DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
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HONOLULU, HAWAII 96813
Phone: (808) 768-8480 • Fax: (808) 768-4567
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JAN 23 2009

MUFI HANNEMANN
MAYOR

EUGENE C. LEE, P.E.
DIRECTOR

RUSSELL H. TAKARA, P.E.
DEPUTY DIRECTOR

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OFC. OF ENVIL. QUALITY CONTROL

WW.P 08-323

December 26, 2008

Ms. Katherine Puana Kealoha, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Kealoha:

Subject: Finding of No Significant Impact (FONSI) for Kaneohe Bay Sewers Lateral Connections
TMK(s) (1) 4-4-7:002, 003, 004, 007, 020, 022, 023, 038, Kaneohe, Oahu

The City and County of Honolulu, Department of Design and Construction (DDC) has reviewed comments received during the 30-day public comment period which began on May 8, 2007. The Agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the next available OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form, one copy of the document in pdf format, two copies of the Draft EA, and the project summary on disk. Please call Jay Hamai at 768-8750, if you have any questions.

Very truly yours,

FOR Eugene C. Lee, P.E.
Director

Enclosures

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT

FOR

INSTALLATION OF LATERAL CONNECTIONS
KANEOHE BAY SEWERS IMPROVEMENT DISTRICT

AT

KANEOHE, KOOLAUPOKO, OAHU
TMK: 4-4-7 & 21

DECEMBER 2008

PROPOSING AGENCY: Department of Design & Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

RESPONSIBLE OFFICIAL: _____ DEC 12 2008

Eugene C. Lee, P. E. Date
Director

PREPARED BY: Masa Fujioka & Associates
98-021 Kamehameha Highway, Suite 337
Aiea, Hawaii 96701-4214

THIS ENVIRONMENTAL DOCUMENT IS SUBMITTED PURSUANT TO CHAPTER 343, HRS

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LIST OF FIGURES, TABLE, AND APPENDICES

FIGURES

TABLE

APPENDICES

LIST OF ACRONYMS

BMP	best management practice
CIP	Capital Improvement Program
C&C	City and County of Honolulu
CZM	Coastal Zone Management
CWA	Clean Water Act
DLNR	Department of Land and Natural Resources (State of Hawaii)
DLU	Department of Land Utilization (City & County of Honolulu)
DOH	Department of Health (State of Hawaii)
DOT	Department of Transportation (State of Hawaii)
DGP	Department of General Planning (City & County of Honolulu)
DPP	Department of Planning and Permitting (City & County of Honolulu)
EA	Environmental Assessment
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
HAR	Hawaii Administrative Rules
HCZMP	Hawaii Coastal Zone Management Program
HRS	Hawaii Revised Statutes
ID	Improvement District
KBMPTF	Kaneohe Bay Master Plan Task Force
KBTF	Kaneohe Bay Task Force
KMCAS	Kaneohe Marine Corps Air Station
MFA	Masa Fujioka & Associates
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
OEQC	Office of Environmental Quality Control (State of Hawaii)
OSP	Office of State Planning (State of Hawaii)
ROH	Revised Ordinances of Honolulu
SHPD	State Historic Preservation Division (State of Hawaii)
SMA	Shoreline Management Area
SSA	Shoreline Setback Area
SSV	Shoreline Setback Variance
UH	University of Hawaii
UIC	Underground Injection Control
USBC	United States Bureau of the Census
USGS	United States Geological Survey
WWPS	wastewater pump station
WWPTF	wastewater preliminary treatment facility
WWTP	wastewater treatment plant

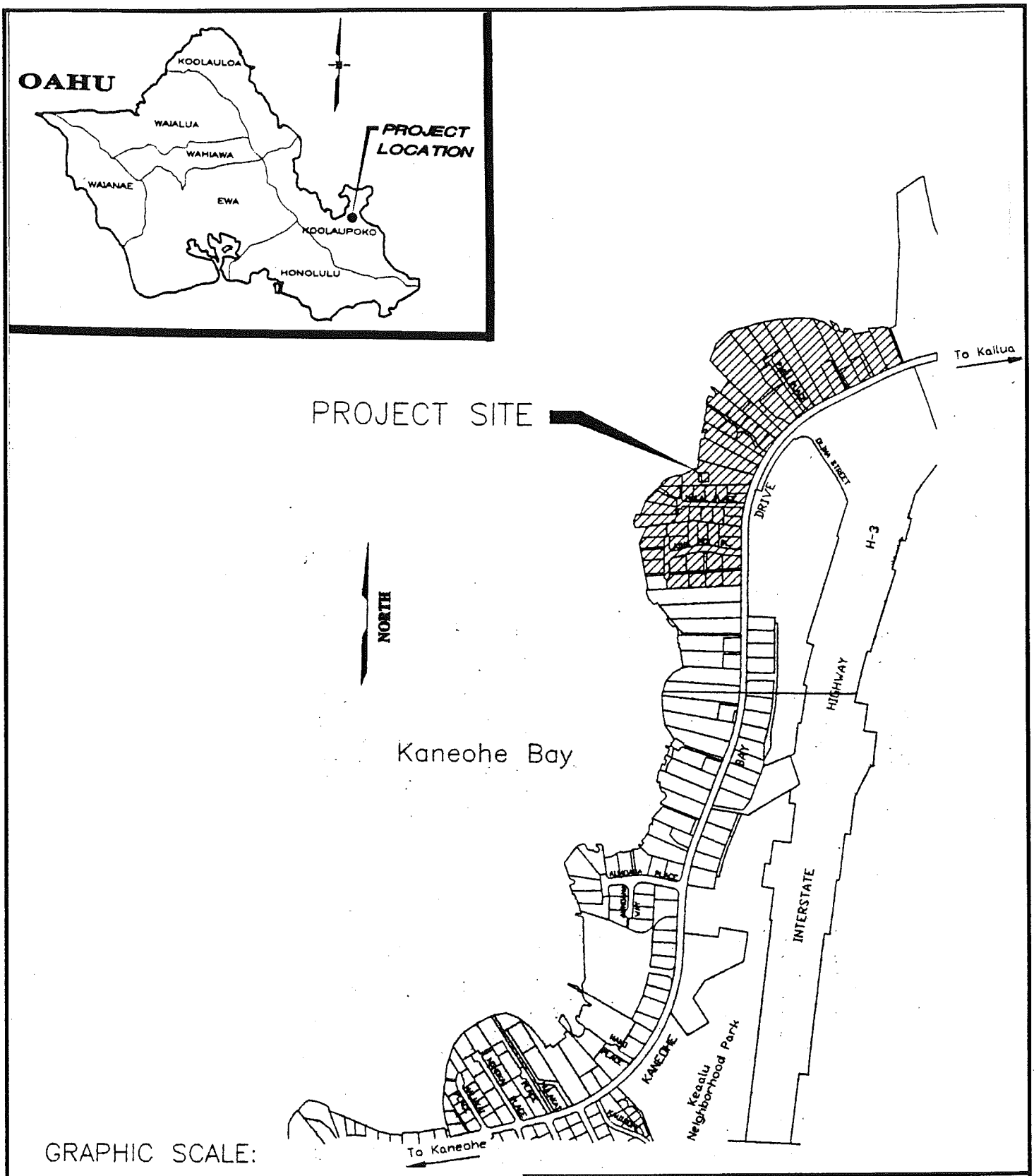
1.0 SUMMARY

The City & County of Honolulu (CCH), Department of Design and Construction (DDC), both the proposing and approving agency, has provided sewer service to the Malae area of Kaneohe Bay (see Figure 1.1 - Project Location Map), through the Kaneohe Bay Sewers Improvement District (ID) project. The ID project expanded the existing City sewer system to include 69 properties in the Malae area of Kaneohe Bay that were previously utilizing private, individual wastewater disposal systems such as cesspools and septic tanks. The project was designed to provide a solution to many of the chronic sanitation problems faced by individual households. In addition, the project was anticipated to provide an overall environmental benefit by decreasing the degradation of coastal waters and aquifers attributable to individual wastewater disposal systems.

A previous Environmental Assessment (EA) was prepared for the Kaneohe Bay Sewers ID project (MFA, 2000), for the purposes of obtaining a Shoreline Setback Variance (SSV) for construction of the Sewer ID project within the Shoreline Setback Area (SSA). The EA arrived at a finding of no significant impact (FONSI) for the project, a SSV (File No. 2003/SV-9) was granted by the City and County of Honolulu Department of Planning and Permitting (DPP) on September 18, 2003, and the Sewer ID project was constructed in 2005.

Individual households are now required to connect to the sewer line installed by the Sewer ID project. Nine (9) of these lateral connections are within the Shoreline Setback Area (SSA), and a Shoreline Setback Variance (SSV) will be required for the construction. In addition, construction within the SSA triggers the requirement for an Environmental Assessment (EA) under Subchapter 10, Department of Health (DOH), Chapter 200 of Title 11, Hawaii Administrative Rules (HAR) and Chapter 343, Hawaii Revised Statutes (HRS).

Lateral connections by individual property owners were not included in the previous EA and SSV for the Sewer ID project installation. The City has prepared this Supplemental EA to assist the owners in preparing the required environmental documents prior to their connecting to the sewer line. Since the installation of the laterals essentially utilizes similar construction methods and completes the project, the environmental concerns are the same and, as with the main project subject to the previous EA, this Supplemental EA finds no significant impact related to the project.



TMK: 4-4-7 & 21

SOURCE: City & County of Honolulu
Department of Design and Construction
Division of Infrastructure Design and Engineering
Location Plan
Job No. W7-97

Project No. 97115-003	**Figure 1.1** **Project Location Map** Kaneohe Bay Sewers I.D. Kaneohe, Koolaupoko, Oahu, Hawaii
Drawing No. 01	
Approved By: JCM Drawn By: LTI	
Rev: 01 Date: 4-7-99	Masa Fujioka & Associates ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS
Scale: as shown	

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 PROJECT OVERVIEW

The proposed project is the connection of nine individual households to a sewer line previously installed under the Kaneohe Bay Sewers ID project (Figure 2.1a and Figure 2.1b). This Supplemental EA was prepared to assist the owners in the environmental permitting required for construction within the SSA.

2.2 PROJECT BACKGROUND

This City & County of Honolulu, Department of Design and Construction project provided sewer service to the Malae area of Kaneohe Bay (Figure 1.1) through the Kaneohe Bay Sewers ID project, completed in June 2005. The Kaneohe Bay Sewers ID project expanded the existing City sewer system to include 69 properties on Aina Moi Place, Malae Place, and Paku Place. A signature petition received by the former Department of Wastewater Management in July 1997 indicated that many of the area residents were in favor of the project since it would provide a solution to many of the chronic sanitation problems faced by individual households utilizing private individual wastewater systems. In addition, the project would provide an overall environmental benefit by decreasing the degradation of coastal waters and aquifers attributable to individual wastewater disposal systems (C&C, 1998a). To complete the ID project, individual homeowners must provide the lateral connection from their existing systems to the installed ID sewer line.

The Kaneohe Bay Sewers ID and the lateral connections covered by this Supplemental EA do not expand the service area of the existing wastewater facilities at the Kaneohe Wastewater Preliminary Treatment Facility (WWPTF) or the Kailua Regional Wastewater Treatment Plant (WWTP). The ID project is part of the original service area these facilities were designed to accommodate.

2.3 PROJECT DESCRIPTION

The project will involve the installation of sewer laterals, connecting individual households to the sewer line installed by the ID project, which transports the sewage generated within the project tributary area to Kaneohe Bay South Wastewater Pump Station (WWPS) No. 5, located just north of Malae Place.

Only properties with construction within the SSA will require a SSV and are the subject of this EA, and the EA and SSV will only cover the installation of the sewer laterals. Although the need for a certified shoreline survey was waived for the processing of the sewer

improvement project (No. 200/SV-9), a shoreline survey (prepared by Milton S. Watanabe LPS No.7559) dated November 6, 1998, was used to establish an "expansion of shoreline area" pursuant to Section 13-6 (A) of the "Rules Relating to the Shoreline Setback and the Special Management Area". Based on the 55-foot "waiver line" (Figures 2.1a and 2.1b, nine properties, designated by TMKs: (4)-4-007: 002, 003, 004, 007, 020-023, and 038, are expected to install laterals within the SSA and are the subject of this EA.

Figures 2.1a and 2.1b show the approximate locations of the existing structures on the affected lots. Approximate locations of the lateral connections are also shown (although actual location between the structure and connection at the sewer may be changed somewhat to accommodate field conditions. Table 2.1, below, provides information on the nine properties and the required lateral connections.

Table 2.1 Affected Property Information

TMK 4-4-07:	Acreage	Approximate Length of Lateral Connection (ft)	Approximate Length of Lateral within the SSA (ft)
002	0.648	125	15
003	0.668	135	2
004	0.548	20	20
007	0.741	20	8
020	0.261	30	15
021	0.748	105 (bldg 1) & 270 (bldg 2)	2 (bldg 1) & 0 (bldg 2)
022	0.950	40 (bldg 1) & 30 (bldg 2)	40 (bldg 1) & 20 (bldg 2)
023	0.811	105	10
038	0.352	25	20

Figures 2.2a and 2.2b show photos of the project areas keyed to the anticipated lateral installation sites at each lot. These photos document field observations that the laterals will be installed in open grassed or lightly landscaped areas. While any undocumented or illegal structures that must be demolished to accomplish the installation of the laterals cannot be rebuilt without a separate SV, no walls or structures appear present where the laterals will likely be installed.

It is anticipated that installation of the laterals will be accomplished by the conventional "cut and cover", by excavating trenches, placing pipe bedding and the pipe, and then placing backfill over the pipe. Trench bedding and backfill will consist of compacted soil or engineered fill as recommended by the soils investigation for the project (MFA, 1998). Excavated soils would be stockpiled next to the trench, and storm water controls, such as silt

fences, would be utilized by the contractor to prevent silt from becoming entrained in storm water. Excavation would not be conducted during poor weather. The locations of stockpiling areas and equipment/materials storage would be determined by individual landowners, but the contractor would be responsible for best management practices to prevent contamination of storm water from stored materials. Ideally, excavated trench sections would be backfilled at the end of each working day, so that soil stockpiling is minimized.

Trench excavations for the laterals may encounter groundwater near the sewer main, based on available information regarding the elevations of the installed chimneys. Therefore, dewatering of the excavations near the lateral connections to the sewer main is possible. The contractor would likely use recharge pits situated near the dewatering pit or back sections of the trench to avoid discharge of dewatering effluent to State waters, thereby avoiding the requirements for an NPDES permit. The contractor will utilize methods to minimize dewatering duration and flow, so that the settlement of the existing sewer line and surrounding ground does not occur.

Property owners will only be allowed to make connection to the City sewer system at the lateral specifically provided for their property. The cost of installation of the lateral connection is the responsibility of the property owner.

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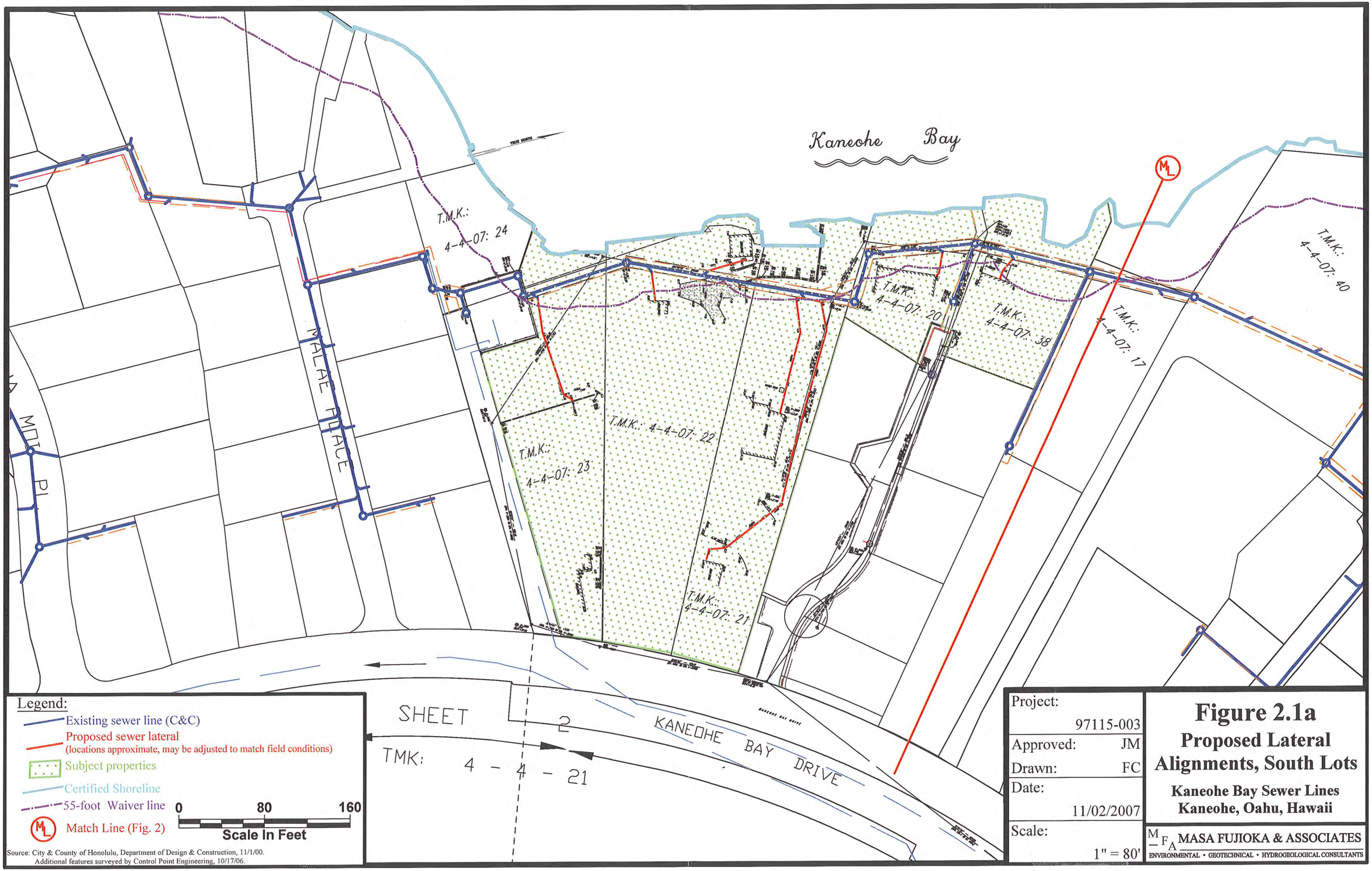

Project:	97115-003
Approved:	JM
Drawn:	FC
Date:	11/02/2007
Scale:	1" = 80'

Figure 2.1a
Proposed Lateral Alignments, South Lots
Kaneohe Bay Sewer Lines
Kaneohe, Oahu, Hawaii

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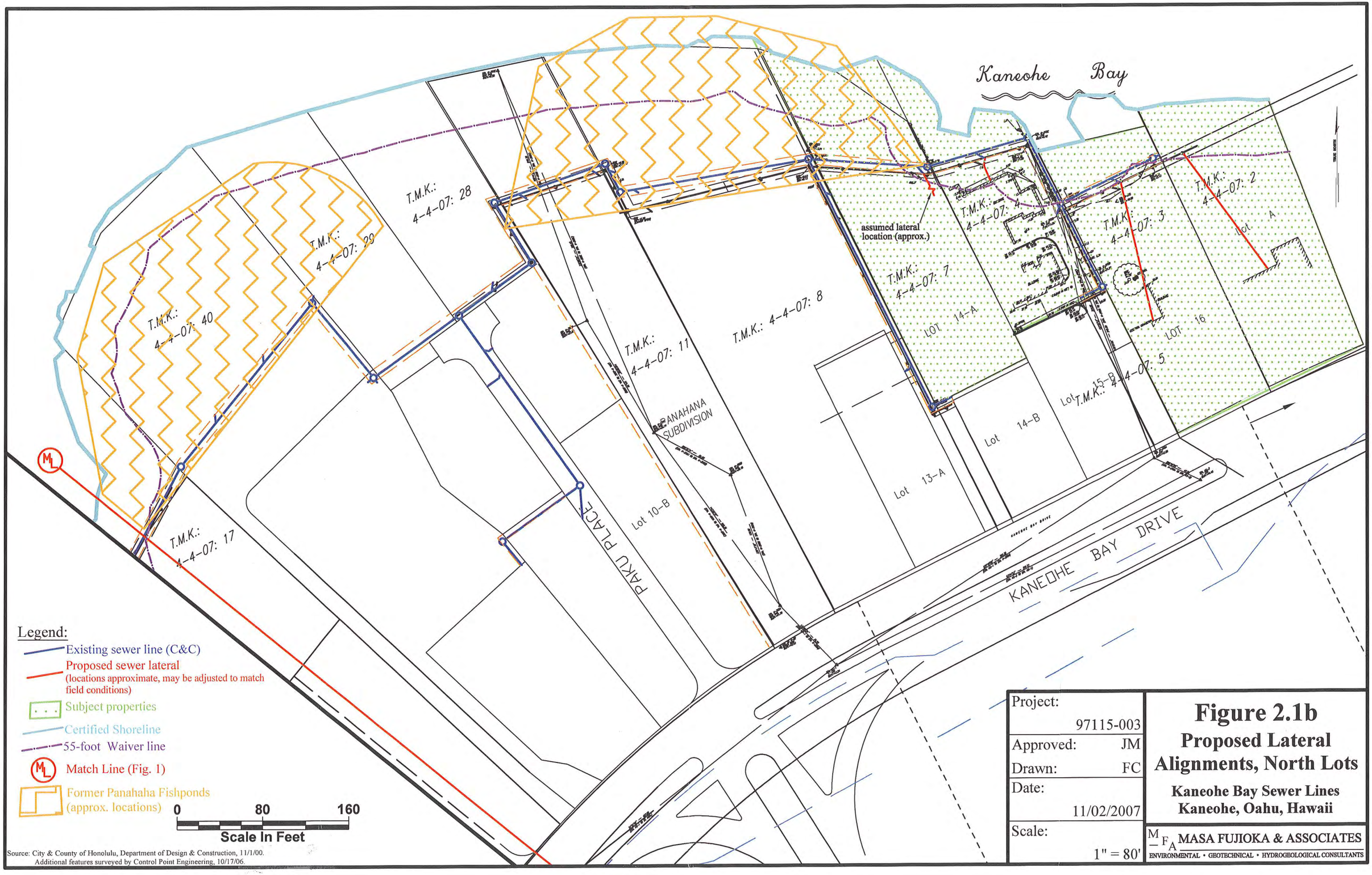

Source: City & County of Honolulu, Department of Design & Construction, 11/1/00.
Additional features surveyed by Control Point Engineering, 10/17/06.

