamehameha Highway 16-inch Water Main Paumalu Stream Crossing**
Paumalu, Ko`olauloa, O`ahu
TMK: (1) 5-9

Thank you for the opportunity to provide comment on this action. Archaeological monitoring was previously recommended to the Board of Water Supply to address historic preservation concerns for the Kamehameha Highway 16-inch Water Mains, Parts II and III project (Kupaoa Place in Pūpūkea to the Crawford Convalescent Home in Waiale`e, Ko`olauloa District, O`ahu) [SHPD Log 25448, May 25, 2000]. Subsequently, an archaeological monitoring plan was submitted and approved for on-call and on-site archaeological monitoring (Bushnell & Hammatt 2000. *Archaeological Monitoring Plan for Work along Kamehameha Highway, from Pūpūkea to Waiale`e, District of Ko`olauloa Island of O`ahu (TMK: 5-8-01, 5-8-03-06, 5-9-01, 5-9-07,-16)* [SHPD Log.25633, June 23, 2000]. Cultural Surveys Hawaii has conducted archaeological monitoring following the approved plan for the improvements that were initiated.

Because this action is a part of the Kamehameha Highway 16" Water Main project we would follow the same recommendation for on-site archaeological monitoring as stipulated in the approved archaeological plan. Therefore, if on-site archaeological monitoring is carried out in accordance with the approved archaeological monitoring plan, then we believe that the subject project will have "no adverse effect" on significant historic sites.

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 burial matters, please feel free to contact Kai Markell at 587-0008

Aloha,

P. Holly McEldowney

P. Holly McEldowney, Acting Administrator
State Historic Preservation Division

EJ:jk

c: Scott Muraoka, P & E, Board of Water Supply, 630 South Beretania Street, Honolulu, HI 96843
Kamana`o Mills, SHPD Burial Program
Van H. Diamond, Chair, OIBC