Project:	97115-003
Approved:	JM
Drawn:	FC
Date:	11/02/2007
Scale:	1" = 80'

Figure 2.1b
Proposed Lateral Alignments, North Lots
Kaneohe Bay Sewer Lines
Kaneohe, Oahu, Hawaii

MASA FUJIOKA & ASSOCIATES
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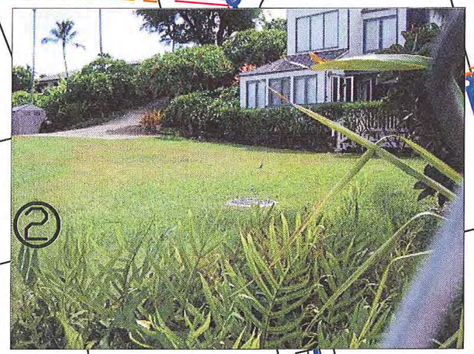
Kaneohe Bay



T.M.K.: 4-4-07: 24

T.M.K.: 4-4-07: 23
Address: 44-329

T.M.K.: 4-4-07: 22
Address: 44-327 & 327A

T.M.K.: 4-4-07: 21
Address: 44-321 & 323

T.M.K.: 4-4-07: 20
Address: 44-317

T.M.K.: 4-4-07: 38
Address: 44-315

T.M.K.: 4-4-07: 40

MOI PL

KANEOHE BAY DRIVE

Legend:

- ① Photographer location and direction
- Existing sewer line (C&C)
- Proposed sewer lateral (locations approximate, may be adjusted to match field conditions)
- Subject properties
- Certified Shoreline
- 55-foot Waiver line
- ML Match Line (Fig. 2)

0 80 160
Scale In Feet

Source: City & County of Honolulu, Department of Design & Construction, 11/1/00.
Additional features surveyed by Control Point Engineering, 10/17/06.

Project:	97115-003
Approved:	JM
Drawn:	LB
Date:	7/24/2008
Scale:	1" = 80'

Figure 2.2a
Photographs of Lateral Areas, South Lots
Kaneohe Bay Sewer Lines
Kaneohe, Oahu, Hawaii

MFA MASA FUJIOKA & ASSOCIATES
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS

Kaneohe Bay

T.M.K.: 4-4-07: 28

T.M.K.: 4-4-07: 39

T.M.K.: 4-4-07: 40

T.M.K.: 4-4-07: 17

assumed lateral location (approx.)

T.M.K.: 4-4-07: 7

Address: 44-283

T.M.K.: 4-4-07: 4

Address: 44-279

T.M.K.: 4-4-07: 3

T.M.K.: 4-4-07: 2

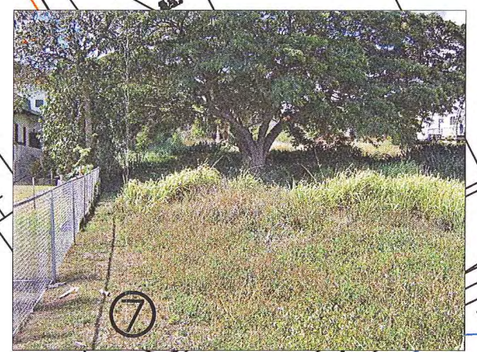
Address: 44-271

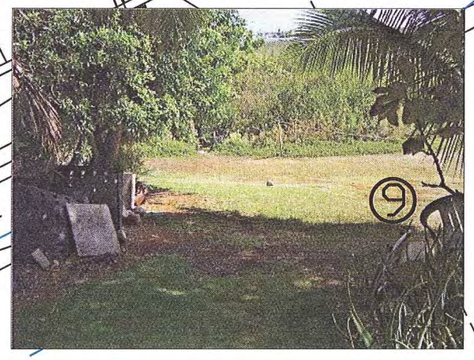
Address: 44-275

T.M.K.: 4-4-07: 5

PAKU PLACE

KANEOHE BAY DRIVE





Legend:

- Photographer location and direction
- Existing sewer line (C&C)
- Proposed sewer lateral (locations approximate, may be adjusted to match field conditions)
- Subject properties
- Certified Shoreline
- 55-foot Waiver line
- Match Line (Fig. 1)
- Former Panahaha Fishponds (approx. locations)

0 80 160

Scale In Feet

Source: City & County of Honolulu, Department of Design & Construction, 11/1/00.
Additional features surveyed by Control Point Engineering, 10/17/06.

Project:	97115-003
Approved:	JM
Drawn:	LB
Date:	7/24/2008
Scale:	1" = 80'

Figure 2.2b
Photographs of Lateral Areas, North Lots

Kaneohe Bay Sewer Lines
Kaneohe, Oahu, Hawaii

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3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

3.1 OVERVIEW

This section of the EA contains a description of the existing physical, biological and socio-economic environment affected by the project. The physical, biological and socio-economic factors were considered during the analysis of project components, potential impacts and mitigation measures, and project alternatives.

3.2 PHYSICAL ENVIRONMENT

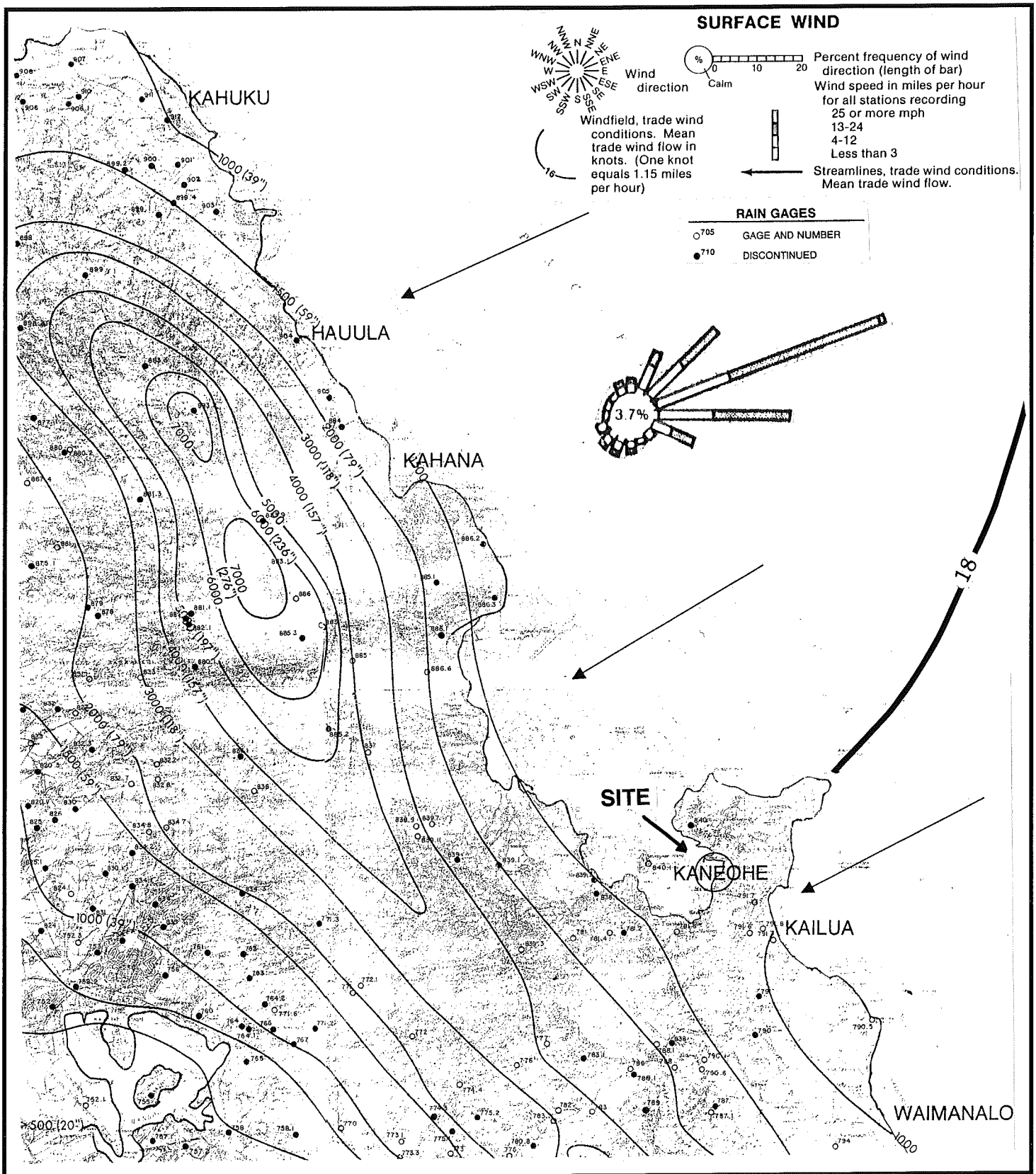
3.2.1 General Setting

The Hawaiian Archipelago comprises a chain of more than 100 islands spanning a distance of more than 1,500 miles (UH Dept. Geography, 1983). The islands are the emerged summits of volcanoes on a great submarine ridge that strikes northwest-southeast. The islands were formed by the passage of the Pacific lithospheric plate over a hot spot fixed in the earth's mantle (Macdonald et al., 1983). The sequential formation of the archipelago is indicated by the occurrence of submerged older islands in the northwest portion of the chain and by the relative youth and current volcanic activity of the islands of the State of Hawaii at the southeast end.

Six major islands comprise the State of Hawaii. From west to east they are Kauai, Oahu, Molokai, Lanai, Maui and Hawaii. The project site is located on the windward coast of the island of Oahu, the third largest island in the state with an area of 608 square miles. Oahu houses almost 80 percent of the State's people and is the State's center of government and industry (UH Dept. Geography, 1983).

3.2.2 Climate

The outstanding features of the Hawaiian Islands' climate include mild and equable temperatures year round, moderate humidity, persistence of northeasterly trade winds, remarkable differences in rainfall within short distances, and infrequency of severe storms (UH Dept. Geography, 1983). In most of Hawaii there are only two seasons. The "summer" season occurs between about May and October, when the sun is more nearly overhead, the weather warmer and drier, and the trade winds most persistent. The "winter" season occurs between about October and April, when the sun is in the south, the weather cooler, and the trade winds more often interrupted by other winds and by intervals of widespread clouds and rain (Figure 3.1 - Median Annual Rainfall Map and Surface Wind).



Median Annual Rainfall Isohyets in Millimeters and (Inches)

SOURCES:
State of Hawaii DLNR Rainfall Atlas of Hawai`i
Median Annual Rainfall Map, Oahu, 1986

Surface Wind Map
Atlas of Hawaii, University of Hawaii Press1983

N

Project No.	97115-003
Drawing No.	01
Approved By:	JCM
Drawn By:	BAS
Rev:	01
Date:	8/26/99
Scale:	None

Figure 3.1
Median Annual Rainfall Map and Surface Wind
Kaneohe Bay Sewers I.D.
Kaneohe, Koolaupoko, Oahu, Hawaii

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Mean annual temperature in the islands generally varies between 72° and 75°F near sea level and decreases by about 3°F for each 1,000 feet of elevation (UH Dept. Geography, 1983). Almost everywhere at low elevations the highest temperatures of the year are in the low 90s and the lowest near 50°F.

The islands' heaviest rains are brought by winter storms during the October-to-April season (UH Dept. Geography, 1983). The project site receives an average annual rainfall of approximately 60 inches (Figure 3.1 - Median Annual Rainfall Map and Surface Wind). Most of the rain is produced by the higher intensity Kona rains during the winter months. Kona rains can cause serious runoff and flooding problems in low-lying areas such as the project site. Fortunately, these conditions usually occur only a few days of the year. Potential impacts and mitigation measures for runoff control during construction are discussed in Section 5.2.4 of this EA.

3.2.3 Air Quality and Noise Levels

Air quality in most areas of Oahu is generally affected by vehicular traffic and stationary sources. The general lack of high volumes of both sources, combined with the normal fresh tradewind conditions, indicates that the air quality is good in the project area.

Noise levels are also anticipated to be low in the project area, due to the residential land use in the area. The existing ambient noise levels within the project area are anticipated to be dominated by vehicular travel along Kaneohe Bay Drive, with some potential input from recreational use of Kaneohe Bay and nearby Kaneohe Marine Corps Air Station (KMCAS).

Large military machinery and aircraft exhaust and noise at KMCAS may cause a localized degradation of air quality and increase in local noise levels. KMCAS is located across Kaneohe Bay, approximately 4,000 feet north of the northern end of the project. The Kailua Regional WWTP may also cause occasional degradation of air quality in the project area. The Kailua Regional WWTP is located approximately 2,500 east of the east end of the project.

Potential impacts and mitigation measures regarding air quality and noise levels are discussed in Section 5.2.1 of this EA.

3.2.4 Geology

The Hawaiian Islands are comprised of an undersea mountain range almost wholly built up by volcanic activity. The eroded remains of the Koolau volcanic shield, approximately 37

miles long and oriented northwest-southeast, comprise eastern Oahu. The shield-building phase of the volcano resulted in the Koolau Volcanic series. A long period of volcanic quiescence followed the shield building state, during which erosion occurred and alluvium and marine sediments accumulated along the coastal regions when a series of worldwide sea level changes occurred. During the periods of greater submergence, sedimentation filled the great valleys, resulting in flat valley floors and coral reefs grew in areas presently above sea level (Stearns and Vaksvik, 1938).

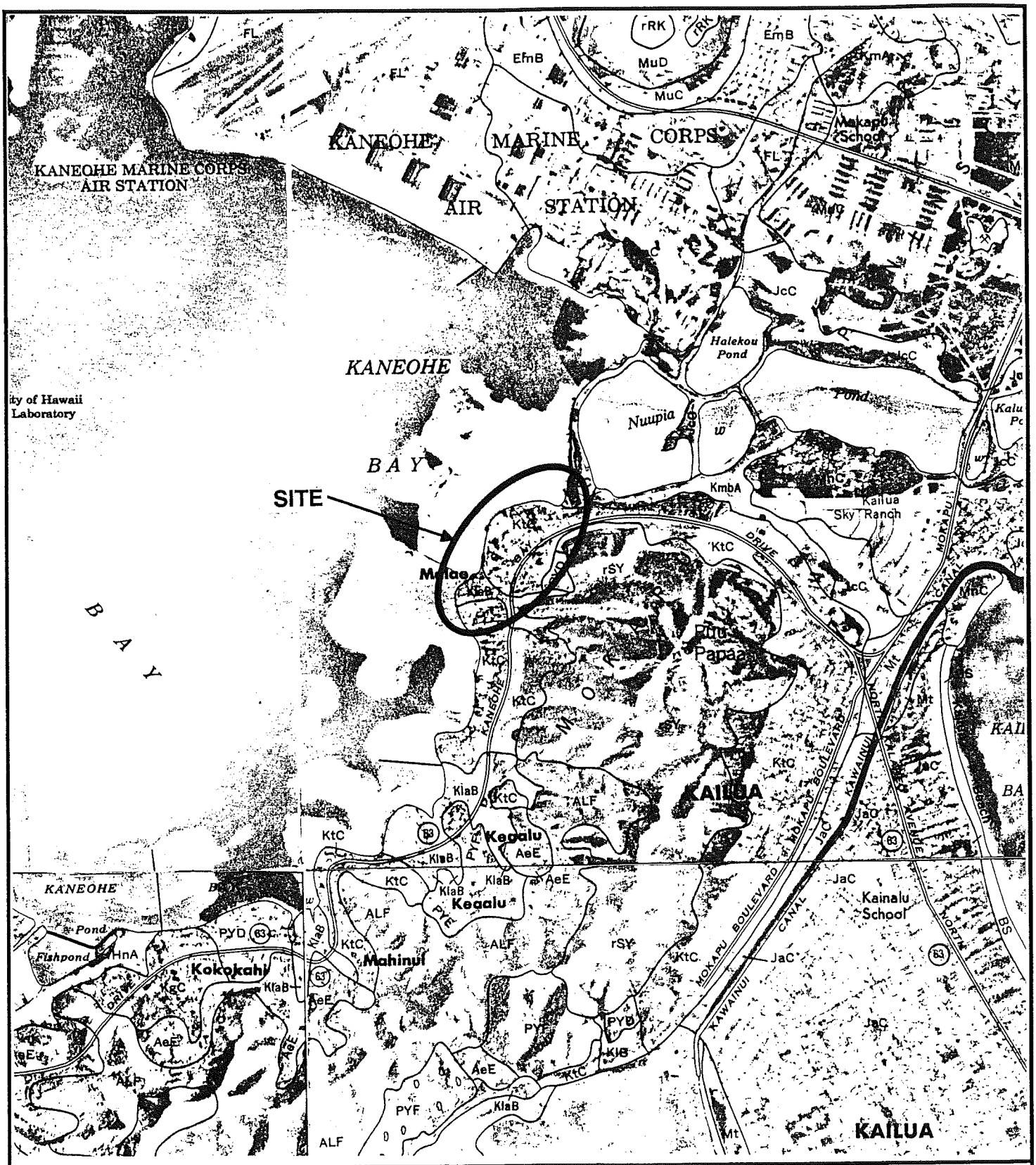
The site is located just southwest of the Mokapu Peninsula on the east side of Kaneohe Bay. Surface deposits in the area of the site include unconsolidated noncalcareous deposits. These deposits are chiefly younger alluvium, a black to brown fluvial deposit generally consisting of coarse permeable detritus only slightly weathered and in many places subangular (Stearns and Vaksvik, 1938).

3.2.5 Soils

Surface soil at the site (Figure 3.2 - Soils Map) is classified as Kokokahi Clay and Kawaihapai Stony Clay Loam by Foote et al. (1972). Foote et al. describe Kokokahi Clay to consist of very sticky, very plastic, very dark to dark gray clay with slow permeability occurring as a surface layer approximately 14 inches thick. This layer is underlain by approximately 12 inches of dark grayish-brown clay that has a subangular blocky structure, and approximately 14 to more than 20 inches of grayish-brown to light brownish-gray clay.

Kawaihapai Stony Clay Loam (0 to 2 percent slopes) is described to consist of dark brown clay loam with granular structure that is hard, firm, sticky and plastic occurring as a surface layer approximately 22 inches thick (Foote et al., 1972). This layer is underlain by about 32 inches of dark brown sandy loam that is slightly hard and slightly plastic. The soil is described to have moderate permeability.

Subsurface soils indicated by soil borings conducted during the geotechnical investigation for the Sewer ID project (MFA, 1998) generally consist of medium stiff to stiff brown clayey silts and silty clays overlying very stiff clayey silt (saprolite) in the northern half of the site. In the southern portion of the site, borings encountered medium stiff to stiff brown clayey silts and silty clays overlying very loose silty sand and soft gray silt with organics (lagoonal soils).



SOURCE: Foote, D.E., Hill, E.L., Nakamura, S. and Stephens, F.
Soil Survey of Island of Kauai, Oahu, Maui, Mokolai, and Lanai, State of Hawaii
U.S. Department of Agriculture
Soil Conservation Service
August 1972

Project No.	97115-003
Drawing No.	004
Approved By:	JCM
Drawn By:	LTI
Rev:	1
Date:	4-7-99
Scale:	1:24,000

Figure 3.2
Soils Map
Kaneohe Bay Sewers I.D.
Kaneohe, Koolaukopo, Oahu, Hawaii

Masa Fujioka & Associates
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3.2.6 Topography and Slopes

Topographic map coverage of the subject site is provided by the US Geological Survey (USGS) Kaneohe and Mokapu Quadrangles at a scale of 1:24,000 (USGS, 1983; Figure 3.3 - USGS Map). The elevation of the properties range between 0 and 40 feet above mean sea level. Slopes range from 7 to 20% within approximately 250 feet from Kaneohe Bay Drive, and range from 0 to 6% closer to the ocean (C&C, 1998b).

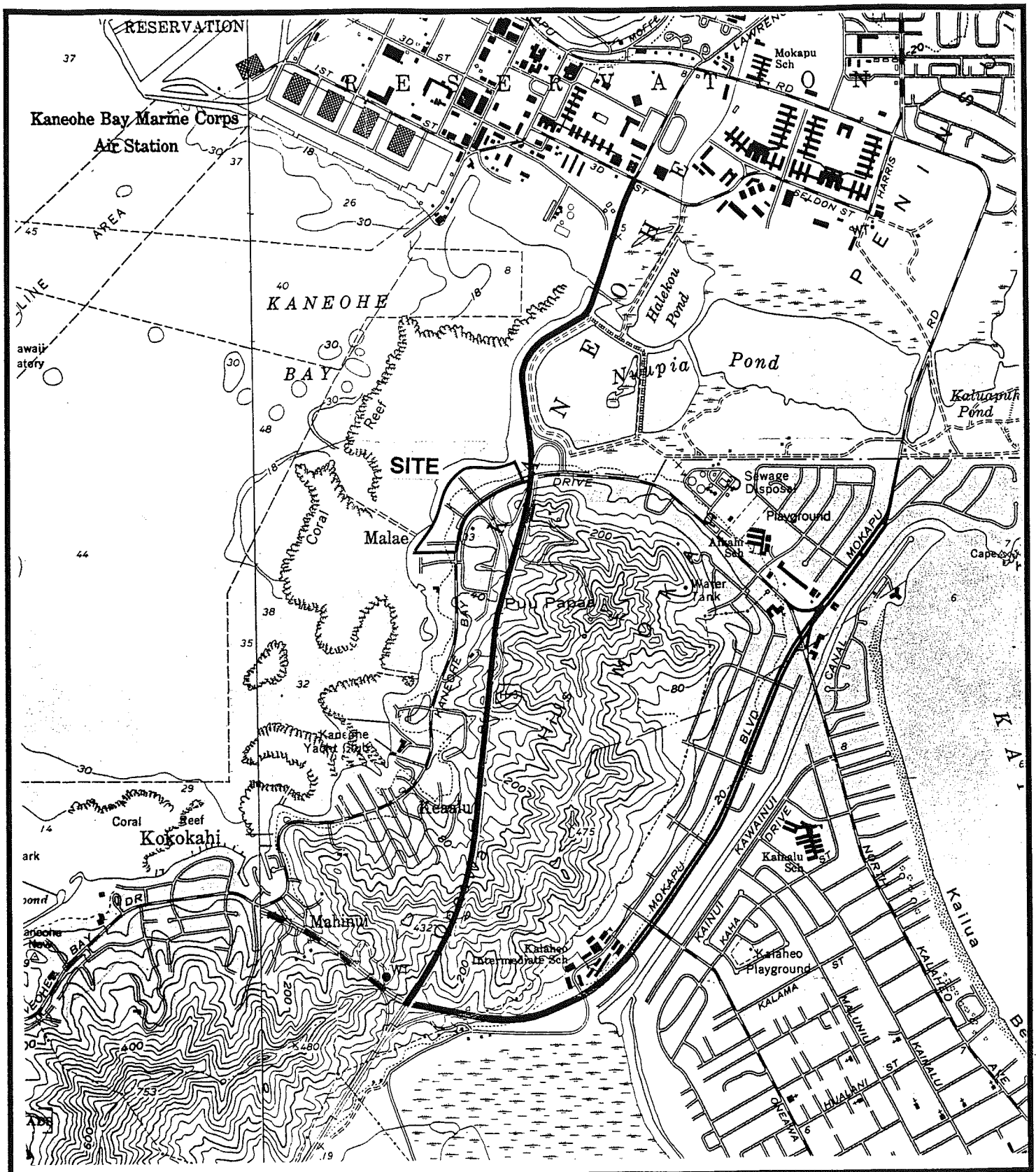
Many of the properties have small coves or inlets at the shoreline, and 3- to 7-foot high retaining walls are also evident along the shoreline. Lawns and ornamental vegetation extend to the shoreline for the majority of the properties, although natural shoreline vegetation is evident in some areas. Figures 2.2a and 2.2b show photos of the open grassed or lightly landscaped areas at the anticipated lateral installation project areas.

3.2.7 Hydrology and Drainage

No streams are located within the project boundaries. The nearest stream is an intermittent stream that flows from the Oneawa Hills down to the Kaneohe Yacht Club Harbor, approximately 3,000 feet south of the project. Storm water from Kaneohe Bay Drive travels through a series of storm water drains and concrete channels, including concrete channels through the project area, to Kaneohe Bay. Storm water drainage from the project residential area is by overland flow to Kaneohe Bay.

The project site is located in an area in which flood hazards are undetermined (FEMA, 1987). Generally, the project area appears adequately sloped that it does not experience any serious flooding problems. According to area residents, ponding of storm water does occur during heavy rain events since storm water drainage is by overland flow (MFA, 1999).

The subject lateral connections will be located within the SSA (generally 40 feet from the shoreline). Therefore, their installation is subject to Coastal Zone Management (CZM) regulations listed in HRS Chapter 205A. The CZM regulations are expanded at the county level by the establishment of Special Management Areas (SMAs), which control development along the shoreline. An SMA permit is required from the appropriate County agency for construction activity within the SMA. However, the former City and County Department of Land Utilization (now Department of Planning and Permitting) has ruled that the Kaneohe Bay Sewers ID project is not defined as "development" and is therefore exempt from SMA requirements, although a SSV is still required. Potential impacts and mitigation measures regarding hydrology and drainage issues resulting from the project are discussed in Section 5.2.4.



0 2000 4000

Scale In Feet

Source: United States Geological Survey
Topographic Map
Kaneohe & Mokapu Quadrangle, 1983

N

Project No.	97115-003
Drawing No.	03
Approved By:	JCM
Drawn By:	LTI
Rev:	01
Date:	4-7-99
Scale:	1:24000

Figure 3.3
USGS Map
Kaneohe Bay Sewers I.D.
Kaneohe, Koolaupoko, Oahu, Hawaii

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3.2.8 Groundwater Resources

The aquifer beneath the proposed project site is part of the Waimanalo System of the Windward Sector (Figure 3.4 - Aquifer Identification Map). The Waimanalo System is characterized by two aquifers (Mink and Lau, 1990). The upper aquifer is basal (fresh water in contact with sea water), unconfined (the water table is the upper surface of the saturated aquifer), and sedimentary (nonvolcanic lithology). Mink and Lau (1990) use a status code to describe the aquifer's development stage, utility, salinity, uniqueness, and vulnerability to contamination. They classify the upper Waimanalo aquifer as currently used and ecologically important; as low salinity (250 - 1000 mg/l Cl^-); and as highly vulnerable to contamination and irreplaceable (Mink and Lau, 1990).

The lower aquifer is characterized by Mink and Lau (1990) as basal (fresh water in contact with sea water), unconfined (the water table is the upper surface of the saturated aquifer), and dike (aquifers in dike compartments). Mink and Lau (1990) classify this aquifer as currently used for drinking water, as fresh (salinity < 250 mg/l Cl^-), and as irreplaceable with a low vulnerability to contamination.

The nearest drinking water wells are a cluster of three wells (#2245-01, 2245-02, and 2245-03) located approximately 3.9 miles south of the site (DOH, 1983) in a different aquifer system than the subject site. The project is located approximately 18,000 feet makai (seaward) of the Underground Injection Control (UIC) line (DOH, 1983).

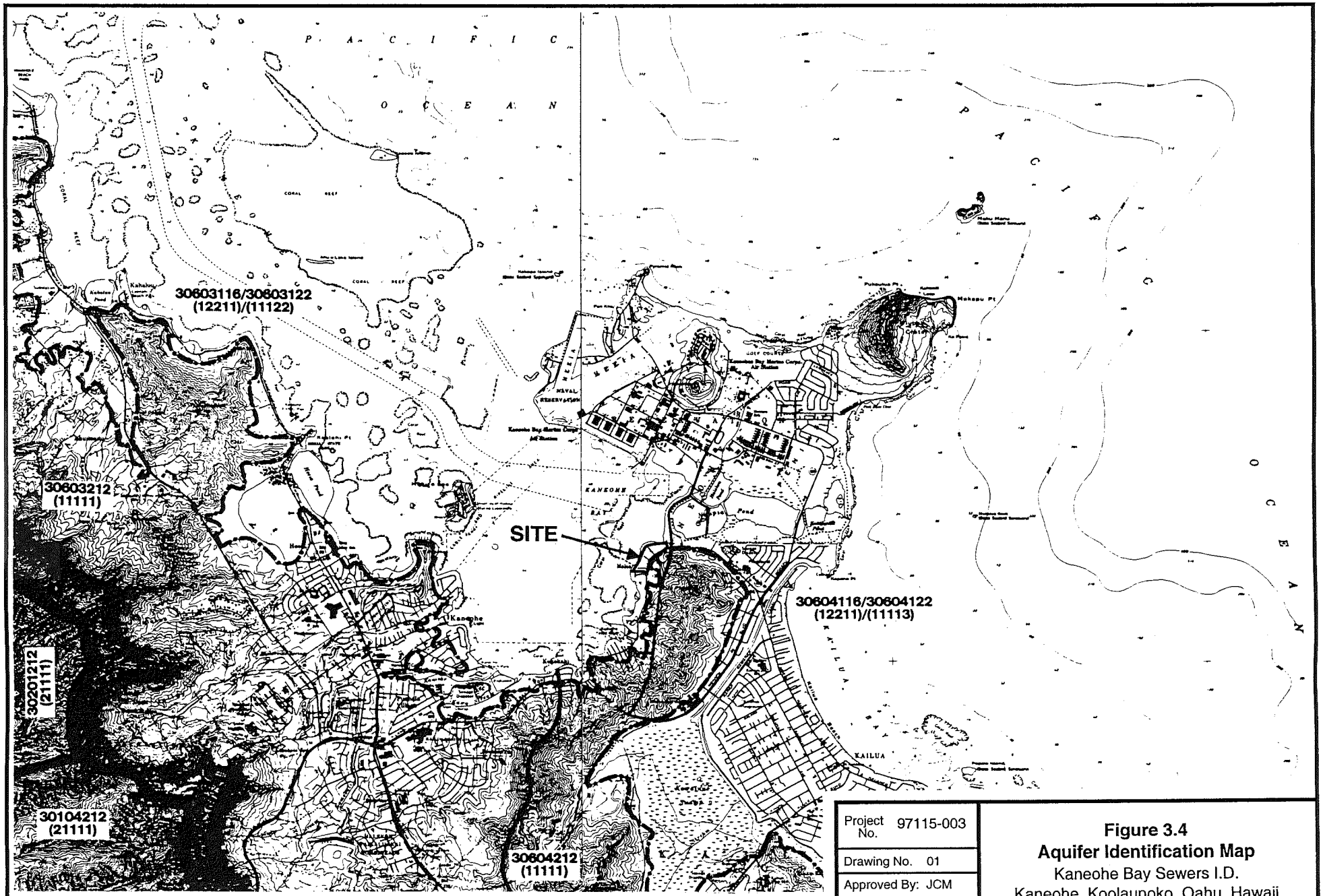
3.3 BIOLOGICAL ENVIRONMENT

3.3.1 Flora

A detailed botanical survey for the project was not undertaken, since the existing vegetation at the site consists mainly of residential landscaping. Typical plants include kiawe trees, palm trees, ferns, lily, hibiscus, croton, widelia, and other exotic plants.

3.3.2 Fauna

Non-domesticated animal and bird species in the project vicinity include a variety of rodent species, mongoose, and birds such as mynahs, sparrows, and doves, typical of the introduced fauna found in residential areas. No threatened or endangered species are anticipated in the project area, due to its residential nature.



SOURCE: Mink, John F. and L. Stephen Lau
Aquifer Identification and Classification for Oahu: Groundwater Protection Strategy for Hawaii
Water Resources Research Center
February 1990

Project No.	97115-003
Drawing No.	01
Approved By:	JCM
Drawn By:	LTI
Rev:	01
Date:	4-7-99
Scale:	as shown

Figure 3.4
Aquifer Identification Map
Kaneohe Bay Sewers I.D.
Kaneohe, Koolaupoko, Oahu, Hawaii

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3.3.3 Kaneohe Bay

Kaneohe Bay has been designated by DOH as Class AA waters. According to Hawaii Administrative Rules §11-54-03, the objective of Class AA waters is to "remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human-caused source or actions. To the extent practicable, the wilderness character of these areas shall be protected." The Bay is rich with natural resources that provide productive fisheries, excellent diving and snorkeling sites, and other recreational uses (KBTF, 1998). The Kaneohe Bay Sewers ID project should provide an overall benefit to Kaneohe Bay by decreasing the degradation attributable to individual wastewater disposal systems.

Potential impacts and mitigation measures regarding construction on Kaneohe Bay are discussed in Section 5.2.4.

According to the Hawaii Administrative Rules, Title 11, Chapter 62, "Individual wastewater systems (such as septic tanks) may be utilized in remote areas and in areas of low density. A goal has been established such that the construction of wastewater disposal systems depositing untreated sewage into the environment will not be allowed after the year 2000." The installation of the lateral connections to the new sewer line and the closure of individual wastewater systems will provide an overall long-term benefit by decreasing the degradation of coastal waters and aquifers attributable to individual wastewater disposal systems.

3.4 SOCIO-ECONOMIC ENVIRONMENT

3.4.1 Population

The resident population of Oahu is estimated to be 905,266 persons in 2005, and of Kaneohe is approximately 34,970 persons in 2000 (U.S. Census Bureau, 2006).

The Kaneohe Bay Sewers ID project and the installation of lateral connections does not expand the service area of the existing wastewater facilities at the Kaneohe WWPTF or the Kailua Regional WWTP, so it is not anticipated to result in increased development and population in the project area. The current development and population are part of the original service area these facilities were designed to accommodate.

3.4.2 Existing Land Use

Approximately 60% of the land in Hawaii is zoned as conservation land, partly because of the steep slopes and the need to preserve watersheds (UH Dept. Geography, 1983).

National parks and recreational preserves are included in this percentage. Agricultural uses, plantation agriculture and cattle ranching utilize approximately 35% of Hawaii's land. Urban uses, including residential, commercial, and industrial uses, comprise approximately 4%, and non-residential military use comprises the remaining 1% of land use in the State. The current State land use district classifications place the proposed project site within an Urban District (Figure 3.5).

The area immediately surrounding the project site is zoned as a residential district (R-10) (C&C, 1998a). According to the Land Use Ordinance, the intent of the residential district is to "allow for a range of residential densities." The specified intent of the R-10 district "is to provide areas for large lot developments ... located typically at the outskirts of urban development and may be applied as a transitional district between preservation, agricultural or country districts and urban districts" (DLU, 1997). The R-10 district "would also be applied to lands where residential use is desirable but some development constraints are present" (DLU, 1997). The development constraints present in the project area include shoreline setback requirements and other shoreline constraints.

3.4.3 Recreation

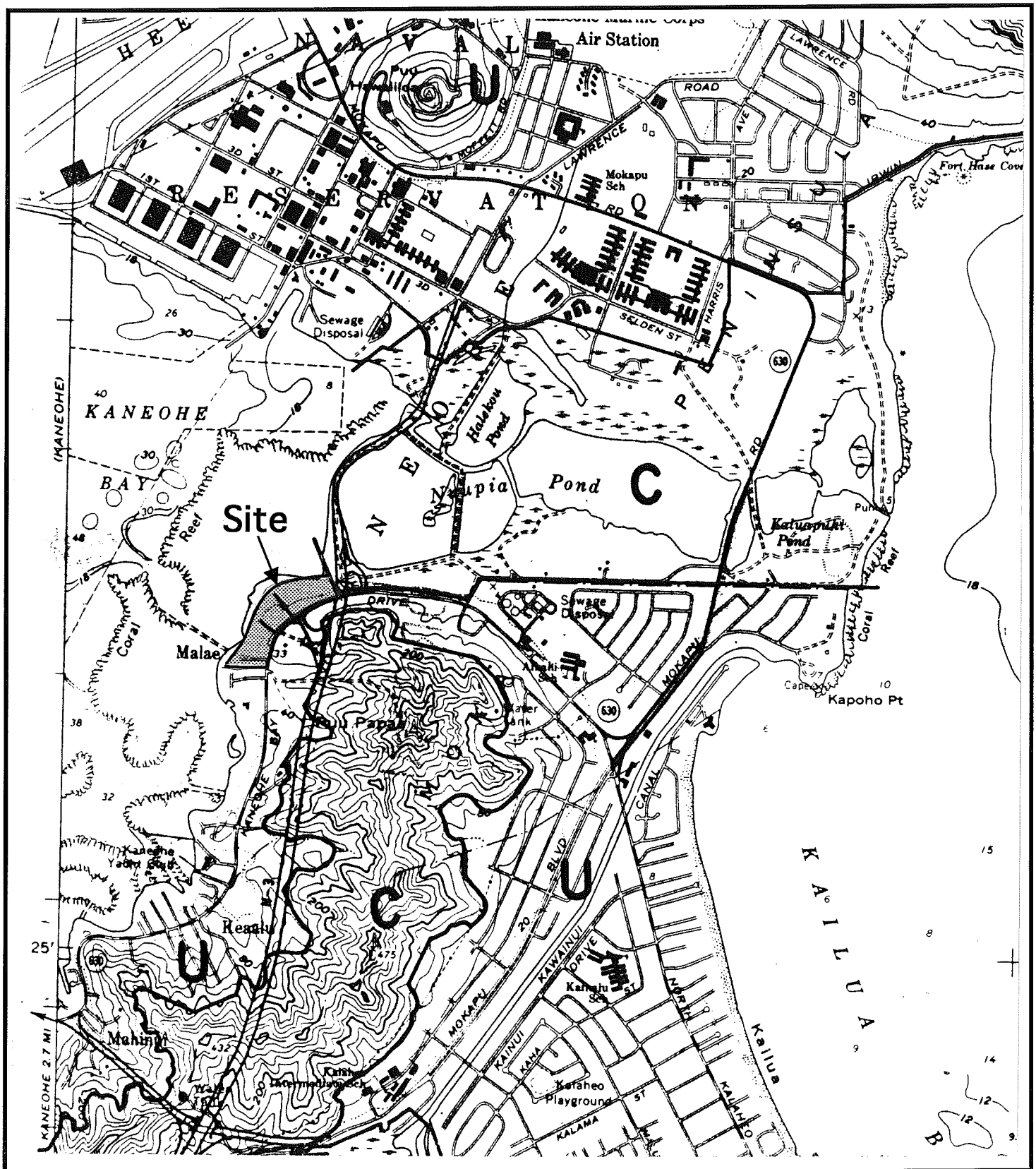
The area's principal recreation resource is Kaneohe Bay, which provides a range of recreational uses, including fishing, diving, snorkeling, boating, and other seaside activities (KBTF, 1998). Potential impacts of the project on Kaneohe Bay and proposed mitigation measures are discussed in Section 5.2.4.

3.4.4 Scenic and Visual Resources

Residential development in the project site largely blocks views of Kaneohe Bay from Kaneohe Bay Drive. The project will not block scenic views of ocean or mountain resources. Potential impacts of the project on scenic and visual resources and proposed mitigation measures are discussed in Section 5.4.4.

3.4.5 Archaeological and Cultural Resources

According to an archaeological assessment by Cultural Surveys Hawaii, the sewer ID project area is completely covered with modern house lots and graded, landscaped yards. There are a number of 1 to 2 meter (3 to 7 feet) high retaining walls built along the shore that have clearly been backfilled and landscaped. Other areas show indications of dredging in the bay. Their survey revealed no clear evidence of surface structures of archaeological significance within the project area.



LEGEND

U Urban
C Conservation

N

0 2000 4000
Scale In Feet

SOURCE: State of Hawaii Land Use Commission

Project No.	97115-003
Drawing No.	01
Approved By:	JCM
Drawn By:	BAS
Rev:	01
Date:	8/26/99
Scale:	1:24,000

Figure 3.5
State Land Use Map
Kaneohe Bay Sewers I.D.
Kaneohe, Koolaupoko, Oahu, Hawaii

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However, the survey identified historical records of former Panahaha fish ponds present below fill layers at the north end of the project area. These fish ponds are significant for information on Hawaiian history and prehistory that they are likely to yield. There is also the possibility that cultural deposits or evidence of habitation or human burials exist within the original soil matrix at the fish ponds. A copy of the assessment by Cultural Surveys Hawaii, completed for the sewer ID project, is attached as Appendix A.

The approximate location of the two fishponds is shown on Figure 2.1b. The properties addressed by this EA do not lie within the suspected former fishpond area, with the potential exception of Parcel 4-04-07:007 (Figure 2.1b). However, even on this property, the anticipated lateral connection is not within the suspected location of the fishpond. Archaeological monitoring is not deemed necessary for installation of the laterals covered by this EA. Under State law, if any cultural deposits or human skeletal remains are encountered during construction, work will stop in the immediate vicinity and the State Historic Preservation Division will be contacted.

3.4.6 Infrastructure

The main roadway in the area is Kaneohe Bay Drive, a paved two-lane road. Vehicular access to the residential properties is currently provided by a series of paved two-lane City and County and one-lane private roads.

Potable water is supplied by the City and County system. Telephone service and natural gas service are provided to the project area via separate underground utility lines. Electric power service and cable television service are provided to the project area via underground and overhead utility lines. These systems have been considered in the design and routing of the sewer ID project, and property owners will have to consider the locations of lines on their properties when routing the lateral connections. The impact and mitigating factors related to infrastructure are presented in Section 5.4.6.

3.4.7 Economic Considerations

According to the State Department of Business, Economic Development and Tourism (DBEDT), Hawaii's gross State product topped $53,895 million in 2005 (DBEDT, 2006). Hawaii's high land, labor, and materials costs contribute to a cost of living about 40 percent higher than the continental U.S. average (Office of Planning, 1998).

Economic considerations specifically related to the installation of the lateral connections include the City's costs of preparing the EA and SSV application, and private owner costs (including the closure of private systems and the installation of lateral connections). Measures provided by the City to mitigate private economic impacts are addressed in Section 5.4.7.

Closure of Private Systems

The Plumbing Code requires that a cesspool, septic tank, or seepage pit that is abandoned or discontinued from further use must first be emptied of sewage before it is completely filled with earth, sand, gravel, concrete or other approved material (C&C, 1998a). The property owners are individually responsible for arranging, acquiring the proper permits, and paying for the abandonment of their cesspool, septic tank, or seepage pit.

Installation of Lateral Connections

Under the ID project, at least one sewer lateral was installed for each property. The locations selected for the sewer laterals were based upon such factors as the number of residences on the property, the topography of the property, and the cesspool or septic tank location. The City sewer laterals terminate at the property line. A property owner is only allowed to make connection to the City sewer system at the lateral specifically provided for his property (C&C, 1998a). The cost of connection is the responsibility of the property owner.

Typically, a property owner will hire a licensed plumber to acquire the proper permits and to make the connection to the City lateral. A licensed plumber may charge anywhere from approximately $50 to $100 per linear foot to install this private sewer line. Prices may vary with the configuration of the property, the length of the private sewer line to be installed, the type of soil that must be excavated, the type and size of equipment that can be utilized on the property, etc. (C&C, 1998a).

City and County loans are available to qualified owners to finance the cost of making the sewer lateral connection. As shown in the table below, low-interest loans at either 0% or 2% rates may be available through the City and County Department of Community Services depending on a property owner's household size and household gross income level (from all sources). All loans will be secured by a mortgage on the property and will have a maximum term of 15 years. The term of the loan may be extended at the end of the 15 years if the borrower remains qualified for such a loan.

Table 3.1 Income/Interest Rate Schedule (revised 02/08)

RATE	0%			2%	4%	6%
Number in Household	Very Very Low Income (30%)	Very Low Income (50%)	Low Income (60%)	Moderate Income (80%)	Gap Group (Medium) (100%)	Gap Group (120%)
1	$19,950	$33,250	$39,900	$53,200	$66,500	$79,800
2	22,800	38,000	45,600	60,800	76,000	91,200
3	25,650	42,750	51,300	68,400	85,500	102,600
4	28,500	47,500	57,000	76,000	95,000	114,000
5	30,800	51,300	61,550	82,100	102,600	123,100
6	33,050	55,100	66,100	88,150	110,200	132,250
7	35,350	58,900	70,700	94,250	117,800	141,350
8	37,600	62,700	75,250	100,300	125,400	150,500
Additional*	2,250	3,800	4,550	6,050	7,600	9,150

* *To calculate income limits for households greater than 8, add the above amounts for each additional member.*

Once connected to the City sewer system, the property owner will be responsible for paying a monthly sewer service charge. The following are the current rates for sewer service charges (effective July 1, 2008):

A. For each single family/duplex dwelling, the monthly rate for each unit consists of a base rate of $50.40 plus $2.12 for each increment of 1,000 gallons over the first 2,000 gallons of water consumption (reduce consumption by 18% water irrigation factor).

B. For each multiple unit dwelling, the monthly rate for each unit consists of a base rate of $35.30 plus $2.12 for each increment of 1,000 gallons over the first 2,000 gallons of water consumption (reduce consumption by 18% water irrigation factor).

The sewer service charge will be included with the Board of Water Supply's water billing which is typically mailed out every two months.

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4.0 THE RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS, POLICIES AND CONTROLS FOR THE AFFECTED AREA

4.1 OVERVIEW

This section discusses the various land use plans and policies pertaining to the proposed sewer system expansion. Other plans and regulations related to the proposed project are also discussed.

4.2 POLICY PLANS

4.2.1 Overview of Policy Plans

The State of Hawaii, City and County of Honolulu, and Kaneohe Bay Task Force have adopted general plans to guide the physical, social and economic development of the islands in general and Oahu and Kaneohe Bay in particular. These general plans outline the objectives and policies that encourage the controlled development of resources (energy, economics, water, etc.). These policies include a general framework for the sewer system expansion project, including installation of lateral connections, as described below.

4.2.2 Hawaii State Plan

On May 22, 1978, the Hawaii State Plan was signed into law. The Hawaii State Plan serves "as a guide for the future long-range development of the State; identifies goals, objectives, policies, and priorities for the State. The Plan provides a basis for determining priorities and allocating limited resources, such as public funds, services, and human resources. It improves coordination of federal, state, and county plans, policies, programs, projects, and regulatory activities. The plan also establishes a system for plan formulation and program coordination to provide for an integration of all major state and county activities" (OSP, 1996).

The Hawaii State Plan objectives and policies that pertain most directly to the installation of laterals are contained in Section 226-11, 226-13, 226-14 and 226-15 of the Plan:

Section 226-11: Objective and policies for the physical environment - land-based, shoreline, and marine resources

(a) Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:

(1) Prudent use of Hawaii's land-based, shoreline, and marine resources.

(2) Effective protection of Hawaii's unique and fragile environmental resources.

(b) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:

(1) Exercise an overall conservation ethic in the use of Hawaii's natural resources.

(3) Take into account the physical attributes of areas when planning and designing activities and facilities.

(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.

(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation and unnecessary depletion.

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

(a) Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives.

(1) Maintenance and pursuit of improved quality in Hawaii's land, air, and water resources.

(2) Greater public awareness and appreciation of Hawaii's environmental resources.

(b) To achieve land, air, and water quality objectives, it shall be the policy of this State to:

(1) Foster educational activities that promote a better understanding of Hawaii's limited environmental resources.

(2) Promote proper management of Hawaii's land and water resources.

(3) Promote effective measures to achieve desired quality in Hawaii's surface, ground, and coastal waters.

(6) Encourage design and construction practices that enhance the physical qualities of Hawaii's communities.

(7) Encourage urban developments in close proximity to existing services and facilities.

(8) Foster recognition of the importance and value of the land, air, and water resources to Hawaii's people, their cultures, and visitors.

Section 226-14: Objective and policies for facility systems - in general

(a) Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, energy and telecommunication systems that support statewide social, economic, and physical objectives.

(b) To achieve the general facility systems' objective, it shall be the policy of this State to:

(1) Accommodate the needs of Hawaii's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.

(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.

(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.

(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.

The sewer ID project, including installation of lateral connections, responds to these objectives and policies by providing a sewer system that supports statewide social, economic, and physical objectives. Specifically, the sewer system accommodates the needs of community residents and reduces the negative impact on groundwater quality and coastal water quality from previous wastewater management practices (i.e., cesspools and septic tanks). The project has been designed in a manner that promotes prudent use of resources and that accommodates public concerns.

Section 226-15: Objectives and policies for facility systems - solid and liquid wastes

(a) Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:

(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.

(2) Provisions of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.

(b) To achieve solid and liquid waste objectives, it shall be the policy of this State to:

(1) Encourage the adequate development of sewerage facilities that complement planned growth.

(2) Promote re-use and recycling to reduce solid and liquid waste and employ a conservation ethic.

(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.

The sewer ID project, including the lateral connections, responds to the objectives and policies for waste by aiding in maintenance of basic public health and sanitation standards relating to treatment and disposal of wastes. The design of the proposed sewer system expansion provides efficient and economical disposal of waste by connecting to a new wastewater pump station and a nearby sewage treatment plant.

4.2.3 General Plan of the City and County of Honolulu

In 1992, the General Plan of the City and County of Honolulu was adopted as a comprehensive plan for the long-range development of Oahu (DGP, 1992). The plan includes the following policies relating to the subject project:

(1) Provide improvements to utilities in existing neighborhoods to reduce substandard conditions.

(2) Provide safe, efficient, and environmentally sensitive waste-collection and waste-disposal services.

(3) Protect the Island's well-known resources: its mountains and craters; forests and watershed areas; marshes, rivers, and streams; shoreline, fishponds, and bays; and reef and offshore islands.

(4) Allocate fiscal resources of the City and County to efficiently implement to the policies of the General Plan and the Development Plans.

(5) Ensure that government attitudes, actions, and services are sensitive to community needs and concerns.

The sewer ID project, including the lateral connections, responds to these objectives and policies of the City and County of Honolulu General Plan. The project improves the utilities in the subject neighborhood to reduce substandard conditions, which has resulted in numerous

complaints to the City from the community residents. The project provides safe, efficient and environmentally sensitive waste disposal, protecting nearby natural resources.

4.2.4 Kaneohe Bay Master Plan

Pursuant to Act 208, Session Laws of Hawaii 1990, the Legislature established the Kaneohe Bay Master Planning Task Force to develop a comprehensive master plan for Kaneohe Bay (KBMPTF, 1992). The Kaneohe Bay Master Plan was developed through extensive public participation with the assistance of a Kaneohe fisherman, a commercial recreation businessperson, representatives from neighborhood boards and State agencies, as well as non-voting representatives of the KMCAS and the City and County of Honolulu.

In their development of the Master Plan, the Task Force stated the following land use positions that impact the subject project:

(1) *Mitigate deteriorating water quality in key watersheds by installing pollution prevention measures.*

(2) *Restrict development in the watershed in accordance with the Koolaupoko Development Plan. Limit development where a sewage collection system does not exist, and restrict use of septic individual waste water systems to residential lots with sufficient size (15,000 square feet or more) for proper disposal.*

(3) *Delay northward extension of the sewage collection system until existing infrastructure deficiencies are rectified. Repair and upgrade the existing sewage collection system to prevent by-passes of raw or partially treated sewage effluent into the Bay and to prevent sewage infiltration through groundwater to the Bay.*

The sewer ID project, including the lateral connections, responds to these objectives and policies of the Master Plan. The project will replace the use of problematic individual waste water systems and prevent sewage infiltration through groundwater to the Bay.

4.2.5 State Environmental Policy

Adopted in 1974 and patterned after the National Environmental Policy Act (NEPA) requirements, Hawaii's Environmental Impact Statement law (HRS 343) requires the preparation of environmental assessments and environmental impact statements for many development projects. The law requires that government give systematic consideration to the environmental, social and economic consequences of proposed development projects before granting permits and allowing construction to begin. The National Environmental Policy Act

also assures the public right to participate in planning projects that may affect the community (OEQC, 1997).

An environmental assessment is required under HRS 343 for any program or project that proposes one or more of the following eight land uses or administrative acts:

1. *Use of state or county lands or funds other than for feasibility studies or the purchase of raw land,*
2. *Use of any land classified as Conservation District set by state law,*
3. *Use within the Shoreline Setback Area (usually 40 feet inland from the certified shoreline),*
4. *Use within any Historic Site or District as designated in the National or Hawaii Register of Historic Sites,*
5. *Use within the Waikiki Special District as designated by the county,*
6. *Any amendment to county general plans that would designate land as other than agriculture, conservation or preservation except comprehensive plan amendments initiated by the county,*
7. *Reclassification of State Conservation District lands, and*
8. *Construction or modification of helicopter facilities which may affect conservation land, the shoreline area, or historic properties.*

The sewer ID project was county-funded, and the main sewer line has been installed. An EA was prepared to comply with the State's environmental policy and to give appropriate regard to environmental, economic and technical concerns. This Supplemental EA was prepared to cover the installation of the lateral connections within the SSA by the individual property owners.

4.2.6 Hawaii Administrative Rules

The Hawaii Administrative Rules, Title 11, were developed and are enforced by the State Department of Health. Chapter 62 of these rules outlines wastewater systems management in Hawaii. These rules were finalized on January 14, 2004 (HAR, 2004).

The State Department of Health has set regulations for wastewater systems management. The purpose of Chapter 62 is to "insure that the disposal of wastewater from water treatment works and individual wastewater systems:

1) *Does not contaminate or pollute any drinking water or potential drinking water supply, or the waters of any beaches, shores, ponds, lakes, streams, groundwater, or shellfish growing waters;*

2) *Does not encourage the harborage of insects, rodents or other possible vectors;*

3) *Does not give rise to nuisances;*

4) *Does not become a hazard or potential hazard to public health, safety and welfare;*

5) *Contributes to the achievement of wastewater management goals contained in approved county water quality management plans;*

6) *Reinforces state and county planning policies; and*

7) *Are consistent with the State's administration of the National Pollutant Discharge Elimination System."*

According to Chapter 62, "Individual wastewater systems (such as septic tanks) may be utilized in remote areas and in areas of low density. A goal has been established such that the construction of wastewater disposal systems depositing untreated sewage into the environment will not be allowed after the year 2000." The sewer ID project, including the installation of lateral connections, will help the City meet these State requirements.

4.3 PROJECT PERMIT REQUIREMENTS

The following permits were reviewed as to applicability to this project. Certain permits are discussed in detail in the following sections.

4.3.1 Federal Permits

Permit for Activities in Waterways

Not applicable. The project does not cross or enter waterways.

Section 404 for discharges into the waters of the U.S.

Discussed in Section 4.3.2, NPDES Permit.

Flood Determination in General Flood Plain District / Development Applications in Flood Hazard District / Flood Hazard Variance

According to a Flood Insurance Rate Map (FIRM) for the City and County of Honolulu, the entire project site is classified as "Other Areas - Zone D: Areas in which flood hazards are undetermined" (FEMA, 1989; panel 60 of 135).

4.3.2 State of Hawaii Permits

Conservation District Use Permit

Not applicable. The project is not in a Conservation District.

Special Permit - State Land Use, Agricultural, and Rural Districts

Not applicable. The project is not in an Agricultural or Rural District.

Historic Sites Review

Information regarding review of historic sites is presented in section 5.4.5.

In Stream Use of Water: Stream Channel Alteration

Not applicable. The project does not involve altering any stream channel or using stream water.

Variation from Pollution Controls (Noise and Air Pollution)

Installation of lateral connections on individual properties is not anticipated to require noise and air pollution variances; however, if required, such variances will be obtained by the property owners' contractors.

Section 401, Water Quality Certification

Not applicable. The project does not involve conducting work within State waters.

CZM Consistency Determination

The Hawaii Coastal Zone Management Program (HCZMP) was established to guide the development, protection, and use of the land and ocean resources within Hawaii's coastal zone (OSP, 1990). The objectives of the HCZMP are stated in Chapter 205A of the Hawaii Revised Statutes (HRS, 1998b). Any significant development activity within the coastal zone is required by law to conform to the HCZMP objectives and policies. The objectives are listed below:

1. *Recreational resources; (A) Provide coastal recreational opportunities accessible to the public.*
2. *Historic resources; (A) Protect, preserve, and where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.*

3. *Scenic and open space resources; (A) Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.*

4. *Coastal ecosystems; (A) Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*

5. *Economic Uses; (A) Provide public or private facilities and improvements important to the State's economy in suitable locations.*

6. *Coastal hazards; (A) Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.*

7. *Managing development; (A) Improve the development review process, communication, and public participation in the management of coastal resources and hazards.*

8. *Public participation; (A) Stimulate public awareness, education, and participation in coastal management.*

9. *Beach protection; (A) Protect beaches for public use and recreation.*

10. *Marine resources; (A) Implement the State's ocean resources management plan.*

The HCZMP is expanded on the county level by the establishment of Special Management Areas (SMA) that control development along the shoreline. An SMA permit is required from the appropriate County agency for construction activity within the SMA. However, the City and County Department of Planning and Permitting has ruled that the proposed project is not defined as "development" and is therefore exempt from SMA requirements, although a SSV is still required.

Perform Work Affecting State Highway

Installation of the lateral connections at individual property owners' lots is not expected to affect State highways.

Cross or Enter State Energy Corridor

According to the State of Hawaii, Department of Transportation, Harbors Division, this project does not cross or enter any State Energy Corridors (DOT, 1999b).

EA/EIS

In accordance with the provisions set forth in Chapter 343, Hawaii Revised Statutes, and the significance criteria of Chapter 200, Title 11, Hawaii Administrative Rules, this assessment

indicates that the project will have no significant adverse impact to archaeological sites, water quality, noise, existing utilities, or wildlife habitat, and will not require an EIS.

Due to the fact that the installation of the laterals requires construction work within the shoreline setback area, an EA (this document) is required prior to construction.

NPDES Permit

In 1972, the Federal Water Pollution Control Act (often referred to as the Clean Water Act or CWA) was amended to provide that the discharge of pollutants to waters of the United States from any point source is effectively prohibited, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Amendments to the CWA in 1987 added Section 402(p) to the Act and establishes a framework for regulating municipal and industrial discharges under the NPDES program.

NPDES permits were obtained for construction of the sewer ID project. As individual lateral connection projects are expected to disturb less than 1 acre of land, NPDES permits for storm water control are not needed. While dewatering may be required in some locations, contractors are likely to use back sections of the trench or dewatering pits for recharge of dewatering effluent, to avoid off-site discharge and the need for a dewatering permit. If discharge of dewatering effluent to Kaneohe Bay or the storm drainage system is required, the individual owners will obtain the appropriate NPDES permits.

4.3.3 City and County of Honolulu

Development Plan Public Facilities Map Amendment

Exempt. The project is considered part of an improvement district. Per City Ordinance No. 93-1, improvement districts are not considered as a major public facility and are not required to be depicted on the Public Facilities Map.

Property Ownership

Work for the installation of laterals will be conducted on private properties.

Conditional Use Permit, or any other relevant city Permit

Not applicable. The installation of the lateral connections is part of a project constituting "public use" under the Land Use Ordinance (LUO), which may occur in any zoning district.

Special Management Area Use Permit (SMA)

Exempt. The former City and County Department of Land Utilization has ruled that the proposed project is not defined as "development" and is therefore exempt from SMA requirements. The letter exempting the project from SMA requirements is attached in Appendix B.

Street Usage Permit

To be obtained by the contractor prior to construction if required; however, the work is anticipated to be conducted on private lots and street usage permits will not likely be needed.

Shoreline Setback Variance

The purposes of shorelines setbacks, under Revised Ordinances of Honolulu (ROH), Chapter 23, are to protect and preserve the natural shoreline, especially sandy beaches; to protect and preserve public pedestrian access laterally along the shoreline and to the sea; and to protect and preserve open space along the shoreline. It is also a secondary policy of the city to reduce hazards to property from coastal floods. To carry out these policies, Chapter 23 establishes standards that generally prohibit within the shoreline area any construction or activity that may adversely affect beach processes, public access along the shoreline, or shoreline open space.

Section 23-1.8 provides the criteria for granting a variance to the shoreline setback requirements. Criteria (b)(2) states that the director may also grant a variance based upon finding that the proposed structure or activity meets the Public Interest Standard. That is, a variance may be granted for an activity or structure that is undertaken by a public agency or improvement that is undertaken by a private entity and is clearly in the public interest; provided that the proposal is the practicable alternative that best conforms to the purpose of Chapter 23 and the shoreline setback rules. Public interest shall be principally of benefit to the general public, as determined by the director.

The connection of the project households to the recently installed sewer line is clearly in the public interest. The conversion of individual wastewater systems to the municipal system is expected to improve the water quality in Kaneohe Bay, clearly a benefit to the general public. In addition, the project installs no above-ground structures and, once the sewer laterals have been installed and the ground surface restored, no change to the existed ground surface condition or structures will be evident, and there will be no impact to beach processes, public access along the shoreline, or shoreline open space.

Special District Permit

Not applicable. The project is not located within a special district.

Subdivision Permit

Not applicable. No division of lots or parcels is to be done under this project.

Permit to Discharge Effluent (Temporary)

If, during installation of the laterals on their properties, individual landowners will have to discharge construction dewatering effluent into the City and County storm drainage system, they must complete and submit the appropriate application to the Department of Environmental Services.

Grubbing, Grading, and Stockpiling Permit

To be obtained by the contractor prior to construction of the project.

Permit to Excavate in Public Right-of-Way

To be obtained by the contractor prior to construction of the project.

5.0 SUMMARY OF PROBABLE IMPACTS OF THE PROPOSED ACTION AND PROPOSED MITIGATION MEASURES

5.1 OVERVIEW

This section discusses the probable impacts of the lateral installation and the proposed mitigation measures. Impacts can be either short- or long-term. Short-term impacts are generally minor and construction related, while long-term impacts are related to the cost of the installation.

5.2 PHYSICAL ENVIRONMENT

5.2.1 Air Quality and Noise Levels

Impacts on air quality and noise from the individual owners' installation of the sewer connection are anticipated to be minor. Some short-term deterioration of local air quality and increase in noise levels associated with installation of the connections and closing of the individual wastewater systems is anticipated. These vectors will primarily affect the construction workers and nearby residents. These short-term effects will be short-term and intermittent, depending on when the individual owners schedule the work.

Odor emissions during pumping of the individual wastewater systems are anticipated to be short-term, on the order of minutes, and comparable to routine pumping that occurs during regular maintenance of these systems. For most systems, pumping out the sewage into a pump truck will be the only event that has the potential to generate odor or bacterial atmospheres. After pumping out the individual wastewater systems, the systems will be closed in place by filling the system with an inert material such as earth, sand, gravel, or concrete. Filling is not anticipated to generate odor since the sewage will have been previously removed.

Normal trade wind patterns along the windward shore area should disperse short-term pollutant emissions generated by construction activities. Construction management measures (i.e., dust control and "good housekeeping") are expected to minimize these adverse effects. Individual owner construction activities must comply with provisions of HAR Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33, Fugitive Dust, which states that:

> The contractor should provide adequate measures to control dust from the road areas and during the various phases of construction. These measures include, but are not limited to:

a. Planning the different phases of construction, focusing on minimizing the amount of dust generating materials and activities, centralizing on-site vehicular traffic routes, and locating potentially dusty equipment in areas of least impact;

b. Providing an adequate water source at the site prior to start up of construction activities;

c. Landscaping and rapid covering of bare areas, including slopes, starting from the initial grading phase;

d. Controlling of dust from shoulder and access roads;

e. Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and

f. Controlling of dust from debris being hauled away from project site.

Heavy vehicles traveling to and from the project site must comply with the provisions of the DOH's Administrative Rules, Chapter 11-42, "Vehicular Noise Control for Oahu." Furthermore, activities associated with the construction phase of the project must comply with the DOH's Administrative Rules, Chapter 11-46, "Community Noise Control" which states that:

a. The contractor must obtain a noise permit if the noise levels from the construction activities are expected to exceed the allowable levels of the rules as stated in Section 11-46-6(a).

b. Construction equipment and on-site vehicles requiring an exhaust of gas or air must be equipped with mufflers as stated in Section 11-46-6(b) (1)(A).

c. The contractor must comply with the requirements pertaining to construction activities as specified in the rules and the conditions issued with the permit as stated in Section 11-46-7(d) (4).

Despite mitigation measures, complaints relative to fugitive dust and construction noise are to be expected, thereby increasing calls for police service to the area. If the Department of Design and Construction deems that construction air quality and noise impacts must be controlled further (i.e., as a result of justifiable complaints by residents), the contractor will be required to implement additional corrective actions (C&C, 1998a).

Positive long-term effects on air quality consist of eliminating odors associated with individual sewer systems.

Negative long-term effects on air quality and noise are not anticipated. Although air quality problems have been associated with the Kailua Regional WWTP, connection of individual owners to the new sewer line will have minimal impact on the WWTP, since it does not significantly increase the flow to the WWTP. The design average flow of the Kaneohe Bay Sewers ID Project is 0.047 million gallons per day (mgd), and the design peak flow is 0.250 mgd; these flows are a very small part of the current and design average and peak flows to the Kailua Regional WWTP. The existing (2006) average wastewater flows to the Kailua Regional WWTP are 17.5 mgd and the design peak flow for the WWTP facility is 28.0 mgd (Wilson Okamoto et al., 1998). As previously stated, the project does not expand the service area of the existing wastewater facilities at the Kaneohe WWPTF or at the Kailua Regional WWTP. The ID project, including the individual lateral connections, is part of the original service area these facilities were designed to accommodate.

Capacity-related and noncapacity-related issues, including air quality and noise concerns, at the Kailua Regional WWTP are addressed in the Kailua-Kaneohe-Kahaluu Facilities Plan (Wilson Okamoto et al., 1998). The Facilities Plan contains a 20-year plan that determines the future needs for the Kailua-Kaneohe-Kahaluu wastewater service area and the required improvements to the wastewater treatment plant, preliminary treatment facilities, pump stations, and the collection and disposal system.

The Facilities Plan proposes the following major elements for future sewerage work and improvements to the Kailua-Kaneohe-Kahaluu service area:

- "No new Kailua plant processing facilities, except ultraviolet disinfection and modifications with existing facilities -- secondary clarifiers, influent pump station and centrifuge building.
- Odor and noise control improvements for the Kailua Regional WWTP.
- Rehabilitation of seven (7) collection system basins, including collection system lines in the Kalaheo Avenue area.
- Provide flow equalization storage facilities for the Kailua Basin following a determination of 1) acceptability of planning for a 2-year or a 5-year storm, and 2) the extent of reduction in infiltration/inflow by rehabilitation measures.
- 8.5 million gallon (MG) flow equalization storage at Kaneohe wastewater primary treatment facility (WWPTF).
- 0.9 MG flow equalization storage at Ahuimanu WWPTF.

- Collection system improvements, including relief lines, rehabilitation or replacement of trunk sewers, and pump station improvements and upgrades.
- Sewer Improvement Districts in nine (9) areas." (Wilson Okamoto et al., 1998)

According to the Facilities Plan, improvements to the Kailua Regional WWTP will be phased over several years in three phases: short-term, intermediate-term, and long-term. A number of improvements address capacity and odor/noise issues. Many of the collection system's capacity issues have been related to infiltration and inflow of groundwater and storm water into the collection system. Infiltration and inflow issues are being addressed by the City through rehabilitation of existing systems, and through education of the public regarding the impacts of illegal connections. In addition, system capacity will be improved to accommodate either a 2-year or 5-year storm (currently under study; Wilson Okamoto et al., 1998).

A second Improvement District project, the Kahaluu Sewers Section 3 I.D. is currently pending. The properties in the project service area utilize private, individual wastewater disposal systems such as cesspools, and the project will eliminate failed cesspool systems and potential threat to public health and the environment. The flow for this project, which will also be added to the Kailua Regional WWTP, is estimated to average 0.345 mgd, therefore also minimally impacting the WWTP. Other planned sewer Improvement Districts are included in the Facilities Plan (Wilson Okamoto et al., 1998). Again, these projects do not expand the service area of the existing wastewater facilities at the Kaneohe WWPTF or at the Kailua Regional WWTP, but are part of the original service area these facilities were designed to accommodate. Long-term improvements to the treatment facilities, particularly those that are capacity related, will be phased to match event-driven projects in the collection system (Wilson Okamoto et al., 1998).

5.2.2 Soils

The project will involve the installation of sewer laterals in trenches. Trench excavations for the laterals are not anticipated to extend to the groundwater table.

Some of the excavated soils may be reused as trench backfill. Soils unsuitable for reuse as structural fill will need to be removed from the site. Property owners should require their contractors to place imported soils in an efficient manner that minimizes their impact to areas outside the trenches, and to use appropriate dust control measures during construction.

Upon completion of the installation, the ground surface will be returned to preconstruction conditions. There will be no significant long-term impact to the soils in the project area.

5.2.3 Topography and Slopes

There will be no grading conducted during the project and, therefore, there will be no short-term or long-term impacts to the project site topography and slopes.

5.2.4 Hydrology and Drainage

Construction activities could provide short-term impact to the quality of storm water drainage from the project to Kaneohe Bay. Individual property owners should require their contractors to follow best management practices in the storage of soil and supplies, so as to protect these materials from impacting the quality of storm water runoff to Kaneohe Bay.

Long-term adverse impacts on hydrology and drainage are not anticipated. The long-term impact to Kaneohe Bay will be a positive one, with the elimination of private sewer systems that presently negatively impact the bay through transmission of sewage in groundwater.

5.2.5 Groundwater Resources

The excavations for the sewer laterals may extend to groundwater as the excavations move near the main on some of the properties, based on the available information of the elevations of the installed chimneys. Contractors will likely temporarily store dewatering effluent in back sections of the trench or in infiltration pits excavated on-site for that purpose. Contractors are not permitted to discharge effluent into the storm drainage system or overland to Kaneohe Bay without obtaining an NPDES permit.

The project is not anticipated to have a negative effect on the caprock or basal aquifer below. The contractor will be required to have pollution prevention BMPs in place to prevent contamination of groundwater at the construction site.

The long-term impact to the groundwater in the project area will be a positive one, with the elimination of private sewer systems that presently negatively impact groundwater.

5.3 BIOLOGICAL ENVIRONMENT

5.3.1 Flora

Vegetation at the site consists mainly of residential landscaping, and threatened or endangered species are not expected. To the extent possible, vegetation removal will be kept to a minimum, and the project is not expected to have a significant adverse effect on flora in the area.

5.3.2 Fauna

No threatened or endangered species are anticipated in the project area, due to its residential nature. The project will not have a significant adverse impact on fauna in the area.

5.3.3 Kaneohe Bay

The project is unlikely to affect the biological environment of Kaneohe Bay since each sewer lateral project will be small and contractors will employ BMPs to limit contaminated storm water runoff from entering Kaneohe Bay. Potential impacts and mitigation measures regarding storm water and dewatering effluent control during construction were discussed above in Section 5.2.4.

The long-term impact to Kaneohe Bay will be positive, with the elimination of private sewer systems that negatively impact the bay through transmission of sewage in groundwater.

5.4 SOCIAL ENVIRONMENT

5.4.1 Population

The project is not sufficiently large to have a significant effect on the Windward population. The Kaneohe Bay Sewers I.D. project does not expand the service area of the existing wastewater facilities at the Kaneohe WWPTF or the Kailua Regional WWTP, and installation of the sewer laterals is not anticipated to result in increased development and population.

5.4.2 Existing Land Use

Short-term impact to individual residences will occur during installation of their lateral connections. Due to the residential nature of the project area, with homes and structures closely spaced, short-term impacts and inconveniences caused by the construction work will be unavoidable.

Contractors must perform their work in accordance with all applicable City, State and Federal regulations, with special emphasis placed upon safety, health and environmental concerns, and minimizing the effect of the construction on the residential neighborhood.

5.4.3 Recreation

The project area's principal recreation resource, Kaneohe Bay, could potentially be impacted through the discharge of silty storm water during construction. However, contractors will employ BMPs as required to eliminate such discharge.

The project will provide an overall long-term environmental benefit to Kaneohe Bay by decreasing the degradation of coastal waters and aquifers attributable to individual wastewater disposal systems, thereby improving recreational opportunities.

5.4.4 Scenic and Visual Resources

The installation of laterals may result in short-term impacts on scenic and visual resources for property residents, since construction will take place directly in their yards. However, these impacts will be temporary in nature and no addition of permanent above-ground structures is included in this project. After completion of the work, the ground surface will be restored. Therefore, there will be no long-term impacts to scenic and visual resources.

5.4.5 Archaeological and Historical Resources

According to an archaeological assessment by Cultural Surveys Hawaii, the project area is completely covered with modern house lots and graded, landscaped yards. There are a number of 1 to 2 meter (3 to 7 feet) high retaining walls built along the shore that have clearly been backfilled and landscaped. There is no clear evidence of any surface structures of archaeological significance within the project area, and no archaeological features were encountered during construction of the sewer ID project.

In the event that any human burials, artifacts, or other cultural remains or deposits are encountered during installation of the laterals, the contractor will contact the SHPD. Work in the immediate area will be suspended until the SHPD is able to assess the impact and make further recommendations for mitigative measures if warranted.

5.4.6 Infrastructure

Impacts to infrastructure from the work on private properties is expected to be minimal. The project does not expand the service area of the existing wastewater facilities at the Kaneohe WWPTF nor at the Kailua Regional WWTP, and will not necessitate any changes in infrastructure at these facilities. The ID project is part of the original service area these facilities were designed to accommodate. There are no anticipated long-term impact to utility systems.

The project will provide a long-term beneficial impact to the area's wastewater collection system, by providing a solution to many of the chronic sanitation problems that are being faced by individual households.

5.4.7 Economic Considerations

The project will have a small beneficial short-term impact on Hawaii's economy by providing work for contractors that will install the laterals. The project will also have beneficial long-term economic impacts on owners of properties included in the project. Beneficial long-term economic impacts are related to the shifting of the cost of wastewater system maintenance from the property owners to the City. Property owners will no longer have to finance maintenance and repairs of their individual wastewater disposal systems. The costs related to maintenance of the proposed sewage system will be the responsibility of the City and County of Honolulu. In addition, property owners will no longer be responsible for damages to property or for possible fines from improperly functioning private wastewater systems.

Adverse economic impacts to the property owners are related to the cost of closure of private sewer systems and the installation of lateral connections. The Plumbing Code requires that a cesspool, septic tank, or seepage pit that is abandoned or discontinued from further use must first be emptied of sewage before it is completely filled with earth, sand, gravel, concrete or other approved material (C&C, 1998a). The property owners will be individually responsible for arranging, acquiring the proper permits, and paying for the costs associated with the abandonment of their cesspool, septic tank, or seepage pit. The costs associated with the closure of private sewer systems will vary for each property owner and will depend on such factors as the accessibility of the existing cesspool, septic tank, or seepage pit to be abandoned, the material used for fill, etc. While the closure of private systems may be a short-term financial burden for residents, the closure will mitigate the long-term costs of maintaining the private systems and handling damages due to problems with the private wastewater systems.

As indicated on page 3-14, the cost for installing the connection to the City lateral will vary depending on property conditions. To mitigate the associated financial burden, City loans are available to qualified owners to finance the cost of making the sewer lateral connection. As previously described in Section 3.4.7, low-interest loans may be available depending on a property owner's household size and household income level.

Once a property is connected to the City sewer system, the owner will be responsible for paying a monthly sewer service charge. The sewer service charge is included with the Board of Water Supply's water billing. There are no mitigation measures for the payment of the monthly sewer service charge.

6.0 ALTERNATIVES TO THE PROPOSED ACTION

6.1 OVERVIEW OF ALTERNATIVES

Alternatives considered to the proposed action were the "No Action" alternative, the "Delayed Action" alternative, and the "Alternate Action" alternative.

6.2 NO ACTION

This alternative is typically considered when contemplating a new project. The City Council selected to proceed with the proposed project. "No Action" was determined to be undesirable for the reasons discussed below.

The "No Action" alternative infers that the lateral connections to the newly installed sewer line will not be conducted. If the proposed project is not completed by installation of the lateral connections, chronic sanitation problems that are being faced by individual households will continue and the degradation of the coastal waters and aquifers attributable to individual wastewater disposal systems in the area will also continue.

Completion of the projects allows the City and individual landowners to comply with various State, County, and local plans and policies regarding protection of the environment and disposal of sewer waste.

6.3 DELAYED ACTION

The "Delayed Action" alternative is also undesirable, due to the chronic sanitation problems that are currently being faced by individual households.

6.4 ALTERNATE ACTION

No potential "Alternative Action" (other than "No Action", discussed above), was identified. Individual property owners must connect to the main sewer line at the locations of the lateral chimneys provided.

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7.0 DETERMINATION

To determine whether the proposed project may have a significant adverse impact on the environment, expected consequences, both short and long term, have been evaluated. Based on the information evaluated, it is anticipated that the approving authority will issue a Finding of No Significant Impact (FONSI) as summarized in this section.

7.1 SIGNIFICANCE CRITERIA

Administrative Rules of the DOH, Title 11, Chapter 200 establishes "Significance Criteria" to be used as the basis for identifying whether significant adverse environmental impacts will occur. The relationship of the proposed project to these thirteen criteria is provided below.

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

   Natural or cultural resources will not be lost due to the proposed project.

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

   The construction of the proposed project will not curtail the range of beneficial uses of the environment, nor will it adversely affect the environment of the surrounding area. The project is expected to improve the range of beneficial uses of the environment, by reducing sewage discharge to Kaneohe Bay.

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

   The proposed project does not conflict with long-term environmental policies or goals or guidelines of the State of Hawaii. The proposed project will not significantly adversely affect natural resources, and meets the State's long-term environmental policy and goal of eliminating individual wastewater systems.

4. **Substantially affects the economic welfare, social welfare, and cultural practices of the community or State;**

   The economic and social welfare, and cultural practices of the community or State will not be affected by the proposed project.

5. **Substantially affects public health;**

There are no adverse public health concerns relating to the proposed project. The elimination of individual wastewater systems should provide a positive effect to public health.

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

There are no anticipated secondary impacts or long-term impacts on public facilities. The City of Honolulu has stated that the Kaneohe Bay Sewers ID does not expand the service area of the existing wastewater facilities at the Kaneohe WWPTF nor at the Kailua Regional WWTP. The ID project is part of the original service area these facilities were designed to accommodate.

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

The proposed project does not involve a substantial degradation of environmental quality. Construction of the proposed project will improve the water quality in Kaneohe Bay by eliminating individual wastewater treatment systems.

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

The proposed project does not have a cumulative considerable effect upon the environment, or involve a commitment for larger actitvities.

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

The construction of the proposed project will not substantially affect rare, threatened, or endangered species, or its habitat. The project will improve habitat in Kaneohe Bay by improving water quality.

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

The construction of the proposed project will not provide negative long-term concerns for air or water quality or ambient noise levels. There are positive long-term benefits to air and water quality by eliminating individual wastewater treatment systems. Short-term adverse impacts to local air quality, local noise levels, and scenic and visual resources may occur during construction. However, as the work consists of installation of laterals on individual lots (unlikely to be conducted all at one time), and

of relatively short duration, the impacts are expected to be minimal. Owners shall ensure that their contractors take appropriate measures to limit the impact to neighboring properties.

11. **Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach erosion prone area, geologically hazardous land, estuary, fresh water, or coastal waters;**
The proposed project will not affect or is likely to suffer damage by being located in an environmentally sensitive area.

12. **Substantially affects scenic vistas and view planes identified in County or State plans or studies;**
The construction of the proposed project will not substantially affect scenic vistas and view planes identified in County or State plans or studies.

13. **Requires substantial energy consumption;**
The proposed project will not require substantial energy consumption.

7.2 ANTICIPATED DETERMINATION

On the basis of the above criteria and the discussion of impacts and mitigative measures contained in this document, the findings of this EA indicate that the proposed project will not have a significant adverse environmental impact to archaeological sites, water quality, noise, existing utilities, or wildlife habitat, and will not require an EIS.

Adverse impacts to the property owners are related to the cost of the closure of private sewer systems, and the cost of installation of lateral connections. These impacts may be mitigated through City deferment and loan programs and by eliminating the costs of maintaining their existing systems. Potential short-term construction-related impacts can be mitigated through construction management practices and by complying with all appropriate governmental requirements.

Long-term benefits to the general public and environment of the proposed project include:

1.) Eliminating many of the chronic sanitation problems currently faced by individual households;

2.) Eliminating financial obligations of property owners regarding the maintenance and repair of their individual disposal systems; and
3.) Eliminating private sewer systems that presently negatively impact Kaneohe Bay through transmission of sewage in groundwater.

It is anticipated that the approving authority, City and County of Honolulu, Planning and Permitting, Land Use Division, will issue a FONSI for this proposed project.

8.0 AGENCIES, ORGANIZATIONS, AND INDIVIDUALS CONSULTED

A pre-consultation letter and the Draft EA for the sewer ID project were issued to a number of agencies, organizations, and individuals during preparation of the EA for the sewer ID project. Comments from those consultations were incorporated in the Final EA for the sewer ID project and are reflected in this Supplemental EA for the lateral connections.

A copy of the Draft Supplemental EA was sent to the following agencies, organizations, or individuals. Comment letters and responses are included in Appendix C, and responses have been incorporated into this revised document.

CITY AND COUNTY OF HONOLULU AGENCIES

Department of Design and Construction:
- Wastewater Division

Board of Water Supply *

Department of Planning and Permitting *

Department of Environmental Services

City Council Member Barbara Marshall, District II

STATE OF HAWAII AGENCIES

Department of Business, Economic Development & Tourism:
- Office of Planning

Department of Health:
- Clean Air Branch
- Clean Water Branch
- Environmental Planning Office *
- Office of Environmental Quality Control
- Wastewater Branch *

Department of Land & Natural Resources:
- Aquatic Resources Division *
- State Historic Preservation Division *
- Land Division *
- Water Resource Management Division

Kaneohe Public Library

Office of Hawaiian Affairs *

State Representative Ken Ito, District 48

State Senator Jill Tokuda, District 24

Environmental Center, University of Hawaii

FEDERAL AGENCIES

U.S. Environmental Protection Agency
Pacific Islands Contact Office

OTHER ORGANIZATIONS

Kaneohe Neighborhood Board (#30)

American Lung Association

PROPERTY OWNERS AND IMMEDIATE NEIGHBORS

Robert H. and Kelly R. Armstrong
Mark J. Batchelor
Sheryl E. Buecher
Richard A. and Eileen G. Cote
Robert P. and Florence B. Freitas
Hale Kiawe
Ross A. & Stephanie L. Anderson
Shawn M & Angela Y. Reed Trust
Home Investment LLC
John D. and Heather M. Huitt
Koichi and Pamela J. Isayama
James M. and Hiroko S. Keanu
John A. and Renee L. Kojima
James J. Y. Louis
Malia Investment Corp.
Manuel F. and Tina B. Manfredi
Thomas R. and Rhonda C. Metcalf
Dan M. and Marla A. Oredson
Kimberly J. Rocha
Laurence G. Rotkin
Nathan and Corinne L. Shulman
Fredda A. and Michael M. Stroup
Laura L. Waterman
Wallace T. and Betsy S. Yamamoto

* Indicates entities that provided comments; comment letters and responses are contained in Appendix C.

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APPENDIX A

ARCHAEOLOGICAL ASSESSMENT
OF KANE`OHE BAY SHORELINE
FOR
PROPOSED SEWER LINE INSTALLATION

AN ARCHAEOLOGICAL ASSESSMENT OF KĀNE`OHE BAY SHORELINE FOR PROPOSED SEWER LINE INSTALLATION WITHIN THE *`ILI* OF MĀLA`E, KĀNE`OHE, KO`OLAUPOKO DISTRICT, ISLAND OF O`AHU, HAWAI`I (TMK 4-4-7 & 21)

by

Loren A. Zulick, B.A.,
and
Hallett H. Hammatt, Ph.D.

Prepared for

MASA FUJIOKA ASSOCIATES

Cultural Surveys Hawaii, Inc.
revised September, 1999

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INTRODUCTION

This document presents the results of an archaeological assessment performed by Cultural Surveys Hawaii in February, 1999, at the request of Masa Fujioka and Associates. The archaeological assessment is to be included in an Environmental Assessment required in advance of the undertaking of the Kaneohe Bay Sewers Improvement District No. 275 construction project. The project area is within a residential tract containing up to 69 individual properties in the Māla`e area of Kāneohe Bay in the *ahupua`a* of Kāne`ohe, on the island of O`ahu (TMK 4-4-7-7 & 4-4-21). It is located along the west coast of the isthmus connecting Mōkapu Peninsula with Kāne`ohe (Figures 1-5).

Scope of Work

The scope of work for the archaeological assessment includes the following:

1. A literature search to document previously recorded sites and historic context of the site area.

2. Field reconnaissance to document potential site areas, existing conditions, and previously recorded sites (if any).

3. The preparation of a report to contain the results of background search and field study along with recommendations for further investigation (if appropriate).

Project Area and Soil Description

The project area is located on the west coast of the *isthmus* connecting Mōkapu Peninsula and Kāne`ohe, *`ili* of Malae including the *`apana* of Panahaha, *ahupua'a* of Kāne`ohe, district of Ko'olaupoko, on the island of O'ahu (TMK 4-4-7 & 4-4-21). It is bounded by the intersection of Kaneohe Bay Drive and the H-3 interstate on the north. The Nuupia Pond lies just north of this intersection. The project area is additionally bounded by Kaneohe Bay Drive on the east, extending south past Aina Moi Place, and down to the shoreline of Kaneohe Bay on the west.

The project area, ranging from 40 ft. amsl to sea level is located at the western base of the undulating slope of Puu Papaa, the peak of which is located approximately 0.3 miles to the east. However, the general nature of the undulating slope is preserved. The soils within the project area are designated Kokokahi clay (KtC) (Foote et al. 1972:73), occurring on talus slopes of 6 to 12 percent grade and alluvial fans. These are dark to very dark gray to grayish-brown, very sticky and very plastic clay soils, with slow to moderately slow permeability. Their previous uses have been for pasture land and home sites. The natural vegetation would have been *kiawe*, *koa haole*, klu, bristly foxtail, piligrass, and bermuda grass. Soil borings conducted by Masa Fujioka and Associates in November, 1998, generally confirm the nature of the original soils, although areas of coral gravel fill and the preponderance of grass lawns, with accompanying top soils, were noted.

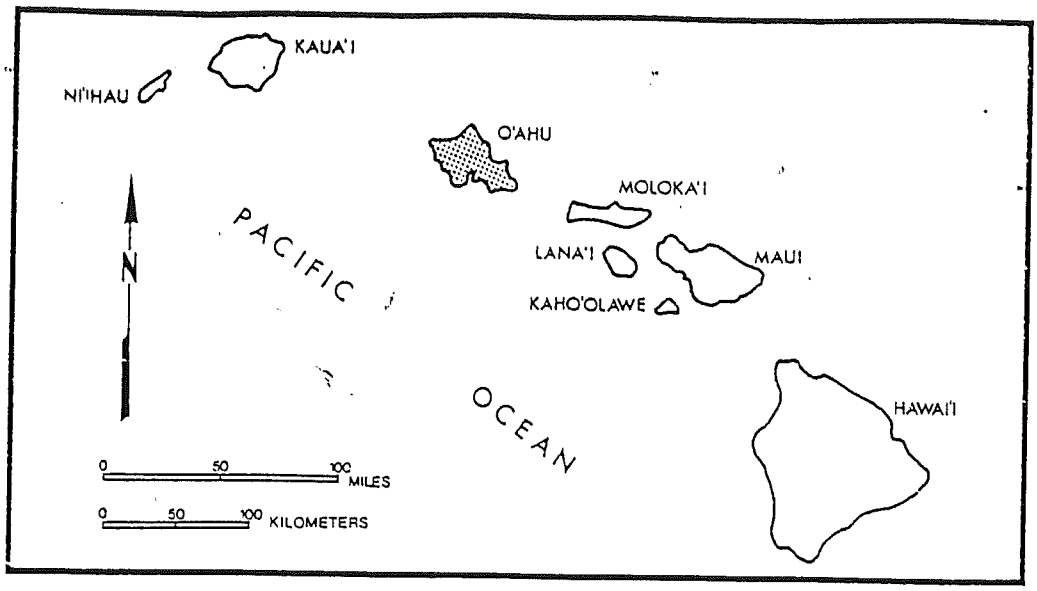

Fig. 1 State of Hawai`i

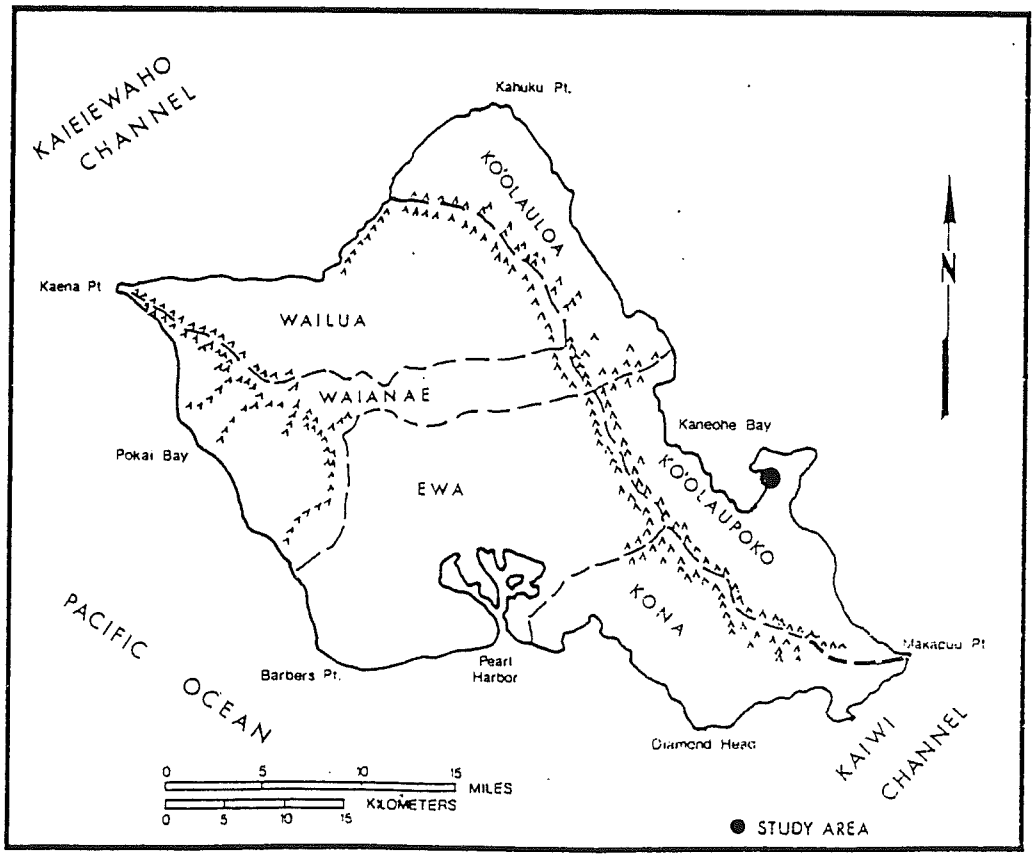

Fig. 2 O`ahu Island Location Map

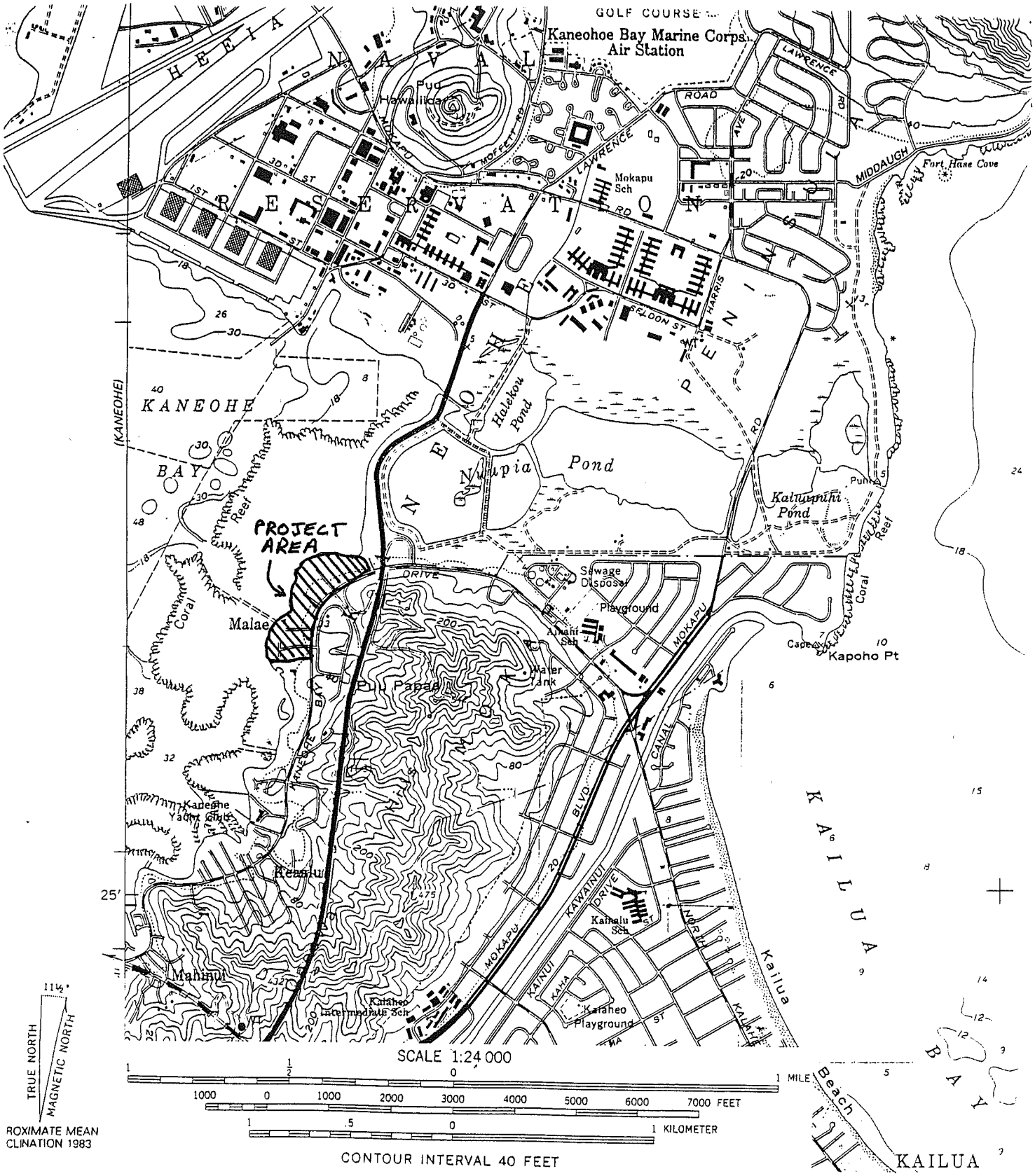

Fig. 3 Portion of USGS 7.5 Minute Series Topographical Map, Mōkapu Quadrangle, showing study parcel

HISTORICAL BACKGROUND

The project area boarders the Mōkapu Peninsula and the Nuupia fishpond both of which have undergone extensive historical research notably by Tuggle (1986a) and Cordy (1984). The Mōkapu Peninsula was known by a different name: "Māla`e. ...Peninsula east of Kāne`ohe, Oahu. *Lit.*, clear" (Pukui 1981:143). A prehistoric name for Māla`e was Naonealaa (the sands of Laa) (Seto In Progress). The place name Māla`e is retained historically as an *`ili* on the Kāne`ohe Bay shore below Pu`u Papa`a which separates Kāne`ohe and Kailua. Today, Māla`e is part of the peninsula only on the south side of Nu`upia Fishpond where it abuts the Kailua *`ili* of `Aikahi on the east (*ibid.*). It is in this northern section of the *`ili* that the *`apana* of Panahaha is located.

In prehistoric times, the *ahupua`a* of Kāne`ohe offered fresh water from *mauka* (upland) springs and a well developed fishpond system making it both an agricultural and aquacultural center on O`ahu (Devaney,1982). Prehistoric land use would have consisted mainly of wetland taro and sweet potato cultivation. Kāne`ohe Bay, with its numerous fishponds, was a bountiful source of fish.

An early reference to the general project area may be found in Sterling and Summers (1978. p. 212):

> "...Here, in the 16th century, the royal palace of King Peleiholani was the scene of gay court pageantry. His impressive estate sat in the area adjacent to Nu`upia fish pond, and bordering Kāne`ohe Bay."

A significant historical event occurred at the area of Māla`e best told by the author familiar with it, Muriel Seto:

> "Kūali`i produced a remarkable son who, because of troubling family differences, spent a great deal of life on Kaua`i, not returning to O`ahu until after his father's death(Fordnander 1969:II, 138). The reason for his return was in response to a call for assistance to his home island. At the time the ambitious Hawai`i chief, `Alapa`inui was threatening attack. Pelei`ōhōlani's young nephew was king at the time(Fornander 1969:II, 278-288, and 139).
>
> The ambitious `Alapa`inui had been rebuffed by not being allowed by Oahu forces to land at Waikīkī, Wai`alae, Koko, or Hanauma. He had relentlessly continued on around the island to Kailua, where he was able to reach the sands of Oneawa. Oahu forces rushed through Nu`uanu to skirmish on Ko`olau. With some believing strong leadership was needed , they sent for Pelei`oholani and his west Kaua`i forces to lead them. On arriving , Pelei`oholani found `Alapa`inui's war fleet on the beach at Oneawa in Kailua.
>
> Significantly, Kailua *ahupua`a's `okana* was considered a *pu`uhonua*, or safe haven, for the Ko`olau district, as was Waikane further north (Kamakau 1968:18). One of the Oahu leaders , a Wai`anae chief named Na`ili, was able to convince the

> Hawai`i invader at "Waihaukalua, near the shore", that peace negotiations were in order. It was decided that `Alapa`inui should move his forces to *Naoneala`a*. It was mutually determined that `Alapa`inui would go ashore alone and unarmed to meet Pelei`ōhōlani, who would also be alone and unarmed. peace was agreed upon, with no further threats or conflicts... (Kamakau 1968:18)" (Seto, in progress:71,72).

It is further suggested that the land described in this account is the *`ili* known as Māla`e.

> "...Perhaps the lands formerly called *Naoneala`a* were re-named Māla`e, "clear, calm," to commemorate the statesmanship of two powerful chiefs, and the peace-making which took place there." (Seto, in progress:73)

Research indicates four individual requests for Land Commission Awards (Waihona 'Aina 1998). Three of which were granted to commoners using lands at Māla`e.

Claim No. 1958, Mahu; To the Land Commissioners, Greetings and Peace: I, the undersigned, hereby state the boundaries of my land in Kāne`ohe, Koolau. At Waikalua are two *lo`i*. One fishpond is at Māla`e. On the east is the land of Maluae, on the north is an irrigation ditch, on the west is the land of Kaulahea, on the south is the land of the *konohiki*. Also, there is a house. Mahu December 18, 1847.

Claim No. 4471, Piikea; To the Land Commissioners: I hereby explain my claim: Kekahuna is above and I am under. I have one *lo`i*, a *mo`o* of sweet potatoes, and a house parcel. Piikea Malae, Kāne`ohe.

Claim No. 4478, Kane; To the land commissioners: I hereby explain my claim for land and my one *lo`i*. Kamalii is above and I am below. There are three *mo`o* of sweet potato and a hala tree which was planted. Kane Ko`olau.

It is a witness to Kane's claim that references Māla`e:

F.T. 1v14; Cl. 4478, Kane; Mahinaolelo, sworn, I know the land of claimant in Kāne`ohe, the *`Ili* of Malae. It consists of a house lot, potato field and two fishponds... Claimant has his land from Kaiakoili about the year 1830, and has had it in peace, till within about two years, when the *konohiki* took the fishponds and potato field from claimant...

Claim: No. 5985, Moeikeahua; Greetings to the Land Commissioners: I have two mo'o of sweet potatoes, six *mo`o* of bitter gourd, two salt *mo`o*, two sand hill ponds. Four *mo`o* of sweet potatoes are at Ualekou. A house lot and a *hala* tree are at Māla`e in Kāne`ohe, Island of Kāne`ohe. I got these at the time of the rebuilding of the fort. Moikeahua.

Further evaluation of these land claims reveals land usage at the time of the *Māhele*. These particular requests give us information from circa 1830 to 1850. The mentioning of house lots in the land claims allude to coastal habitation. Agricultural references include *lo`i*, *mo`o* of sweet potatoes, and a *hala* tree. There are references to streams and *loko* (ponds) presumably fresh water for irrigation. In addition there are several references to fishponds.

Kāne`ohe Bay has undergone dramatic changes in its appearance as a result of modern dredging. Many of the known fishponds that once existed have been filled, or altered (Daveney. 1982). Between January and March of 1942, much of the reef west of Nu`upia Fishpond was dredged (*ibid.* 116). Previous disturbance to the present project area is extensive, including the filling-in of two 2- acre fish ponds (Panahaha 1 and 2), known to have existed at the northern end of the project area (Fig. 6). Wall remnants of Panahaha 1 appear to have been visible as late as the early 1940's, but the pond subsequently filled, largely through soil accreation. Panahaha 2 was filled by natural accretion during the early 1900's. The addition of fill in the 1950's for residential development appears to have obliterated any remaining surface evidence of these two ponds. Additionally, dredging and filling to create numerous small inlets for moorings and a boat channel have altered the shoreline of the project area (Devaney *et al.* 1982).

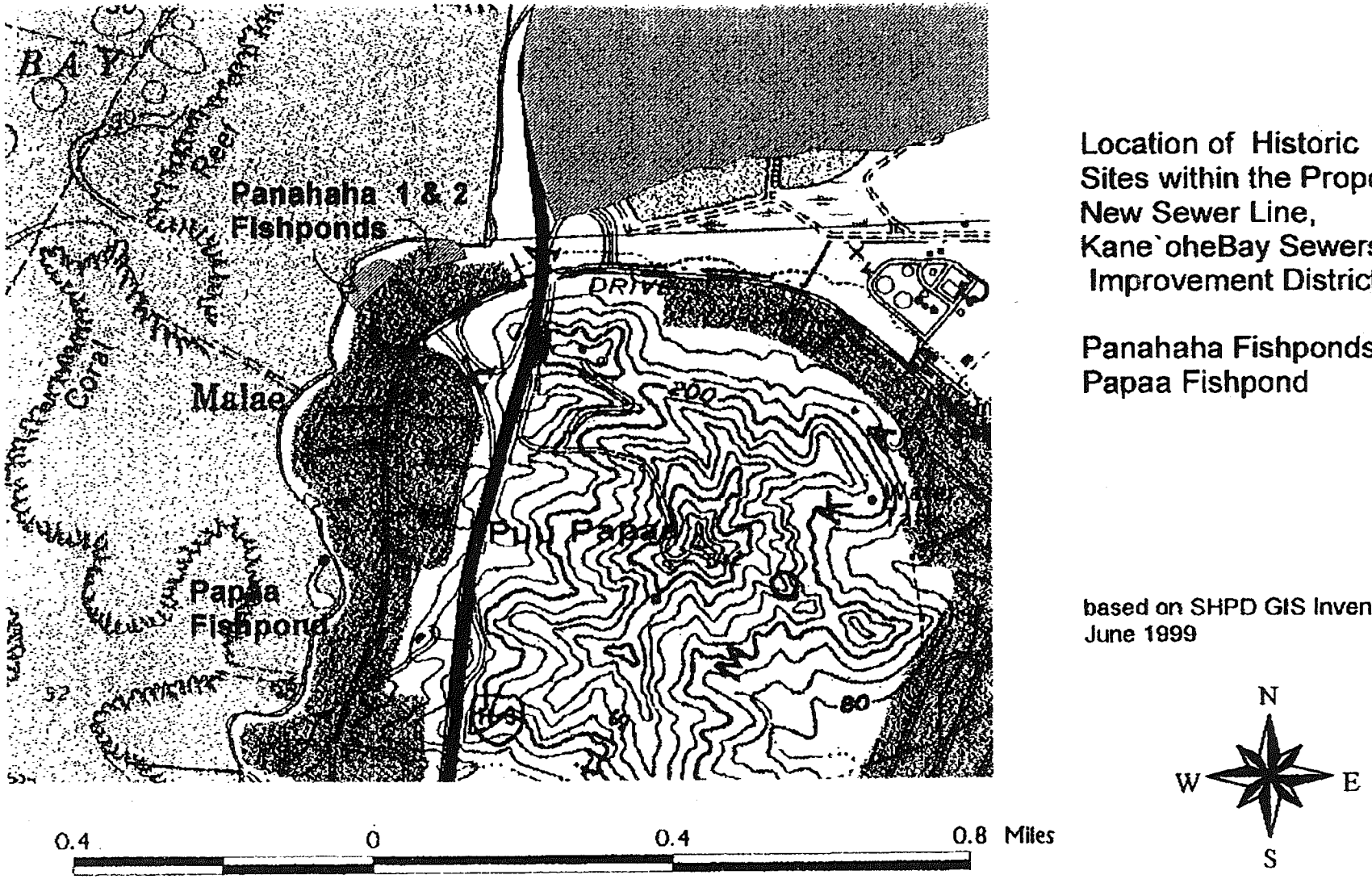

Fig. 6 Location of Panahaha 1 and 2 Fishponds based on State Historic Preservation Division GIS Inventory, June 1999

PREVIOUS ARCHAEOLOGICAL RESEARCH

Mōkapu Peninsula has received a good deal of archaeological attention over the years owing primarily to the extensive prehistoric Hawaiian sand dune burial areas. They are some of the most extensive burial areas known for the Hawaiian Islands and are some of the largest in the Pacific (Hammatt *et al.* 1985). None of the recorded burial sites are within the current project area. While it seems likely that the Mokapu cemetery extends south of Nu`upia pond, the possibility of burials being present cannot be discounted.

The history of archaeological involvement with the Mōkapu area began on April 19, 1912, when John F. G. Stokes, curator of collections at B.P. Bishop Museum, curated an adz purchased from a Chinese resident of Mōkapu, Lam Zi Sun. From 1912 to 1914 a number of artifacts were purchased from Chinese residents of Mōkapu. In 1917, two College of Hawai`i professors, MacCaughey and Austin, visited Mōkapu, recorded a wealth of archaeological data, and published their observations. MacCaughey described the fishponds as having been large arms of Kāne`ohe Bay cut off from the sea by heavy stone walls. He records the first known description of the Nu`upia Pond:

> "Arriving at the Nu`upia fishpond, we passed the hovel of the Chinese keeper, and his snarling chained watch-dogs, and walked along the wall that separates the pond from the bay. This wall, like those of other fishponds, is four to six feet wide. At high tide it stands about eighteen inches above the water; its average total height is some five feet. It is made up of two laid stone walls. The central part between the walls is filled with earth and loose rubble. The path lies along the middle of the wall, and owing to inequities in the settling and packing of the rubble it is very irregular, with abrupt pits and knolls." (MacCaughey 1917:186)

Along the eastern shore of Kāne`ohe Bay lie a number of sites recorded by McAllister (1933) in 1930: Site 349 - Waikalua Fishpond, Site 350 - Keana Fishpond and Kalokohanahou Fishpond, Site 351 - Mahinui Fishpond, Mikiola Fishpond, and Kaluoa Fishpond, Site 352 - Ahukini *Heiau*, Site 353 - Kinikailua-ManuKāne`ohe spring, Site 361 - Keaalau Fishpond, Site 362 - Hanalua Fishpond, and Site 363 - Papaa Fishpond (Figure 7).

Another summary is presented by Tuggle (1986) who prepared a very thorough historic property inventory of Mōkapu Peninsula. Please refer to his work for more detailed information on Mōkapu Peninsula.

In 1985, Hammatt *et al.* (1985) conducted archaeological coring and testing at the Nu`upia Ponds for a predator moat that was to be constructed in order to protect nesting birds from predators such as rats and mongooses. A total of 294 artifacts were collected, all of lithic material. Of this total, 249 were surface collected with the remaining 45 artifacts recovered in the 0 - 20 cmbs level.

Cultural Surveys Hawaii, Inc. (Hammatt 1989) performed sub-surface testing at 44-291A Kaneo`he Bay Drive (TMK 4-4-7:8,10), to assess the archaeological potential of the parcel. The parcel lies within the Panahaha portion of the present project area in the vicinity of the

Panahaha fish ponds. Four backhoe trenches were excavated on the 1.8-acre parcel, revealing three stratigraphic units. One trench (Trench 1), possibly placed in a Panahaha fish pond showed only imported fill to a depth of 2 meters (Hammatt 1989:11). Finely laminated grey gleyed clay deposits were encountered in disturbed form in the *mauka* portion of the project area. Both these stratigraphic units overlay a raised coral reef deposit, which by its 6 meters amsl is clearly from a Pleistocene high stand of the sea. The property contains two small dredged inlets, and the dredged channel, which runs the extent of the *`ili* of Malae, is evident just off-shore. No cultural material or fish pond remnants were encountered.

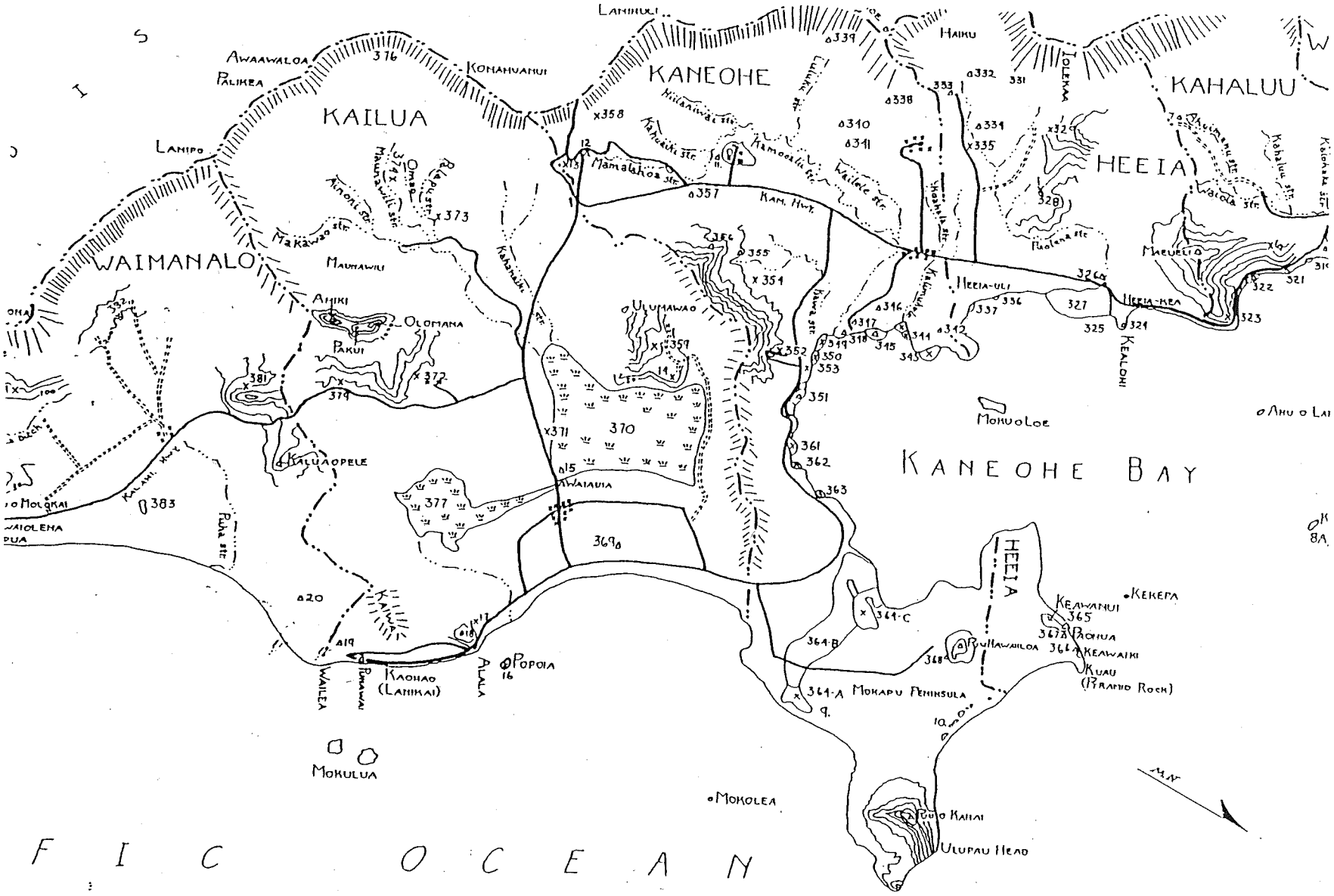

Fig. 7 Portion of Sterling and Summers (1978:256) Map Showing McAllister Sites Near Project Area

RESULTS OF ARCHAEOLOGICAL ASSESSMENT

The archaeological field assessment was accomplished on Feb 18, 1999, by one archaeologist who, accompanying project surveyors and geologists, viewed the full extent of the sewer line alignment. This involved gaining access through streets, pedestrian beach accesses, and residential yards.

The entire project area is presently comprised of as many as 69 residential house lots, nearly all of which are occupied by existing housing, accompanied by attendant sub-surface infrastructure. Extensive grading and filling of house lots and access streets occurred during the construction of the sub-division, considerably altering the surface topography. This grading and any importation of fill and top soil materials would have altered the original topography and the original stratigraphy in those areas affected by these grading activities.

The original coastline has been altered with the creation of private inlets for moorings, and the addition of a dredged channel running adjacent to the shoreline to provide small boat access to shoreline house lots. Additionally, portions of the shoreline within the project area are bordered by sea walls to control erosion, as well as to provide moorings for small boats. These alterations leave unclear the extent of the modification, either seaward or inland, to the original shoreline.

As expected, due to the extensive residential development within the project area, no archaeological resources were observed on the surface. However, no sub-surface observations were made, thus, existence of sub-surface archaeological resources cannot be discounted.

SUMMARY AND RECOMMENDATIONS

The Mōkapu Peninsula played an important role in the economy of the *ahupua`a* of Kāne`ohe due to its large fishponds and salt works. The peninsula is also the site of perhaps the largest pre-contact cemetery in Polynesia. Within and in close proximity to the project area the recorded evidence is of agriculture and fishponds.

The present project area is completely covered with modern house lots and graded, landscaped yards. There are a number of 1 to 2 meter high retaining walls built along the shore that have clearly been back-filled and landscaped. Other areas show indications of dredging in the bay. There is no clear evidence of any surface structures of archaeological significance within the present project area.

There is the possibility that evidence of the Panahaha fish ponds is present below fill layers at the north end of the project area . These fish ponds are significant for information on Hawaiian history and prehistory that they are likely to yield. If construction excavations exceed the depth of fill materials in the location of the fish ponds, these activities could impact the fish pond sites. There is also the possibility that cultural deposits or evidence of habitation, or human burials are present within the original soil matrix below existing fill materials throughout the project area. Since these areas are not adequately identifiable due to the present residential development within the project area, monitoring of initial sub-surface excavations by a qualified archaeologist is recommended. When it is established that excavation activities will occur only within fill materials, on-call archaeological monitoring may be considered in consultation with the Department of Land and Natural Resources, State Historic Preservation Division (SHPD). The extent and conditions for archaeological monitoring will be set forth in an archaeological monitoring plan to be reviewed and accepted by the SHPD.

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Waihona 'Aina
1998 Mahele data base

KANEOHE BAY

Fig. 4 TMK Map 4-4-7 Affected by Proposed Project Area

PANAHAHA SUBDIVISION, PANAHAHA & MALAE, KANEOHE, OAHU (Formerly por. 4-4-12)

DEPARTMENT OF TAXATION
TAXATION MAPS BUREAU
STATE OF HAWAII
TAX MAP
FIRST TAXATION DIVISION

ZONE	SEC	PLAT
4	4	07

SCALE 1 IN 80 FT.

FOR REAL PROPERTY TAXATION PURPOSES
SUBJECT TO CHANGE

DWG. NO.: 5480
SOURCE: Taxation Maps Branch
BY: HN-LB DATE: March 16, 1994

Fig. 5 TMK Map 4-4-21 Showing Portion Affected by Project on Malae Place

APPENDIX B

SPECIAL MANAGEMENT AREA
EXEMPTION LETTER

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 523-4414 • FAX: (808) 527-6743

97-2948
97-1546

'97 DEC 17 P2:29

DEPT OF WASTEWATER MGT
DIVISION OF PLANNING
& SERVICE CONTROL

JEREMY HARRIS
MAYOR

JAN NAOE SULLIVAN
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

97-08773 (DT)

December 16, 1997

'97 DEC 17 AM 10:32
DEPT. OF WASTEWATER MANAGEMENT
RECEIVED

MEMORANDUM

TO: KENNETH E. SPRAGUE, DIRECTOR
DEPARTMENT OF WASTEWATER MANAGEMENT

FROM: JAN NAOE SULLIVAN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

SUBJECT: SPECIAL MANAGEMENT AREA REVIEW

Tax Map Keys : 4-4-7 and 4-4-21
Type of Project: Install approximately 4,600 linear feet of 6-inch and 8-inch gravity sewer main and 900 linear feet of 4-inch relief force main and laterals

The proposed project on the above-referenced tax map keys has been reviewed. We find that it:

[ ] Is not within the Special Management Area.

[X] Is within the Special Management Area, but is not defined as "development", and is therefore exempt (Section 25-1.3 [2][M], Chapter 25, Revised Ordinances of Honolulu). However, certain portions of the proposal are less than 55 feet from the shoreline. A current certified shoreline survey is required for areas where the proposal is less than 55 feet from the shoreline. Furthermore, a Shoreline Setback Variance will be required if any portion of the proposal is less than 40 feet from the shoreline.

Should you have any questions, please contact Ms. Dana Teramoto at Extension 4648.

JAN NAOE SULLIVAN
Director of Land Utilization

JNS:am

g:ppd\9708773.djt

APPENDIX C

COMMENTS RECEIVED ON THE DRAFT SUPPLEMENTAL EA
AND RESPONSES

BOARD OF WATER SUPPLY

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

May 21, 2007

TO: JAY HAMAI
DEPARTMENT OF DESIGN AND CONSTRUCTION

FROM: KEITH S. SHIDA, PRINCIPAL EXECUTIVE
CUSTOMER CARE DIVISION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR INSTALLATION OF LATERAL CONNECTIONS, KANEOHE BAY SEWERS IMPROVEMENT DISTRICT, TMK:4-4-7 & 21

The construction drawings should be submitted for approval. The construction schedule should be coordinated to minimize impact to the water system.

If you have any questions, please contact Robert Chun at 748-5443.

cc: Ms. Janice C. Marsters, Masa Fujioka & Associates

MASA FUJIOKA & ASSOCIATES
Environmental • Geotechnical • Hydrogeological Consultants
98-021 Kamehameha Highway, Suite 337 • Aiea, Hawaii 96701-4914
Telephone: (808) 484-5366 • Facsimile: (808) 484-0007

November 28, 2007

Board of Water Supply
Customer Care Division
630 South Beretania Street
Honolulu, Hawaii 96843

Attention: Mr. Keith S. Shida
Principal Executive

Subject: Draft Environmental Assessment for Installation of Lateral Connections
Kaneohe Bay Sewers Improvement District
Kaneohe, Koolaupoko, Oahu, Hawaii

Dear Mr. Shida:

Thank you for your letter, dated May 21, 2007, providing comments on the Draft Environmental Assessment (EA). We have the following response to your comments:

1. Your comment: The construction drawings should be submitted for approval. The construction schedule should be coordinated to minimize impact to the water system.

Our Response: Individual property owners will be required to submit construction drawings for approval as part of their building permit process. Impact to the water system during installation of the laterals is not anticipated.

Thank you again for your comments.

Sincerely,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership

Janice C. Marsters
Principal

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
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INTERNET: www.honolulu.gov • DEPT. WEB SITE: www.honoluludpp.org

MUFI HANNEMANN
MAYOR

HENRY ENG, FAICP
DIRECTOR

DAVID K. TANOUE
DEPUTY DIRECTOR

2007/ELOG-1339(ST)

June 6, 2007

Ms. Janice C. Marsters, Ph.D., Principal
Masa Fujioka & Associates
98-021 Kamehameha Highway, #337
Aiea, Hawaii 96701-4914

Dear Ms. Marsters:

Subject: Draft Supplemental Environmental Assessment
Shoreline Setback Variance (SV) for Sewer Lateral Connections
Kaneohe Bay Drive - Kaneohe
Tax Map Key 4-4-7: 3, 4, 7, 11, 17, 20, 22, 23, 38, and 39

We have reviewed the Draft Supplemental Environmental Assessment for the above project and provide the following comments:

Section 1.0 - Summary

This section should be expanded to identify which portions of the Kaneohe Bay Sewers ID project were within the shoreline setback area regulated by Chapter 23, Revised Ordinances of Honolulu (ROH), and therefore were the subject of a shoreline setback variance, File No. 2003/SV-9, issued by the Department of Planning and Permitting (DPP) on September 18, 2003. It should also clarify that lateral connections to the sewer line were not included in that SV application; that only construction work within the existing City sewer easement was approved; and therefore, a new SV is required to allow the lateral connection work which will occur within the shoreline setback area.

Section 2.3 - Project Description

To accurately describe the activities which are subject to the shoreline setback regulations and part of the SV application, the shoreline must be delineated. No shoreline setback line is delineated and it is unclear whether the thick black lines on Figures 2.1a & 2.1b represent the shoreline. Although a certified shoreline survey is generally required for an SV application, that requirement was waived for the processing of the sewer improvement project (No. 2003/SV-9). However, a shoreline survey (prepared by Milton S. Watanabe LPS No. 7559) dated November 6, 1998, was used to establish an "expansion of shoreline area" pursuant to Section 13-6(a) of the "Rules Relating to the Shoreline Setbacks and the Special Management Area."

This section should describe the use of the expanded shoreline setback, and revised exhibits should delineate and label both the shoreline and setback line. Based on the assumption that the same expanded shoreline setback, established at the 55-foot "Waiver Line," will be utilized for this project, we question whether the lateral connection for Tax Map Key 4-4-7: Parcels 8 and 17 will require the approval of a shoreline setback variance.

Section 3.2 Physical Environment

Another subsection should be added which describes the specific setting (vs. General Setting 3.2.1) for the project. Information such as the locations of the existing dwellings to be connected, the distance from the completed sewer line and the location and type of the shoreline (e.g., seawall, mudflats, sand beach, etc.) should be described.

Section 4.3.3 City and County of Honolulu

It is incorrect to state that the project is exempt from conditional use permit (CUP) requirements. The underground municipal sewer lines are considered part of a "public use" under the Land Use Ordinance (LUO), and therefore, may occur in any zoning district. A CUP is just not applicable.

This section should be expanded to address the criteria under which an SV may be granted. Pursuant to Section 23-1.8(b)(2), explain how the project meets the "Public Interest Standard." We recommend that a thorough discussion be provided in the context of this standard.

Section 5.2.2 Soils

Greater detail on the amount of earthwork anticipated for each parcel (e.g., trench length, width, and depth) should be provided. Estimates on the amount of excavation (i.e., cubic yards) could be presented in a table form, similar to Table 1.1, on page 2-2. Also, please clarify if dewatering basins are necessary or whether existing structures (i.e., seawalls, fence walls, concrete decks, pathways, etc.) will have to be demolished or altered in order to install the sewer laterals. As we noted during the processing of the previous SV for the sewer improvement project, undocumented or illegal structure cannot be rebuilt and may require a separate SV.

Section 7.0 Determination

We suggest that this section be reconfigured to enumerate and sequentially address each of the 13 significance criteria pursuant to Section 11-200-12, Hawaii Administrative Rules (HAR).

Section 8.0 Agencies, Organizations, and Individuals Consulted

The section should clarify which, if any, organizations were sent a copy of this Draft Supplemental Environmental Assessment for comment.

If you have any questions, please contact Steve Tagawa of our staff at 768-8024.

Very truly yours,

Henry Eng, FAICP, Director
Department of Planning and Permitting

HE:nt

cc: DLNR-OCCL
OEQC

G:SteveT/DEAKBsew2SV.07

MASA FUJIOKA & ASSOCIATES
Environmental • Geotechnical • Hydrogeological Consultants
98-021 Kamehameha Highway, Suite 337 • Aiea, Hawaii 96701-4914
Telephone: (808) 484-5366 • Facsimile: (808) 484-0007

November 28, 2007

Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Attention: Mr. Henry Eng, FAICP
Director

Subject: Draft Environmental Assessment for Installation of Lateral Connections
Kaneohe Bay Sewers Improvement District
Kaneohe, Koolaupoko, Oahu, Hawaii

Dear Mr. Eng

Thank you for your letter dated June 6, 2007, providing comments on the Draft Environmental Assessment (EA). We have the following response to your comments:

1. *Your comment: Section 1.0 – Summary.* This section should be expanded to identify which portions of Kaneohe Bay Sewers ID project were within the shoreline setback area regulated by Chapter 23, Revised Ordinances of Honolulu (ROH), and therefore were subject of a shoreline set back variance, File No. 2003/SV-9, issued by the Department of Planning and Permitting (DPP) on September 18, 2003. It should also clarify that lateral connections to the sewer line were not included in that SV application; that only construction work within the existing City sewer easement was approved; and therefore, a new SV is required to allow the lateral connection work which will occur within the shoreline setback area.

Our Response: Section 1.0 was expanded to discuss the shoreline setback variance (File No. 2003/SV-9) for the Kaneohe Bay Sewers ID project. We did not identify which portions of the ID project were within the SSA, as the previous SSV covered the entire easement and did not differentiate between portions that were and were not within the SSA. We clarified that the individual lateral connections to the sewer line were not included in that previous SSV application, that only construction work within the existing City sewer easement was approved and that, therefore, a new SSV is required.

2. *Your comment: Section 2.3 - Project Description.* To accurately describe the activities which are subject to the shoreline set back regulations and part of the SV application, the shoreline must be delineated. No shoreline setback line is delineated and it is unclear whether the thick black lines on Figures 2.1a & 2.1b represent the shoreline. Although a certified shoreline survey is generally required for an SV application, that requirement was waived for the processing of the sewer improvement project (No. 200/SV-9). However, a shoreline survey (prepared by Milton S. Watanabe LPS No. 7559) dated November 6, 1998, was used to establish an "expansion of shoreline area" pursuant to section 13-6 (A) of the "Rules Relating to the shoreline Setbacks and the Special Management Area"

Our Response: We have modified Figures 2.1a and 2.1b to more clearly show the shoreline as established by the cited 1998 shoreline survey. We have also noted the 55-foot "waiver line" on Figures 2.1a and 2.1b.

3. *Your comment:* (Section 2.3) should describe the use of the expanded shoreline setback, and revised exhibits should delineate and label both the shoreline and setback line. Based on the assumption that the same expanded shoreline setback, established at the 55-foot "Waiver Line," will be utilized for this project, we question whether the lateral connection for Tax Map Key 4-4-7; Parcels 8 and 17 will require the approval of a shoreline setback variance.

Our Response: We have revised Section 2.3 to describe the use of the 1998 shoreline survey and the use of the expanded shoreline setback. We have noted the shoreline and the expanded shoreline setback line (55-foot "waiver line") on Figures 2.1a and 2.1b. Based on the waiver line, the following parcels are confirmed to require the approval of a shoreline setback variance: TMK 4-4-07: Parcels 2, 3, 4, 7, 20, 21, 22, 23, and 38.

4. *Your Comment: Section 3.2 – Physical Environment.* Another subsection should be added which describes the specific setting (vs. General Setting 3.2.1) for this project. Information such as the locations of the existing dwellings to be connected, the distance from the completed sewer line and the location and type of the shoreline should be described.

Our Response: Approximate locations of existing dwellings to be connected were added to Figures 2.1a and 2.1b, and a table containing the distances from the completed sewer line was added to section 2.3, Project Description. Information on the type of shoreline was added to section 3.2.6, Topography and Slopes.

5. *Your comment: Section 4.3.3 – City and County of Honolulu.* It is incorrect to state that the project is exempt from conditional use permit (CUP) requirements. The underground municipal sewer lines are considered part of a "public use" under the Land Use Ordinance (LUO) and therefore, may occur in any zoning district. A CUP is just not applicable.

Our Response: We have revised the text on the applicability of conditional use permits, contained in section 4.3.3, to reflect your comments.

6. *Your comment:* (Section 4.3.3) should be expanded to address the criteria under which an SV may be granted. Pursuant to Section 23-1.8(b)(2), explain how the project meets the "Public Interest Standard". We recommend that a thorough discussion be provided in the context of this standard.

Our Response: We have revised section 4.3.3 to reflect your comments.

7. *Your comment: Section 5.2.2 – Soils.* Greater detail on the amount of earthwork anticipated for each parcel (e.g., trench length, width, and depth) should be provided. Estimates on the amount of excavation (i.e., cubic yards) could be presented in a table form, similar to Table 1.1 on page 2-2. Also please clarify if dewatering basins are necessary or whether existing structures will have to be demolished or altered in order to install the sewer laterals. As we noted during the processing of the previous SV for the sewer improvement project, undocumented or illegal structure cannot be rebuilt and may require a separate SV.

Our Response: Estimates of trench length were added to section 2.3, Project Description. Because a survey and design of the lateral connection will be the responsibility of the individual landowners,

adequate information to determine earthwork quantities is not available at this time. Dewatering may need to occur, based on available information on the elevations of the installed chimneys at the main line. The contractors for the individual landowners may use back sections of the trench or dewatering basins. The demolition or alteration of existing structures is not anticipated for the purposes of installing the laterals; however, a note was added to Section 2.3 stating that undocumented or illegal structures cannot be rebuilt and may require a separate SV.

8. *Your comment: Section 7.0 – Determination.* We suggest that this section be reconfigured to enumerate and sequentially address each of the 13 significance criteria pursuant to Section 11-200-12, Hawaii Administrative Rules (HAR).

Our Response: We have revised section 7.0 to reflect your suggestion.

9. *Your Comment: Section 8.0 – Agencies, Organizations, and Individuals Consulted.* This section should clarify which, if any, organizations were sent a copy of this Draft Supplemental Environmental Assessment for comment.

Our Response: All of the entities listed were sent a copy of this Draft Supplemental EA for comment, as noted in Section 8.0.

Thank you again for your comments.

Sincerely,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership

Janice C. Marsters
Principal

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

In reply, please refer to:
EPO-07-101

June 7, 2007

Mr. Jay Hamai
City and County of Honolulu
Department of Design and Construction
Honolulu Municipal Building, 14th Floor
Honolulu, Hawaii 96813

Dear Mr. Hamai:

SUBJECT: Draft Environmental Assessment for Installation of Lateral Connections, Kaneohe Bay Sewers Improvement District at Kaneohe, Koolaupoko, Oahu, Hawaii

Thank you for allowing us to review and comment on the subject application. The document was routed to the various branches of the Department of Health (DOH) Environmental Health Administration. We have the following Clean Water Branch and General comments.

Clean Water Branch

Please note that our review is based solely on the information provided in the subject document and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Anti-degradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. Please call the Army Corps of Engineers at (808) 438-9258 to see if this project requires a Department of the Army (DA) permit. Permits may be required for work performed in, over, and under navigable waters of the United States. Projects requiring a DA permit also require

a Section 401 Water Quality Certification (WQC) from our office.

3. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for NPDES general permit coverage by submitting a Notice of Intent (NOI) form:

   a. Storm water associated with 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 start of the construction activities.**

   b. Hydro-testing water.

   c. Construction dewatering effluent.

   You must submit a separate NOI form for each type of discharge at least 30 days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 days before to the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html.

4. You must obtain an NPDES individual permit if there will be any other type of wastewater discharge not listed above from the proposed facilities. An application for an NPDES individual permit must be submitted at least 180 days before the commencement of the discharge. The NPDES application forms may be picked up at our office or downloaded from our website at http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html

5. You must also submit a copy of the 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 CWB that SHPD has or is in the process of evaluating your project. Please submit a copy of your request for review by SHPD or SHPD's determination letter for the project along with your NOI or NPDES permit application, as applicable.

6. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

If you have any questions, please visit our website at http://www.hawaii.gov/health/environmental/water/cleanwater/index.html, or contact the Engineering Section, CWB, at 586-4309.

General

We strongly recommend that you review all of the Standard Comments on our website: www.state.hi.us/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this project should be adhered to.

If there are any questions about these comments please contact Jiacai Liu with the Environmental Planning Office at 586-4346.

Sincerely,

KELVIN H. SUNADA, MANAGER
Environmental Planning Office

c: EPO
CWB
Dr. Janice Marsters, Masa Fujioka & Associates

MASA FUJIOKA & ASSOCIATES
Environmental • Geotechnical • Hydrogeological Consultants
98-021 Kamehameha Highway, Suite 337 • Aiea, Hawaii 96701-4914
Telephone: (808) 484-5366 • Facsimile: (808) 484-0007

November 28, 2007

Department of Health
Environmental Planning Office
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Attention: Mr. Kelvin H. Sunada
Manager

Subject: Draft Environmental Assessment for Installation of Lateral Connections
Kaneohe Bay Sewers Improvement District
Kaneohe, Koolaupoko, Oahu, Hawaii

Dear Mr. Sunada:

Thank you for your letter dated June 7, 2007, providing comments on the Draft Environmental Assessment (EA). We have the following response to your comments:

1. *Your comment:* Any Project and its potential impacts to State waters must meet the following criteria:

a. Anti-degradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
b. Designated uses (HAR, Section 11-54-3), as determined by the classifications of the receiving State waters.
c. Water quality criteria (HAR, Section 11-54-4 through 11-54-8)

Our Response: As noted in the EA, the project will improve the water quality in Kaneohe Bay because it will result in the closure of individual wastewater systems.

2. *Your comment:* Call the Army Corps of Engineers at (808) 438-9258 to see if this project requires a Department of the Army (DA) permit. Permits may be required for work performed in, over, and under navigable waters of the United States. Projects requiring a DA permit also require a section 401 Water Quality Certification (WQC) from our office.

Our Response: The proposed installation of laterals covered by this EA does not include work performed in, over, and under navigable waters of the United States. Therefore, DA and 401 permits are not required.

MASA FUJIOKA & ASSOCIATES
Environmental • Geotechnical • Hydrogeological Consultants
98-021 Kamehameha Highway, Suite 337 • Aiea, Hawaii 96701-4914
Telephone: (808) 484-5366 • Facsimile: (808) 484-0007

3. *Your comment:* You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for NPDES general permit coverage by submitting a Notice of Intent (NOI) form:

a. Storm water associated with 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 of scale. **An NPDES permit is required before the start of the construction activities.**
b. Hydro-testing water
c. Construction dewatering effluent

You must submit a separate NOI form for each type of discharge a least 30 days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 days before the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website.

Our Response: Individual property owners or their contractors are responsible for obtaining permits as necessary for their installation of sewer lateral connections.

4. *Your Comment:* You must obtain an NPDES individual permit if there will be any other type of wastewater discharge not listed above from the proposed facilities. An application for an NPDES individual permit must be submitted at least 180 days before the commencement of the discharge.

Our Response: No other type of wastewater is anticipated to be discharged. If dewatering or hydrotesting discharge will occur, the individual property owners or their contractors are responsible for obtaining permits as necessary for their installation of the sewer lateral connections.

5. *Your comment:* You must submit a copy of the 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 CWB that SHPD has or is in the process of evaluating your project. Please submit a copy of your request for review by SHPD or SHPD's determination letter for the project along with your NOI or NPDES permit application.

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Telephone: (808) 484-5366 • Facsimile: (808) 484-0007

Our Response: Individual property owners or their contractors are responsible for obtaining permits and providing documents to SHPD as necessary for their installation of sewer lateral connections.

6. *Your Comment:* Note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR 11-55, may be subject to penalties of $25,000 per day per violation.

Our Response: Individual property owners or their contractors will be responsible for complying with the State's Water Quality Standards.

Thank you again for your comments.

Sincerely,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership

Janice C. Marsters
Principal

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME LEINAALA FUKINO, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
EMD / WB

LUD - O4 4 007 & 021

May 22, 2007

Ms. Janice C. Marsters, Ph.D.
Masa Fujioka & Associates
98-021 Kamehameha Highway #337
Aiea, Hawaii 96701-4914

Dear Ms. Marsters:

Subject: Draft Supplemental Environmental Assessment (EA)
Installation of Lateral Connections
Kaneohe Bay Sewers Improvement District
TMK: (1) 4-4-007 & 021

Thank you for allowing us the opportunity to review the subject document which involves the installation of lateral connections to specified homes in the Kaneohe Bay Sewers Improvement District. We concur with the project and support such improvements. Existing individual wastewater systems need to be properly abandoned once connection to the City's sewer system is made.

Should you have any questions, please contact the Planning & Design Section of the Wastewater Branch at (808) 586-4294.

Sincerely,

HAROLD K. YEE, P.E., CHIEF
Wastewater Branch

MASA FUJIOKA & ASSOCIATES
Environmental • Geotechnical • Hydrogeological Consultants
98-021 Kamehameha Highway, Suite 337 • Aiea, Hawaii 96701-4914
Telephone: (808) 484-5366 • Facsimile: (808) 484-0007

November 28, 2007

Department of Health
Wastewater Branch
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Attention: Mr. Harold K. Yee, P.E.
Chief

Subject: Draft Environmental Assessment for Installation of Lateral Connections
Kaneohe Bay Sewers Improvement District
Kaneohe, Koolaupoko, Oahu, Hawaii

Dear Mr. Yee:

Thank you for your letter dated May 22, 2007, providing comments on the Draft Environmental Assessment (EA). We have the following response to your comments:

1. *Your comment:* We concur with the project and support such improvements. Existing individual wastewater systems need to be properly abandoned once connections to the City's sewer system is made.

Our Response: The abandonment of individual wastewater systems is the responsibility of the individual property owners.

Thank you again for your comments.

Sincerely,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership

Janice C. Marsters
Principal

212490

LINDA LINGLE
GOVERNOR OF HAWAII

ALLAN A. SMITH
INTERIM CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

PETER T. YOUNG
DEPUTY DIRECTOR

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
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813
June 5, 2007

Mr. Jay Hamai
Department of Design and Construction
City and County of Honolulu
Honolulu Municipal Building, 14th Floor
650 South King Street
Honolulu, Hawaii 96813

RECEIVED
7 JUN -8 P2:53
CITY & COUNTY OF HONOLULU
DESIGN & CONSTRUCTION

Dear Mr. Hamai:

Thank you for providing the Division of Aquatic Resources (DAR), Department of Land and Natural Resources (DLNR), the opportunity to review and comment on the Draft Supplemental Environmental Assessment (EA) for the Installation of Lateral Connections, Kaneohe Bay Sewers Improvement District (ID) project.

After reviewing the Draft EA, DAR understands that the City & County of Honolulu (CCH), Department of Design and Construction (DDC), currently provides sewer service to the Malae area of Kaneohe Bay through the Kaneohe Bay Sewers Improvement District (ID) project. Construction to expand the existing City sewer system to include 69 properties previously utilizing private, individual wastewater disposal systems such as cesspools and septic tanks, occurred in the Malae area of Kaneohe Bay in 2005.

Now, individual households are being required to connect to the sewer line that was installed by the Sewer ID project. Ten (10) of these connections will be within the Shoreline Setback Area (SSA), and this Supplemental EA was prepared by the City to assist the owners of these properties in preparing the required environmental documents so that they can connect to the sewer line.

Additionally, DAR understands that the project involves installation of sewer laterals and connecting individual households to the sewer line installed by the ID project. The sewer line will transport sewage generated within the project tributary area to Kaneohe Bay South Wastewater Pump Station (WWPS) No. 5. Trench excavations for installation of the laterals are not anticipated to encounter groundwater.

Property owners will *only* be allowed to make connection to the City sewer system at the lateral specifically provided for their property. The cost of connection, including the cost for the sewer line from the residence to the City lateral, is the responsibility of the property owner.

With regards to the aquatic environment and resources, DAR has determined that there is no stream located within the project boundaries. The nearest stream is an intermittent stream that flows from the Oneawa Hills down to the Kaneohe Yacht Club harbor which is approximately 3,000 feet south of the

project. Additionally, the storm waters from Kaneohe Bay Drive are carried by a series of storm water drains and concrete channels, some of which run through the project area and empty into Kaneohe Bay. Storm water drainage from the residential area is by overland flow into Kaneohe Bay. The project area appears adequately sloped so that it does not experience any serious flooding problems, however area residents report that ponding of the storm water occurs during heavy rain events because some of the storm water drainage is by overland flow (MFA, 1999).

Short-term impacts from construction activities to the waters of Kaneohe Bay are anticipated, and it is recommended that individual property owners require their contractors to follow best management practices for storing soil and supplies during construction and installation of the lateral connections to the sewer line in order to minimize negative impacts on the quality of storm water runoff that may empty into Kaneohe Bay.

With regard to long-term adverse impacts on hydrology and drainage, the report indicates that none are anticipated. Instead, the long-term impacts to Kaneohe bay are anticipated to be positive as a result of the elimination of the private sewer systems that are currently negatively impacting the bay through the transmission of sewage in groundwater. The DAR agrees with this assessment of impacts.

The Draft EA reports that Kaneohe Bay is rich with natural resources and provides productive fisheries, excellent diving and snorkeling sites and other recreational uses (KBTF, 1998). The Kaneohe Bay Sewers ID project is anticipated to provide an overall benefit to Kaneohe Bay. Installation of the lateral connections to the new sewer line and closure of the individual wastewater systems will improve the quality of coastal waters and aquifers that were subject to nutrient inputs via individual wastewater disposal systems.

After reviewing the information provided in the Draft EA for the Installation of Lateral Connections Kaneohe Bay Sewers Improvement District, DAR understands that there will be short-term impacts from the construction phase of the project when individual owners arrange for installation of the lateral connections to the sewer line. On the other hand, the long-term impacts of the project to Kaneohe Bay are anticipated to be positive. Water quality in the bay is expected to be better because the private sewer lines; currently the cause for the transmission of sewage and seepage into the bay via ground water, will be eliminated. Individual property owners are being recommended to require their contractors to follow best practices for storing soil and supplies during the construction phase of the project when lateral connection installations occur. DAR recommends that all reasonable precautions be taken during the construction phase to prevent disturbed soil, debris, trash, petroleum products and other contaminants or toxic substances from entering the aquatic environment, and urges property owners to observe best management practices throughout the project.

Thank you for providing DAR the opportunity to review and comment on the above Draft EA and request the opportunity to review any future drafts for the project.

Yours truly,

DAN A. POLHEMUS
Administrator

MASA FUJIOKA & ASSOCIATES
Environmental • Geotechnical • Hydrogeological Consultants
98-021 Kamehameha Highway, Suite 337 • Aiea, Hawaii 96701-4914
Telephone: (808) 484-5366 • Facsimile: (808) 484-0007

November 28, 2007

Department of Land and Natural Resources
Division of Aquatic Resources
1151 Punchbowl Street, Room 330
Honolulu, Hawaii 96813

Attention: Mr. Dan A. Polhemus
Administrator

Subject: Draft Environmental Assessment for Installation of Lateral Connections
Kaneohe Bay Sewers Improvement District
Kaneohe, Koolaupoko, Oahu, Hawaii

Dear Mr. Polhemus:

Thank you for your letter, dated June 5, 2007, providing comments on the Draft Environmental Assessment (EA). You provided a number of comments reiterating the Draft EA findings, and stating that the Division of Aquatic Resources (DAR) agrees with the document's assessment of the impacts. In conclusion, you stated that DAR recommends that all reasonable precautions be taken during the construction phase to prevent disturbed soil, debris, trash, petroleum products and other contaminants or toxic substances from entering the aquatic environment, and urges property owners to observe best management practices throughout the project.

Our Response: Individual property owners will be required to follow all laws and regulations regarding runoff and solid waste, including implementing appropriate best management practices.

Thank you again for your comments.

Sincerely,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership

Janice C. Marsters
Principal

LINDA LINGLE
GOVERNOR OF HAWAII

ALAN A. SMITH
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR

PETER T. YOUNG
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

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

May 24, 2007

Ms. Janice C. Marsters, Ph.D.
Masa Fujioka & Associates
98-021 Kamehameha Highway, #337
Aiea, Hawai'i 96701-4914

LOG NO: 2007.1624
DOC NO: 0705amj23
Archaeology

Dear Ms. Marsters:

SUBJECT: **Chapter 6E-8 Historic Preservation Review –**
Draft Supplemental EA, Installation of Lateral Connections, Kaneohe Bay Sewers Improvement District
Kāne'ohe Ahupua'a, Ko'olaupoko District, Island of O'ahu
TMK: (1) 4-4-007 & 021: various parcels

Thank you for the opportunity to review the aforementioned document, which we received on May 12, 2007. The draft supplemental EA covers the installation of laterals for sewer lines in the Kaneohe Bay Sewers Improvement District. As stated in your document, this supplemental EA has been prepared due to the recent inclusion of ten (10) additional households not covered under the original EA.

You have determined that the proposed project will have "no significant impact" on the environment. Regarding historic properties, in particular, your document is incomplete and needs to include a mitigation commitment to conduct archaeological monitoring in association with planned subsurface excavation, as recommended by the archaeological consultant (see p. 14 of the Archaeological Assessment by Cultural Surveys of Hawai'i, Inc., Appendix A).

The archaeological monitoring plan (AMP) should conform to §13-279, HAR, in accordance with §13-275. We look forward to reviewing the AMP. Once we accept the AMP, and provided it is faithfully carried out, we have no specific objections to your finding of no significant impact (FONSI).

Please contact me at (808) 692-8015 if you have any questions or concerns regarding this letter.

Aloha,

Melanie Chinen, Administrator
State Historic Preservation Division

amj:jen

MASA FUJIOKA & ASSOCIATES
Environmental • Geotechnical • Hydrogeological Consultants
98-021 Kamehameha Highway, Suite 337 • Aiea, Hawaii 96701-4914
Telephone: (808) 484-5366 • Facsimile: (808) 484-0007

November 28, 2007

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

Attention: Ms. Melanie Chinen
Administrator

Subject: Chapter 6E-8 Historic Preservation Review
Draft Supplemental EA, Installation of Lateral Connections
Kaneohe Bay Sewers Improvement District
Kaneohe, Koolaupoko, Oahu, Hawaii

Dear Ms. Chinen:

Thank you for your letter dated May 24, 2007, providing comments on the Draft Environmental Assessment (EA). We have the following response to your comment:

1. *Your comment:* You have determined that the proposed project will have "no significant impact" on the environment. Regarding historic properties, in particular, your document is incomplete and needs to include a mitigation commitment to conduct archaeological monitoring in association with planned subsurface excavation, as recommended by the archaeological consultant. The archaeological monitoring plan (AMP) should conform to 13-279, HAR, in accordance with 13-275. Once we accept the AMP, and provided it is faithfully carried out, we have no specific objections to your finding of no significant impact.

Our Response: We have provided maps in the EA that better show the suspected location of the two fishponds of concern. Maps are also attached for your reference. The EA section regarding archaeological resources has been modified to explain more clearly the situation relevant to the properties covered by this EA, rather than for the original project. The properties covered by this EA do not lie within the area of concern with respect to archaeological or cultural resources, with the exception of TMK 4-4-07:7. However, even on this property, the anticipated lateral connection is not within the suspected location of the fishpond. Therefore, archaeological monitoring is not deemed necessary for installation of the laterals covered by this EA. If any cultural deposits or human skeletal remains are encountered, work will stop in the immediate vicinity and the State Historic Preservation Division will be contacted.

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Thank you again for your comments.

Sincerely,

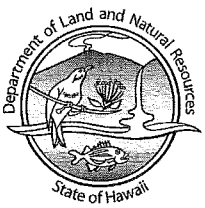
MASA FUJIOKA & ASSOCIATES
A Professional Partnership

Janice C. Marsters

Janice C. Marsters
Principal

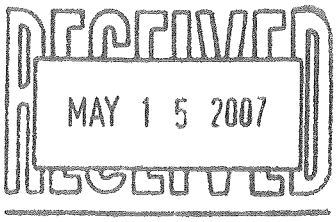
LINDA LINGLE
GOVERNOR OF HAWAII

ALLAN A. SMITH
INTERIM CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809



May 10, 2007

City & County of Honolulu
Department of Design & Construction
650 South King Street 14th Floor
Honolulu, Hawaii 96813
Attention: Jay Hamai

Masa Fujioka & Associates
98-021 Kamehameha Highway #337
Aiea, Hawaii 96701-4914
Attention: Janice Marsters, Ph.D.

Ladies and Gentlemen:

Subject: Draft Supplemental Environmental Assessment for Installation of Lateral Connections, Kaneohe Bay Sewers Improvement District, Kaneohe, Oahu, Tax Map Key: (1) 4-4-7 and 21

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources has no comment to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

Russell Y. Tsuji
Administrator

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Environmental • Geotechnical • Hydrogeological Consultants
98-021 Kamehameha Highway, Suite 337 • Aiea, Hawaii 96701-4914
Telephone: (808) 484-5366 • Facsimile: (808) 484-0007

November 28, 2007

Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawaii 96809

Attention: Mr. Russell Y. Tsuji
Administrator

Subject: Draft Environmental Assessment for Installation of Lateral Connections
Kaneohe Bay Sewers Improvement District
Kaneohe, Koolaupoko, Oahu, Hawaii

Dear Mr. Tsuji:

Thank you for your letter, dated May 10, 2007, providing comments on the Draft Environmental Assessment (EA). We understand that you have reviewed the subject document and have no comments pertaining to the EA.

Thank you again for your letter.

Sincerely,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership

Janice C. Marsters

Janice C. Marsters
Principal

PHONE (808) 594-1888

FAX (808) 594-1865

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

HRD07/3039

June 4, 2007

Jay Hamai
City and County of Honolulu
Department of Design and Construction
650 South King Street, 14th Floor
Honolulu, HI 96813

RE: Draft Environmental Assessment for the Proposed Installation of Lateral Sewer Connections in Kaneohe Bay Sewers Improvement District, Kāne'ohe, O'ahu.

Dear Mr. Hamai,

The Office of Hawaiian Affairs (OHA) is in receipt of your May 11, 2007 submission and offers the following comments:

Given the findings of the Draft Environmental Assessment, our staff recommends that further steps be taken to mitigate potential negative impacts to subsurface cultural materials. In section 3.4.5 of the Draft Environmental Assessment, the applicant states that *"there is a possibility that evidence of the former Panahaha fish ponds is present below fill layers at the north end of the project area. These fish ponds are significant for information on Hawaiian history and prehistory that they are likely to yield. There is also the possibility that cultural deposits or evidence of habitation or human burials exist within the original soil matrix."* This assessment is based upon recommendations of the consultant's archaeologist (See Appendix A).

Being that there is a noted potential for encountering subsurface cultural deposits during the course of construction related activities, our staff recommends that an Archaeological Monitoring Plan be drafted in support of the proposed project. The plan shall clearly define the responsibilities of the monitor as well as establish the timeframe and methodology for the handling of subsurface deposits, including recordation and sampling.

Because the identification of cultural resources it is neither the responsibility nor the expertise of the individual construction workers, OHA recommends that full time archaeological monitoring of all excavations related to this project be conducted.

OHA asks that, in accordance with Section 6E-46.6, Hawaii Revised Statutes and Chapter 13-300, Hawaii Administrative Rules, if the project moves forward, and if any significant cultural

deposits or human skeletal remains are encountered, work shall stop in the immediate vicinity and the State Historic Preservation Division (SHPD/DLNR) shall be contacted.

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jesse Yorck, Native Rights Policy Advocate, at (808) 594-0239 or jessey@oha.org.

Aloha,

Clyde W. Nāmu'o
Administrator

C: Janice C. Marsters
Masa Fujioka & Associates
98-021 Kamehameha Highway, #337
'Aiea, HI 96701-4914

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November 28, 2007

Office of Hawaiian Affairs
711 Kapi'olani Boulevard, Suite 500
Honolulu, Hawaii 96813

Attention: Clyde W. Namu`o
Administrator

Subject: Draft Environmental Assessment for Installation of Lateral Connections
Kaneohe Bay Sewers Improvement District
Kaneohe, Koolaupoko, Oahu, Hawaii

Dear Mr. Namu`o

Thank you for your letter, dated June 4, 2007, providing comments on the Draft Environmental Assessment (EA). We have the following response to your comments:

1. *Your comment:* In section 3.4.5 of the Draft Environmental Assessment, the applicant states that "*there is a possibility that evidences of the former Panahaha fish ponds is present below fill layers at the north end of the project area. fish ponds are significant for information on Hawaiian history and prehistory that they are likely to yield. There is also the possibility that cultural deposits or evidence of habitation or human burials exist within the original soil matrix.*" This assessment is based upon recommendations of the consultant's archaeologist.

Our staff recommends that an Archaeological Monitoring Plan be drafted in support of the proposed project. The plan shall clearly define the responsibilities of the monitor as well as establish the timeframe and methodology for the handling of subsurface deposits, including recordation and sampling. We recommend a full time archaeological monitoring of all excavations related to this project be conducted.

We ask that in accordance with Section 6E-46.6, Hawaii Revised Statutes and Chapter 13-300, Hawaii Administrative Rules, the project movie forward and if any significant deposits or human skeletal remains are encountered, work shall stop in the immediate vicinity and the State History Preservation Division shall be contacted.

Our Response: The wording you cite from Section 3.4.5 should have been modified to explain more clearly the situation relevant to the properties covered by this EA, rather than for the original project sewer ID project. We have provided maps in the EA that better show the suspected location of the two fishponds of concern, and the EA section regarding archaeological resources has been modified. Maps are also attached for your reference. The properties covered by this EA do not lie within the area of concern with respect to archaeological or cultural resources, with the possible exception of TMK 4-4-07:7. However, even on this property, the

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anticipated lateral connection is not within the suspected location of the fishpond. Therefore, archaeological monitoring is not deemed necessary for installation of the laterals covered by this EA. If any cultural deposits or human skeletal remains are encountered, work will stop in the immediate vicinity and the State History Preservation Division will be contacted.

Thank you again for your comments.

Sincerely,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership

Janice C. Marsters
Principal